Religious Thinking in Childhood and Adolescence: Argumentative Reasoning and the Justification of Religious Belief

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by

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CHAPTER ONE. INTRODUCTION AND BACKGROUND

Religious thinking is such a central and fundamental kind of thinking that any epistemology, any theory about the nature of knowledge and thought and reasoning, which does not provide or suggest some account of the nature of religious thinking and inquiry is under the reasonable suspicion of being at best incomplete, and at worst downright mistaken. (Bambrough, 1969: 1-2)

The psychological sciences have provided too few coherent accounts of children’s religious beliefs. Most child psychology textbooks ignore the subject. (Damon, 1995: 87)

General overview of goals and rationale

The present study is an empirical investigation of the religious thinking of children and adolescents. Specifically, it examines the ways in which children and adolescents approach the question of whether or not to believe in God. Though in the course of this investigation we shall attend carefully to the contents of children’s and adolescents’ religious beliefs and conceptions, these in themselves are not the main focus of the study. Rather, we shall be concerned primarily with the forms of thinking and the processes of reasoning that children and adolescents employ in considering such content.

Previous research in this area has produced several accounts of how forms of religious thinking evolve over the course of childhood and adolescence. However, as we shall show below, all these accounts are derived ultimately from analyses of the contents of children’s and adolescents’ religious beliefs and conceptions. In other words, researchers have drawn conclusions about how children and adolescents think about religious subject matter from data describing what they think about such subject matter. In contrast, the present study sets out to examine the forms and processes of religious thinking themselves. It does so by observing how, in practice, children and adolescents engage in thinking about one central tenet of religious faith.

Religious thinking does not occur in a vacuum. The ways in which people think about religious subject matter are likely to be influenced both by their general aptitudes...
and dispositions as thinkers and by the particular beliefs, attitudes, commitments and motivations that together constitute their total orientation towards religion. Yet the relationship between religious thinking and thinking in other domains has never been subjected to systematic empirical investigation. Nor has sufficient attention been paid to the effects of religious and cultural background on religious thinking. The present study seeks to address these gaps in our understanding by comparing the ways in which children and adolescents from different backgrounds think about both religious and non-religious questions.

**Why study religious thinking?**

The social importance of religious beliefs can hardly be underestimated. Not only are religious beliefs of one kind or another held by a vast proportion of mankind: their effect on behavior and social organization is immense. Religious beliefs shape the ways countless people eat, sleep, wake, vote, study, work, socialize, make love and wage war. Yet we know little about the kinds of thinking that underlie such beliefs or about how such thinking develops over the course of childhood and adolescence (Gorsuch, 1988). Our ignorance is due in part to a general tendency amongst psychologists to avoid studies of religion. Despite illustrious beginnings (e.g., Freud, 1961/1930; Freud, 1964/1927; James, 1958/1902; Wundt, 1916/1912) and sporadic revivals (e.g., Allport, 1950; Festinger, Riecken, & Schachter, 1956; Fromm, 1950; see also Wulff 1991), the psychology of religion has been for the most part a marginal sub-discipline that is out of step with contemporary interests and developments in mainstream psychology (Beit-Hallahmi, 1989; Nielsen, 2001). Indeed, so pronounced is this tendency that various theories have been put forward to explain it (Beit-Hallahmi, 1989; Gorsuch, 1988). However, to explain is not to excuse. The effects of religious beliefs and commitments on human thought and behavior are so many and profound that any account of how we think that does not take them into account will be seriously incomplete if not fatally flawed (Bambrough, 1969; Bambrough, 1977; Bambrough, 1992).

Our current ignorance about the ways in which people think about religious subject matter is due not only to a general lack of research, but also to the kinds of research that psychologists of religion have conducted. Empirical research in the psychology of religion has consisted largely of questionnaire-based surveys of religious beliefs, attitudes
and behavior (Beit-Hallahmi & Argyle, 1997; Gorsuch, 1984; Hyde, 1990). Whilst such surveys can teach us a fair amount about what people believe, think and do they can tell us little about the forms of thinking that underlie these beliefs, attitudes and behaviors.

**Why study the religious thinking of children and adolescents?**

The present study is concerned not only with how people think about religious subject matter, but with how religious thinking develops. The period between late childhood and middle adolescence is one of dramatic development in many areas of intellectual, emotional and social functioning (Damon, 1989; Damon & Hart, 1988; Goswami, 1998; Harris, 1989; Meadows, 1993; Inhelder & Piaget, 1958; Piaget & Inhelder, 1969). It is also a period during which a number of interesting shifts appear to occur in people’s religious beliefs and attitudes (Benson, Donahue, & Erickson, 1989; Donelson, 1999; Elkind, 1978; Fowler, 1981; Goldman, 1964; Hyde, 1990; Markstrom, 1999; Oser & Gmunder, 1991; Tamminen, 1994; Willits & Crider, 1989). It is therefore a particularly interesting period on which to focus in order to identify whether and how religious thinking changes as people get older. Moreover, children and adolescents are the target audience of most systematic programs of religious education. Though all such programs rely on assumptions, however implicit, about the nature of religious thinking and its development, it is only by studying the religious thinking of children and adolescents empirically that we can assess their validity. Finally, the general problems noted in the previous paragraph are especially acute with respect to the religious thinking of children and adolescents: very few empirical studies have been conducted (Benson et al., 1989; Damon, 1995; Donelson, 1999; Gorsuch, 1988; Hyde, 1990) and those that have been conducted (Elkind, 1971; Fowler, 1981; Goldman, 1964; Oser & Gmunder, 1991) have tended to focus on the contents of religious beliefs and conceptions rather than on the kinds of thinking that underlie them (Boyer & Walker, 2000).

**Why study the religious thinking of Jewish-Israeli children and adolescents?**

The decision to focus on Jewish Israeli children and adolescents is motivated partly by personal interests, partly by specific gaps in our current knowledge, and partly by methodological considerations. As a Jewish Israeli with a deep interest in Jewish education, this is the population with which I am most personally concerned and with whose religious traditions I am most intimately familiar. Given the ever present danger
of ethnocentrism in studies of religion (Beit-Hallahmi, 1989; Goldman, 1991; Smart, 1997), this familiarity has distinct advantages: Though it does not guarantee theological neutrality, it increases the probability that crucial nuances and tensions will be noticed that would have been overlooked or misinterpreted were one dealing with more foreign material (Beit-Hallahmi, 1989). In addition, our knowledge of the religious thinking of Jewish Israeli children and adolescents is especially sketchy. Most major studies of the religious thinking of children and adolescents have been conducted with Christian samples in Europe and North America (Hyde, 1990) and studies of Jewish Israeli children and adolescents have consisted mainly of questionnaire-based surveys of their religious beliefs, attitudes and behavior (Amid, 1992; Leslau & Bar-Lev, 1993; Leslau & Bar-Lev, 1994; Tabory, 1992). Moreover, the few interview-based studies that have been conducted in Israel have been highly specific: they have focused either on highly specific areas of religious life (Rosenberg, 1990; Schachter, 2000) or on unrepresentative subpopulations (Fisherman, 1998; Rapoport & Garb, 1998; Rapoport, Garb, & Penso, 1995; Rapoport, Penso, & Garb, 1994; Snarey, 1990). Finally, the division of the public school system in Israel into separate Religious and General sectors provides an extremely useful framework within which to compare the religious thinking of children and adolescents from different religious backgrounds whilst keeping many other background variables constant (Iram, 1993; Tabory, 1992).

Definitions and assumptions

There is little agreement amongst social scientists, theologians or religious scholars about what exactly religion is. Some define religion “substantively” in terms of what it means to those who practice it; others define it “functionally” in terms of its role in the social or psychological system (Berger, 1974). And this is only one dimension of disagreement: neither substantivists nor functionalists agree amongst themselves about what precisely it is that differentiates religion from other areas of human activity. Some substantivists (Beit-Hallahmi & Argyle, 1997; James, 1958/1902; Wallace, 1966) equate religion with belief in a supernatural order, others (Leibowitz, 1992) with obedience to a particular code of behavior. Some functionalists equate religion with the way individuals cope with the threat of chaos (Yinger, 1957), others (Geertz, 1966) with a system of symbols so constituted as to establish powerful and pervasive moods that seem uniquely
realistic. These differences are not merely semantic. Adoption of a particular definition
determines not only the boundaries of what is to count as a religious system (e.g.
Buddhism, communism, deism, humanism), but also which kinds of phenomena within a
given tradition or institution are to be considered most representative of its religious core
(e.g. rituals, experiences, doctrines, myths).

The present study’s focus on religious belief introduces a further dimension of
disagreement about the nature of religious belief. According to some, religious belief is
(or ought to be) no more and no less than the intellectual acceptance of some theological
claim (Clifford, 1999/1877; Flew, 1955; Flew, 1966; Hanson, 1971a; Hanson, 1971b).
According to others, it is something experienced rather than apprehended intellectually:
an emotional and existential phenomenon rather than a cognitive one (MacIntyre, 1957;
McPherson, 1955). And according to still others, it is an irreducible blend of cognition
and emotion, a combination of “rationality and passionality” (Fowler, 1980; see also
Allport, 1950). Moreover, traditions differ with regard to the role of religious belief in
religious life. Within some religious traditions, belief in specific doctrines is not only a
core religious obligation but is the key to eternal life. Within other traditions, on the
other hand, beliefs are much less important than is conformity to a set of behavioral or
ethical norms (Smart, 1997; Smith, 1979).

No empirical study of how people think about their religious beliefs can avoid taking
a stand these issues. Some definition of religion and assumptions about the nature of
religious belief will always be present: if not explicitly then implicitly in the design of the
research. As a result, any such study is guaranteed to contain some element of
theological bias. For inevitably there will be some aspect of religious belief that is
emphasized or prized by some particular religious tradition but that is ignored or
downplayed in the assumptions of the research. Or, conversely, there will be some aspect
of religious belief that is emphasized in the assumptions but that is peripheral to, or even
absent from, some particular religious tradition.

The danger of theological bias is especially clear and present in the case of
developmental research. Development is a term with evaluative overtones. It suggests
that some entities, structures or states of affairs are more sophisticated, mature or

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adequate than others. Yet, religious traditions often differ radically in their conceptions of what constitute “higher” and “lower” forms of religion. What one tradition lauds as sophisticated, another tradition reviles as heretical and what one tradition criticizes as immature another upholds as a paradigm of pure faith. It is thus impossible to formulate any developmental account of religious thinking that is theologically neutral (Francis, 1976; Hyde, 1984).

Yet, whilst complete neutrality is unattainable, there are at least three precautions one can take to minimize theological bias in one’s assumptions and definitions. A first precaution is to avoid generic definitions that presume to capture the essence of religious belief for all traditions, at all places and at all times. As a simple function of their scope, these are more likely to contain systematic theological bias than are more modest, “working definitions” that explicitly limit their focus to one particular aspect of religious belief. A second precaution is to acknowledge one’s assumptions explicitly, thereby giving readers the opportunity to take them into account in interpreting the findings. A third precaution, applicable to developmental studies, is to avoid a priori claims about the nature of immature and mature religious thinking, leaving the nature of age-related changes as an open empirical question.

In the present study, we adopt a working definition of religion that has been adopted in many previous psychological studies of religion. Following Beit-Hallahmi and Argyle (1997; see also Argyle & Beit-Hallahmi, 1975; Beit-Hallahmi, 1989) and many investigators of religion before them (Berger, 1974; Geertz, 1966; Thouless, 1961/1923; Wallace, 1966), we define religion as a system of beliefs in divine or superhuman power, and practices of worship or other rituals directed towards such a power. Correspondingly, we define the “secular” or “non-religious” as a category that omits the functioning of divine or superhuman power in thinking and acting (Grossman, 1975). This definition of religion is clearly substantive, placing central emphasis on the “supernaturalist” (James, 1958/1902; Wallace, 1966) or “transcendental” (Berger, 1974) premise. As such it excludes worldviews or faiths such as nationalism, communism or humanism, which though similar to religion in some aspects of their organization and function make no reference to transcendent entities. On the other hand, it does not require that the system in question be considered beyond empirical justification or of supreme importance (Spiro,
1966; Williams, 1963). It thus includes forms of theism, such as deism, which are not necessarily associated with any particular set of commitments or practices.

In support of this working definition of religion, we would argue, along with Beit-Hallahmi and Argyle (1997: 7), that it is “concrete, historical and close to the direct experience of the proverbial person on the street.” It is concrete in the sense that it provides a straightforward way to distinguish religious from other phenomena; it is historical in the sense that it describes accurately how religion has been understood by religious believers themselves throughout history; and it is close to the direct experience of the proverbial person on the street in the sense that it covers what most believers today understand by the term “religion.” Functionalist definitions of religion, on the other hand, are generally unable to distinguish clearly between religious and other phenomena, are quite distant from common-sense conceptions of what religion is and often involve an implicit assumption that religious interpretations of reality are false (Berger, 1974).

We would argue also that this working definition is particularly appropriate for the population we will be studying. Belief in monotheism is arguably the most fundamental principle of Jewish faith (Jacobs, 1964; Jacobs, 1992). There are, of course, Jews who deny the existence of God yet consider themselves religious and Jews who believe in God yet consider themselves irreligious (Fisherman, 1998; Haberman, 1994; Lev, 1998; Zucker, 1999). Yet, because monotheism has historically been so central to Jewish conceptions of religiosity, even such people tend to admit that the question of belief in God is one that they must at least address in the context of their own approach to Judaism, if only to explain why they consider such belief to be ultimately irrelevant.

Compared with the assumptions contained in our definition of religion, our assumptions about the nature of religious beliefs and their role in religious life are both fewer and less specific. Whilst we assume that religious belief always contains a cognitive component, we do not assume that this component is the only or even the most important component of such belief (Geertz, 1973/1957; Vande Kemp, 1999). Similarly, whilst we assume that belief is a dimension present and influential in all forms of religious life, we do not assume that it is necessarily more influential or more important than other dimensions, such as ritual, myth, experience, ethics or social organization (Glock & Stark, 1965; Smart, 1997).
In defense of these assumptions we would argue that, even theological positions that emphasize the experiential, affective or behavioral aspects of religious life (MacIntyre, 1957; Malcom, 1977; McPherson, 1955) presuppose, however implicitly, particular beliefs about the nature of reality (Bambrough, 1969; Bambrough, 1977; Bambrough, 1992; Flew, 1955; Flew, 1966; Mackie, 1982; Mitchell, 1973; Price, 1965; Swinburne, 1996). For example, in order to experience “radical amazement” (Heschel, 1955) or an “I-Thou relationship” (Buber, 1958) one must believe, at least implicitly, that something exists by which one is amazed or to whom one is related. As H. H. Price (1965) has argued, even “belief in” presupposes “belief that.”

Yet, whilst we insist that the cognitive component of religious belief cannot be denied or eliminated, we admit that there are approaches to religion wherein it is taken for granted or downplayed to such an extent that it is seen as almost beside the point (Braithwaite, 1971/1955; MacIntyre, 1957; Malcom, 1977; McPherson, 1955). Given this admission, one might ask why, in the present study, we have elected nonetheless to focus on this component of religious belief. In other words: Why study religious thinking rather than religious experiencing, feeling or behaving? There are two reasons. First, “beliefs that” are no less intriguing or important for being implicit. If we wish to understand peoples’ religious lives in all their complexity and diversity, we need to know something about the beliefs that inform their experiences, feelings and actions, the ways in which they incorporate them and build on them in their day to day encounters with religious institutions and traditions, and how they justify them and maintain them in the face of challenges and doubts. Second, precisely because the ways in which people approach issues of religious belief are so various, cognitive psychologists cannot afford to ignore them. If we are to understand how people think and reason, how they weigh up and decide what, how, and to what degree to believe, it is not enough to observe how they do these things in relation to well defined and emotionally neutral issues and problems. We need also to examine how they think and reason in relation to issues that are embedded in powerful emotional and social considerations and that are open to multiple interpretations. That cognition plays a more central role in some peoples’ conceptions of religious belief than it does in others’ does not entail therefore that the cognitive component of religious belief is not a legitimate target for psychological study. On the
contrary, it invites us to investigate these differences, to characterize them as accurately as possible and to inquire into their sources and consequences.

One final definitional point: In what follows, the phrase, “religious belief” describes a neutral variable applying equally to theism, atheism and agnosticism; not as a description of the belief-state of theism. Our investigation is concerned equally with justifications offered by atheists for their disbelief and by agnostics for their indeterminate belief as with those offered by theists for their belief.

**Previous studies of religious thinking in childhood and adolescence**

Over the last forty years, three waves or movements within developmental psychology have shaped studies of the religious thinking of children and adolescents. The first of these waves took its inspiration from Piagetian theory and methodology and sought to apply Piaget’s structural stage theory of cognitive development (Inhelder & Piaget, 1958; Piaget, 1970; Piaget & Inhelder, 1969) to children’s religious thinking. The second wave, taking its inspiration from Kohlberg’s studies of moral development (e.g., Kohlberg, 1971; Kohlberg, 1981), sought to extend such neo-Piagetian stage theories in two ways: first, by paying more attention to the affective and existential aspects of religious thinking; second, by describing the trajectory of religious development over the entire lifespan rather than terminating their accounts at early adolescence. A third wave, which is still in its infancy, has taken its inspiration from recent post-strucuralist accounts of cognitive development. This wave has sought to emphasize continuities between the religious thinking of children and adults and to attribute residual age differences to quantitative differences in cultural knowledge.

These three waves of research have produced divergent accounts of how religious thinking develops over the course of childhood and adolescence. Yet, despite their many differences in approach, findings and conclusions, all of these accounts share at least three major limitations. First, the claims of all such accounts far outstrip the empirical data that their authors present in their support. Thus, though all these accounts are based to some extent on their authors’ own empirical research, they all include wide-ranging claims that are insufficiently supported by the resulting data. Second, though each of them draws conclusions about how children and adolescents think about religious subject matter, none of them have investigated forms or processes of religious thinking directly.
Instead, they extrapolated their conclusions from analyses of the contents of children’s and adolescents’ religious beliefs and conceptions. As we shall show in the chapters ahead, such extrapolation has resulted in the sophistication of children’s religious thinking being consistently underestimated. Third, though all authors of such accounts have made claims about differences and similarities between religious thinking and thinking in other domains, none of these claims have ever actually been subjected to empirical investigation. A fourth limitation, which is common to the hierarchical accounts of religious development produced by the first two waves but less so to post-structuralist accounts, is their inclusion of a distinct theological bias in favor of liberal Protestantism.

**Neo-Piagetian studies: Elkind and Goldman**

Systematic psychological investigation of children’s religious thinking began with the landmark studies of David Elkind (1961; 1962; 1963) and Ronald Goldman (1964). These studies applied the techniques and theoretical insights of Piaget’s cognitive-developmental research to empirical studies of religious thinking. Elkind’s studies focused on children’s conceptions of their religious identity. In his initial study (1961), 210 American Jewish children aged between five and eleven were presented with the following series of questions in individual semi-clinical interviews:

Is your family Jewish? Are you Jewish? Why? Can a cat or dog be Jewish? Why? How do you become a Jew? Why or what makes you Jewish? What is a Jew? How can you tell a person is Jewish? Can you be Jewish and American at the same time?

On the basis of his findings, Elkind proposed a three-stage developmental model. Between five and seven children are typically at a “realist” stage during which they see religious identity as something that is bestowed upon the child by God or the child’s parents. Between seven and nine they are typically at a “concrete” stage in which religious identity is understood as being tied to a particular form of behavior, membership of a particular family, or the wearing of particular symbols. Finally, from aged ten and onward, religious identity is understood “abstractly” as something that emanates from within the individual, as opposed to something that is determined by others or by particular actions. At this stage, children distinguish religious groups by differences in
the content of their beliefs rather than by physical or concrete differences in the people holding them. Elkind went on (1962; 1963) to conduct similar studies with 280 Catholic and 300 Protestant children aged between five and fourteen. Similar patterns of response were obtained for all three religious groups (Elkind, 1965; Elkind, 1978).

In a second group of studies (Elkind, Spilka, & Long, 1968; Long, Elkind, & Spilka, 1967), Elkind and his colleagues presented 160 children aged between five and twelve with two pictures of families engaged in prayer and asked them to describe what was going on in the pictures. Children were then presented with the following series of questions and incomplete sentences:

Do you pray? Does your family pray? Do all boys and girls in the world pray?
Do cats and dogs pray? What is prayer? Can you pray for more than one thing?
What must you do if your prayer is answered? What must you do if it is not? I usually pray for . . . Sometimes I pray for . . . When I pray I feel . . . When I see someone praying, I . . . Where do prayers come from? Where do prayers go?

Elkind and his colleagues found a similar three-stage developmental progression to that observed in his previous studies. However, the process of development seemed to be more gradual, with longer periods of between-stage transition. Between the ages of five and seven, children’s conceptions of prayer were concerned primarily with the gratification of personal desires. Prayers were also often thought to exist independently of people and to have almost physical properties. Thus prayers were said to come from God, heaven or fairyland and to fly, float or jump up to heaven. Between the ages of seven and nine prayer was associated with particular concrete activities and behaviors. Some objects were considered to be appropriate objects for prayer, whilst others were not. Unanswered prayers were attributed to God’s inability to process everybody’s requests all at once. From age ten and onward, prayer was understood as a private conversation with God that could be conducted in silence as well as in speech, and which could arise spontaneously in response to feelings of loneliness or concern.

Goldman’s (1964) study focused on children’s ability to understand religious concepts, in particular as they appear in biblical narrative. In semi-structured interviews, Goldman presented 200 British schoolchildren aged between five and sixteen with three drawings depicting religious scenes and with paraphrases of three Bible stories. The
three stories were Moses at the burning bush (Exodus 3:1ff.), the Israelites crossing the Red Sea (Exodus 14:1ff.), and the temptation of Jesus (Luke 4:1ff.). Amongst the many questions that Goldman put to children in the course of the interview were five questions that were used to classify children according to their developmental level of understanding. All five of these questions related to the Bible stories. The questions were (1964: 51):

- Why was Moses afraid to look at God?
- Why do you think the ground, on which Moses stood, was holy?
- How would you explain the bush burning, but not being burnt?
- How would you explain the dividing of the waters of the Red Sea?
- Why wouldn’t Jesus turn the stone into bread?

Based on analyses of children’s responses to these questions, Goldman proposed a five-stage developmental model of religious thinking. The model consisted of three major stages separated by two phases of gradual transition.

The first stage, characteristic of children aged between five and seven, is a preoperational, intuitive stage in which the child is incapable of distinguishing between relevant and irrelevant details in the Bible stories. At this stage of development, religious thinking is “unsystematic and fragmentary.” Due to a lack of reversibility of thought, the child is unable “to work back from an inconsistency to check on the evidence in the light of conclusions reached” (ibid: 52-3). An illustration of this mode of thinking is the child who answers the question, “Why was Moses afraid to look at God?” with the response, “God had a funny face” (ibid: 52).

Around the ages of seven and eight, children are considered by Goldman to be in transition between intuitive and concrete religious thinking. This transitional phase is characterized by a striving on the part of the child to break out of the limitations of intuitive modes of thought. During this stage, “the child sees the necessity of a different process of thinking … [but] has not developed enough skills or insights to execute it” (ibid: 54). An illustration of thinking during this intermediate phase is provided the child who answers the question, “Why was Moses afraid to look at God?” with the response that God, “might kill Moses for making the bush on fire.” Here the child attempts to
answer the question by relating to more than one aspect of the situation. However, he is still unable to distinguish between relevant and irrelevant aspects of the narrative.

The second major stage, characteristic of children aged between eight and thirteen, is a concrete stage in which children successfully employ inductive and deductive logic, but its scope is limited to “concrete situations, visual experience and sensory data” (ibid: 55-56). Typically children at this stage see God as a man or a power threatening specific action, often in relation to a specific wrong that has been committed. A typical response to the question, “Why was Moses afraid to look at God?” by a child at this stage is, “Moses thought God would chase him out of the holy ground, because Moses hadn’t taken off his shoes” (ibid: 56). Here the child employs operational modes of thinking in formulating his response but still focuses on concrete features of the story.

The concrete stage is followed by a second transitional stage in which children gradually begin to employ more advanced inductive and deductive logic and more abstract modes of thought. However, these more advanced modes of thinking may sometimes be distracted by concrete elements in the situation that the child seems unable to shake off. Whereas children at the concrete stage tend to cite a specific wrongdoing as the basis of Moses’ fear, at this stage they are more likely to offer a generalized statement such as, “Perhaps he had done evil things.” However, it is typical of children at this stage that this general idea of Moses’ unworthiness often turns out on further questioning to have been put forward on the basis of some concrete reason such as, “He smelt of sheep” (ibid: 58).

The third major stage, characteristic of children aged fourteen and above, is an abstract or formal operational stage. This stage is characterized by a capacity to think hypothetically and deductively without interference from concrete elements in the situation. Reversibility now operates at the propositional level and the child is able to achieve consistency by exploring the implications of a particular statement and tracing them back to the original argument. A frequent response made by children at this stage to the question, “Why was Moses afraid to look at God?” is the proposition that Moses shared with all men a general sense of sin or unworthiness that made him hesitate to look at God. This type of thinking is illustrated by the child who answers this question with the response, “God is holy and the world is sinful” (ibid: 60).
Elkind’s and Goldman’s studies are very similar in their basic approach. Both took Piaget as their starting point and approached religious thinking as if it were in principle no different from the mathematical and scientific thinking that Piaget had studied. Similarly, both judged instances of religious thinking as intuitive, concrete or abstract on the basis of their content (Hyde, 1990; Kay, 1996; McGrady, 1983). It is interesting therefore that, whilst Elkind’s studies attracted little adverse criticism, Goldman’s study became the focus of a vigorous debate that has continued almost unabated for over thirty years (cf., e.g., Alves, 1968; Cliff, 1968; Cox, 1968; Francis, 1976; Godin, 1968; Goldman, 1965a; Goldman, 1965b; Goldman, 1969; Hoge & Petrillo, 1978; Hyde, 1968; Hyde, 1984; Hyde, 1990; Kay, 1996; Peatling, 1968; Peatling, 1977; Petrovich, 1988; Slee, 1986a; Slee, 1986b; Slee, 1990; Slee, 1991). There are probably several reasons for this.

First, unlike Elkind, Goldman drew far-reaching educational conclusions from his findings. Goldman argued that children who have not yet reached the stage of formal operations are capable of only an immature, concrete comprehension of most biblical material. He went on to claim that premature exposure to such material results in the overlearning by children of immature conceptions of religion. As they grow older and fail to unlearn such conceptions, they continue to associate religion with childish and incoherent beliefs. This results in their ultimate rejection of religion as something childish and irrelevant. Goldman proposed therefore that direct exposure to Biblical text should be avoided in elementary school religious education. Instead, he proposed that elementary schools should adopt a thematic, “life-centered” approach to religious education in order to prepare the way for abstract religious thinking as children reach formal operations in secondary school. This thematic approach was worked out in considerable detail in his book, *Readiness for Religion* (Goldman, 1965c).

Second, Goldman conducted and published his research in Britain at a time when religious education had only recently been made mandatory in British state schools and during which there was vigorous disagreement amongst Church groups about the role the Bible should play in such education. Goldman’s findings and conclusions coincided with the progressive thinking of the time and were used as scientific ammunition by advocates of reform. Goldman’s research was thus an obvious target for those who opposed these
reforms. However, in spite of these controversies, applications of Goldman’s ideas came to dominate religious education syllabuses in British schools for many years (Cox, 1983; Hyde, 1984; Hyde, 1990; Smart & Horder, 1975).

Third, whereas the theological assumptions of Elkind’s research are not immediately obvious, Goldman’s are transparent. Goldman (1964: 3) defined religious thinking as “no different in mode and method from non-religious thinking,” and then went on to define the process of thinking in exclusively cognitive-developmental terms (ibid: 19-22). This opened him up to accusations of restricting religious thinking to the cognitive domain and ignoring its attitudinal and affective aspects (Francis, 1976; Francis, 1979; Greer, 1984; Petrovich, 1988; Slee, 1986a; Slee, 1990). Strictly speaking, this accusation is untrue. Goldman denied neither the existence nor the importance of an affective dimension in religious thinking (Goldman, 1964: 2-3; Goldman, 1965c: 50; see also Dittes, 1971; Francis, 1976). Nonetheless, the strong cognitive focus of Goldman’s approach was unpalatable to researchers and educators who advocated more existential or affective conceptions of religious thinking.

Goldman’s theological assumptions were equally apparent in his scoring criteria. As McGrady (1983) and Slee (1986b) point out, and as Goldman himself admitted, only five of the items in his interview schedule are susceptible to Piagetian analysis. The rest of the items were scored only in terms of their theological content. Goldman made no secret of his criteria in scoring these latter items, stating that, “All criteria for scoring the test are based upon the current theological approach of biblical theology, interpreted from a central-to-liberal position” (1964: 48-49). Goldman insisted that his stage theoretic conclusions derived only from his analysis of the five operational items. However, even the criteria for scoring these items seem to have been theologically biased. Goldman identified mature religious thinking with abstract or symbolic interpretations of the Bible stories and immature religious thinking with literal interpretations. Within a Liberal Protestant framework this may be entirely acceptable. However, from the perspective of religious traditions that are more strongly committed to the literal and historical truth of the Bible (e.g. fundamentalist denominations of Christianity), this identification is inappropriate. What Goldman identifies as mature religious thinking is likely to be seen within such traditions as skeptical or heretical (Hawes, 1965; Howkins, 1966).
Unlike Goldman, Elkind never defined religious thinking in exclusively cognitive terms, nor did he admit to scoring children’s responses according to a particular theological approach. Indeed, Elkind’s observation of similar developmental trends in religious thinking across different religious groups provides seemingly strong evidence that his research framework is free from theological bias. Nonetheless, like Goldman, Elkind equated belief in the concrete reality of religious phenomena with immature religious thinking and symbolic interpretations with mature religious thinking. And though he reported similar developmental trends amongst Jewish, Protestant and Catholic children (Elkind, 1965; Elkind, 1971; Elkind, 1978), he did not present any statistical analyses of group differences between the three denominations.

Despite such criticisms, Elkind’s and Goldman’s studies are still widely regarded as having established the existence of cognitive stages in the development of religious thinking (Batson, Schoenrade, & Ventis, 1993; Hood, Spilka, Hunsberger, & Gorsuch, 1996; Hyde, 1990; Spilka & McIntosh, 1997). Whether or not one agrees with this assessment, it is clear that these studies are important landmarks in the study of children’s religious thinking. In applying Piagetian methods and theory, Elkind and Goldman brought to the field of religious development the best of what was current psychological knowledge (Hyde, 1984). Goldman’s study in particular still merits more than any subsequent study in the field Elkind’s (1971: 679) praise as

the most elaborate and sophisticated investigation into the pedagogical aspects of religious understanding … the most carefully sampled and most evenly matched cross-sectional population of any of the studies.

**Post-Goldman research: replication, extension, and critique**

Several researchers have sought to replicate Goldman’s studies with different populations (Hyde, 1990). Most of these studies have employed versions of Peatling’s (1973) pencil-and-paper adaptation of Goldman’s test of religious thinking, “Thinking About the Bible” (TAB). Peatling administered TAB to nearly 2000 (mainly Episcopalian) North American subjects. His findings tended to confirm Goldman’s theory, though the transition from concrete to abstract religious thinking appeared to begin earlier and end later than Goldman had suggested.
Tamminen (1976), Greer (1981) and Kay (1981) used TAB in further replication studies with Finnish, Irish and British children respectively. All found evidence of a progression through Goldman’s stages with age but no evidence of discrete stages. However, all of these researchers criticized Peatling’s (1973) instrument (cf. Greer, 1983), arguing that it measured religious skepticism as much as it measured abstract thinking. This was evident not only in Peatling’s choices of “abstract” answers, but also in his explicit identification of “very abstract religious thinking” with “skepticism towards story detail” (1973: 177-178). Further evidence of theological bias in TAB was provided by Tamminen’s (1976) finding that a group of advanced theology students within his sample presented concrete responses characteristic of seven year olds and by Hoge and Petrillo’s (1978) finding that, contrary to the predictions of Goldman’s theory, Catholic high school students with higher scores on TAB were more likely to reject doctrines and church. However, it is not clear to what extent these findings are due to specific flaws in Peatling’s design or to a more basic theological bias in Goldman’s theoretical framework.

Influenced by Goldman’s study, several other investigators sought to extend cognitive-developmental research to other areas of religious thinking, such as religious language development (Jamison, 1989; McGrady, 1987; Murphy, 1978b; Slee, 1987; Turner, 1970; Turner, 1978) and the comprehension of religious allegory and parables (Beechick, 1974; Greenacre, 1971; Murphy, 1977; Murphy, 1978a). The latter studies all proposed three-stage developmental models, but they differed considerably in their conclusions about the age at which children are capable of a mature comprehension of religious parables.

Heller’s (1986) study of children’s concepts of God further popularized Goldman’s and Elkind’s characterization of religious thinking as developing through three major stages. Heller asked 40 children aged between four and twelve (10 Catholics, 10 Baptists, 10 Jews and 10 Hindus) to name, draw, write letters to, act out, tell stories and answer questions about, “the most important thing in your beliefs.” Whilst Heller emphasized that his sample was not statistically representative and referred to his study as a “descriptive essay” rather than a scientific psychological investigation, he extrapolated from his study a number of broad generalizations about the effects of gender, age and denomination on children’s concepts of God. Most prominent amongst these was his
characterization of children’s concepts of God as evolving from a literal, dualistic view of the deity between the ages of four and six, through a complex, mystical, interpersonal view of the deity between the ages of seven and nine, to an abstract conception of the deity between the ages of ten and twelve. Due in large part to the aesthetic appeal of children’s humorous and creative responses to Heller’s tasks and to the lucidity of Heller’s writing, Heller’s book has been extremely popular with parents and educators and has been reprinted in several editions.

However, at the same time that students of religious development were busy replicating, extending and popularizing the neo-Piagetian models of Goldman and Elkind, Piaget’s research was being subjected to vigorous conceptual, methodological and empirical critique by a growing number of educational theorists and developmental psychologists (Brown & Desforges, 1977; Donaldson, 1978; Gelman & Baillargeon, 1983; Phillips & Kelly, 1975; Toulmin, 1971). Though some critics of Goldman’s research noted these developments (Rowe, 1981; Roy, 1979), they did not provide any systematic account of their implications for future investigations of children’s religious thinking, nor did they provide any empirical counter-evidence to contradict Goldman’s findings. It was only in the 1990s that researchers began to combine an awareness of the limitations of Piagetian research with specific, empirical challenges to Goldman’s model (Gottlieb, 1994; McGrady, 1990; McGrady, 1994a; McGrady, 1994b).

The focus of these challenges was Goldman’s claim that young children’s immature comprehension of biblical and religious material is due to their inability to understand analogy and metaphor. According to Goldman, the language of the Bible is “almost entirely based upon analogy and metaphor, inferring from other non-religious experience the nature of the divine” (1964: 47). Based on his own findings and on Piaget’s characterization of analogical reasoning as a late-appearing formal operational skill (cf. Inhelder & Piaget, 1958; Piaget, 1970; Piaget & Inhelder, 1969; Piaget, Montanegro, & Billeter, 1977), Goldman proposed (1964: 63) that it was only with the achievement of formal operational thought that children are able comprehend biblical material in a mature fashion.

According to Piaget, the ability to reason about relations first emerges at the age of around 7 years, when children are able to solve class inclusion problems. Once children
appreciate how objects are related, they gradually become able to construct relations between these relations. This culminates in the emergence of “higher-order” relational reasoning at around 11-12 years. Only after children have reached this point are they able, according to Piaget, to understand the “relational similarity constraint” (Goswami, 1992) that is essential to the understanding of analogies. Most studies of analogical reasoning in children conducted in the 1960s and 1970s (e.g., Gallagher & Wright, 1977; Levinson & Carpenter, 1974) seemed to confirm Piaget's theory that analogical reasoning is a formal operational skill. However, a common factor in all these studies was the inclusion in the tasks of quite difficult and abstract relations and the absence of any control for children’s knowledge of the relations used in the analogies (Goswami, 1992). Goswami and Brown (1989; 1990) suggested that younger children's poor performance on these tests of analogical reasoning might be due to insufficient familiarity with the relations used in the analogies and not, as Piaget claimed, to a lack of cognitive competence. In order to test this hypothesis, they designed pictorial analogy tasks that used only relations with which very young children are known to be familiar. Their studies showed that, when they are familiar with the relations in analogy tasks, even children in the 3-6 year age group are able to complete them successfully. Similar findings were reported by Vosniadu and Ortony (1983) with respect to young children’s ability to comprehend metaphor: the majority of four year olds in their study were able to distinguish between literal and non-literal similarities.

In the light of post-Piagetian studies of metaphor comprehension, McGrady (1990; 1994a; 1994b) used an adapted version of TAB and his own measure of religious metaphor comprehension, the Metaphor and Model Test of Religious Thinking (MMTRT), to compare Irish high school students’ operational religious thinking as defined and measured by TAB with their ability to comprehend religious metaphor. McGrady found that there was only a medium to low level of association between participants’ scores on the two instruments, indicating that the relationship between abstract religious thinking and the ability to comprehend religious metaphor was not as strong as Goldman had proposed. A further empirical challenge to Goldman’s theory was provided by Gottlieb’s (1994) comparison of 85 British 11-13 year olds’ scores on an adaptation of TAB with their scores on a battery of analogical reasoning tasks: the
findings indicated that the ability to comprehend analogy was neither a necessary nor a sufficient condition for abstract religious thinking.

Neo-Kohlbergian studies: Fowler and Oser

A limitation of Goldman’s and Elkind’s studies that is acknowledged by both advocates and critics of their research is their focus on the cognitive understanding of religious concepts as opposed to existential or affective aspects of religious commitment and experience. James Fowler’s (1974; 1980; 1981; 1991) stage theory of faith development and Fritz Oser’s (1980; 1991; Oser & Reich, 1990; Oser & Gmunder, 1991) stage theory of the development of religious judgment are attempts to provide a model of religious development that takes these latter aspects into account. Whereas both Goldman’s and Elkind’s investigations were modeled closely on Piaget’s studies of cognitive development (e.g., Inhelder & Piaget, 1958; Piaget, 1929; Piaget, 1930; Piaget, 1932; Piaget, 1952; Piaget, 1954), those of Fowler and Oser are more directly indebted to Kohlberg’s studies of moral development (e.g., Kohlberg, 1968; Kohlberg, 1969; Kohlberg, 1971; Kohlberg, 1976; Kohlberg, 1981). This debt is evident in the architecture of both Fowler’s and Oser’s developmental models and is acknowledged explicitly by both researchers.

Like Kohlberg, both Fowler and Oser propose a six-stage developmental model. Also like Kohlberg (cf. Kohlberg, 1971: 167ff; Kohlberg & Armon, 1984: 384ff), both Fowler and Oser see their stages as more than age-trends. First, they consider them to comprise “structural wholes,” i.e., total ways of thinking, not attitudes toward particular situations. Second, they see them as being hierarchically integrated. Thus, successive stages replace the stages that preceded them, each succeeding stage transforming the previous one into a more adequate organization. Third, they consider them to constitute an invariant sequence. Thus, whilst a person might move at varying speeds and stop at any level of development, she cannot progress in any other way than through this particular sequence of stages.

Kohlberg was aware that these features of his model committed him to strong empirical claims about the universality of the stage sequence and equally strong philosophical claims about the increasing moral adequacy of successive stages. Indeed, far from shying away from these implications of his model, Kohlberg sought explicitly to
defend them (Kohlberg, 1971; Kohlberg & Armon, 1984; Nisan & Kohlberg, 1982). However, both claims have continued to be major targets of conceptual and empirical critique (e.g., Alston, 1971; Edwards, 1994; Feder, 1984; Gilligan, 1982; Heubner & Garrod, 1993; Locke, 1994; Peters, 1971; Shweder, Mahapatra, & Miller, 1990; Snarey, 1985). Whilst this is not the place to provide a detailed account of these controversies, it will be useful to bear in mind these twin foci of criticism as we consider the respective claims of Fowler’s and Oser’s models.

It is not possible to do justice to Fowler’s theory of faith development in a short summary. Drawing together strands from the writings of theologians (e.g., Niebuhr, 1960; Tillich, 1957), scholars of comparative religion (e.g., Smith, 1963; Smith, 1979), and psychologists from both the experimental and psychodynamic traditions (e.g., Erikson, 1963; Erikson, 1964; Erikson, 1968; Kohlberg, 1968; Kohlberg, 1969; Kohlberg, 1971; Kohlberg, 1976; Loevinger, 1976; Piaget, 1967; Piaget, 1970; Piaget & Inhelder, 1969; Selman, 1976), Fowler has constructed a model of faith development that is almost baroque in its complexity. This complexity is a feature not only of the proposed sequences and mechanisms of development, but also of the conception of faith that underlies the model. This conception of faith is much broader than the conceptions of religious thinking that guided the studies of Elkind and Goldman. Fowler (1974: 207-208) views faith as

that knowing or construing by which persons or communities recognize themselves as related to the ultimate conditions of their existence … a knowing or construing in which cognition (the “rational”) is inextricably intertwined with affectivity or valuing (the “passional”). [Fowler’s italics]

This form of knowing is seen as “a dynamic and generic human experience … a human universal [that] includes, but is not limited to or identical with, religion” (Fowler, 1991: 31). Indeed, according to Fowler, not only can one have faith (such as faith in communism or secular humanism) that is entirely independent of religious belief, but faith is deeper than belief, involving the unconscious as well as the conscious aspects of a person’s beliefs and actions (ibid). Fowler (1981: 93-94) attempts to capture these various aspects of faith in the following definition:

In the most formal and comprehensive terms I can state it, faith is:
People’s evolved and evolving ways of experiencing self, others and world (as they construct them) as related to and affected by the ultimate conditions of existence (as they construct them) and of shaping their lives’ purposes and meanings, trusts and loyalties, in the light of the character of being, value and power determining the ultimate conditions of existence (as grasped in their operative images - conscious and unconscious - of them).

In order to investigate how faith develops over the lifespan, Fowler and his colleagues conducted individual interviews with over 500 North Americans aged between four and eighty-four from a variety of religious backgrounds. These interviews were much less structured than those of Goldman or Elkind, their aim being (Fowler, 1991: 33) to induce interviewees to talk with us in depth about their centers of value, their images of power, and the guiding stories of their lives … to tell us something of their lives and pilgrimages, their journeys, to give us access to how they have formed and are forming their particular ways of meaning making.

The interview consists of four sections. The first two sections focus on an autobiographical overview, including an account of any life-shaping experiences and relationships; the last two sections focus on the interviewee’s present values and commitments, both in general and as they relate specifically to religion. A sample of the kinds of question included in Fowler’s interview is presented below (cf. Fowler, 1981: 310-312).

What gives your life meaning? What makes life worth living for you? What relationships seem most important in your life? Have you had moments of joy, ecstasy or loss and crisis which have shaped or changed your life in special ways? What experiences have affirmed or shaken your sense of meaning in life? What beliefs and values are most important in guiding your life? What is the purpose of human life? What does death mean to you? When life seems most discouraging and hopeless, what holds you up or renews your hope? Have you had important religious experiences? What feelings do you have when you think about God? Do you consider yourself a religious person? What is sin? How have your feelings about sin changed through your life? Where do you feel that
you are changing, growing, struggling, or wrestling with doubt in your life at the present time? Where is your growing edge? What is your image of mature faith?

Based on his analyses of people’s responses to such questions, Fowler has identified six stages of faith. These stages are preceded by a pre-stage, that Fowler calls stage zero or primal faith, which is characteristic of infants up to the age of three. At this primal stage, faith takes the form of a developing “mutuality” in the infant’s relationship with parents and others. Whilst Fowler acknowledges that primal faith is inaccessible to empirical research of the kind outlined above, he argues that the evolution during infancy of trust, autonomy, hope and courage (or their opposites) is the basis for later phases of faith development (cf. Fowler, 1981: 121). Stage one, or intuitive-projective faith, is characteristic of children aged between three and seven. At this stage, faith is dominated by the imagination, which is unrestrained by logical thought. The next stage, stage two, or mythic-literal faith, is characteristic of children aged between seven and eleven. At this stage, children interpret the stories, beliefs, symbols and observances of their community literally. Whilst they are often affected deeply by the power of symbols and myths, they are unable to step back from the flow of narrative to formulate reflective, conceptual meanings. The next stage, stage three, or synthetic-conventional faith, is particularly characteristic of adolescents, but for many adults becomes a permanent place of equilibrium. Faith at this stage is conformist in that it is acutely tuned to the expectations and judgments of significant others. Individuals at this stage are tacitly committed to a particular system of values and beliefs, but are unaware that this system is only one among many. Stage four, or individuative-reflective faith, is marked by a double development. As individuals become increasingly able to reflect critically upon their own identity and outlook, they begin to formulate conceptions of self that are independent of the meanings, judgments and interpretations of others and explicit systems of meaning that are conscious of their own boundaries. In particular, stage four is a demythologizing stage, in which symbols, stories and myths are translated into conceptual meanings. The next stage, stage five or conjunctive faith, is a stage of “second naiveté” (cf. Ricoeur, 1967; Ricoeur, 1978), in which symbolic power is reunited with conceptual meanings. This stage is unusual before mid-life and is characterized by an openness to paradox and a capacity to appreciate and partake of one’s group’s most
powerful symbols, myths and rituals whilst simultaneously recognizing that they are
relative and partial. Stage six, or universalizing faith, is the “normative endpoint”
(Fowler, 1981: 199) of faith development. It is characterized by a resolution of the
paradoxes of stage five through the moral and ascetic actualization of universalizing
apprehensions in which an ultimate environment is perceived to be inclusive of all being.
According to Fowler, this stage has been attained only by a few exceptional individuals,
including Gandhi, Martin Luther King, Abraham Joshua Heschel and Mother Theresa.
According to Fowler, these people embodied universalizing faith, becoming “incarnators
and actualizers of the spirit of an inclusive and fulfilled human community” (ibid: 200).

Like Kohlberg, Fowler sees his stages as more than age-trends, suggesting that they
form an invariant sequence of hierarchically integrated structural wholes (cf. Fowler,
development entails strong empirical claims, it is worth considering in some detail
Fowler’s procedures for deriving stage assignments from interview responses and for
analyzing the distributions of stages across different age, gender, and religious groups.
Fowler considers each faith stage to consist of seven structural aspects, “which are
integrated and re-integrated at each of the six levels” (1980). These structural aspects are:
(A) form of logic, (B) perspective taking, (C) form of moral judgment, (D) bounds of
social awareness, (E) locus of authority, (F) form of world coherence, and (G) symbolic
function. It is in relation to these seven aspects that the dominant features of a person’s
faith stage are identified. Fowler’s characterizations of aspects A, B and C are based
(somewhat loosely) on the developmental theories of Piaget, Selman and Kohlberg
respectively. His characterizations of aspects D, E, F and G are less reliant on any one
theory, though Fowler cites a number of psychosocial theorists, including Erikson (1963;
1964; 1968), Levinson (Levinson, Darrow, Klein, Levinson, & McKee, 1978), Vaillant
(1977), Gould (1978), and Sheehy (1976) as important influences. Fowler has provided
only brief and sketchy accounts of the nature and status of these seven aspects, how they
are related to each other and how they are transformed as individuals move from stage to
stage (Fowler, 1981: 244-268; Fowler, 1986a: 31-35; Fowler, 1991: 42-43; Fowler &
Keen, 1985: 39-95; Fowler, Nipkow, & Schweitzer, 1991). However, he reports (1981:
314) that trained analysts are able to discern structure-indicating passages of the
interview and to assign them to a structural stage under one or other of the seven aspects with a high degree of inter-rater reliability. An overall stage assignment for an interview is reached by assigning stages to each passage in each aspect area, averaging the stage assignments for each aspect, and then averaging the aspect averages.

Fowler (1981: 323) claimed that the distributions of these stage assignments amongst his sample provided the empirical foundation for his theory. However, he admitted that the sample was not representative, that statistical tests of significance had not been conducted, and that the theory could not be validated without longitudinal and cross-cultural studies (ibid: 313-315). Fowler (ibid) reported that a follow-up longitudinal study was underway and that the cross-sectional data from the 359 interviews conducted by him and his associates between 1972 and 1981 were being coded into machine-readable form for statistical analysis. However, to the best of our knowledge, neither the findings of this longitudinal study nor the results of any such statistical analysis have appeared in any of Fowler’s many subsequent publications. Snarey (1990) claimed to have provided evidence of the construct validity and cross-cultural universality of Fowler’s model on the basis of statistical analyses of faith development interviews with sixty founders of an Israeli kibbutz. However, it is hard to see how analyses of the responses of such an unusual and historically unique group (comprised of middle aged radical Jewish secularist immigrants from North America, most of whom had grown up in orthodox families) can provide sufficient basis for the wide-ranging claims of Fowler’s theory.

Batson et al (1993: 74-75) have pointed out that, even if the limitations of Fowler’s data are ignored and the distributions of stage assignments with age are examined in the form that Fowler presents them (Fowler, 1981: 317-323), it is only up to about age 20 that there appears to be any clear tendency for stage score to increase with age. From age 20 on, roughly equal numbers of respondents are at stages three and four, with a somewhat smaller percentage at stage five. These results suggest that there is a developmental sequence that moves from stage one to stage two during adolescence and from there to one or other of the higher stages. These later stages of Fowler’s model appear to be an array of parallel alternatives rather than a sequence of hierarchically ordered developmental steps.
Several other researchers have expressed similar concerns about the empirical support for Fowler’s theory (e.g., Heywood, 1985; Hyde, 1990; Power, 1991; Spilka et al, 1985; Webster, 1984). These concerns have been compounded by criticisms of the complexity and abstruseness of Fowler’s model. In particular, Fowler has been criticized for failing to provide any clear account of how the stages of such disparate theories as those from which he derives his seven aspects of faith can be integrated coherently into “structured wholes” (Fernhout, 1986; Ford Grabowsky, 1986; Heywood, 1986; Hyde, 1990; Oser & Gmunder, 1991; Webster, 1984). The theological assumptions of Fowler’s model have also been criticized (e.g., Batson et al., 1993; Broughton, 1986; Hyde, 1990; Kwilecki, 1988a; Kwilecki, 1988b; Kwilecki, 1989; McBride, 1976). As Fowler himself admits (e.g., Fowler, 1974: 208-210; Fowler, 1981: 9; Fowler, 1991: 27), his theory owes much to the writings of liberal Protestant theologians such as Tillich and Niebuhr. This debt is particularly noticeable in Fowler’s definition of faith and in his characterization of stage six (cf. Fowler, 1981: 3-34, 204-21; McLean, 1986). Moreover, the crucial role played by these theological assumptions in Fowler’s stage theory is underscored by the normative status that Fowler claims for his model, which he considers to be not only descriptive of how faith develops through the lifespan but prescriptive of how faith ought to develop (Fowler, 1981: 299-300). Kwilecki (1988a; 1988b; 1989; 1991) has argued that these theological assumptions make Fowler’s model inappropriate for describing the religious development of other religious groups, and has backed up her claims with evidence from her own studies of fundamentalist church members in rural Georgia. (For attempts to defend Fowler’s model against Kwilecki’s criticisms see Barnes, 1989 and Kahoe, 1989.)

Fritz Oser’s stage theory of the development of religious judgment is remarkably similar in structure to Fowler’s theory of faith development. Oser characterizes religious judgment as developing through six stages, each of which comprises a particular coordination of seven “polar dimensions” (Oser, 1991: 7-8; Oser & Gmunder, 1991: 23-32). Also, like Fowler, Oser has found his sixth stage to be extremely rare and posits it as a normative ideal rather than an empirically instantiated reality (Oser, 1980: 291-292 Oser & Gmunder, 1991: 79-82). Oser’s definition of religious judgment is also quite similar to Fowler’s definition of faith. Oser (1991: 4-5) defines religious judgment as
the way individuals define their relationships to God or some Ultimate Being in concrete situations … reasoning that relates reality as experienced to something beyond reality and that serves to provide meaning and direction beyond learned content.

Like Fowler’s definition of faith, this definition characterizes religious judgment as involving more than just cognitive engagement with religious material. Specifically, it portrays religious judgment as an existential, “meaning-making” endeavor (cf. Oser & Gmunder, 1991: 144-146). Moreover, like Fowler’s centers of value and images of power, the category of Ultimate Being is defined broadly to include conceptions of transcendence and ultimacy other than the personal divinities of particular religions (cf. (Oser, 1991: 5; Oser & Gmunder, 1991: 20 n.10, 23 n.14).

However, despite these similarities, Oser’s research differs significantly from Fowler’s both in method and substance. In general, Oser’s theory and methodology are modeled much more closely on Kohlberg’s research than are Fowler’s. According to Oser, religious judgment may occur at any time, but is especially likely in times of crisis. In particular, it is initiated by “contingency situations” (Oser & Gmunder, 1991: 34-38), in which people “face human failure, incompetence, bad luck and so on” (Oser, 1980). Oser believes that, at times such as these, individuals employ “deep structures of religious judgment” in order to cope with the crises with which they are confronted (Oser & Gmunder, 1991: 33). The method that Oser employs to investigate religious judgment empirically is thus to present interviewees with dilemmas simulating such crises (cf. Colby & Kohlberg, 1987a; Colby & Kohlberg, 1987b). One such dilemma is the Paul dilemma (Oser & Gmunder, 1991: 102-108). Paul is a young doctor who survived a plane crash during which he had prayed to God, promising to devote his life to the poor of the Third World if he were saved. Paul is then offered a lucrative position at home. Interviewees are presented with this story and asked what Paul should do and why. Analyses of their responses to this and other similar dilemmas provide the empirical basis for Oser’s developmental model.

As with Fowler’s theory, one cannot do justice to Oser’s model in a short summary. The following outline thus presents only the most central features of each stage. Stage one, which is most common amongst children below the age of nine, is an orientation of
religious heteronomy, or “deus ex machina.” At this stage God is perceived as intervening actively in human affairs, punishing or rewarding at will. In contrast, human beings are seen as merely reactive. Stage two, which is most common amongst eleven to twelve year olds, is an orientation of, “do et des,” or “give so that you may receive.” At this stage, God is still viewed as an omnipotent being, dispensing punishments and rewards. However, He can be influenced by people’s good deeds, promises and vows. Stage three surfaces in some cases at age eleven or twelve, but is most common amongst people in their early twenties. This stage is an orientation of absolute autonomy or deism. At this stage, the perceived role of God in human affairs is dramatically reduced and people see themselves as absolutely responsible for their own lives. This stage is often associated with a rejection of religious authority. Stage four, which is most common in middle age, is an orientation of mediated autonomy in which individuals continue to see themselves as responsible for their fate and actions, but see the Ultimate as the source of their freedom. Individuals at this stage often speak of a divine plan underlying and giving meaning to the ups and downs of their lives. Stage five, which Oser admits to having found only rarely, is an orientation of intersubjectivity. At this stage, the Ultimate is encountered everywhere and permeates interpersonal commitments whilst simultaneously transcending them. Individuals at this stage feel that they are unconditionally related to the Ultimate and cannot conceive of the divine without concrete reference to human beings. Stage six is postulated as an ideal orientation toward universal communication and solidarity. At this stage, the individual’s sense of being unconditionally related to the Ultimate is developed into an absolute trust that is completely impervious to failure and pain. The Ultimate is seen as imbuing even the finite and fragmentary actions of human beings with absolute meaning.

Oser considers each of his stages to correspond to a particular coordination of seven polar dimensions (Oser, 1991: 7-8; Oser & Gmunder, 1991: 23-32): freedom versus dependence, transcendence versus immanence, hope versus absurdity, transparency versus opacity, faith versus fear, the holy versus the profane, and eternity versus ephemerity. However, Oser’s description of these polar dimensions is sketchy (cf. Oser & Gmunder, 1991: 23) and his account of how their equilibration and coordination is
related to particular stages of religious judgment is sketchier still (Oser & Gmunder, 1991: 85-95).

The main source of empirical support for Oser’s theory is a cross-sectional study of a stratified sample of 112 Swiss subjects aged between eight and seventy-five. The sample comprised equal numbers of men and women in each age cohort and approximately equal numbers of Roman Catholic and Reformed participants. Each participant was presented with four religious dilemmas, selected in a balanced distribution from a bank of eight dilemmas. Trained coders assigned stages to interviewees’ responses to each dilemma with a high degree of inter-rater reliability and global stage scores for each individual were calculated by averaging the stage assignments across all four dilemmas. Statistically significant age-related increases in stage of religious judgment were observed up to age twenty-five and individuals’ stages were found to be relatively stable across dilemmas. However, contrary to the predictions of Oser’s theory, the stages of elderly participants were significantly lower than those of middle-aged participants. Oser and Gmunder (1991: 186) suggest that this may be due to a specific cohort effect related to experiences of the Second World War. Higher levels of education were positively associated with higher stages of religious development, but there was little evidence of any gender or denominational effects.

The greater methodological rigor of Oser’s empirical research has allowed him to avoid some of the criticism that has been leveled at Fowler’s model (cf. Dykstra & Parks, 1986; Fowler et al., 1991). Nonetheless, the empirical basis for Oser’s claim (e.g., Oser, 1991: 10) that his stages constitute an invariant sequence of hierarchically integrated structural wholes is weak. The invariance claim can be validated only by longitudinal and cross-cultural studies. Oser (1991: 15) reported that a longitudinal study was underway, though to the best of our knowledge its results have yet to be published. Similarly, though studies of religious judgment amongst Hindus and Jains in India, Mahayana Buddhists in Tibet and Christians and ancestor worshipers in Rwanda have found similar age trends to those observed by Oser (Dick, 1982; cited in Oser, 1991), cross-cultural comparisons were not tested statistically (Oser & Gmunder, 1991: 205). Moreover, even Oser’s cross-sectional data only partially support his theory. A stage sequence is supported only for stages one to three between the ages of eight and twenty-
five. After this, there is no evidence of any significant progression, and even some evidence of regression. Furthermore, given Oser’s sketchy characterizations of the relations between the seven polar dimensions at each stage, his claim that his stages are structured wholes has not been adequately demonstrated.

An additional problem for Oser is the similarity of his dilemmas to those used by Kohlberg to study moral judgment (cf. Colby & Kohlberg, 1987a; Colby & Kohlberg, 1987b; Kohlberg, 1981). This raises the question of whether religious judgment as conceived by Oser is anything more than an aspect of moral judgment. Consider, for example, the Paul dilemma. Just because Paul’s promise was to God rather than to a fellow human being, does this make his decision to keep or break his promise a religious decision rather than a moral one? Or is it simply a particular instance of moral decision-making? The conceptual and empirical distinctness of religious and moral judgment have been investigated by both Kohlberg (Kohlberg & Power, 1981; Power & Kohlberg, 1980) and Oser (Oser & Reich, 1990). The results of these studies suggest that, whilst there is considerable isomorphism and mutual influence between the two constructs, with religious development tending to lag behind moral development, this decreases as higher stages are reached.

Oser’s model, like Fowler’s, is heavily influenced by liberal theology. Oser (1991: 9; Oser & Gmunder, 1991: 24, 58) describes his model as the product of mutual bootstrapping between theory and empirical investigation. By theory he means not just theories of psychological development, but also theological and philosophical characterizations of mature religiosity (cf. Oser, 1980: 291-292; Oser, 1991: 18; Oser & Gmunder, 199157-81). Oser’s underlying theological assumptions affect both his definition of religious judgment and his characterization of particular religious orientations as more or less adequate than others. This can be seen most clearly in his automatic scoring of atheists and agnostics at stage three or stage four (cf. Oser, 1991: 18-20; Power, 1991).

In summary, whilst Oser’s theory appears to be better supported than Fowler’s, both theories can be criticized for their abstruseness, theological bias, and inadequate grounding in empirical data. In applying the Kohlbergian paradigm to the study of religious thinking, Fowler and Oser have not differentiated sufficiently between the
structure and content of religious thinking (cf. Power, 1991). Whilst claiming to describe how forms of faith and religious judgment evolve over the lifespan, their theories appear in fact to measure the extent to which the contents of a person’s responses conform to some a priori, prescriptive criterion of theological adequacy. Kohlberg himself argued that, when developmental theories attempt to describe totalistic, self-reflective processes of “meaning-making” rather than precise domains of cognitive functioning, such blurring of the distinction between structure and content is inevitable (Kohlberg & Armon, 1984; Power, 1991). The stage theories of Fowler and Oser seem to bear him out.

**Post-structuralist studies**

In recent years, there has been renewed interest amongst cognitive psychologists in children’s religious thinking (cf. Andre sen, in press; Rosengren, Johnson, & Harris, 2000). Much of this interest has been fueled by recent studies of young children’s naïve physical, biological and psychological theories (e.g., Astington, 1993; Baillargeon, 1994; Carey, 1985; Gopnick & Meltzoff, 1997; Wellman & Gelman, 1992; Wellman & Gelman, 1997). These studies have sought to show that, far from being primitive, magical thinkers as Piaget suggested, children are much like young scientists, sorting reality into different kinds and causes (cf. Johnson, 2000). According to the authors of such studies, children’s thinking is not fundamentally different from that of adults. Rather, discrepancies between childish and adult thinking are due primarily to deficits in children’s knowledge and experience. As these gaps are gradually filled, children’s thinking becomes more and more like that of adults. Thus, according to these researchers, cognitive development is primarily a process of continuous acquisition and elaboration of content knowledge rather than discontinuous change in cognitive structures.

This post-structuralist view of cognitive development has prompted researchers to re-examine Piaget’s claims that young children are particularly susceptible to magical beliefs and are unable to distinguish between reality and fantasy (e.g. Chandler & Lalonde, 1994; Wooley 1997). The somewhat mixed findings of these studies and the search for continuities between children’s and adults’ thinking have led researchers to consider more general questions about the origins and developmental trajectories of supernatural beliefs. This renewed interest in supernatural beliefs has combined with a recent interest amongst cognitive anthropologists in the ways in which culture and

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cognition interact in religious thinking (e.g., Boyer, 1994; Lawson & McCauley, 1990). As yet this interest has resulted in few empirical studies that focus explicitly on the religious beliefs of children and adolescents (cf. Harris, 2000). However, there has been considerable discussion at the theoretical level about how such beliefs develop. These discussions have tended to extrapolate an account of the development of religious beliefs from the findings of anthropological studies of religious representations in diverse cultures and of psychological studies of children’s understanding of magic, fantasy and fiction (e.g., Boyer & Walker, 2000; Chinn & Brewer, 2000).

The most influential such account (cf. Rosengren et al., 2000) is that proposed by the French anthropologist Pascal Boyer (1994). According to Boyer, religious beliefs are parasitic on intuitive ontology, whilst deviating from it. Intuitive ontology comprises “a set of broad categories about the types of things to be found in the world, together with quasi-theoretical assumptions about their causal powers” (Boyer & Walker, 2000: 135). Religious representations violate this ontology, for example by ascribing intentions to inanimate objects or by positing agents who violate physical and biological laws. It is these violations of intuitive ontology that give religious representations their attention-grabbing potential. At the same time, however, the plausibility and explanatory power of such representations depends on their leaving a large number of intuitive ontological assumptions intact. That is why, according to Boyer, we rarely observe religious representations, such as omnipotent Gods who do not perceive anything or spirits who are located nowhere, that do not include this tacit background.

According to this account of religious ontology, three conditions must be fulfilled if people are to acquire religious concepts (Boyer & Walker, 2000: 139). First, they must possess the tacit principles that inform intuitive ontology. Second, they must be sensitive to violations of these principles. Third, they must use non-violated background assumptions to produce inferences about religious entities. Though some aspects of intuitive ontology, such as principles of intuitive physics, emerge very early (Baillargeon, 1994), others, such as the stability of species identity, do not emerge until middle childhood (Keil, 1989). Similarly the ability to construct a specific “slot” for scenarios that are both counterintuitive and real appears to be a middle childhood phenomenon. Thus, on this account, it is only around the age of six or seven that children are able to
distinguish clearly between magical, religious, and fictional representations. Nonetheless, since children share many intuitive ontological assumptions with adults, the religious conceptions of children and adults are largely continuous. Observed discontinuities between the religious thinking of children and adults are claimed to be a function of specific deficits in children’s cultural knowledge: as children acquire a richer knowledge base their religious concepts begin to correspond more closely to “theologically correct” adult conceptions.

Boyer’s account of the cognitive basis of religious representations suggests that religious thinking is neither domain-specific nor culture-specific in any strong sense (Boyer & Walker, 2000: 151-153). Rather than religion being a distinct domain with its own particular functional characteristics, it merely integrates conceptual repertoires from the physical, biological and psychological domains. Similarly, whilst the details of religious representations differ considerably across cultures, the underlying ontological assumptions in terms of which they operate are universal.

Recent empirical studies seem to confirm some aspects of Boyer’s account. Barrett and Keil (1996) found that, whilst university students tended to describe God in “theologically correct,” non-anthropomorphic terms when questioned directly about their concepts of God, their interpretations of stories about God included many anthropomorphic assumptions that were not present in the stories themselves. This suggests that the principles of inference and explanation that underlie adult thinking about religious entities are, like those of children, largely parasitic on intuitive ontology. Similarly, Evans (2000) found that whilst belief in evolution was significantly more common amongst non-fundamentalist adults than amongst fundamentalist adults, it was equally rare amongst both fundamentalist and non-fundamentalist preadolescents. Evans interpreted these findings as showing that there are cognitive constraints on belief in evolution, but that there are also cultural constraints on the extent to which such beliefs are suppressed or privileged by particular communities. This suggests that, whilst, as Boyer claims, the intuitive attractiveness of particular kinds of explanation is a function of culturally universal features of cognition, cultural processes can serve to make such explanations more or less available. Finally, Wooley (2000) found that, whilst children aged five and above distinguish clearly between mental and physical, they tend to believe
in wishing and prayer – processes that run counter to this distinction. In interpreting these findings, Wooley speculated that children may “quarantine” wishing and prayer from their developing theories of mind by labeling such processes as magical and religious respectively. This is similar to Boyer’s account of the emergence in middle childhood of a “slot” for real but counterintuitive phenomena (cf. ibid: 126, n.8). Wooley goes on to suggest that such “quarantining” is characteristic of adults too and is promoted by culturally sanctioned use of diverse forms of explanation in different contexts (cf. Boyer, 1997; Chandler, 1997; Harris, 1997; Harris, 2000; Johnson, 1997; Subbotsky, 2000; Wooley, 1997a; Wooley, 1997b).

Whilst these recent studies suggest intriguing directions for future research, they suffer collectively from a number of limitations. First, they tend to be restricted to examination of people’s explicit statements about their religious beliefs rather than the ways in which people actually engage in religious thinking. As Barrett & Keil (1996) have shown, these may often diverge. Second, they tend to focus either on young children or adults. This leaves untested post-structuralist claims that development in religious thinking is a continuous rather than a stage-like process. It also leaves educators with little information about how religious thinking develops during the school years. Third, despite claims that the underlying principles of religious thinking are neither domain-specific nor culture-specific, very few studies have actually employed cross-domain or cross-cultural designs.

**Previous studies of argumentation and epistemology**

In the present study we investigate the religious thinking of children and adolescents by examining the kinds of argumentation they generate in support of their religious beliefs. Our adoption of this approach places our investigation within the tradition of empirical studies of informal reasoning (cf., e.g., Galotti, 1989; Kuhn, 1991; Kuhn, 1992; Rips, 1998; Rips, Brem, & Bailenson, 1999; Rogoff & Lave, 1984; van Eeemeren, Grootendorst, Blair, & Willard, 1987a; van Eeemeren, Grootendorst, Blair, & Willard, 1987b; van Eeemeren, Grootendorst, Blair, & Willard, 1992; van Eeemeren & Grootendorst, 1983). In order to clarify the assumptions underlying this approach, a brief account is given below of what informal reasoning is, how it differs from formal reasoning, and what we know about the informal reasoning of children and adolescents.
The kinds of informal reasoning that people generate in support of their beliefs have been shown to depend to a large extent on their general beliefs about the nature of knowledge (Bendixen, Dunkle, & Schraw, 1994; Bendixen, Schraw, & Dunkle, 1998; King & Kitchener, 1994; Kuhn, 1991; Schraw, Dunkle, & Bendixen, 1995). Accordingly, the present study includes an examination of such beliefs amongst our participants. In the review below, therefore, we include a section on previous studies of epistemological thinking and its development over the course of childhood and adolescence.

**Formal reasoning, informal reasoning and argumentation**

Reasoning may be defined broadly as the transformation of given information in order to reach conclusions (Bruner, 1957; Galotti, 1989). In contrast to intuitive or associative thinking, reasoning is goal-directed and systematic. Thus, beliefs acquired or justified by reasoning are contrasted with beliefs held on the basis of whim or personal taste alone (Chazan & Soltis, 1973). This is not to say that the employment of reasoning results always and only in the drawing of conclusions that are inferentially valid according to some normative system of formal logic (cf. Evans & Over, 1996). A given inference may be fallacious and yet qualify as an act of reasoning: to label an inference fallacious is to make a statement about the results of reasoning but not about the process that is responsible for those results (Henle, 1962). Viewing reasoning as a process rather than a product, it is possible to consider the employment of reasoning not only in such “formal” activities as the solution of syllogisms or problems of propositional logic, but also in such “informal” activities as evaluating arguments, testing hypotheses or even deciding the relative merits of two different soap powders (Galotti, 1989; Kuhn, 1991).

Informal reasoning differs from formal reasoning in that the problems to which it is directed are ill-structured as opposed to well-structured. Well-structured problems have a single, correct answer and an optimum strategy for attaining an appropriate solution. Ill-structured problems tend to have no definitive solution (Kuhn, 1991). The extent to which a problem is well-structured versus ill-structured may be a product of its content no less than of the form in which it is presented. For example, questions about the causes of social problems, such as unemployment or school failure, require consideration of phenomena, “the true causal structure of which are complex and uncertain” (ibid). In
such cases it is the very content under consideration that is ill-structured and open-ended rather than anything specific about the form in which it is presented.

Researchers in the field of formal reasoning are concerned with three main kinds of question (Evans, 1991; Evans, 1993; Evans, Over, & Manktelow, 1993). First, the competence question: How is it that people are able to solve logical tasks with above chance accuracy? Second, the bias question: Why, in spite of some basic competence, are people so often biased by logically irrelevant features of the task? Third, the content question: Why is it that the responses to reasoning tasks are so largely affected by the content and context of the problem, despite the apparent logical irrelevance of these variables?

These questions are addressed more or less successfully by four main theories of reasoning (for a critical review see Evans, 1991; Oaksford & Chater, 1993). “Rules” or “mental logic” theory (e.g. (Braine, 1978; Braine & O’Brien, 1991; Braine, Reiser, & Rumain, 1984; Henle, 1962; Rips, 1983; Rips, 1990; Rips, 1994; Smith, Langston, & Nisbett, 1992) proposes that people possess a mental logic comprised of a set of general-purpose inference rules. “Mental models” theory (e.g., Johnson-Laird, 1983; Johnson-Laird, 1999; Johnson-Laird & Byrne, 1991) contests this theory, claiming that reasoning competence is achieved without the use of rules. It proposes, instead, that reasoning is a process of forming mental models of possible states of the world described by the premises and forming conclusions that are true in those models. Despite the vigorous debate between “rules” and “mental models” theorists, both approaches share the view that there exists a universal reasoning mechanism that is responsible for people’s competence in reasoning. In contrast to this view, “pragmatic schema” theories (e.g., Cheng & Holyoak, 1985; Cheng & Holyoak, 1989; Cheng, Holyoak, Nisbett, & Oliver, 1986) propose that reasoning mechanisms are domain-specific and that it is for this reason that people’s performance on reasoning tasks is so largely affected by content and context. Since schemas are not universal but specific to particular domains, different contents and contexts invoke different mechanisms of reasoning. Finally, “heuristics theory” (Evans, 1989; Kahnemann, Slovic, & Tversky, 1982; Pollard, 1982; Tversky & Kahnemann, 1974) proposes that inference is a process of evaluating the statistical probability of a conclusion given a particular set of premises. It further proposes that, in
order to minimize the processing involved in evaluating such probabilities, humans have
developed heuristics or “rules of thumb” which they employ in most of their problem-
solving and decision-making. Biases in reasoning are thus explained by heuristics
theorists as cases of particular “rules of thumb” being overapplied.

Much of the psychological literature on reasoning has been concerned with playing
out the controversies between these four approaches. In seeking to decide between them,
research has tended to focus on minute variations on a small number of laboratory tasks
(cf. Evans, 1993; Evans & Over, 1996; Rips, 1990; Wason, 1968; Wason & Johnson-
Laird, 1972). Though it is assumed that these tasks bear important relationships to
reasoning in everyday life, such relationships are rarely, if ever, explicited in detail (cf.
Galotti, 1989). This has led psychologists to call for broader conceptions of reasoning
and for research which focuses less on problems conceived of and presented by
psychologists and more on problems that arise in people’s everyday experience and the
kinds of thinking they have developed to deal with them (Galotti, 1989; Kuhn, 1992;
Rogoff & Lave, 1984). The difficulty with this latter kind of research (and perhaps an
important reason why psychologists have preferred until recently to occupy themselves
with a narrow range of formal tasks) is that such “informal” reasoning is “open-ended, ill-
structured, and deeply embedded in a rich, complex knowledge base. As such, it
threatens to be intractable” (Kuhn, 1992). A major challenge for research into informal
reasoning has been, therefore, to develop conceptions of reasoning and paradigms of
research that make it more approachable.

One influential response to this challenge has been Deanna Kuhn’s (1991; 1992)
conception of “thinking as argument”. Kuhn has distinguished between two senses of the
word “argument”. Whereas rhetorical argument is a course of reasoning aimed at
demonstrating the truth or falsehood of something, dialogic argument is a dialogue
between two people who hold opposing views. She has argued that, though connections
are rarely made between these two kinds of argument, they bear a close relationship to
one another in terms of certain fundamental cognitive skills entailed in both. Specifically,
she has proposed that any reasoned argument in support of an assertion contains
implicitly a full dialogic argument. For, in weighing positive and negative evidence in
favor of one assertion over its alternatives, one must recognize an opposition between
two or more assertions and attempt to reach an integrative evaluation of the relative merit of the opposing views.

Kuhn (1991) has employed this conception of reasoned argument to investigate the extent to which the elements of dialogic argument are evident in the thinking underlying people’s beliefs and opinions and to which the presence or absence of these elements is indicative of the quality of their thinking. More recently, she has gone on to explore the extent to which engagement in dialogic argument within the context of a series of peer interactions on a given topic contributes to improved employment of argumentative reasoning skills in individuals (Kuhn, Shaw, & Felton, 1997). Her findings suggest that there are general argumentative skills that transcend the particular content or contexts in which they are expressed and that certain kinds of social interaction can improve the range and quality of argumentative skills employed by individuals on a given topic.

A different approach to the study of argumentation is the activity perspective (cf. Schwarz, Neuman, Gil, & Ilya, in press). Rather than focusing on the argumentative skills of individuals, this approach focuses on the co-construction of argumentation through interpersonal discourse processes. Researchers employing this perspective have studied conversations among groups of students engaged in argumentative activity in history (Pontecorvo & Girardet, 1993), mathematics (Hershkowitz & Schwarz, 1999; Schwarz & Hershkowitz, 1999; Schwarz, Neuman, & Beizuener, 2000) and physics (Woodruff & Meyer, 1997) in order to identify the mechanisms of argumentation by which reasoning is socially distributed and knowledge collectively constructed.

The skills and activity perspectives to the study of argumentation may be seen as deriving from two distinct approaches to the study of cognition in general. The skills perspective is closely linked to a view of cognition (e.g., Piaget, 1970; Piaget & Inhelder, 1969) as something that occurs primarily within individuals as they interact with their environment; the activity perspective is linked to a view of cognition (e.g., Vygotsky, 1978; Vygotsky, 1986) as something that always involves interactions between individuals, situations and the socio-historical products of others. Nonetheless, despite their different theoretical roots, we need not view these two approaches to the study of argumentation as incompatible or mutually exclusive. In practice, all empirical studies of argumentation involve the observation of individuals interacting with some particular set
of cultural products in some particular interpersonal situation. The present study is no exception. Though participants in the present study were interviewed individually, the argumentation they generated may be seen as a product of the interaction between the participant, the interviewer and the particular socio-historical context within which their conversation took place. These two approaches thus provide us with different lenses through which to analyze our data. In the present study, we employ a combination of quantitative and qualitative methods of analysis in order to examine argumentation from both perspectives (cf. Schwarz & Glassner, in press; Schwarz et al., in press).

Previous studies of children’s reasoning and argumentation

Research into children’s reasoning and argumentation has tended to be conducted from a skills perspective and to focus on formal rather than informal reasoning (cf. Meadows, 1993; Schwarz & Glassner, in press; Schwarz et al., in press). Children’s reasoning, though subject to similar kinds of bias (e.g. confirmation bias, belief bias, failure to accept the logical task) as that of adults (Baron, 1988; Braine & Rumaine, 1983; Evans, 1989; Sutherland, 1992), has been found to be more highly dependent than is adult reasoning on content and context (cf. Bucci, 1978; Donaldson, 1978). There is some controversy over the extent to which such context-dependence is due to children’s quantitative lack of knowledge and experience of certain domains and logical concepts or to qualitative differences in the mechanisms by which they process information (Brown, 1989; Donaldson, 1978; Goswami, 1998; Karmiloff-Smith, 1992; Mills & Funnell, 1983). Nonetheless, recent studies of children’s reasoning tend to converge on three important points. First, that reasoning skills tend to emerge first in specific domains and only gradually, if at all, to generalize to others (Meadows, 1993; van Lehn, 1996; Voss, Wiley, & Carretero, 1995; Wellman & Gelman, 1992; Wellman & Gelman, 1997). Second, that this process of generalization is subject to a number of identifiable constraints, the presence or absence of which may affect radically the extent to which an individual transfers particular skills from one domain to another (Brown, 1989). Third, that though some reasoning skills are present in primitive form as early as the fourth year of life, the ability to employ them in increasingly “dismbedded” contexts appears to develop gradually until early adolescence (Donaldson, 1978; Goswami, 1998; Meadows, 1993). At this point a level of competence is attained that appears to remain more or less
constant through adolescence and adulthood (Kuhn, 1991; Means & Voss, 1996; Perkins, 1985; Perkins, Allen, & Hefner, 1983).

**Epistemological thinking**

Epistemological thinking has been studied by psychologists under a variety of names and in a variety of ways (cf. Duell & Schommer-Aikins, 2001; Hofer & Pintrich, 1997). However, whilst researchers have differed about the precise definitions, causes, onset, duration and endpoint of particular forms of epistemological thinking, e.g. (Boyes & Chandler, 1992; Broughton, 1975; Chandler, 1975; Chandler, 1987; Chandler, Boyes, & Ball, 1990; King & Kitchener, 1994; King, Kitchener, Davison, Parker, & Wood, 1983; Kitchener, 1983; Kitchener & King, 1981; Kuhn, 1991; Kuhn, 2000; Kuhn, 2001; Oser & Reich, 1987; Perry, 1970; Perry, 1981; Schommer, 1990; Schommer, 1994) they have all tended to describe such thinking as evolving through at least three distinct stages. The first stage is one of “naïve realism” or “absolutism” in which a person considers every question to have a single, correct answer that can be known, at least by experts, with absolute certainty. The second stage is one of “relativism” or “multiplicity” in which all knowledge claims are considered to be entirely subjective and idiosyncratic to the tastes and preferences of the individual. The third stage is one of “evaluativism,” “postskeptical rationalism,” or “reflective thinking” in which knowledge is seen as something that is tentatively constructed by evaluating the evidence for and against competing beliefs and points of view.

These accounts of epistemological development tend to characterize children and adolescents as naïve realists. The shift from naïve realism to relativism is generally considered to be an achievement of late adolescence or early adulthood and is particularly characteristic of students in the first and second years of undergraduate programs (e.g., King & Kitchener, 1994; Perry, 1970). However, few studies have actually investigated the epistemological thinking of children and adolescents (cf. Boyes & Chandler, 1992; Chandler et al., 1990). Moreover, the results of those that have are mixed. Of the 32 studies summarized in King and Kitchener’s (1994) book, only 5 included any participants of school age and none included participants younger than ninth-grade. Most of these school age participants were at stages two or three on King and Kitchener’s Reflective Judgment Model (RJM), indicating that they were “pre-reflective” and naïve.
realist in their epistemological thinking. Chandler’s (Boyes & Chandler, 1992; Chandler, 1975; Chandler, 1987; Chandler et al., 1990) studies, on the other hand, indicate an earlier developmental shift: whereas preadolescents tended to be naïve realists, adolescents had generally moved on to some form of epistemic doubt or post-skeptical rationalism. Finally, in Kuhn’s (1991) study no significant differences in epistemological thinking were observed between adolescents and adults when educational differences were taken into account.

Despite such differences, psychological accounts of epistemological development generally concur in characterizing epistemological beliefs as forming structured belief-systems that develop through a sequence of hierarchically ordered stages. Moreover, these shifts in epistemological thinking are claimed to be more or less domain-independent (cf. Chandler et al., 1990; King & Kitchener, 1994; Kitchener & King, 1981; Kuhn, 1991; Kuhn, 2000; Kuhn, 2001; Perry, 1970). This view of epistemological thinking makes at least three assumptions. First, it assumes that beliefs about diverse aspects of knowledge and justification are closely interrelated. Second, it assumes that a person’s epistemological beliefs are more or less the same in all domains, regardless of the topic. Third, it assumes that epistemological beliefs may be ordered hierarchically according to their sophistication or adequacy. These shared assumptions make it appropriate to group existing accounts of epistemological thinking together under the heading of theories of “personal epistemology” and its development (cf. Hofer & Pintrich, 1997; Kuhn, 2001).

However, the first two of these assumptions have recently been challenged. The first assumption has been challenged by Schommer’s research (Schommer, 1990; Schommer, 1993; Schommer, 1994; Schommer & Walker, 1995), in which she has sought to show that people’s epistemological beliefs can be grouped into a number of relatively independent dimensions. However, Schommer’s studies are based on factor analysis of responses to Likert type questionnaire items in which subjects were asked to rate their agreement with statements such as, “I don’t like movies that don’t have an ending,” “Most words have one clear meaning,” “People who challenge authority are overconfident,” “You should evaluate the accuracy of information in a textbook if you are familiar with the topic,” and “The only thing that is certain is uncertainty itself.”
These items are assumed to measure the extent to which subjects believe that knowledge is simple or complex, certain or uncertain, and derived from omniscient authority or from reason. However, it is arguable whether such vague and decontextualized items really measure what they are supposed to. Moreover, the validity of any factor analysis depends on the extent to which the variables included in the analysis map exhaustively and exclusively the phenomenon to be studied. Schommer’s (1990) 63-item instrument includes numerous statements relating to beliefs about intelligence and the process of learning. Such beliefs are not in any obvious sense epistemological rather than psychological or educational. Schommer’s results may thus be due more to an idiosyncratic choice of items than to any inherent dimensionality in epistemological thinking.

The second assumption has been investigated explicitly in a number of empirical studies. However, the findings of these studies are quite varied. Though King and Kitchener (1994) report high levels of consistency in interviewees’ stages of epistemological development as measured by their responses to the reflective judgment interview (RJI) across several ill-structured problems, their studies included few adolescents and no preadolescents. It is therefore difficult to assess to what extent the reported levels of consistency apply to the epistemological thinking of schoolchildren. Moreover, since beliefs about justification, knowledge and authority are not sharply differentiated in their theoretical model of epistemological development (the Reflective Judgment Model or RJM), domain differences that are restricted to only one of these dimensions would not be picked up by inter-problem comparisons using the RJI. This is especially pertinent in the case of school age participants. The high school students in the studies discussed by Kitchener and King (1994) tended to be categorized as Stage 2 or 3 on the RJM. It is at these stages of the RJM that the failure of King and Kitchener’s model to distinguish between beliefs about knowledge and beliefs about authority is most obvious (cf. King & Kitchener, 1994: 93-95; Kitchener & King, 1981: 93-95).

Kuhn (1991: 194, 304) too reports a high degree of overall consistency in interviewees’ epistemological beliefs across the three topics about which they were questioned in her study. However, the results themselves (ibid: 192-193) seem to indicate that epistemological beliefs varied considerably across the three topics,
especially amongst teens. Kuhn’s high levels of consistency may thus be due in part to her decision to collapse the distinction between multiplists and evaluativists and to evaluate consistency for the sample as a whole rather than for each age group separately (ibid: 194, 304). Schommer and Walker (1995) investigated students’ epistemological beliefs about various college disciplines and found them to be fairly consistent. However, this study was based on the research framework developed by Schommer in her previous studies and as such suffers from the conceptual inadequacies mentioned above. In addition, the method used by Schommer and Walker to compare subjects’ epistemological beliefs across disciplines was to ask participants to complete the same basic self-report instrument several times, each time bearing a different college discipline in mind. The apparent consistency across the topics may thus be an artifact of the repetitiveness of the task. Finally, Hofer (2000) used a combination of general and discipline-focused paper-and-pencil instruments to measure psychology students’ epistemological beliefs about psychology and science. Hofer’s findings contradict those of Schommer and Walker (1995), indicating significant differences between students’ epistemological beliefs about psychology and their epistemological beliefs about science.

Given these conflicting findings, the assumption that epistemological beliefs are domain-independent is one that cannot be accepted uncritically. In particular, given the current lack of research into the epistemological beliefs of children and adolescents, the consistency of children’s epistemological beliefs across topics and domains is best seen as an open empirical question.

Previous studies of religious argumentation and epistemology

Given the wealth of psychological theories that have been put forward to explain people’s adherence to or rejection of religious beliefs (cf. Beit-Hallahmi & Argyle, 1997), surprisingly few empirical studies have actually sought to investigate how individuals themselves justify their own religious beliefs. However, a number of studies have examined people’s reactions to challenges to their religious beliefs (e.g., Batson, 1975; Batson & Raynor-Prince, 1983; Hunsberger, Pancer, Pratt, & McKenzie, 1992). Batson’s (1975) study appeared to confirm Festinger et al’s (1956) interpretation of people’s reactions to such challenges in terms of cognitive dissonance theory. Faced with apparently reliable information that challenged their deeply held religious beliefs,
participants in his study reacted either by denying it or by resisting its implications. Moreover, those who expressed both commitment to the religious belief and acceptance of the disconfirming information tended to express more intense belief after being presented with the disconfirming information that they had prior to its presentation. Batson (1975: 183) interpreted his findings as indicating that, when faced with challenges to religious beliefs to which they are publicly committed, people seem “more concerned with defending and justifying themselves than with dispassionately reading off the logical implications of their statements.”

This view of the quality of people’s reasoning about their religious beliefs as being rather poor is common to other studies in this vein. Both Batson and Raynor-Prince (1983) and Hunsberger et al (1992) found a negative correlation between commitment to orthodox religious beliefs and “cognitive complexity about existential concerns,” the latter being measured by scores on a paragraph completion instrument in which subjects were presented with opening sentences such as “When someone challenges my beliefs about God …” and “When confronted with Darwin’s theory of evolution and the Bible’s story of creation …” (cf. Hunsberger et al., 1992: 100).

Similarly pessimistic conclusions about the quality of people’s reasoning about religious subject matter were drawn by Klaczynski (2000) in his study of early and middle adolescents’ evaluations of evidence relevant to their personal theories about the extent to which belonging to their religion, relative to other religions, increased responsibility, life satisfaction, getting along with other people, a sense of right and wrong, and good parenting. When faced with theory-incongruent evidence, they tended to employ higher-order scientific reasoning in order to reject it. However, when faced with theory-congruent evidence, they tended to rely on cursory justifications that enabled uncritical assimilation of the evidence. Klaczyinski reported an identical effect in the same adolescents’ evaluations of evidence relevant to their personal theories of social class. However, it was only in the religious condition that he found evidence of in-group bias. Moreover, reasoning biases in the religious condition were found to increase significantly with age, with middle adolescents being more likely than early adolescents to treat theory-incongruent evidence as implausible.
Despite these rather pessimistic conclusions about the quality of peoples’ religious reasoning, none of these studies examined individuals’ justifications of their own theological beliefs (or doubts) or their reasons for rejecting or accepting evidence that contradicts them. To the best of our knowledge, the only study yet to have done so is that conducted by Nipkow and Schweitzer (1991). Nipkow and Schweitzer examined a sample of German 16-22 year olds’ written reflections on God and categorized their reasons for faith and doubt into four main kinds of fulfilled or unfulfilled expectation: expectations of God as a guarantor of goodness in the world, expectations of God as a key to explaining the origins of the universe and the meaning of life, expectations of God as an entity that exists independently of the dreams, wishes or symbols of human beings, and expectations of the Church as a trustworthy witness to God. However, whilst Nipkow and Schweitzer’s study provides an intriguing glimpse into the contents of adolescents’ religious argumentation, it does not tell us anything about the ways in which these contents are approached and reflected upon by adolescents from different religious backgrounds or how they change over the course of adolescence.

A number of empirical studies have focused explicitly on the relationship between religious beliefs and general epistemological orientations. In one group of studies, creationists have been shown to score lower on measures of epistemological sophistication than evolutionists (Lawson & Worsnop, 1992; Sinatra, Southerland, & McConaughy, 2001). In another study, commitment to orthodox religious beliefs was shown to correlate positively with naïve realism (Desimpelaere, Sulas, Duriez, & Hutsebaut, 1999). The authors of these studies appear to interpret their findings as evidence of the epistemological naiveté of creationists and orthodox believers (cf. Desimpelaere et al., 1999: 131; Sinatra et al., 2001: 23ff.). However, an alternative interpretation is that some kinds of religious commitment are in direct conflict with some kinds of epistemological belief. For example, a person who believes in an omniscient God and in the absolute authority of religious texts and traditions is also likely to be committed to the view that questions of human origins or religious truth have single, correct answers that can in principle be known with certainty. That such individuals give “naïve realist” responses to questionnaire items concerning their epistemological beliefs may thus attest not so much to their lack of scientific or epistemological sophistication as
to their commitment to a particular metaphysics (cf. Chandler, 1997; Chinn & Brewer, 2000; Evans, 2000). The ability of questionnaire-based studies to examine this possibility is extremely limited (cf. Desimpelaere et al., 1999: 135), especially given the inadequacies of existing paper-and-pencil measures of epistemological belief (Hofer, 2001; Hofer & Pintrich, 1997). The present study thus provides an important opportunity to explore the relationship between religious commitments and epistemological beliefs in greater detail.

**Research questions**

The present study sets out to investigate three main research questions. First, what kinds of argumentation do children and adolescents employ in order to justify their religious beliefs? Second, how does such argumentation compare with the kinds of argumentation they employ in order to justify their non-religious beliefs? Third, how does such argumentation vary with age, gender, ethnicity and religious background?

Our investigation includes a detailed examination of a number of different aspects of argumentation. We start by examining the reasons that children and adolescents offer in support of their beliefs. We then examine the argumentative strategies that they employ in order to persuade a person holding beliefs opposed to their own. Next, we examine the kinds of counterarguments that they imagine an opponent might employ in order to show that they are wrong. This is followed by an examination of their attempts to rebut such counterarguments. Finally, we examine their epistemological beliefs about the domain of discourse about which they have been arguing. This examination includes a consideration of whether or not they consider the question under discussion to have a single, correct answer; whether or not they consider their belief to be fallible; and whether or not they consider the question to be susceptible to rational resolution.

By adopting this approach to the investigation of religious thinking amongst children and adolescents, we hope to contribute to research in the fields of religious thinking, informal reasoning and personal epistemology in a number of ways.

First, we hope to provide an empirical description of how children and adolescents think about religious subject matter as opposed to merely what they think about such subject matter. As we have seen, previous studies of children’s religious thinking have tended to base their conclusions about the forms of thinking that underlie children’s
religious beliefs and conceptions on analyses of the contents of such beliefs and conceptions. In particular, they have tended to base their conclusions on implicit comparisons of these religious beliefs and conceptions with some a priori criterion of theological adequacy. Ironically, though this tendency to draw conclusions about cognitive processes from analyses of cognitive products ought to be anathema to post-structuralists, it appears to have survived the post-structuralist revolution intact (cf. Evans, 2000; Wooley, 2000). The present study seeks to provide an empirical description of the religious thinking of children and adolescents that avoids extrapolations of this kind by focusing explicitly on the ways in which they engage in argumentative activity concerning religious subject matter.

Second, we hope to find out if and how argumentation and epistemological beliefs vary across the religious and non-religious domains. Though all existing accounts of the development of religious thinking include claims about the extent to which religious thinking differs from thinking in other domains (cf., e.g., Fowler, 1981: 14ff.; Goldman, 1964: 10; Oser & Gmunder, 1991: 48ff), few within-subjects comparative studies have been conducted that enable us to assess the validity of these claims. Two sets of studies have compared peoples’ stages of moral judgment with their stages of religious judgment (Kohlberg & Power, 1981; Power & Kohlberg, 1980, Oser & Reich, 1990). However, due to the high degree of congruence between Oser’s and Kohlberg’s stage theories and research methodologies, the ability of these studies to identify domain differences is necessarily limited. Apart from these studies, the only other direct comparative study of which we are aware is Klaczynski’s (2000). And, as we have already pointed out, Klaczynski’s study did not examine how people reason about questions of religious and non-religious belief, but how they reason about social-scientific theories concerning the correlates of religious and social class membership.

The present study should provide insight not only into the question of the distinctiveness of religious thinking, but also into more general questions about the domain-specificity of informal reasoning and epistemological beliefs. Previous studies of informal reasoning have shown such reasoning to be little affected by the content of the ill-structured problems to which it is applied (e.g., King & Kitchener, 1994; Kuhn, 1991; Schraw et al., 1995). However, these studies have tended to focus on topics that are at
some remove from peoples’ deeply held convictions. The present study allows us to investigate to what extent the presence of such convictions might affect peoples’ informal reasoning. Similarly, previous comparisons of epistemological beliefs across domains have produced conflicting results: some have found peoples’ epistemological beliefs to be fairly consistent across different domains (King & Kitchener, 1994; Kuhn, 1991; Schommer & Walker, 1995) whilst others have found such beliefs to be to some extent domain-specific (Hofer, 2000). Moreover, none of these studies have included preadolescents. The present study provides an opportunity to examine in detail the extent to which children’s and adolescents’ epistemological beliefs vary across different domains.

Third, we hope to provide insight into the relationship between religious thinking and epistemological beliefs. Previous studies have shown people’s epistemological beliefs to be related to their commitment to particular theological positions (Desimpelaere et al., 1999; Lawson & Worsnop, 1992; Sinatra et al., 2001). However, they have told us nothing about how these beliefs might be related to the forms of thinking that underlie such commitments. By studying both the kinds of argumentation that children and adolescents generate in support of their religious beliefs and their general epistemological beliefs about the nature of religious truth and knowledge, we can examine this relationship in detail.

Fourth, we hope to contribute to current debate about the nature of adolescent epistemology. Whilst most existing accounts of epistemological development concur in describing epistemological beliefs as developing from naïve realism through relativism to post-skeptical rationalism, they differ in their accounts of the ages at which these shifts occur (Chandler et al., 1990). Thus, some researchers characterize adolescents as naïve realists (King & Kitchener, 1994) and others describe adolescence as a period of epistemic doubt (Boyes & Chandler, 1992; Chandler, 1975; Chandler, 1987; Chandler et al., 1990). However, few adolescents have actually been included in studies of epistemological thinking (Chandler et al., 1990). By examining the epistemological beliefs of pre-, early and middle-to-late adolescents in relation to ill-structured topics in different domains, the present study will allow us to examine in detail the ways in which epistemological beliefs develop over the course of adolescence.
Fifth, we hope to provide insight into the role played by cultural factors in the development of religious thinking and epistemological beliefs. Authors of existing developmental models of religious thinking have suggested that the patterns of development they describe are universal, applying to people of all religions and nationalities (Boyer & Walker, 2000; Fowler, 1981; Oser & Gmunder, 1991). Yet few studies have set out explicitly to compare the religious thinking of children and adolescents from different religious backgrounds. Of these few studies, most have been conducted with small numbers of children and adolescents all of whom were active members of particular denominations or religious communities (e.g., Heller, 1986; Oser & Gmunder, 1991). Two exceptions are Rosenberg’s (1990) study of the development of the concept of prayer amongst Jewish children and adolescents from religious and secular schools in Israel, and Evans’s (2000) study of beliefs about the origins of species amongst fundamentalist and non-fundamentalist children and adolescents in North America. Both studies found patterns of development to vary significantly with religious background. However, since these studies focused, as have most others, on the contents of people’s religious beliefs and conceptions rather than on the kinds of thinking that underlie them, it is unclear to what extent the differences observed are specific to the particular beliefs or conceptions in question or whether they reflect general cultural differences in religious thinking.

Similarly, epistemological beliefs have been shown to vary with education (King & Kitchener, 1994; Kitchener, 1993; Kitchener & King, 1981; Kuhn, 1991; Kuhn, Weinstock, & Flaton, 1994) and religious belief (Desimpelaere et al., 1999; Lawson & Worsnop, 1992; Sinatra et al., 2001). However, it is unclear to what extent these relationships reflect higher degrees of epistemological sophistication amongst subscribers to particular religious beliefs and graduates of particular kinds of educational program or simply varying degrees of fit between particular epistemological beliefs and particular cultural values. By comparing the religious thinking and epistemological beliefs of children and adolescent from a variety of educational and cultural backgrounds, we hope to gain insight into the ways in which cultural factors influence argumentation and epistemology.
CHAPTER TWO. METHODOLOGY

1. Instruments

Each participant was interviewed individually by the author and completed a brief written questionnaire.

Interview

The interview was semi-structured and was based loosely on the interview schedule devised by Kuhn (1991) to investigate peoples’ informal reasoning about social problems. It comprised two sections: one dealing with a religious topic and the other with a non-religious topic. Each topic was presented in the form of a short story in which two people the same age and gender as the participant are engaged in an argument. After hearing the story, the participant was asked which of the two people in the story she most agreed with, and why. Once the participant had expressed a point of view and attempted to justify it, she was asked how she would attempt to persuade someone else that her point of view is right. In subsequent questions the participant was asked to suggest counterarguments that someone might present against her point of view, and then to rebut these counterarguments. Finally, the participant was asked a number of questions about her epistemological beliefs about the topic under discussion, including questions about whether or not she might be wrong and whether it is possible to prove which of the two people in the story is right. Interviews varied in length between 35 and 85 minutes.

The religious topic was belief in God and was presented in the form of a story of two friends one of whom believes in God, the other of whom does not. The non-religious topic was belief in punishment and was presented in the form of a story of two friends one of whom believes that children ought to be punished when they do something wrong, the other of whom believes that they should not be punished.

There are several reasons for this particular choice of topics. Belief in God was chosen for its centrality to the religious domain. Though, as was noted in the previous chapter, there is some debate over the extent to which belief in God is definitive of religion, there are few who would dispute that it is at least one important aspect of the religious experience. Moreover, belief in God is arguably the most fundamental tenet of Jewish faith and as such is a particularly apt focus for research with Jewish participants. A further advantage of this topic is its accessibility: it is a topic with which children and
adolescents are familiar and which they feel able to discuss without any specialized knowledge.

The major criterion for selecting a non-religious topic was that it should be similar in structure to the religious topic but include no specific religious content. The punishment topic was chosen for its similarity to the God topic in five respects. First, like the God topic, it was one that could be framed in the form of a choice between two opposed beliefs. Second, it is a topic with which children and adolescents are familiar and which they are able to discuss without any specialized knowledge. Third, like the God topic, it is a topic about which some children and adolescents have very strong opinions and in which others are quite uninterested. Fourth, like the question of belief in God, and unlike many other ill-structured problem spaces in the moral and social domain, the question of whether or not to punish children is one that is known by children and adolescents to be controversial. It was expected therefore that participants would be relatively unconstrained by social desirability (i.e. the motivation to present a socially acceptable, “correct” response) in expressing their point of view and could feel equally comfortable siding with either of the characters in the story. Fifth, like belief in God, belief in punishment may be justified on either empirical or non-empirical grounds. For example, punishment may be rejected on the grounds that it is morally wrong or that it is ineffective. Similarly, belief in God can be justified on the grounds that it is a religious duty to believe or that God’s existence can be scientifically proven.

Of course, no two topics are comparable in every respect. The above five dimensions of similarity thus provide a rationale for the choice of these particular topics but not a guarantee that all forms of comparison between them are appropriate. In practice, problems arose in our attempts to compare some aspects of participants’ responses to the two topics. These problems and our attempts to deal with them are discussed in detail in the relevant chapters.

A prototype interview schedule was used in a pilot study with ten children of various ages and backgrounds in order to evaluate the ability of participants to comprehend the questions being put to them and to provide appropriate responses. In light of the responses of participants in the pilot study, the number of interview questions was reduced by over 50% and the wording of the remaining questions simplified. This
revised interview schedule was the one used in the main study. It is presented in full in Appendix A.

The decision to use semi-structured interviews was based on a number of considerations. Semi-structured interviews have been used extensively in cognitive developmental research (cf. Colby & Kohlberg, 1987a; Inhelder & Piaget, 1958; Kohlberg, 1981). Their popularity is due to their presumed ability to elicit reasoning at the child’s optimal level of cognitive functioning (cf. Bidell & Fischer, 1992; Fischer & Farrar, 1987; Fischer & Silvern, 1985; Gruber & Voneche, 1977; Kitchener, 1993; Piaget, 1967; Piaget & Inhelder, 1969). Unlike “pencil and paper” or “forced response” methods, semi-structured interviews do not simply present the child with some problem or question and observe the child’s unaided performance. Instead, when well designed and conducted, they provide the child with “scaffolding” (Vygotsky, 1978) in the form of clarifying questions and probes that enable the child to formulate a maximally articulate and intellectually sophisticated response. In this way, they enable the researcher to draw conclusions about the upper limits of the child’s reasoning in the area being studied. One advantage of such conclusions is that they provide educators with clear guidelines towards which they can orient their teaching: to enable the student to do tomorrow unaided what she can do today only with the help others.

Apart from their general advantages as a method of cognitive developmental research, semi-structured interviews have proven especially useful in studies of informal argumentation across a wide variety of topics (cf., e.g., King & Kitchener, 1994; Kuhn, 1991; Means & Voss, 1996). On one hand, they contain sufficient structure to direct the interviewee’s attention to specific tasks of argumentation (such as justification, persuasion, refutation and rebuttal). On the other hand, they are sufficiently open-ended to allow the interviewee to approach these tasks in whatever ways she deems appropriate. Moreover, given the diversity of views about how religious beliefs ought or ought not to be justified, this combination of structure and openness was particularly important in the present study: any less structure and it would have been hard to find many appropriate points of comparison between different approaches to argumentation, any more structure and participants’ approaches would have been over-determined by the interview questions.
In spite of these advantages, however, the use of semi-structured interviews is in some respects problematic. The semi-structured interview is a highly “unnatural” situation. It is not an everyday experience for a child to be excused from class in order to be interrogated in private by an unfamiliar adult who is recording their conversation. Moreover, the experience is made even more unnatural by the obviousness with which the adult regularly directs the conversation down predetermined avenues. The kinds of argumentation that children and adolescents (or adults, for that matter) employ in such situations may thus be quite different from the kinds of argumentation that they would use in other situations such as spontaneous conversations with peers or family members. In particular, the format of the particular interview schedule employed in the present study, with its emphasis on justification, persuasion, refutation and rebuttal, may induce participants to present more “rationalistic” kinds of religious thinking than they would present if they had more personal control over the direction of the conversation.

However, it is important to remember that the goal of the present study is not to provide a definitive account of how in general children and adolescents engage in religious thinking. Rather, it is to describe the forms of religious thinking in which they can engage when supported by a conversational framework that promotes maximal explicitness and articulation in argumentation. As far as this goal is concerned the advantages of semi-structured interviews would appear to outweigh their advantages. The kinds of argumentation that we can elicit in semi-structured interviews are extremely difficult to observe “in the wild.” Not only is spontaneous argumentation of the kind that we wish to observe extremely rare, but it also tends to leave much of its underlying reasoning implicit (cf. Anderson, Chinn, Chang, Waggoner, & Yi, 1997; Furlong, 1987; Kienpointner, 1992; Schlesinger, 1992; Sprott, 1992; Toulmin, 1958; van Eemeren & Grootendorst, 1983; Walton, 1992; Willbrand, 1987). Moreover, in less structured conversations, the motives and intentions of the speakers are often extremely ambiguous, thus making analysis of their argumentation difficult (Anderson et al., 1997; Willbrand, 1987). In semi-structured interviews, on the other hand, we can actively frame the conversation so as to maximize the quantity, depth and clarity of the interviewee’s argumentation.
It is important also to stress that, though it is the interviewer who sets the overall agenda for the conversation, the interviewee has a great deal of freedom in deciding how to respond to each question. Thus, for example, when asked why she believes what she does or how she would attempt to persuade someone that she is right, the interviewee may just as easily refuse to answer or offer “non-rational” responses as attempt to present rational grounds for her belief. Indeed, as we shall see in the chapters that follow, this is exactly what many participants did.

Nonetheless, it is important to bear in mind the limitations of semi-structured interviews when interpreting the results of the study. An important direction for future research will be to investigate explicitly the kinds of argumentation that children and adolescents employ in situations different to those studied here, such as classroom discussions and informal conversations with family members and peers.

**Questionnaire**

The questionnaire consisted of 44 mainly multiple-choice items designed to elicit information about participants’ religious self-definition, beliefs, values and practices, and the religious and ethnic background of their parents. Most of the items in the questionnaire were adapted from those used in recent studies of religious identity, beliefs, values and practices amongst Jewish children, adolescents and adults in Israel (e.g., Amid, 1992; Leslau & Bar-Lev, 1993; Leslau & Bar-Lev, 1994; Levy, Levinsohn, & Katz, 1993). Since some measures of religious practice are appropriate only for particular sectors within Israeli society, slightly different measures of were used for male and female participants and for pupils from different types of school (cf. Leslau & Bar-Lev, 1993). Each of the four variants of the questionnaire is presented in Appendix B.

The aims of the questionnaire were twofold: first, to allow for detailed analyses of the relations between various dimensions of religiosity and the kinds of argumentation that people employ in relation to their religious beliefs; second, to compare participants’ scores on measures of religiosity with those reported in previous studies of similar populations.

In practice, detailed analyses of the relations between argumentation and the various religiosity measures were found to be unnecessary. Preliminary analyses showed scores on most of these measures to vary consistently with school. In the present study,
therefore, school is used as an overall index of religious background. Preliminary analyses also showed the trends in religiosity scores across gender, age and ethnic groups to be generally consistent with those observed in previous studies (see, e.g., Chapter 3, Section B).

Since the main focus of the present study was participants’ religious thinking rather than their scores on quantitative measures of religiosity, the questionnaire data were used very little in subsequent analyses. However, though they were not exploited fully in the present study, these data constitute a useful database for future investigations of the relations between forms of religious thinking and particular expressions of religious commitment.

2. Sample

The sample comprised 200 Jewish pupils from 13 urban public schools in the center of Israel, stratified by gender, ethnicity, grade and school type. It contained roughly equal numbers of fifth-graders, eighth-graders, and twelfth-graders. At each grade level, the sample contained similar numbers of participants from each of the two main sectors of Hebrew public school education in Israel: the State (or General) sector and the State-Religious sector. Pupils from the State-Religious sector were further split at each grade level into roughly equal numbers from Religious and Torani schools. (The differences between these school types will be explained below.) Finally, at each grade level and each type of school, the sample contained approximately equal numbers of males and females, and of Ashkenazim and Mizrahim. The distribution of participants by gender, ethnicity, grade and school type is summarized in Figure M1 below.

![Figure M1. Distribution of participants by gender, ethnicity, grade and school type](image)

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<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Torani</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

**Schools**

The Hebrew public school system in Israel consists of two main sectors: the State sector and the State-Religious sector. Both sectors are under the direct control of the
Ministry of Education and are constrained by many of the same central decisions on policy and curriculum. However, the two sectors differ in their programs of religious education and their target populations. The State sector is nominally secular, provides no explicit religious education (though it does provide studies in Bible, Talmud and Jewish history and philosophy) and is targeted at the majority “non-religious” and “traditional” segments of the Israeli Jewish population (Iram, 1993; Leslau & Bar-Lev, 1993; Leslau & Schwarzwald, 1985; Levy et al., 1993; Tabory, 1992). The State-Religious sector is targeted specifically at the Religious Zionist population and combines the regular subjects taught at other public schools with an extensive religious education program. The Torani stream within the State-Religious sector is made up of a group of elite schools that were established (mostly in the 1960s and 1970s) in response to calls from parents and educators for a more intensive focus on religious education within the State-Religious framework. The first schools to be established within this elite stream were residential Yeshivah high schools and Ulpanot (Bar-Lev, 1982). These were later joined by “feeder” elementary and junior high schools (Bar-Lev, 1982; Bar-Lev, 1991). Whereas most regular State-Religious schools are co-educational, Torani schools are generally single sex (Iram, 1993; Schwarzwald, 1990; Sheleg, 2000). In the present study, we shall use the term “General schools” to refer to schools in the State sector, the term “Torani schools” to refer to schools from the Torani stream within the State-Religious sector, and the term “Religious schools” to refer to non-Torani schools within the State-Religious sector.

Previous studies (e.g., Amid, 1992; Leslau & Bar-Lev, 1993) have shown pupils from Torani schools to score significantly higher than pupils from other State-Religious schools on almost every measure of religiosity. Similarly, pupils from Religious schools tend to score significantly higher than pupils from General schools. In light of these previous findings, it was assumed that, by including participants from each type of school, we could ensure a broad spread of religious self-definitions, beliefs, values and practices within the sample. It was assumed also that the three streams would constitute useful categories in terms of which to investigate the effects of religious background and education on religious thinking.
Age groups

The decision to restrict the sample to three age groups was based on two main considerations. First, we wished to avoid the tendency of previous studies to base broad generalizations about age trends in religious thinking on interviews with very small numbers of individuals in any one age group. Given practical limitations on sample sizes in interview-based studies, there is a natural play off between the spread of age groups included in a study and the number of individuals selected to represent each age group. In previous studies, researchers have tended to favor spread over cell size. This tendency is evident even in the most carefully sampled of previous studies, such as those of Goldman (1964), Rosenberg (1990) and Oser & Gmunder (1991). In the present study, on the other hand, we have adjusted the balance towards cell size over spread. The rationale behind this approach is that, given the current fragmentary state of research in the field of religious development, it is better to provide a well-supported description of the religious thinking of a few age groups than to provide a weakly supported account of religious thinking across a larger range of age groups.

Identical considerations governed our decisions about other demographic variables. Just as we wished to include reasonably large numbers of participants from each age group, we also wished to ensure that, within each age group, different genders, ethnic groups and school types would be adequately represented. As a result, it would have been extremely difficult to include additional age groups without increasing the size of the sample beyond manageable proportions. For example, the inclusion of only one more age group would have required the addition of twelve cells to the table in Figure M1 above. In order for cell distributions to be roughly equal to those for other age groups, this would have entailed the inclusion of around 70 more participants.

Second, the three age groups included in the sample are of particular interest from a developmental and educational perspective. Fifth grade is a useful point at which to investigate the kinds of religious thinking in which children engage prior to adolescence and the acquisition of formal operations. It has also been shown in previous studies (e.g., Elkind, 1971; Elkind, Spilka, & Long, 1968; Goldman, 1964; Heller, 1986; Long, Elkind, & Spilka, 1967; Rosenberg, 1990) to be the point at which many children begin to move towards more abstract interpretations of religious concepts. Eighth grade coincides with
the period of early adolescence. It is an age by which most participants can be expected to have acquired formal operations (Meadows, 1993; Piaget & Inhelder, 1969) and to have attained adult levels of proficiency in informal reasoning (Kuhn, 1991; Perkins, 1985; Perkins, Allen, & Hefner, 1983). It has also been shown to be a period of important transitions in epistemological belief (Boyes & Chandler, 1992; Chandler, Boyes, & Ball, 1990) and understanding of religious concepts (Goldman, 1964; Rosenberg, 1990). Twelfth grade coincides with the period of middle-to-late adolescence. It is as an age during which adolescents are preoccupied with issues of identity and autonomy (Erikson, 1968; Marcia, 1966; Marcia, 1980), and with issues of religious identity and autonomy in particular (Benson, Donahue, & Erickson, 1989; Donelson, 1999; Fisherman, 1998; Fowler, 1981; Markstrom, 1999; Oser & Gmunder, 1991; Streib, 1999; Tamminen, 1994). This seems to be the case in particular for twelfth-graders at Religious and Torani schools Israel, who are faced with imminent decisions about whether and how to manage the transition from the sheltered environments of their religious homes, schools and neighborhoods to settings such as the army, in which religious people are a minority and the pressures to conform are great (Dar & Kimhi, 2001; Fisherman, 1998; Lev, 1998; Schachter, 2000). It is also a convenient point at which to investigate the possible role played by developments in adolescent religious thinking in the well-documented decline in religiosity over the course of adolescence (Argyle & Beit-Hallahmi, 1975; Beit-Hallahmi & Argyle, 1997; Benson et al., 1989; Donelson, 1999; Goldman, 1964; Hyde, 1990; Leslau & Bar-Lev, 1993; Leslau & Bar-Lev, 1994; Markstrom, 1999; Nipkow & Schweitzer, 1991; Ozorak, 1989; Sutherland, 1988; Tamminen, 1994; Wadsworth & Freeman, 1983; Willits & Crider, 1989).

An obvious question regarding the age groups chosen for study is why no younger age groups were selected. The decision not to include younger participants was based on our assumption that they would find many of the questions in the interview difficult if not incomprehensible. Indeed, based on previous studies of young children’s religious thinking (Fowler, 1981; Goldman, 1964; Oser & Gmunder, 1991) and conversations with principals, teachers and Ministry of Education professionals, our expectations of fifth-graders’ responses were extremely low. In the event, this pessimism was unwarranted. Not only did most fifth-graders respond appropriately and thoughtfully to the interview
questions, but the sophistication of their responses far outshone anything we could have predicted on the basis of previous studies in this area. This suggests that, contrary to our initial assumptions, it would be extremely worthwhile to conduct this kind of study with younger children. Indeed, such a study would probably teach us a great deal about how and when some of the developmental trends observed in the present study get started.

**Gender and ethnicity**

Surveys in Israel and other countries have shown women to score significantly higher than men on most measures of religiosity (Argyle & Beit-Hallahmi, 1975; Batson, Schoenrade, & Ventis, 1993; Beit-Hallahmi & Argyle, 1997; Levy et al., 1993). Similarly, in Israeli surveys, Jews of Middle Eastern and North African extraction (Mizrahim) have been found to score significantly higher on many such measures than Jews of European extraction (Ashkenazim) (Leslau & Bar-Lev, 1993; Leslau & Bar-Lev, 1994; Levy et al., 1993). In order to control for these effects and to allow for comparisons of religious thinking across gender and ethnic groups, an attempt was made to ensure roughly equal cell distributions at each grade and school level for each of these subpopulations. The ratios of males to females (101:99) and of Mizrahim to Ashkenazim (104:88) in the sample are similar to their ratios in the Jewish-Israeli population as a whole. Jews of Ethiopian extraction are underrepresented in the sample as a result of their being generally underrepresented within the classes and schools from which participants were selected (see discussion of sampling procedure below).

**Sampling procedure**

Since so many demographic variables were already being taken into account in constructing the sample, an effort was made to avoid further sampling complications by minimizing the potential for interference from other demographic variables such as socioeconomic status and school quality. For this reason, all of the schools that participated in the study were located in urban, middle-class neighborhoods in the center of Israel and had reputations as “good schools” within their respective streams.

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1 8 participants were categorized as being of “other” ethnicity. Categorization into ethnic groups was based on a number of questionnaire items concerning the participant’s own ethnic self-definition and country of birth and the countries of birth of the participant’s parents and grandparents (see Appendix B). Following Jewish custom, the ethnicity of children of mixed ethnic background was determined by patrilineal descent. In cases where ethnicity was unclear due to incomplete responses or could not be assimilated into the Mizrahi-Ashkenazi dichotomy (as in the case of two participants of Ethiopian extraction) participants were categorized as “other.”
The process by which participants were selected consisted of several stages. The first stage was the solicitation of permission from the Ministry of Education to conduct the research within the public school system. Permission was eventually granted to conduct the research in public schools under the jurisdiction of the Ministry’s central region. This is the largest of the school regions and covers most of Israel’s coastal plain (“from Gedera to Hadera”).

The second stage was to find schools that fit the criteria of being well-established schools with good reputations and located in middle-class urban neighborhoods. Suitable schools were found with the help of parents, teachers and Ministry of Education officials.

The third stage was to solicit permission from the schools’ principals to conduct the research in their schools. All of the principals that were approached consented, though in the case of some of the Religious and Torani schools the research instruments and procedure had first to be authorized by local rabbinic authorities.

The fourth stage was selection of the particular classes in each school from which participants would be drawn. In general, it was the principal or deputy principal who carried out this selection. This is likely to have introduced some degree of bias into the selection procedure. In schools where the cohort is divided into classes on the basis of ability or religious observance (as is the case in some Religious and Torani schools), the classes selected by schools officials appear to have been those containing the “better” students. Moreover, in some schools, teachers appear to have coached the selected classes prior to the interview (see Chapter 3, Section C).

The fifth stage was the solicitation of permission from parents for their children to participate in the research. The Ministry of Education requires different kinds of parental consent for research in which identifying data is collected and research in which participants remain anonymous. In both types of research, parents must receive letters from the principal researcher explaining the nature of the research. However, in research of the former kind the parent must return a signed form agreeing to his or her child’s participation in the study, whereas in research of the latter kind parental consent is assumed unless a specific objection is received by the researcher. There are advantages and disadvantages to both kinds of permission. The advantage of permission to collect identifying data is that it allows for follow up and longitudinal study; the disadvantage is
that, in requiring specific parental consent, it is likely to skew the sample towards participants from families with a particular interest in the subject matter of the study and a general openness to academic research. The advantage of permission to collect only non-identifying data is that it avoids skewing the sample in this way; the disadvantage is that it precludes follow up and longitudinal study. Given the exploratory nature of the present study, minimization of bias in the sampling procedure was deemed more important than potential follow up. The decision was taken, therefore, to collect only non-identifying data. In practice, no letters were received from parents refusing to allow their children to participate and only two of the pupils who were asked to participate in the study declined to do so.

The sixth and final stage was selection of the pupils within each of the participating classes. The only consideration guiding this selection was the desire to include in the sample roughly equal numbers of males and females and of Mizrahim and Ashkenazim. This selection was carried out by examining lists of the pupils in each class and selecting roughly equal numbers of male and female pupils with Ashkenazi- and Mizrahi-sounding surnames. Once the selections had been made, numbers were assigned to each of the participants and all name lists and other identifying information destroyed.

A slightly different procedure was used for around 10% of the sample. In order to speed up data collection, some participants were interviewed outside of school hours. These participants lived in the same neighborhoods and attended the same schools as other participants in the study. However, they were contacted through local Scouts and Religious Scouts membership lists. These participants were telephoned by the researcher and asked if they would be interested in participating in the research. If they agreed, an appointment was made to interview them at their own home at a time when at least one parent would be home. Such interviews were conducted in a quiet room in the interviewee’s home after the parent had signed a written form consenting to his or her child’s participation in the study.

The overall implication of these sampling procedures is that, whilst comparisons would appear to be appropriate across the three school types (General, Religious and Torani), it is difficult to assess to what extent the sample is representative of children and adolescents of the same age in the Jewish-Israeli population as a whole. Selected as they
were from fairly elite educational frameworks in middle-class neighborhoods, participants in the present study were probably better educated and more articulate than their peers from many other schools and neighborhoods. It is important to stress, however, that the intention of the sampling procedure was not to generate a sample that is representative but one that is stratified for the purpose of specific controls and comparisons across subpopulations. As far is this goal is concerned, the sampling procedures appear to have been reasonably successful.

3. Procedure

All interviews were conducted in Hebrew by the author in a quiet room in which the interviewer and participant were alone. In schools, the interview room was generally the school library, the nurse’s room or the deputy principal’s office; in participants’ homes, the interview room was generally the salon or dining room. Usually the door to the interview room was closed during the interview, though in interviews with female participants at Religious and Torani schools or in religious homes the door was left slightly ajar for reasons of “modesty.” All interviews were conducted with the interviewer and participant seated facing each other, with a small tape recorder placed near the participant.

It may be relevant to note that the author is a male, kippah-wearing immigrant from Britain. His appearance and accent may have led participants to make various assumptions about his religious or political beliefs or the goals of the research, and to tailor their responses accordingly. Conscious of these possible sources of interference, the interviewer experimented in the pilot study with varying his appearance: in some interviews he wore a kippah, in others he wore a baseball cap, in others he wore no head covering. In light of his own discomfort with this constant switching, he elected to conduct all remaining interviews wearing his kippah as usual.

Prior to switching on the tape recorder and commencing the interview, the interviewer explained the goals of the research and briefly described the kinds of questions that the participant would be asked in the course of the interview. The participant was also informed that their conversation would be taped and transcribed, but that neither the tapes nor the transcripts would contain any information as to the identity of the interviewee nor would they be passed on to any member of the school staff or to the participant’s parents.
After the participant had indicated understanding and assent and asked any questions that he or she had about the research, the tape recorder was switched on and the participant presented with the first interview topic. The order in which the two interview topics were presented was counterbalanced in order to control for any sequence effect. Immediately following completion of the second interview topic, the participant was presented with the questionnaire and asked to complete and return it before calling the next participant.

All interviews were conducted between January and December 1999.

4. Coding

All interviews were taped and transcribed verbatim. A total of 206 children and adolescents were interviewed in the course of data collection. Of these 206 interviews, 6 interviews could not be included in the study due to technical problems with the resulting transcripts such as missing sections due to tape recorder malfunction or poor sound quality. The remaining 200 interviews yielded a total of 400 interview protocols (an interview protocol is defined here as the transcribed conversation between the interviewer and the participant on one topic). These protocols were coded using an iterative, inductive procedure very much like that employed by Kuhn in her (1991) study of argumentative reasoning (see also Chi, 1997).

The first stage of the procedure was the random selection of a set of 12 complete interview transcripts (i.e. 24 protocols) representative of the age, sex, and education groups included in the study. Copies of these transcripts were distributed to two pairs of coders, with each pair responsible for working on category development for a different section of the protocols. Each pair comprised the author and one research assistant. The first task of each member of the pair was to analyze the protocols and devise independently a set of categories sufficient to account for the argumentation represented therein. All identifying notes were removed from the protocols so that the coders were blind to the identity, age and background of the interviewees. After each member of the pair had completed their initial coding, the pair then met to compare category schemes and to attempt to construct a set of categories on which they could both agree. The next stage - the second iteration - was to select randomly a second set of interviews (this time 20 interviews were used) for distribution to each pair for coding using the categorization scheme developed collaboratively at the previous stage. After each member of the pair
had coded independently this second set of protocols, the pair then met a second time to compare their results and further develop and refine the categories in the coding scheme. After a third iteration (also using 20 interviews) a reasonably high level of agreement was achieved and the refined coding scheme could be applied to the protocols from the previous two iterations with high agreement between the coders.

The version of the coding scheme resulting from this third iteration was subjected to formal testing for inter-coder reliability. Three research assistants were employed for this stage of the research. Two of the research assistants had worked on the development of the coding scheme and one was new to the project. Since even the veteran coders had each worked on different sections of the coding scheme, it was possible to assign each coder to an aspect of the coding scheme with which he or she was unfamiliar. Each coder therefore underwent extensive training by the author in use of the particular section of the coding scheme that they were to test. This training usually involved several individual sessions with the author, employing numerous examples from actual protocols, over the course of several weeks.

Once the research assistants had completed their training, each was presented with a different set of randomly selected protocols and required to code them using the section of the coding scheme in which he or she had been trained. Each research assistant was paired with the author on a separate set of transcripts. In some cases, coders had been trained in using more than one section of the coding scheme. In such instances, sets were split between two research assistants, each receiving approximately 20 transcripts. Inter-coder reliability statistics were calculated by comparing the results of independent coding of the transcripts by each member of an author-assistant or assistant-assistant pair. The number of interviews included in each set varied between 39 and 50 complete transcripts (i.e. 78-100 protocols). Each section of the coding scheme was thus subjected to formal testing of inter-coder reliability on a randomly selected sub-sample of around 20-25% of the total number of transcripts. The remaining 75-80% of the interviews were coded by the author.

The forms used by coders to code each interview protocol are presented in Appendix C. The coding scheme is described in detail in the Chapters 3 to 7.
5. Reliability

Inter-coder agreement statistics for each section of the coding scheme are detailed below. For each test of agreement, two statistics are provided. The first statistic records in the form of a percentage the proportion of instances in which the coders assigned the same score to a protocol. The second statistic, Cohen’s kappa (Cohen, 1960) corrects this score for chance agreement. It is important to note that the coding scheme described here contains numerous binary categories, only a few of which will yield positive scores in any one coding (see Chapters 3 to 7). Therefore, much more weight should be given to the kappa (K) statistics than to the raw percentages in evaluating the overall reliability of the scheme, since these latter statistics take such structural characteristics of the scheme into account.

Basic belief

A prerequisite for understanding the reasoning offered by a person in support of her belief is to understand her basic position on the question under discussion. Measures of agreement were calculated, therefore, for coders’ independent judgments of the participants’ basic beliefs about each topic. These measures were based on independent coding of 50 interviews (100 protocols) by three coders. Two research assistants coded approximately 25 interviews each, with the author coding the entire set of 50 interviews. Inter-coder agreement was 87%, Cohen’s K = 0.80.

Justification

Inter-coder agreement for the “justification” section of the coding scheme (see Chapter 3, Section A) was based on coding of the same protocols as those used for measuring agreement on “basic belief” and by the same coders (i.e. 3 coders coding independently all or a subset of 50 interviews). Inter-coder agreement was 96%, Cohen’s K = 0.88.

Persuasion

Inter-coder agreement for the “persuasion” section of the coding scheme (see Chapter 4, Section A) was based on independent coding by two coders of 39 interview transcripts (i.e. 78 protocols). Inter-coder agreement was 96%, Cohen’s K = 0.84.
Refutation

Inter-coder agreement for the “refutation” section of the coding scheme (see Chapter 5, Section A) was based on independent coding by two coders of 44 interview transcripts (i.e. 88 protocols). Inter-coder agreement was 98%, Cohen’s $K = 0.93$.

Rebuttals

Inter-coder agreement for the “rebuttals” section of the coding scheme (see Chapter 6, Section A) was based on coding by the same coders of the same protocols as those used for measuring agreement on the “refutation” section (i.e. 2 coders coding independently 44 interviews). Inter-coder agreement was 96%, Cohen’s $K = 0.84$.

Epistemology

Inter-coder agreement for the “epistemology” section of the coding scheme (see Chapter 7, Section A) was based on independent coding by three coders of 40 interview transcripts (i.e. 80 protocols). Two research assistants coded 20 interviews each, with the author coding the entire set of 40 interviews. Inter-coder agreement for judgments of epistemological belief was 91%, Cohen’s $K = 0.80$.

Disciplinary and religious backgrounds of the coders

The above statistics provide strong evidence for the reliability of the coding scheme. Moreover, given the complexity of the subject matter coded and the history of theological bias in investigations of the religious thinking of children and adolescents, it is worth noting the diverse disciplinary and religious backgrounds of the coders employed in testing the coding scheme. All three research assistants were postgraduate students at the Hebrew University of Jerusalem. One, a second-year masters student in clinical psychology, defined herself as a secular Jew and spent her childhood and adolescence on a staunchly secular kibbutz in the north of Israel. Another, also defining himself as secular, was completing a masters’ thesis in medieval Chinese religious philosophy. The third had an Orthodox religious background and was studying for a combined masters degree in Jewish philosophy and Kabbalah. The author’s religious background is Orthodox, his disciplinary training in philosophy and educational psychology. This diversity of backgrounds and perspectives contributed significantly to an open-minded approach to the construction of the coding scheme, especially with respect to noting and removing potential sources of theological bias. It also endows the inter-coder agreement...
scores with a greater measure of intuitive authenticity: that coders from such diverse religious and disciplinary backgrounds were able to agree on how to categorize different instances of religious thinking suggests that the scheme is indeed a reliable tool for the analysis of children’s and adolescents’ religious thinking.

6. Analysis

The coding scheme was used in quantitative analyses of the distributions of various aspects of participants’ argumentation across the sample. In addition, qualitative analyses were conducted concerning various themes in the religious thinking of participants that were of particular theoretical interest or that shed light on some of the more perplexing quantitative findings.

The results of these qualitative and quantitative analyses are presented in Chapters 3 to 7. Each chapter focuses on a different aspect of argumentation. Chapter 3 examines how participants sought to justify of their beliefs. Chapter 4 examines the approaches participants took to persuading their opponents. Chapter 5 examines participants’ attempts to generate lines of reasoning opposed to their own and Chapter 6 their attempts to rebut them. Finally, Chapter 7 examines participants’ epistemological beliefs about the two topics discussed in the interview.

Each chapter is divided into four sections. In Section A, the coding scheme employed in the categorization of participants’ responses is described and illustrated. In Section B, the results of quantitative analysis of the distributions of these categories and their relationships with other variables are reported. In Section C, individual cases and themes of special interest are examined qualitatively. In Section D, the main findings of the preceding sections are briefly summarized.

The quantitative analyses reported in Chapters 3 to 7 were carried out in several stages. In the remainder of this section, the statistical procedures employed in these analyses are outlined and justified.

Data considerations

As was discussed in Chapter One, a major problem in the design of many previous developmental studies of religious thinking has been the incorporation of theological bias in the measures employed. In the present study, several precautions were taken in order to minimize theological bias. One such precaution was to derive categories of religious
argumentation inductively from the data themselves rather than from some a priori conception of mature religious thinking. Another precaution was to ensure that the variables corresponding to these categories were defined in such a way as to describe instances of argumentation without ordering them according to some theoretical scale of greater or lesser adequacy. As a result of these precautions, most of the variables that were used to describe participants’ argumentation were categorical rather than ordinal.

In addition, many of the categories employed in the analysis of argumentation were not mutually exclusive. For example, participants often presented multiple justifications for their beliefs, including arguments of various kinds along with explanations or motives (see Chapter 3). As a result, categories could not be combined into polytomous variables without seriously distorting the data. Each participant’s argumentation had therefore to be described quantitatively as a profile of scores on a large number of dichotomous variables.

**Statistical procedures**

Three main types of procedure were employed in statistical analyses of these variables: hierarchical log-linear model selection, hierarchical cluster analysis and cross-tabulations. These procedures were selected for their ability to accommodate dichotomous variables and for the relative ease with which their results can be reported and interpreted.

The analyses reported in each chapter were carried out in several stages. First, the frequencies of each category in the classification scheme were examined. Dichotomous variables containing categories that were distributed amongst less than 15% of the participants were either grouped together with other similar variables or were excluded from subsequent analyses. This decision was taken in order to restrict quantitative analysis to variables that could be meaningfully compared across demographic variables such as age, gender and school and to reduce the number of empty cells in contingency tables. Variables that failed to pass the 15% threshold were considered to be of qualitative rather than quantitative interest and are discussed in Section C rather than Section B.

Second, log-linear analyses were carried out on all argumentation variables with frequencies above this threshold in order to screen for second and third order interactions
between the variable in question and the demographic variables, gender, school and grade. Each of these analyses proceeded by backward elimination from a 2 (gender) X 3 (school) X 3 (grade) X 2 (dichotomous argumentation variable) saturated model. These analyses showed that, in the vast majority of cases, only first order interactions were significant. The results of these log-linear analyses are reported as chi-square statistics, since the log-linear statistics for main effects are identical to those generated by regular chi-square tests of association. All chi-square statistics reported in the study are log odds ratio statistics.

Third, relationships between argumentation variables were investigated via hierarchical cluster analysis. This technique provides a basic overview of which reasoning variables tend to cluster together but does not provide a detailed picture of the effects of any one specific variable on any other. Therefore, a fourth and final stage of analysis was carried out, in which specific questions of particular theoretical interest were investigated via cross-tabulation.

A number of other statistical procedures were employed where the nature of the variables or the specific question to be investigated made them appropriate. These included both parametric (e.g., ANOVA) and nonparametric (e.g., Mann-Whitney U test) procedures. In every case where such procedures were employed, their appropriateness to the data and the hypothesis being investigated is addressed explicitly in the text.

**Type I error**

The alpha for the study as a whole was set at .05. However, since a large number of hypothesis tests were included in the study, alphas for individual analyses were adjusted for Type I error using Holm’s sequential Bonferroni method (Green, Salkind, & Akey, 2000). Analyses were divided into families of hypotheses relating to different portions of the data. The family-wise alpha for each family of hypotheses was set at .05. Holm’s sequential Bonferroni method was then used in order to calculate the required alpha for each individual test within a family. Findings reported as significant in the following chapters were significant at the level set for that particular test using this method. In practice, most of the findings reported as significant were significant at the higher .01 level.
**Qualitative analyses**

Individual protocols were selected for qualitative analysis by two separate methods. Some protocols were selected on the basis of notes made by the author during interviewing and coding, picking out cases or themes that appeared to be particularly interesting or problematic in their own right. Other protocols were selected after the interview data had been analyzed quantitatively. These protocols were generally selected in order to look more closely at particular trends or specific questions arising from the quantitative analyses. This approach to the selection of material for qualitative analysis is similar to Alexander’s (1988) two-step method of first letting the data reveal themselves and then asking the data specific questions (see also Gilligan, 1982).

No single hermeneutic approach was taken in these close readings of individual protocols. However, most such readings were guided by a few broad interpretative goals. One such goal was to locate instances of argumentation within the larger flow of the conversation from which they were extracted. This was in order to provide an alternative, more dynamic perspective to the necessarily static reading of argumentation that occurs when chunks of discourse are coded into categories and separated from the chunks that preceded and followed them. Another goal was to look closely at differences in phrasing and emphasis across instances of argumentation that were identically coded, in order to identify variant uses of seemingly similar argumentative approaches. A further goal was to follow up aspects of participants’ responses that appeared to diverge from the official focus of the study but that nonetheless seemed to guide, underlie or undercut their argumentation.

It should be stressed, however, that goals such as these did not always guide the analyses. Often, a close reading would be prompted by no more than a vague sense that something important was going on in a particular protocol or set of protocols that had not yet been adequately understood.

The results of these diverse analyses have been organized into themes and placed within the chapters that deal with the particular aspect of argumentation on which they shed most light or with which they seem to be most closely related. Following Mischler (1986; 1990), we have sought wherever possible to support our interpretations with “exemplars” from actual interview transcripts.
CHAPTER THREE. JUSTIFICATION

To justify a belief is to say why you hold it. Though the kinds of reasons people give for their beliefs vary from belief to belief and from person to person, acts of justification are a basic feature of every domain of discourse in which claims are made and disputed. The physicist, the judge and the literary critic may give reasons of very different kinds for their conclusions and judgments, but giving reasons is something each of them does and with which each of them is concerned. Indeed, the differing practices of reason giving in physics, law and literary criticism are at least part of what marks out each as a distinct discipline or field of activity.

The present study takes as its starting point an examination of the reasons children and adolescents give for their religious and non-religious beliefs. This starting point was selected for two reasons. First, the giving of reasons is the first step in any argument: unless a person makes an assertion quite arbitrarily, they will normally have some reason to which they will appeal in its support. Second, by comparing the kinds of reasons participants give for their religious and non-religious beliefs, we can gain insight into the kind of activity that religious thinking is for children and adolescents and how they perceive such thinking to be different from and similar to other kinds of thinking.

In this chapter participants' attempts to justify their beliefs are examined from a number of different perspectives. In Section A, the major approaches to justification observed amongst the participants are categorized and illustrated. In Section B, the distributions of these categories within the sample and their relationships with various demographic variables are analyzed quantitatively. In Section C, selected aspects of participants’ justifications are subjected to qualitative analysis. Finally, in Section D, the main findings of the preceding sections are summarized and their implications briefly considered.

**Section A: Approaches to Justification**

*Belief versus justification*

What a person believes and how she sets out to justify that belief are two different things. Two people may share the same belief although each believes it for different reasons. Conversely, two people may hold beliefs that are mutually contradictory although both hold them for the same reason. In this chapter, we shall be concerned with
justifications per se, irrespective of the beliefs in support of which they were presented. A prerequisite for our analysis is, therefore, the ability to distinguish clearly between utterances in which the participant is stating her belief and utterances in which she is attempting to justify it. This is no simple task. Conversations, even the relatively formalized conversations that provide the data for the present study, do not tend to organize themselves into neat logical parcels. Moreover, in some instances, the participants themselves may not have distinguished consciously between saying what they thought and saying why they thought it. It was necessary, therefore, to construct an explicit set of coding criteria to distinguish between beliefs and justifications.

How beliefs were identified

As outlined in the previous chapter, each topic in the interview was introduced with a story in which two characters are engaged in an argument. After the two opposing views had been presented, the participant was asked which of the two characters she most agreed with. In most cases, the participant’s response to this question was unambiguous and could be interpreted as a clear statement of her belief. However, in some cases, the participant’s initial response was vague or equivocal and her belief could be understood only in the light of subsequent clarifications in response to further probing by the interviewer. In categorizing participant’s beliefs, such clarifications were taken into account as long as they occurred prior to the stage in the interview at which the participant was asked to generate counterarguments to her own point of view. Any clarifications or modifications appearing after this point were considered to have been formulated in response to counterarguments and thus not to represent accurately the participant’s basic position at the start of the interview.

Beliefs were coded on five-point scale of decreasing belief ranging from unqualified belief (in God or in the use of punishment) through qualified belief, neutrality and qualified disbelief to unqualified disbelief. Examples J1 and J2 illustrate how participants’ later clarifications of their initial responses were taken into account in the coding of beliefs.
Example J1: Qualified Belief, Religious Topic

(Interview No. 144, female fifth-grade pupil at a General school)

Who do you agree with? On one hand I agree with Haya because you should believe in God because God can help. On the other hand, I agree with Ifat because maybe God doesn’t exist. Who knows? Did anyone go up and check and come back and tell us? You’re in the middle? Yes. Who are you closer to?

Closer to Haya. Because, I don’t know, I live in Israel and the majority believes in God. You should believe in God because it’s harder without it. Because it’s like you feel that someone is looking after you. There’s more of a sense of security that if something happens, God can save you. There’s a feeling of someone else looking after you and protecting you.

The participant in J1 seems initially to place herself at a neutral point, equidistant from belief and disbelief. However, when asked by the interviewer which of the two people in the story she is closer to, she sides readily with Haya, the believer. Her position is categorized, therefore, as one of qualified belief rather than one of neutrality.

Example J2: Neutral Belief, Religious Topic

(Interview No. 14, male twelfth-grade pupil at a General school)

What’s my opinion? I don’t, like, I don’t really have anything to do with this whole business [...] It’s not that there isn’t a God, it’s just that I don’t have anything to do with it. I don’t know, I don’t care all that much about the whole business. Do you mean that you don’t know whether or not there is a God? No. It just doesn’t interest me whether there is or there isn’t.

At first it is unclear whether the participant in J2 has some opinion about the existence of God but objects to being interviewed about it or whether he actually has no opinion on the matter at all. Several minutes later on in the conversation, as the interviewer probes further, it becomes clear that the participant’s position is indeed one of total indifference.

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1 In all interview excerpts that follow, the interviewer’s questions and probes are presented in italics and the interviewee’s responses in plain text. Since interviewees often digressed in their responses, some interview excerpts have been telescoped in order to keep them short and to the point. Wherever this occurs, it is recorded explicitly in the text by three dots contained within square parentheses. In order to maintain the integrity of interviewees’ responses, such telescoping has been kept to a minimum.

2 In all the examples that follow, the names of the characters in the story have been standardized in order to facilitate the reader’s comprehension of the excerpts. Danny and Haya will represent the believers in each topic and Yossi and Ifat the disbelievers. In practice, the names assigned to particular positions were varied randomly throughout the sample, with male names being used for interviews with male participants and female names being used for interviews with female participants.
**How justifications were identified**

Once a participant’s basic belief had been identified, her attempts to justify it were examined. Since such attempts were not restricted to any one section of the interview protocol and often occurred without any specific prompting by the interviewer, criteria were needed to distinguish them from other utterances in the course of the interview. The key factor distinguishing justifications from other utterances is the intent of the speaker (Willbrand, 1987). For in presenting a justification, a person sets out to show why she subscribes to a given point of view. Since such intent is ultimately private and inaccessible to direct observation, it was necessary to base imputations of intent on careful interpretation of contextual cues in the transcript. These cues included, among others, the stage of the interview at which the utterance was made and its relation to prior statements by the participant and to any statements by the interviewer to which it may have been response. Coders were trained to recognize such cues until they were able to identify instances of justification with high levels of agreement (see Chapter 2). In general, the participant’s intent was quite clear from the surrounding context. However, in cases where intent was unclear, coders were instructed to err on the side of caution, excluding such candidate justifications from the total set of reasons that the participant was considered to have presented. Example J3 illustrates how these contextual cues were used.

**Example J3: Contextual Criteria for Categorization of Justifications, Religious Topic (Interview No. 172, female twelfth-grade pupil at a Torani school)**

You said also that it’s a kind of feeling. Could you explain what you mean?

Not exactly. It’s a feeling. It’s like I just know. I don’t know how to give examples. I just know. Let’s say that Ifat, who doesn’t believe, were to ask you, “Well, it sounds really nice that you’ve got this feeling. Could you describe it to me? I’ve never felt it.” Is it something you could describe to her? Every time there’s a situation where you need someone to turn to, not a person, another power – I don’t know if a power, but another party that’s not from our domain – so that you’ll have someone to pray to. You always need someone to be there.

Earlier in the interview, the participant in J3 had sought to justify her belief in God by appealing to her feeling that someone is watching over her from above. The interviewer
asks her to describe this feeling in greater detail. In the course of her elaboration, the participant’s talk shifts from a description of her own experience of God’s presence to a suggestion that belief in God fulfills some psychological need. However, it is unclear from the context whether it is the participant’s intention here to provide an additional reason for her belief or whether she is simply struggling to illustrate her earlier justification. In this particular instance, then, intent was in doubt and the utterance was not coded as an additional reason.

The ambiguous intent of the participant in J3 may be contrasted with the clear intent of the participant in J1 above. Whilst neither participant is responding to an explicit request by the interviewer for a justification, it is clear from the context that the participant in J1 considers such a request to be contained implicitly in the interviewer’s opening question, “Who do you agree with?” It is to this implicit request that she responds with her list of reasons for and against belief in God. Each of these reasons was thus considered to constitute a separate attempt by the participant in J1 to justify her belief.

**Justification and non-justification**

Most participants provided some justification, however partial, for their beliefs. However, a few participants either declined in principle or failed in practice to give any reasons for their beliefs. Such responses were classed as instances of non-justification. They included statements in which participants simply asserted their point of view without attempting to justify it and statements in which they refused explicitly to provide reasons. In the sections that follow, we shall first consider the various kinds of justification participants presented for their beliefs before moving on to a consideration of non-justifications.

**Three main classes of justification**

Justifications were observed to fall into three major classes: arguments, explanations and motives. An argument is an attempt by a person to demonstrate the soundness of her belief by citing grounds of some kind in its support. These grounds may be of many different kinds. Nevertheless, what distinguishes arguments from other classes of justification is that they focus on establishing the acceptability of the belief itself. Explanations and motives, on the other hand, focus more on the believer as an agent,
appealing to the social and psychological processes that have brought her to believe what she does. In justifications by explanation the believer appeals to the means by which her belief was acquired. In justifications by motive the believer appeals to the ends that her belief serves.

A useful way of conceptualizing the distinctions between these three classes of justification is to imagine the different ways in which, having put forward some claim, a person might respond to the question, “Why do you believe that?” A person who presents an argument responds to the question as if it meant, “What are your grounds for believing that?” A person who presents an explanation responds to the question as if it meant, “What has brought you to believe that?” A person who presents a motive responds to the question as if it meant, “What do you accomplish by believing that?”

This way of classifying justifications is intended to be descriptive rather than prescriptive. None of the three interpretations above is considered to be better or worse than either of the others. As Toulmin (1958: 215) noted, requests for reasons sometimes call for a logical answer and sometimes for a biographical one: “Which kind of answer is appropriate depends on the context, and it is not always clear in which sense the question is to be taken.” This is especially true in the present case. Not only were questions addressed to interviewees in the highly decontextualized setting of a semi-clinical interview, but the beliefs about which they were being asked were ones with respect to which any one of these interpretations might be considered appropriate. Moreover, this openness of the interview questions to multiple interpretations should not be seen as a disadvantage. On the contrary, it makes the participants’ responses all the more revealing about their underlying conceptions of religious and non-religious belief.

Within each of the three major classes of justification several variant forms were observed. These subcategories or types are described in the sections that follow.

**Arguments**

Arguments were of four main types: causal, authority, experiential and epistemological.

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3 Though the justifications participants in the present study presented for their religious beliefs were often quite rudimentary in form, it is worth noting that each type of justification described below has its counterpart in the more refined and elaborate theological reflections of social scientists, theologians and philosophers of religion. Though there is not space here to examine these similarities in detail, the reader is referred to relevant theological or social scientific writings by citations included in the descriptions of each justification type.
Causal arguments are attempts by the participant to justify her belief by citing causal evidence in its support. In the non-religious topic, participants sought to justify their beliefs by appeal to the effects of punishment (or non-punishment). In the religious topic, participants sought to justify their beliefs by appeal to evidence that various events or processes are (or are not) divinely caused. In the religious topic, causal arguments were further subdivided into creation arguments and intervention arguments. Creation arguments are arguments for or against the existence of God that refer explicitly to the origins of man or the universe. They include cosmological (“first cause”) and teleological (“design”) arguments of various kinds (cf. Garcia, 1997; Hick, 1970; Nielsen, 1997; Peterson, Hasker, Reichenbach, & Basinger, 1991; Robinson & Steinman, 1993). Intervention arguments cover all other arguments appealing to divine involvement in human or worldly affairs. They include, among others, arguments from miracles and arguments from divine reward and punishment (cf. Mackie, 1982; Schlesinger, 1997; Swinburne, 1996). Illustrations of causal arguments from both topics are provided in examples J4 to J10 below.

Example J4: Causal Argument, Non-Religious Topic
(Interview No. 46, male eighth-grade pupil at a Torani school)

*Why do you think you should punish?*  So that the child will understand that he did something; that what he did was a bad thing. And that when he does something like that, then in the end it hurts him.

Example J5: Causal Argument, Non-Religious Topic
(Interview No. 61, female eighth-grade pupil at a General school)

Because if there were no punishment at all then the criminals in this country, the rapists and criminals, the whole country would turn into one big mess. Everyone would say, “I’ll do whatever I want because there’s no punishment or anything anyway.”

Example J6: Causal Argument, Non-Religious Topic
(Interview No. 187, male twelfth-grade pupil at a Religious school)

Because it creates a lot of tension and conflict [...] It creates tension and creates situations that make people hide the truth from each other. It’s impossible to be open if you know that if you say something you’ll get punished for it.
Each of the examples J4 to J6 above illustrates a different justification for or against punishment. In J4 punishment is justified on the grounds that it makes the recipient aware that he has done something wrong. In J5 punishment is justified on the grounds that non-punishment would lead to anarchy. In J6 punishment is rejected on the grounds that it damages inter-personal relations. Whilst these arguments differ in terms of their content, they all share the same structure: in each argument the participant justifies his or her belief by appeal to the effects or consequences of punishment. Examples J7 to J10 are examples of causal arguments from the religious topic.

Example J7: Causal Arguments (Creation and Intervention), Religious Topic
(Interview No. 113, female eighth-grade pupil at a Religious school)

I’d say to her that first of all she should look around. Something like this can’t happen just by an explosion of some galaxy in the universe. Maybe from explosions a few things can be created, a few plants, but not something like this. Also that she should look at all kinds of stories about people who were in wars, who had a grenade in their pocket that didn’t explode, who shot themselves and the bullet missed. Things like that are not all coincidental. It’s not possible.

Someone must do all these things.

The participant in J7 presents two causal arguments in support of her religious belief. First she presents a creation argument in which she justifies her belief in God on the basis of evidence of design in the universe. She then presents an intervention argument in which she justifies her belief in God on grounds of seemingly miraculous intervention in the lives of others.

Intervention arguments also came in other forms. Often participants appealed to miracles reported in the Bible as evidence of divine intervention. More striking, however, were arguments in which participants appealed to evidence of divine intervention (or lack of divine intervention) in their own lives.

Example J8: Causal Argument (Intervention), Religious Topic
(Interview No. 108, male eighth-grade pupil at a Religious school)

There are a few other reasons. When I play football, I say to God, “Let me score a goal.” And two minutes later I score a goal.
Example J9: Causal Argument (Intervention), Religious Topic

(Interview No. 152, male fifth-grade pupil at a General school)

Because there are many wars in the world. There’s violence. If there’s a God, why doesn’t He sort it out?

Example J10: Causal Argument (Intervention), Religious Topic

(Interview No. 144, female fifth-grade pupil at a General school)

Once something happened to me in class. I was sent out because I was arguing with a girl and I got offended. The teacher called me three times. She told me to go to the Principal. I stood behind the door and prayed. In the end the teacher came out and told me to come back into the classroom. [She asked,]

“Have you been to the Principal?” I said no. So she said, “Good, don’t go.” So I feel that there was a bit of a miracle here. And miracles come only from God.

There isn’t anyone else who could do it.

A second common type of argument was authority arguments. Authority arguments are attempts by the participant to derive support for her belief via an appeal to some source of authority. These sources of authority included texts, experts, majority and tradition (cf. Flew, 1966; Forrest, 1997; Johnson, 1996; Mackie, 1982; Peterson et al., 1991; Smith, 2001; Swinburne, 1996). However, each appeal to such sources fell into one of three subcategories: knowledge-based, identification-based, and mixed. In knowledge-based authority arguments the person’s reliance on the authority cited derives from her belief that the authority is a reliable source of accurate information; in identification-based authority arguments it derives from her emotional identification with the authority. Thus, authorities cited in knowledge-based authority arguments are appealed to because they are believed to have privileged access to the truth whilst those cited in identification-based authority arguments are appealed to because they are prized or respected by the individual for some other reason. Mixed authority arguments are appeals to authority containing both knowledge-based and identification-based elements, where it is not possible to separate out these elements into two distinct arguments.

The distinctions between these three types of authority argument should become clearer after a consideration of the examples provided below. However, before looking at the examples, it is perhaps worth translating these distinctions into more formal terms.
In his analysis of the uses of argument, Toulmin (1958) distinguishes between data, warrants and backing. Briefly, data are the facts presented in support of a claim, warrants are the bridging statements that legitimate the steps from the data to the claim, and backing statements are additional assurances that are sometimes employed to establish the acceptability and relevance of warrants. In general, it is only data that are stated explicitly; warrants and backing tend to be left implicit. All three types of authority argument cite data of the same logical type. These data may be paraphrased as propositions of the form, “X believes Y,” where X is some authority and Y is the belief in support of which the data are cited. Moreover, all three types of authority argument employ identical warrants in moving from these data to the claim they set out to support. This warrant may be paraphrased as, “if an authority considers something to be true, then you should consider it to be true.” Where the three types of authority argument differ is in their backing. Individuals who employ knowledge-based authority arguments appeal to backing of the form, “X is an authoritative source because X knows, or accurately represents, the truth.” Those who employ identification-based authority arguments appeal (explicitly or implicitly) to backing of the form, “X is an authoritative source because I respect, value or identify with X.” Those who employ mixed authority arguments either equivocate between these two kinds of backing or are unclear themselves about why the warrant is relevant to the belief they are attempting to support. Illustrations of authority arguments are provided in examples J11 to J15 below.

**Example J11: Authority Argument (Knowledge-Based), Religious Topic**

*(Interview No. 75, female fifth-grade pupil at a Religious school)*

It’s not some dumb joke that’s not true. It’s been kept for so long and nobody forgot it. That’s a sign that it’s true.

**Example J12: Authority Argument (Knowledge-Based), Religious Topic**

*(Interview No. 142, male fifth-grade pupil at a General school)*

Because there’s proof. There are people who think that someone just wrote it and made it up. I think it really happened, that the Bible really happened, that the Red Sea really opened up and all kinds of stuff. And that the ten plagues happened and all those things [...] If the Bible was made up, they wouldn’t teach
it in school. And it wouldn’t be a subject for one or two hour-long classes every
day.

J11 and J12 are examples of knowledge-based authority arguments. The participant
in J11 appeals to the authority of tradition on the implicit assumption that if something
has been believed for so long then it must be true. The participant in J12 invokes a two-
tiered appeal to authority. First, he appeals explicitly to the Bible as a reliable source of
information concerning God’s existence. Next, he appeals implicitly to the authority of
the school curriculum in support of his confidence in the Bible. Whilst examples J11 and
J12 differ in terms of their content, they share the same basic logical form: in each
example the participant justifies his or her belief in God by appeal to the truth-
guaranteeing properties of some external source of authority.

Example J13: Authority Argument (Identification-Based), Religious Topic
(Interview No. 40, male fifth-grade pupil at a Torani school)

Because that’s how my parents are and I want to be like that too.

Example J14: Authority Argument (Identification-Based), Religious Topic
(Interview No. 68, female eighth-grade pupil at General school)

Look, I’ve seen many verses and stories in the Bible, many things that interested
me. I’ve seen a lot of films. At Pesah, there was “The Prince of Egypt”. They
showed it and I just got really into it. I love seeing it, it’s really interesting.
And, in general, I also love Bible class. I love stories: all the action. I love it all,
all the Bible. I think that, I don’t know, I just enjoy it. Look, if I enjoy
something, I carry on with it.

In J13 the participant appeals to the authority of his parents: not on the grounds that
they have privileged access to the truth, but on the grounds that he wishes to emulate
them. In J14 the participant appeals to the authority of the Bible. However, in contrast to
the appeal to the Bible in J12, here the participant’s acceptance of the Bible’s authority
derives from her respect for and enjoyment of the Bible, as opposed to its reliability as a
source of accurate information.

J15 below is an example of a mixed authority argument. Here it is clear that some
kind of appeal is being made to the authority of tradition, but it is unclear whether this
appeal is made on grounds of the reliability of the tradition as a source of accurate
information or on grounds of the participant’s personal identification with that tradition.

*Example J15: Authority Argument (Mixed), Religious Topic*  
*(Interview No. 194, female twelfth-grade pupil at a Religious school)*

Because it’s something that has been passed down by tradition for so many years that people believe in it. And it’s something that’s impossible to explain, because it’s not like science where you can say, “Here, look at this, that and the other.” It’s intangible, so you can’t explain things in that way.

A third common type of argument was experiential arguments. Experiential arguments are arguments in which the participant sets out to justify her belief by appealing to her own feelings or private experiences (cf. Alston, 1991; Mavrodes, 1988; Yandell, 1997). Experiential arguments are illustrated in examples J16 and J17 below.

*Example J16: Experiential Argument, Religious Topic*  
*(Interview No. 29, female fifth-grade pupil at a Religious school)*

Because He helps me. I pray to Him and I’m not just praying to air. I believe that I’m praying to someone, even if I don’t see Him, don’t feel Him, I believe that He is here by my side and I pray to Him as if He is here by my side. I have always thought that God exists and that there are no other gods […] In the Grace after Meals, when I thank Him, I wouldn’t just say thank you to the air. I feel that I am saying it to someone. *How do you know that there’s someone there?* I don’t know that there’s someone there. I feel it; I sense it.

*Example J17: Experiential Argument, Religious Topic*  
*(Interview No. 3, female twelfth-grade pupil at a Torani school)*

It’s a little like having an imaginary friend, only He’s not imaginary. When you’re small you sometimes have your imaginary friends and you’re sure that they exist that they talk to you and play with you. And it’s not something that’s very defined. But you know that they’re there and that you can always turn to them and they’ll always listen. It’s a feeling of, of, a kind of inner calm.

As can be seen in the above examples, experiential arguments in the religious topic are quite distinct from intervention arguments. Whereas the latter appeal to publicly observable divine acts, the former refer exclusively to the personal impressions or subjective feelings of the individual.
A fourth type of argument is epistemological arguments. Epistemological arguments are arguments that appeal to logical or structural features of what is known or knowable about the topic under discussion. There are three main variants of epistemological argument: contingent, necessary and a priori. Contingent epistemological arguments are arguments in which the belief is justified on the grounds that the contradictory belief has yet to be proven (cf. Flew, 1997; Hanson, 1971). Necessary epistemological arguments are arguments in which the participant goes a step further to argue that the contradictory belief is in principle unsusceptible to proof (cf. Smith, 2001). A priori epistemological arguments are arguments in which the belief is presented either as a fundamental assumption requiring no further justification or as a logical consequence of such an assumption (cf. Plantinga, 1997; Plantinga & Sennett, 1998). Each of these variants of epistemological argument is illustrated in examples J18 to J21 below.

Example J18: Epistemological Argument, Religious Topic

(Interview No. 192, female twelfth-grade pupil at a Religious school)

It’s just as clear to me as the sun. It’s like if you were to ask me to explain that two plus two equals four. I can’t explain it to you because I just know that it is.

Example J19: Epistemological Argument, Non-Religious Topic

(Interview No. 66, female eighth-grade pupil at a General school)

Because if he’s done it he has to take responsibility.

Example J20: Epistemological Argument, Religious Topic

(Interview No. 11, male twelfth-grade pupil at a Torani school)

I’ve never believed in what I don’t see and, despite that, I somehow arrived at some point at a religious way of life. I studied at Yeshiva and enjoyed it very much – even without faith. It was never important to me. And as for the proof that there isn’t [a God]: it’s unnecessary, there are plenty. I won’t tell you that whole story. Was it such proofs that led you to your current opinion? Or was it something else? You don’t need a scientific proof. There’s a lack of proof: that’s the problem. It’s never been an issue or a question for me.

Example J21: Epistemological Argument, Religious Topic

(Interview No. 15, male twelfth-grade pupil at a General school)
It’s impossible to prove because it’s something that’s very up in the air. No one can. Nor can [Danny] come and prove to me that there is a God. It’s a terribly spiritual question, one that doesn’t really have an answer.

J18 is an example of an a priori epistemological argument. Here, belief in God is justified on the grounds that it is a fundamental assumption that is itself incapable of further justification. J19 too is an a priori epistemological argument. However, this time the topic is justification of punishment rather than belief in God. Specifically, the participant in J19 justifies her belief in punishment by indicating that it is a logical consequence of the moral principle that someone who has done something wrong must take responsibility for his actions. J20 and J21 illustrate contingent and necessary epistemological arguments respectively. In J20 the participant justifies his disbelief in God on the grounds that there is no proof of His existence. In J21, on the other hand, it is not the mere lack of proof but its very impossibility that is cited by the participant in justification of his disbelief.

**Explanations**

Explanations were of two main types: environmental and psychological. In environmental explanations the participant attributes her belief to the influence of family, peers or other reference groups; in psychological explanations she attributes her belief to character-shaping events such as traumata or peak experiences or to characteristics of the individual such as personality traits, needs or desires (cf. Durkheim, 1995/1912; Freud, 1961/1930; Freud, 1964/1927; Maslow, 1964; Yinger, 1957). Explanations of both types are illustrated in examples J22 to J24 below.

**Example J22: Environmental Explanation, Religious Topic**

*(Interview No. 100, female eighth-grade pupil at a General school)*

It’s the education I’ve been given, the values I’ve been given since I was a little girl: mezuzah, the Bible and everything that goes with it. I’m not religious or anything like that, but I believe. I don’t eat, say, meat with milk. That’s just how I’ve been educated. It’s my grandparents; they’re religious. I’ve been educated this way ever since I was a little girl.

**Example J23: Psychological Explanation, Religious Topic**

*(Interview No. 18, female twelfth-grade pupil at a General school)*
It’s not a question of who’s right. It’s a question of who wants to believe and who doesn’t want to believe. I don’t need proof. So maybe it’s simply dependent on the person. There are people who need proof, for whom everything has to be scientific.

*Example J24: Psychological Explanation, Religious Topic*

*(Interview No. 19, female twelfth-grade pupil at a General school)*

A person needs to live with some kind of faith. It doesn’t necessarily have to be religious faith. And I don’t think it has to be ultra-orthodox faith. I think a person has to have some kind of faith, because it’s very hard not to believe in anything. It’s important to believe in yourself, of course. But if a person believes only himself and doesn’t believe in anything else that’s going on around him, he’ll soon find himself alone. You need to believe in something.

The participant in J22 presents an environmental explanation, in which she attributes her belief to the influence of family and upbringing. J23 to J24 are examples of psychological explanations. In J23 the participant attributes her belief to personality traits. In J24 the participant attributes her belief to a general human need to believe.

*Motives*

Motives are of two main types: utilitarian and deontological. A utilitarian motive is an attempt by the participant to justify her belief by appeal to the desirable consequences of believing; a deontological motive is an attempt by the participant to justify her belief by appeal to a duty or right to believe (cf. Evans, 1997; Flew, 1966; Jordan, 1997). Illustrations of each type of motive are presented in J25 and J26 respectively.

*Example J25: Utilitarian Motive, Religious Topic*

*(Interview No. 142, male fifth-grade pupil at a General school)*

Because I too believe in God. It’s good, even if it’s not true. And I think that it is true. It’s good. If, for example, you do something bad, then [you believe that] God will punish you; you start to get scared. Or, if you’re happy, you say, “Great! God helped me!” *If Yossi were to ask you why you believe in God, what would you say to him?* That it’s worth it. Because, all things considered, faith is a good thing. *What do you mean?* Faith is, all things considered, a good thing. There's nothing bad about it. There's nothing to lose. All kinds of stuff.
You make a mistake: God will punish you. If you’re happy, you say thank you to God who helped you. Or if you’re in a bad situation, you ask God to help you. All sorts of stuff like that. It’s less pressurizing. In a pressurizing situation, you pray to God to help you. [...] You say, “There’s someone with me. It’s easier for me. There’s someone helping me and in the end I’ll get through this, by a miracle.” It’s less pressurizing on you.

Example J25 is an extreme case, in that the participant argues that the advantages of belief in God are so significant as to be sufficient to warrant belief in God, even if He does not in fact exist. More often, participants who presented utilitarian motives would simply point out the advantages of belief without referring explicitly to the question of God’s existence.

_Example J26: Deontological Motive, Religious Topic_

*(Interview No. 77, female fifth-grade pupil at a Religious school)*

Because God created me and because of Him I am alive, and I have to pay him back for His creating me and not ignore this gift by going and being secular and believing in other people.

The justification in example J26 is a deontological motive, wherein the participant describes herself as duty-bound to believe. This perceived duty derives from her sense of indebtedness to God for creating her.

_Non-justifications_

Most participants presented a reason of some kind for their belief. However, a few participants either declined in principle or failed in practice to justify their beliefs. Responses of the former kind were classed as principled non-justifications; those of the latter kind were classed as technical non-justifications.

Principled non-justifications were of two types: logical refusals and moral refusals. Logical refusals are responses in which the participant objects to providing reasons for her belief on the grounds that no adequate reasons exist; moral refusals are responses in which the participant objects to providing reasons for her belief either on the grounds that her reasons are a private matter or on the grounds that it is wrong to engage in argumentation about the issue under discussion (cf. MacIntyre, 1957; Malcom, 1977; Penelhum, 1997; Phillips, 1971/1970; Wittgenstein, 1966).
Technical non-justifications were also of two types: assertions and technical refusals. Assertions are responses to the interviewer’s request for a justification in which the participant simply repeats her previously stated belief. Since participants often restated their basic position in the course of the interview, genuine assertions had to be distinguished from mere repetition of the belief for emphasis. An utterance was coded as an assertion, therefore, only if it was the participant’s only response to the interviewer’s requests for justification. Technical refusals are responses in which the participant professes herself unable presently to think of any reasons for her belief.

Non-justifications are illustrated in examples J27 to J31 below.

*Example J27: Principled Non-Justification (Logical Refusal), Religious Topic*
*(Interview No. 16, female twelfth-grade pupil at a General school)*

*If you had to explain to Ifat why you believe in God, what would you say to her?*

I wouldn’t have anything to say to her. There isn’t anything. I don’t think there is anything. There really isn’t. *Why not?* Because there just isn’t. [...] I can’t see anything about which I could say, “This is from God.” There isn’t anything like that [...] So I can’t. I don’t have any way of proving it.

*Example J28: Principled Non-Justification (Moral Refusal), Religious Topic*
*(Interview No. 12, male twelfth-grade pupil at a Religious school)*

*Who do you agree with? Yossi’s the one who doesn’t believe? Yes. It’s really not straightforward. It’s a very mythological question; not a fundamental one. Why?* I don’t think, at least in my family, that that was ever the point – whether there is or isn’t. It’s a matter of tradition and identity. The truth is that it’s also a topic that I wouldn’t argue about. Apart from the fact that it’s a very highbrow topic. It’s not an acceptable topic. It’s a very shallow topic, a very trite topic that you can’t argue about. It’s very trite. If someone were to prove to me that there’s no God, it would be completely worthless. *Do you have a standpoint on the subject?* I don’t want to say what it is. *Why not?* It’s not that it’s personal, because it’s not personal. It’s just not something important. Sometimes you can catch me at moments when I do, but in general I don’t. It’s a non-issue [...] It’s not fundamental to my life. If you take my daily agenda, it makes no difference. It’s not what is important to me in relation to religion.
J27 and J28 are examples of principled non-justification: in J27 the participant objects to providing reasons for her belief on the grounds that there simply are no adequate reasons that she can present in its support; in J28 the participant objects to providing reasons for his disbelief on the grounds that arguments about the existence of God are devoid of value and beside the point.

Example J29: Technical Non-Justification (Assertion), Religious Topic
(Interview No. 60, male eighth-grade pupil at a General school)
I don’t have a justified reason. That’s just what I think. I don’t pray or do anything. That’s just what I think.

Example J30: Technical Non-Justification (Assertion), Religious Topic
(Interview No. 39, male fifth-grade pupil at a Torani school)
Who do you agree with? With Danny. Why? Because I believe. Do you have any reasons or justifications? No.

Example J31: Technical Non-Justification (Technical Refusal), Religious Topic
(Interview No. 57, female eighth-grade pupil at a General school)
Because, I don’t know, I’ve never thought about it. I just don’t believe.

J29 to J31 are examples of technical non-justifications. J29 and J30 are assertions in which the participants simply restate their beliefs without attempting to justify them. J31 is a technical refusal in which the participant professes herself unable at present to think of any reasons for her belief.

Qualified versus unqualified justifications

Just as beliefs may be qualified or unqualified, so may the reasons for which they are held. In general, participants presented justifications for their beliefs without expressing any reservations or qualifications about their validity. Such justifications were classified as unqualified justifications. In some cases, however, participants would attempt to restrict the validity of the justification they were presenting, acknowledging that the support it provided for their belief was only partial. Justifications of this latter type were classified as qualified justifications. Qualified justifications usually included syntactic qualifiers such as “some,” “often,” “probably,” and “maybe.” The distinction between qualified and unqualified reasons is illustrated below in examples J32 and J33.
Example J32: Unqualified Authority Argument (Knowledge-Based), Religious Topic
(Interview No. 73, male fifth-grade pupil at a Religious school)

Because it’s a fact. There’s the Bible. I believe that what’s written in it is true.

Example J33: Qualified Authority Argument (Knowledge-Based), Religious Topic
(Interview No. 160, female twelfth-grade pupil at a General school)

It’s a bit stupid to say that the majority decides, but since there are so many people who believe, they must have a reason, for sure.

Both J32 and J33 are authority arguments. In J32 the authority cited in support of the belief is the Bible, whilst in J33 the authority cited is the majority. However, in J32 the appeal to authority is unqualified, whereas in J33 it is qualified. J33 is an unusual case of qualification, since the participant herself appears to be ambivalent about how much validity to ascribe to her justification. On one hand she considers it to be “a bit stupid” to believe something just because most other people do. On the other hand she is confident that, if so many of them believe, they must have good grounds for their belief (“they must have a reason, for sure”). For the purposes of coding, however, any attempt by the participant to limit or question the validity of a reason they were presenting for their belief was sufficient to consider that justification qualified.

Comparison with previous categorizations

To date, two of the most comprehensive attempts to categorize the kinds of justification presented in informal arguments are those of Kuhn (1991) and Means and Voss (1996). Since the design of the present study owes most to Kuhn’s work, we shall consider her categorization scheme first.

Kuhn’s interview protocol was designed first and foremost to elicit causal theories from participants, which they were then required to support with evidence and to defend against self-generated counterarguments. Kuhn’s focus on “people as theorists” (1991: 21) is evident not only in her analysis but in the interview instrument itself. In the opening question of her interview protocol, participants are asked, “What causes (school failure / prisoners’ return to crime / unemployment)?” This formulation requires respondents not only to put forward a claim but also to express their claim in the form a causal theory. Kuhn suggests (ibid) that her use of the term theory “is not meant to imply the fulfillment of any formal criteria that might be imposed for employment of this term,
and the term belief might have been used instead [emphasis in the original].” At the same time, however, she prefers the term theory, “because it reflects a continuum, from the most rudimentary, informal beliefs people hold to the most complex and systematized of the formal theories advanced by scientists.”

Kuhn’s focus on causal theories introduces into her analysis evaluative criteria that are not necessarily appropriate in the context of beliefs that are neither “causal” nor “theoretic.” For Kuhn, the “structural complexity” of a person’s causal theory and employment of particular kinds of supporting evidence are key indicators of more skilled argumentation and thus of better thinking (see also Kuhn 1993a; Kuhn, 1996; Kuhn, Weinstock, & Flaton, 1994). In the context of religious or moral beliefs, it is by no means clear whether or how such criteria ought to be applied. Are structurally complex religious beliefs more sophisticated or rational than structurally simple ones? Is a preference for direct evidence over indirect evidence of God’s existence appropriate when the availability of direct evidence is itself a matter of controversy? Such questions cannot be answered without assuming some substantive theological position.

Scientific theories are only one kind of belief, and a rare and specialized one at that (McCauley, 2000; Wilson & Keil, 2000). There is little reason to expect that the kinds of argumentation that people employ in proposing and defending such theories will be the same as those that they employ in proposing and defending other kinds of belief. Moreover, if the goal of psychological studies of thinking is descriptive rather than prescriptive, one could argue that it is inappropriate to employ a research paradigm that implicitly measures informal argumentation against criteria of scientific adequacy. For these reasons, the interview probes used in the present study, and the categories employed to distinguish between different kinds of response, differ subtly, yet crucially, from those employed by Kuhn.

The key probes Kuhn used to elicit participants’ causal theories and justifications were, “What causes (school failure / prisoners’ return to crime / unemployment)?” “How do you know that this is the cause?” and “If you were trying to convince someone else that your view [that this is the cause] is right, what evidence [verbal emphasis] would you give to try to show this?” (1991: 299). These probes invite the participant first to put forward a causal theory, then to justify why she subscribes to this theory, and then to
describe the evidence that she would adduce in its support in order to convince a third party. The probes used in the present study covered similar ground, but were adapted so as to loosen the constraints on the kinds of response that participants might offer. The probes were: “Who [of the two characters] do you most agree with?” “Why?” and “If you wanted to persuade [your opponent], what would you say in order to show that you are right?” Similarly to Kuhn’s probes, these probes invite the participant first to put forward a belief, then to justify why she holds it, and then to describe how she would attempt to convince a third party. However, whereas Kuhn’s probes call for justifications that are explicitly causal and evidence-based, the probes used in the present study leave the options for non-causal and non-evidentiary justifications open to the participant.

The categories used to code responses to these probes also differed from those used by Kuhn. Kuhn (1991: 45ff.) subsumes all justifications under the heading of, “evidence to support theories” and distinguishes between three main kinds of justification: genuine evidence, pseudoevidence and nonevidence. In order to qualify as genuine evidence, a justification must, “(a) be distinguishable from a description of the causal sequence itself and (b) bear on its correctness” (ibid).

Subcategories of genuine evidence include covariation evidence such as correspondence and correlated change, evidence external to the causal sequence such as counterfactual arguments, and indirect evidence such as analogies and discounting arguments. Pseudoevidence responses, on the other hand, are justifications that take the form of a scenario or script depicting how the phenomenon might occur and how the events described might plausibly lead to the outcome. The key factor distinguishing between genuine evidence and pseudoevidence is that, “pseudoevidence cannot be sharply distinguished from description of the causal sequence itself” (ibid: 65-66). Thus (ibid: 94),

pseudoevidence scripts serve to establish or enhance the intuitive plausibility of a causal theory by portraying how the causal sequence occurs. Genuine evidence, in contrast, bears on the correctness of a causal theory – on establishing that it in fact operates and produces the observed instances of the outcome.

The third category of justification, “nonevidence” (ibid: 82),

covers a range of responses in which subjects (a) imply that evidence is
unnecessary or irrelevant, (b) make assertions not connected to the causal theory, or (c) cite the phenomenon itself as evidence regarding its cause.

Even from this cursory outline of Kuhn’s scheme, it is clear that the categories she uses to distinguish between different kinds of justification are appropriate only within the context of causal theories. Moreover, Kuhn is unequivocal in her evaluation of some kinds of justification as more adequate than others.

The categorization scheme used in the present study thus differs from Kuhn’s in at least three important respects. First, causal arguments appear in the scheme as only one kind of justification among others. Second, no attempt is made to distinguish between justifications on the basis of the quality of the evidence they contain. As Brem and Rips (2000) have shown, the quality of evidence that people present in support of their beliefs depends to a great extent on the quantity and quality of relevant information that they believe is available. In the context of belief in God, one’s beliefs about the availability of relevant information are themselves substantive theological beliefs. Therefore, if we were to evaluate peoples’ justifications of their belief in God on the basis of the quality of the evidence they contain, we would be guilty of introducing theological bias into the analysis. Third, Kuhn’s scheme groups together under the heading of “evidence for theories” both the reasons participants gave for their own subscription to a particular theory and the arguments and evidence they would present to a third party in order to persuade them that this theory is correct. In the present study these two activities (justification and persuasion) are kept distinct and analyzed discretely. Approaches to justification are studied in the present chapter; approaches to persuasion in the next.

Means and Voss’s (1996: 150) classification of justification types consists of six categories. Abstract reasons are logical in form and include justifications by class inclusion or subsumption, e.g., “because trust is important in a relationship and without it, it’s not a relationship … or not a healthy one anyway.” Consequential reasons are statements in which a consequence is posited as direct and necessary outcome of a particular action, e.g., “because you might get in more trouble.” Rule-based reasons are generally accepted beliefs or truisms, e.g., “because promises are made to be broken.” Authority reasons involve appeal to an authority, e.g., “because my dad says I can do that.” Personal reasons are justifications based on personal experience, e.g. “because that
happened to me.” Vague reasons consist of imprecise statements, e.g., “because that wouldn’t do much.” Means and Voss considered the quality of reasons to decrease over the categories in the order in which they are presented above, “although rule-based, authority, and personal reasons are presumed to differ little in quality.”

Some of the categories in Means and Voss’s classification are similar to those used in the present study. For example, personal reasons are similar to experiential arguments, consequential reasons to causal arguments and authority reasons to authority arguments. However, like Kuhn’s scheme, Means and Voss’s classification includes an evaluative element that is problematic in the context of religious belief. For example, personal reasons are accorded relatively low status in Means and Voss’s classification. Yet, consider the case of a person who justifies her belief in God on the basis of a personal experience of His presence. Given that she believes the experience to be veridical, what better justification of her belief could she possibly offer?

Another class of justifications that is accorded low status on Means and Voss’s scheme is authority arguments. This unflattering appraisal of authority arguments is not unusual within developmental psychology. Indeed, some of the most influential theories in the fields of moral and epistemological development view reliance on authority-based justifications as the defining characteristic of lower stages of development (cf. King & Kitchener, 1994; Kohlberg, 1971; Perry, 1970). Nonetheless, there are many contexts within which we consider authority-based justifications to be quite adequate. As Wilson and Keil (2000) have argued, much of our “folk knowledge” is underwritten by “a division of cognitive labor” (Putnam, 1975; see also Berger & Luckmann, 1966; Giddens, 1991) in which we rely extensively on experts of various kinds, such as physicists, chemists, biologists, doctors and car mechanics to have the in-depth knowledge that we lack. For example, few people are able to give anything more than the most cursory justification for their belief that, say, the earth orbits the sun or that the common cold is a bacterial infection. Yet we consider these beliefs to be justified on the basis of a vague sense we have of what astrophysicists and biologists know, although we ourselves do not know the details. Indeed, in some contexts we actually consider authority-based justifications to be superior to other kinds of justification (Brem & Rips, 2000). Moreover, within the context of religious belief, the status of authority arguments is
especially problematic. There is a long history of debate within Jewish theology about
the relative merits of faith based on the authority of tradition on one hand, and faith that
derives from rational speculation on the other (cf. Bergman, 1961; Glatzer, 1977;
Guttman, 1964; Lewy, Altmann, & Heinemann, 1969). If we were to follow Means and
Voss in ascribing low status to authority arguments, we would effectively be adopting a
substantive theological position and judging one side in this perennial controversy more
“sophisticated” than the other.

In summary, the categorization scheme used in the present study covers similar
ground to both Kuhn’s and Means and Voss’s schemes. Indeed, some of the categories
in the present scheme are almost identical to categories in the other two. However, it
differs from both in two major respects. First, it is a not an evaluative scheme. Second,
it considers the activities of justification and persuasion separately rather than subsuming
both under a general heading of “evidence for theories” or “reasons.”

An additional categorization scheme with which it is especially relevant to compare
the present one is Nipkow and Schweitzer’s (1991) inductively generated classification of
adolescents’ reasons for faith and doubt in God. Nipkow and Schweitzer categorized
such reasons into four main kinds of fulfilled or unfulfilled expectation: expectations of
God as a guarantor of goodness in the world, expectations of God as a key to explaining
the origins of the universe and the meaning of life, expectations of God as an entity that
exists independently of the dreams, wishes or symbols of human beings, and expectations
of the Church as a trustworthy witness to God. Unfortunately, since Nipkow and
Schweitzer (1991) did not provide statistical data detailing the distribution of these
categories amongst their sample, we are unable to compare the relative popularity of
these categories of justification amongst German and Israeli adolescents. Nonetheless, it
is interesting to note a number of similarities between their categorization and our own.
Their first two categories of “expectation” are roughly equivalent to our categories of
creation and intervention arguments and the third to our category of psychological
explanations. Similarly, though there was no precise equivalent to the fourth kind of
“expectation,” this reason type covers ground similar in some respects to that of authority
arguments.
Section B: Quantitative Findings

In this section, we examine quantitatively how approaches to justification were distributed within the sample. One aspect of this examination will be a comparison of participants’ approaches to justification in the religious and non-religious topics. Since there are important limitations and complications to such comparisons, it is perhaps best to address them now in order to prevent misinterpretation of the results presented later on.

First, it is important to put these comparisons in context. The main focus of the present study is an investigation of religious thinking. The reason that a non-religious dilemma was included was not in order to conduct a full-scale comparative study of religious and non-religious thinking. To do that it would be necessary to include several dilemmas concerning a wide variety of religious and non-religious topics. Rather, the aim was to provide a plausible baseline or background measure that might help highlight distinctive features of religious thinking.

Second, the punishment question was selected because of its apparent structural similarity with the question of belief in God. However, in spite of their many similarities (see Chapter 2), these two questions also differ in significant ways. For example, religious experiences and religious obligations regarding faith have no clear parallel in the non-religious topic. Thus, experiential arguments and deontological motives are almost by definition more likely to occur in the religious topic than in the non-religious topic.

Third, and with the benefit of hindsight, the ways in which the two dilemmas were framed was not identical. The language used in presenting the punishment dilemma may have been such as to invite causal responses from participants. Specifically, the dispute was presented as being about whether one ought to punish a child “in order to teach him how to behave.” This unfortunate design flaw may account to a large extent for the preponderance of causal arguments in the non-religious topic.

In light of these limitations, comparisons of approaches to justification in the two topics must be interpreted with caution.

Belief

Before investigating how participants justified their beliefs, we first examined what their beliefs were. The aims of these initial analyses were threefold. First, we wished to
compare general trends of belief across the two topics in order to identify possible
differences in intensity of belief in the religious and non-religious domains. Second, we
wished to examine how beliefs were affected by demographic factors such as gender, age,
etnicity and school. Third, we wished to compare our findings with those of previous
investigations of religious belief in order to identify ways in which our sample might
have differed from those studied by others.

The distribution of belief in each topic is summarized in Figure J1 below.

*Figure J1. Frequencies: Basic Belief*

<table>
<thead>
<tr>
<th>Basic Belief</th>
<th>Religious Topic</th>
<th>Non-Religious Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>percent</td>
</tr>
<tr>
<td>Unqualified Disbelief</td>
<td>18</td>
<td>9.0</td>
</tr>
<tr>
<td>Qualified Disbelief</td>
<td>14</td>
<td>7.0</td>
</tr>
<tr>
<td>Neutral Belief</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>Qualified Belief</td>
<td>32</td>
<td>16.0</td>
</tr>
<tr>
<td>Unqualified Belief</td>
<td>131</td>
<td>65.5</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As can be seen in Figure J1, there was a greater tendency in both topics for
participants to believe than to disbelieve. Also, there was a lesser tendency for beliefs to
be qualified in the religious topic than in the non-religious topic. The mean score for
basic belief in the religious topic was 4.22, SD = 1.32, compared with a mean of 3.76, SD
= 1.10 in the non-religious topic. Thus, overall, beliefs in the religious topic were more
intense than beliefs in the non-religious topic. This finding is consistent with the findings
of previous studies that show people to hold religious beliefs with a higher degree of
certainty than other beliefs (e.g., Brown, 1962; Thouless, 1935).

The effects of gender, grade and school on belief in God could not be investigated
using ANOVA because diagnostic tests showed homogeneity of variance assumptions to
be violated. Instead, the effects of these factors were investigated using hierarchical log-
linear model selection, as this technique does not assume equal variances for each factor
level. Since the vast majority of participants expressed belief in God, and those who did
not were unlikely to be pupils at Religious or Torani schools, two separate analyses
where conducted.

The first analysis excluded non-believers from the sample and examined group
differences with respect to whether belief in God was qualified or unqualified. This
analysis proceeded by backward elimination from a 2 (gender) x 3 (grade) x 3 (school) x 2 (qualified belief versus unqualified belief) saturated model. The only significant effect observed was a first order interaction between school and belief in God, $\chi^2 (2, 163) = 12.14, p = .002$. Follow-up tests were conducted to evaluate the pair-wise differences in belief in God between the three types of school. General school pupils’ belief in God tended to be more qualified than was that of either Religious school pupils, $\chi^2 (1, 113) = 5.10, p = .024$, or Torani school pupils, $\chi^2 (1, 119) = 10.68, p = .001$. However, no significant differences were observed between pupils at Religious and Torani schools.

The second analysis included non-believers in the sample, but did not include school as a factor. This analysis proceeded by backward elimination from a 2 (gender) x 3 (grade) x 2 (belief versus non-belief) saturated model. The only effect to approach significance was a first order interaction between grade and belief, $\chi^2 (2, 200) = 6.65, p = .036$. Follow-up tests were conducted to evaluate the pair-wise differences in belief in God between each grade level. Twelfth-graders tended to disbelieve in God more than fifth-graders, $\chi^2 (1, 138) = 6.62, p = .010$, but no significant differences were observed between fifth- and eighth-graders or between eighth- and twelfth-graders. The means and standard deviations of belief in God as a function of gender, grade and school are summarized in Figure J2.

Three points are noteworthy about the above findings. First, even amongst pupils at General schools, a substantial majority of participants expressed belief in God. This general tendency to believe in God replicates the results of recent surveys of religious belief in Israel and other countries (e.g., Combe, 1999; Leslau & Bar-Lev, 1993; Levy, Levinsohn, & Katz, 1993; Shavit, 2000; Shorto, 1997). Similarly, the decline in belief in God between fifth and twelfth grade concurs with previous findings of a general decline
in religious belief during adolescence (e.g., Argyle & Beit-Hallahmi, 1975; Beit-Hallahmi & Argyle, 1997; Benson, Donahue, & Erickson, 1989; Donelson, 1999; Francis, 1987; Willits & Crider, 1989). However, the absence of any significant association between gender and belief in God conflicts with much previous evidence of greater religious belief amongst women than amongst men (e.g., Argyle & Beit-Hallahmi, 1975; Batson, Schoenrade, & Ventis, 1993; Beit-Hallahmi & Argyle, 1997; Hyde, 1990; Leslau & Bar-Lev, 1993; Levy et al., 1993).

This anomalous finding was further investigated by comparing male and female participants’ scores on religious belief items from the questionnaire in order to ascertain whether the absence of gender effects was specific to belief in God or general to all the religious and supernatural beliefs about which participants were questioned. Since normality assumptions were violated, the nonparametric Mann-Whitney U test was used. Female participants tended more than did male participants to believe in divine providence, $z = -2.49, p = .013$, and that a supreme being directs the world, $z = -2.07, p = .039$. They also tended more than did male participants to believe that amulets can bring good luck and prevent injury, $z = -2.87, p = .004$. Furthermore, they tended to consider belief in God as more important to them than did male participants, $z = -2.03, p = .043$. No significant gender differences were observed on any of the other religious belief items.

These results show that previous findings of greater religious belief amongst women are replicated to some extent in the present study. At the same time, however, they suggest that these differences are specific to beliefs about present-day supernatural activity in the world. Beliefs concerning abstract, existential claims about the divinity and past or future divine activity (such as the revelation at Mount Sinai, the coming of the Messiah or the resurrection of dead) were not significantly different amongst male and female participants.

Previous studies of religious belief amongst Israeli Jews have found higher levels of belief in God amongst Mizrahim than Ashkenazim (e.g., Leslau & Bar-Lev, 1993; Leslau & Bar-Lev, 1994; Levy et al., 1993). A Mann-Whitney U test was conducted to investigate whether this trend was replicated in the present sample. The results of the test were significant, $z = -2.77, p = .006$, showing Mizrahi participants to express greater
belief in God, on average, than Ashkenazi participants.

A 2 (gender) x 3 (grade) x 2 (school) ANOVA was conducted to evaluate the effects of gender, grade and school on belief in the non-religious topic. The means and standard deviations of belief in punishment as a function of the three factors are presented in Figure J3. The ANOVA indicated no significant interactions between any of the factors or main effects for gender or school, but a significant main effect for grade, F (2, 200) = 13.91, p < .001, partial $\eta^2 = .13$. Follow-up tests consisted of all pair-wise comparisons among the three grade levels, using Tukey HSD procedure to control for Type I error across the comparisons. The results of these analyses indicate that fifth-graders tended to believe in punishment significantly more than did either eighth- or twelfth graders, whereas there was no significant difference between the beliefs of eighth- and twelfth-graders.

Figure J3. Means and Standard Deviations for Belief in Punishment

<table>
<thead>
<tr>
<th>GRADE</th>
<th>GENDER</th>
<th>SCHOOL</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>General</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>5th</td>
<td>male</td>
<td>4.35</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>3.94</td>
<td>.93</td>
<td></td>
</tr>
<tr>
<td>8th</td>
<td>male</td>
<td>3.56</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>3.69</td>
<td>1.14</td>
<td></td>
</tr>
<tr>
<td>12th</td>
<td>male</td>
<td>3.25</td>
<td>1.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>3.11</td>
<td>1.18</td>
<td></td>
</tr>
</tbody>
</table>

The number of reasons presented

In previous studies of argumentation, the use of qualifiers in the presentation of reasons has been considered to characterize more sophisticated informal reasoning (e.g., Means & Voss, 1996; Thouless, 1974; Toulmin, 1958). Similarly, arguments in which many reasons are presented in support of a given belief have been considered to be stronger than arguments in which few supporting reasons are presented (Means & Voss, 1996). Although, as Means and Voss (1996) admit, “[the] notion of a qualifier is not a defining component of argument soundness per se . . . [and] more does not necessarily mean better” [emphasis in the original], these two variables provide a useful starting point from which to compare justification in the religious and non-religious domains.

* Preliminary analysis found no significant differences between Religious and Torani pupils with respect to belief in punishment. These two school types were therefore grouped together in order to ensure that sample sizes in the analysis were approximately equal.
However, before presenting the results of statistical analyses of these variables, it is necessary to describe in detail how reasons were counted.

It was common for participants to present several variants of the same basic line of reasoning in the course of the interview. Obviously, the more talkative the participant, the greater was the likelihood that such repetitions or embellishments would occur. Since the objective of our analysis was not to award participants points for garrulousness but rather to measure the extent to which they were able to generate multiple lines of reasoning, a strict criterion was employed in the counting of reasons. In order to be counted as a new reason, a justification had to differ either in type or valence from justifications presented previously by the participant. Thus, a late-appearing causal argument against punishment would be counted among the participant’s total number of justifications only if she had put forward no causal arguments previously in the dialogue or if those she had presented had been in favor of punishment rather than against it. This criterion is very conservative in that it ignores differences in specific content and style and focuses exclusively on the logical form of the reasons presented. Some of these differences in style and content will be addressed in Section C below.

Two further definitional decisions were made prior to conducting the analyses that follow. First, in order to facilitate comparison between the religious and non-religious topics, no distinction was made between creation and intervention arguments in the counting of causal arguments in the religious topic. Second, since very few participants presented more than one qualified reason in support of their belief in either topic, qualified reasons are represented in these analyses by a dichotomous variable measuring their presence or absence amongst the total number of reasons presented.

Summary statistics for the total number of reasons presented and for the presence or absence of qualified reasons are presented in Figure J4 below.

*Figure J4: Means and Standard Deviations for Total and Qualified Reasons Presented*

<table>
<thead>
<tr>
<th></th>
<th>Non-Religious Topic</th>
<th>Religious Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>qualified reasons</td>
<td>total reasons</td>
</tr>
<tr>
<td>Mean</td>
<td>.32</td>
<td>1.63</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>.47</td>
<td>.80</td>
</tr>
</tbody>
</table>

The most striking feature of the results summarized in Figure J4 is the relative paucity of reasons presented in the non-religious topic compared with the religious topic. On
average, interviewees presented nearly twice as many reasons for their religious belief as they did for their non-religious belief. On the other hand, reasons presented in the non-religious topic had a greater tendency to be qualified than those presented in the religious topic.

The effects of gender, grade and school on the number of qualified reasons and the total number of reasons presented by participants in each topic could not be investigated using MANOVA because normality and homogeneity of variance assumptions were violated. Instead, interactions between these variables were investigated using hierarchical log-linear model selection, since this technique does not assume normal distributions or equal variances for each factor level. Before conducting these analyses, several categories were collapsed in order to minimize sampling zeros. Quantitative variables measuring numbers of reasons were recoded into dichotomous variables. Similarly, pupils from Religious and Torani schools were grouped together and contrasted with pupils from General schools.

For the religious topic, analysis was conducted by backward elimination from a 2 (gender) x 3 (grade) x 2 (school) x 2 (total reasons: three or less versus four or more) x 2 (qualified reasons: presence or absence) saturated model. The only significant effects observed were two first order interactions. Qualified reasons tended to be presented by participants who presented more reasons overall, $\chi^2 (1, 200) = 10.41, p = .001$. They also tended to be presented more often by pupils at General schools than by pupils at Religious and Torani schools, $\chi^2 (1, 200) = 20.02, p < .001$.

For the non-religious topic, analysis was conducted by backward elimination from a 2 (gender) x 3 (grade) x 2 (school) x 2 (total reasons: one or less versus two or more) x 2 (qualified reasons: presence or absence) saturated model. The only significant effects observed were two first order interactions. Presentation of qualified reasons was associated positively with grade, $\chi^2 (2, 200) = 16.78, p < .001$, and with the total number of reasons presented, $\chi^2 (1, 200) = 24.09, p < .001$.

Follow-up tests were conducted to evaluate the pair-wise differences between each grade level with respect to presentation of qualified reasons in the non-religious topic. On average, fewer fifth-graders presented qualified reasons than did either eighth-graders,
\( \chi^2 (1, 130) = 7.66, p = .006, \) or twelfth-graders, \( \chi^2 (1, 138) = 16.29, p < .001. \) However, the difference between eighth-graders and twelfth-graders was not significant.

In both topics, then, those who presented qualified reasons also tended to present more reasons in total. Moreover, in the non-religious topic at least, presentation of qualified reasons was associated positively with age. These results lend some support to the assumptions of previous studies (e.g. Means & Voss, 1996) that the presentation of more reasons, and more qualified reasons in particular, are indicators of more mature thinking.

However, this interpretation of the findings is complicated by the absence of any comparable age effect in the religious topic. In the religious topic, it was school rather than age that had the most significant effect on the presentation of qualified reasons. Given the greater tendency amongst pupils at General schools to express qualified belief in God, it was hypothesized that this anomalous finding might be the result of a simple belief effect. Specifically, qualified reasons may tend to be presented in support of qualified beliefs. If this is so, the greater tendency for pupils at General schools to qualify their justifications in the religious topic may be a straightforward corollary of their more qualified belief in God.

This hypothesis was investigated by conducting a two-way contingency table analysis to evaluate whether participants whose basic beliefs were qualified tended more than did those whose basic belief beliefs were unqualified to present qualified reasons in support of their beliefs. In both topics, expression of qualified belief and presentation of qualified reasons were found to be significantly related: in the religious topic, \( \varphi = .18, p = .011, \) in the non-religious topic, \( \varphi = .30, p < .001. \) However, the sizes of the effects, being small to moderate, suggest that the differences in the distributions of qualified reasons in the two topics are due in large part to factors other than basic belief. The question of what these factors might be is addressed later in the chapter.

**Approaches to justification**

The next set of questions to be investigated concerned the frequencies with which various approaches to justification were distributed within the sample. The first of these analyses compared frequencies in the religious and non-religious topics. These frequency data are summarized in Figure J5 below.
The most striking feature of Figure J5 is the relative abundance and variety of approaches to justification in the religious topic compared with the non-religious topic. In light of the problems of cross-topic comparison discussed earlier, interpretation of these differences must be undertaken with caution. However, even when we take these limitations into account, at least two major differences between the approaches to justification in the two topics are noteworthy. First, in both topics, causal arguments were by far the most popular type of justification. However, whereas in the non-religious topic few reasons of other types were presented, in the religious topic causal arguments were usually combined with two or more supplementary lines of reasoning. Primary amongst these were knowledge-based authority arguments, although explanations and motives were also popular. Second, whereas only one participant in the entire sample presented a non-justification response in the non-religious topic, over 10% of participants presented such responses in the religious topic. Moreover, these non-justifications were rarely absolute: in the vast majority of cases, participants whose first response was to refuse to present reasons for their religious belief went on to provide some justification at a later stage of the interview.

<table>
<thead>
<tr>
<th>Approach</th>
<th>Religious Topic</th>
<th>Non-Religious Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>frequency</td>
<td>percent</td>
<td>frequency</td>
</tr>
<tr>
<td>causal argument</td>
<td>174</td>
<td>87.0</td>
</tr>
<tr>
<td>knowledge-based authority argument</td>
<td>125</td>
<td>62.5</td>
</tr>
<tr>
<td>identification-based authority argument</td>
<td>34</td>
<td>17.0</td>
</tr>
<tr>
<td>mixed authority argument</td>
<td>17</td>
<td>8.5</td>
</tr>
<tr>
<td>experience argument</td>
<td>25</td>
<td>12.5</td>
</tr>
<tr>
<td>epistemological argument</td>
<td>28</td>
<td>14.0</td>
</tr>
<tr>
<td>environmental explanation</td>
<td>73</td>
<td>36.5</td>
</tr>
<tr>
<td>psychological explanation</td>
<td>23</td>
<td>11.5</td>
</tr>
<tr>
<td>utilitarian motive</td>
<td>44</td>
<td>22.0</td>
</tr>
<tr>
<td>deontological motive</td>
<td>21</td>
<td>10.5</td>
</tr>
<tr>
<td>principled non-justification</td>
<td>23</td>
<td>11.5</td>
</tr>
<tr>
<td>technical non-justification</td>
<td>8</td>
<td>4.0</td>
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</table>
The first of these observations suggests that a distinctive characteristic of religious thinking may be the bringing together of distinct but mutually supportive lines of reasoning, as opposed to reliance on lines of reasoning of one particular logical type. Hierarchical cluster analysis (HCA) was conducted in order to examine with greater precision how reasons of different types tended to group together in justifications of religious belief. Distances between variables were computed using squared Euclidean distance and clusters were combined using average between-groups linkage. The resulting agglomeration schedule and dendrogram are presented in Figures J6 and J7 respectively.

**Figure J6. Agglomeration Schedule for HCA of Justification Types in the Religious Topic**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>8</td>
<td>32.000</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>10</td>
<td>34.000</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
<td>38.000</td>
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</tr>
<tr>
<td>5</td>
<td>2</td>
<td>6</td>
<td>45.600</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>9</td>
<td>54.000</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>7</td>
<td>71.000</td>
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<td>8</td>
<td>2</td>
<td>3</td>
<td>75.571</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>2</td>
<td>135.250</td>
</tr>
</tbody>
</table>

**Figure J7. Dendrogram for HCA of Justification Types in the Religious Topic**

The results of the cluster analysis indicate that justifications in the religious topic may be grouped into two distinct clusters. In one cluster are causal arguments and knowledge-based authority arguments, in the other all other types of justification. This clustering
appears to divide justifications into those that appeal to objective, impersonal grounds for belief and those that include an appeal to aspects of personal history, identity or experience. An apparent anomaly is epistemological arguments. One might have assumed that these had more in common with the former group than with the latter. However, closer inspection of the ways in which epistemological arguments were expressed in the religious topic reveals that they often involved a strong personal element. This can be seen in examples J34 and J35 below.

Example J34: Epistemological Argument, Religious Topic

(Interview No. 2, male twelfth-grade pupil at a General school)

It’s possible that if I had been born in a different society or a different place I would permit myself to think about it. But given where I find myself, firstly, I’m comfortable with how I live, and it doesn’t bother me. It’s like, there isn’t a God and that’s that. I have no proof whatsoever: at present, I have no proof whatsoever that can prove to me otherwise. Maybe in the future things will change.

Example J35: Epistemological Argument, Religious Topic

(Interview No. 69, female eighth-grade pupil at a General school)

I’ve never believed in God very strongly. I need more proof to believe in something. It’s like I don’t believe in aliens. [Actually] I do sort of believe in aliens, because they found bacteria on some planets, so it’s a fact; I have some basis to hold onto. But with God I have nothing at all to hold onto.

In J34 the epistemological argument is embedded within a combined environmental and psychological explanation. The participant seems to be arguing that, in the absence of any proof to the contrary, he is justified in continuing to adhere to the beliefs with which he has grown up and with which he is comfortable. He admits, however, that the fact that he has not encountered any convincing proof of God’s existence may itself be the result of his particular personal circumstances. His epistemological argument thus takes on a distinctly personal tone. The same is true of the argument in J35. Here, the participant talks of her need for proof as if it were a personal preference rather than some universal criterion for judging beliefs. Thus, a strong personal element may be present in epistemological arguments after all.
An interesting question raised by the results of the cluster analysis is whether participants tended to present reasons from both of the clusters or whether those who presented reasons from one cluster tended not to present reasons from the other. It was found that fully 63% of the participants presented at least one impersonal and one personal justification. This indicates a clear tendency to combine lines of reasoning of different logical types in the justification of religious belief. This contrasts markedly with the non-religious topic, where justifications were almost exclusively impersonal. The tendency to combine impersonal and personal lines of reasoning in religious argumentation is explored further in chapters 4 and 5.

The above findings suggest that children and adolescents viewed their religious belief as being more closely entwined with their personal identity than was their non-religious belief. Further support for this interpretation is provided by the significant incidence of principled non-justification in the religious topic, compared with its total absence from the non-religious topic. Participants who refused to provide reasons for their belief in God were in effect expressing reservations about the appropriateness of attempting to provide an objective justification for their religious belief. They did this either by denying the very possibility of an objective justification or by insisting on the personal and private nature of faith. The fact that these refusals were unique to the religious topic indicates that participants tended to view belief in God as being more subjective, personal and private than their beliefs about punishment.

Following the above general comparison of approaches to justification in the two topics, a number of more specific analyses were carried out. The aim of these analyses was to investigate how employment of particular types of justification was affected by demographic factors such as age, gender and school. Since each justification type was represented as a dichotomous variable, hierarchical log-linear model selection was used. Only justifications that were employed by at least 15%, and by no more than 85%, of the participants were analyzed. This was to ensure that the number of participants employing a particular justification could be meaningfully compared across each factor level. Separate analyses were conducted for each justification type that satisfied these frequency criteria. Each analysis proceeded by backward elimination from a 2 (gender) X 3 (school) X 3 (grade) X 2 (justification type: present or absent) saturated model. The
alpha for each analysis within this family of tests was calculated using Holm’s sequential Bonferroni method.

The results of these analyses indicated only three significant interactions between demographic and justification variables, all of which were first-order. In the religious topic, creation arguments and utilitarian motives were associated with school, whilst knowledge-based authority arguments were associated with gender. No significant interactions were observed between demographic variables and justification types in the non-religious topic.

Creation arguments were more common amongst pupils at Torani schools (74%) and Religious schools (66%) than amongst pupils at General schools (36%), $\chi^2 (2, 200) = 26.04, p < .0001$. Follow-up tests were conducted in order to evaluate the pair-wise differences between each school type. Creation arguments were significantly less common amongst pupils at General schools than they were amongst pupils at Religious schools, $\chi^2 (1, 150) = 12.64, p < .001$, or pupils at Torani schools, $\chi^2 (1, 153) = 21.17, p < .001$. However, the differences between Religious and Torani pupils were not statistically significant.

Utilitarian motives were more common amongst pupils at General schools (29%) than amongst pupils at either Religious (21%) or Torani schools (8%), $\chi^2 (2, 200) = 9.96, p = .007$. Follow-up tests were conducted in order to evaluate the pair-wise differences between each school type. The only significant difference observed was that between General and Torani schools, $\chi^2 (1, 153) = 9.94, p = .002$.

These results are intriguing. On one hand they indicate that school type is a strong predictor of the kind of justification that a child or adolescent will present in support of her religious belief. On the other hand, they leave us with a number of unanswered questions about which specific aspects of school might be responsible for these effects. For example, why are these justifications in particular associated with school? Are these differences the result of explicit instruction, or do they reflect pre-existing differences between the populations associated with each school type?

Given the previously observed differences in belief between pupils at different types of school, one possibility is that creation arguments and utilitarian motives are associated with greater and lesser religious belief respectively. Mann-Whitney U tests were
conducted to evaluate these relationships. Individuals who presented creation arguments were found to believe in God more than did those who did not, $z = -3.07, p = .002$. However, no significant difference was observed between the beliefs of those who employed utilitarian motives and those who did not. One possible interpretation of these findings is that individuals who present creation arguments in support of their belief in God tend to consider these arguments to be conclusive and correspondingly are more confident that their belief is correct. In order to test the validity of this interpretation, a cross-tabulation was conducted to evaluate the extent to which individuals who presented creation arguments tended to qualify their justifications in the religious topic. Only 16% of those who presented creation arguments qualified any of their justifications in the religious topic, compared with 29% of those who did not present creation arguments, $\phi = -.15, p = .03$. This difference is not significant at the required alpha, probably due to the small number of participants in the whole sample who presented qualified justifications for their beliefs. Nonetheless, these results indicate a slight (if non-significant) tendency for participants who presented creation arguments to refrain from qualifying either these or any other of their justifications. This suggests that many of those who presented creation arguments may indeed have considered them to be conclusive. Further support for this interpretation is provided by the qualitative data considered later in the chapter.

Knowledge-based authority arguments were more common amongst male participants (73%) than amongst female participants (52%), $\chi^2 (1, 200) = 8.39, p = .004$. This gender difference is reminiscent of findings reported in studies of moral judgment (e.g. Gilligan, 1982). In these studies, masculine and feminine approaches to justification are contrasted. Whereas males are shown to frame their justifications as appeals to objective canons of justice or truth, females are shown to frame their justifications in terms of relationship and responsibility. If similar gender differences exist in religious thinking, we would expect, as a corollary to the above result, that identification-based authority arguments would be more common amongst female participants than amongst male participants. Indeed, such a trend was observed, although it did not meet the required alpha. 23% of females presented identification-based authority arguments in the religious topic, compared with only 11% of males, $\chi^2 (1, 200) = 5.49, p = .019$. These results
suggest that gender differences in religious thinking follow a similar pattern to those in moral judgment.

Nonetheless, it is somewhat ironic that significant gender differences were observed in the religious topic but not in the non-religious topic, since the question of whether or not to punish seems to be an explicitly moral one. One possible explanation for this anomaly is that gender differences in justification might only come to the fore when the issue under discussion is one in which the person feels himself or herself to be personally involved. This involvement and concern may be something that Gilligan’s discussions with young women about abortion may have in common with the discussions in the present study of people’s religious beliefs, but which is lacking in their discussions of punishment.

The above findings provide us with a number of intriguing insights into factors that may influence how children and adolescents justify their religious beliefs. However, the most striking result of all is one that is conspicuous in its absence. Age was not significantly related to any of the approaches to justification in either topic. This is surprising for several reasons. First, some kinds of justification (e.g. epistemological arguments) seem to be intrinsically more complex than others. It seems odd that such justifications were not significantly more common amongst older participants. Second, previous studies have shown children to shift from concrete approaches to religious beliefs and conceptions to more abstract approaches, as they get older. No such shift was observed in the present study. Third, both belief in God and belief in punishment were shown to decline between fifth and twelfth grade. One might have expected such a decline to be associated with changes in the ways participants justified their beliefs. However, no such associations were observed.

There are several possible explanations for this conspicuous absence. One possibility is that either the interview or the analysis did not probe deeply enough to capture important age differences. The evidence of age trends in other aspects of argumentation suggests that the interview was on the whole successful at picking out age differences. However, close reading of individual protocols suggests that some age differences in justification were indeed brushed over by the coarse-grained coding scheme on which the quantitative analyses were based. These finer-grained age differences are discussed in
the next section. In general, though, it is important to recognize that the coding scheme used to categorize approaches to justification focuses on the specific content of participants’ argumentation, whereas more general aspects of the underlying structure of their argumentation are the focus of later chapters. The relationship between content and structure in reasoning processes is a complex one (cf. Bidell & Fischer, 1992; Brainerd, 1978; Kohlberg & Armon, 1984; Nisan, 1984; Piaget, 1970). However, the contents of reasoning are generally viewed as more dependent on social learning, whereas structure is seen as being more dependent on cognitive development (Nisan, 1984). If the reasons participants gave for their beliefs are seen as the contents of their argumentative reasoning and the processes by which they backed up and defended these reasons as its structure, this pattern seems to be upheld in the present study.

**Section C: Qualitative Findings**

Given the richness of the interview data, any number of interesting topics could have been explored profitably via qualitative analysis. In practice, however, some decision had to be made about where a closer reading of individual cases would be most helpful. The analyses that follow center, therefore, around two sets of questions arising from the quantitative findings discussed in the previous section. Both sets of questions focus on group differences in the justification of religious belief. The first set of questions concerns the possible sources of school differences. These questions focus on constructing a picture of the cultures of theological discourse into which participants from different schools have become, or are becoming, socialized: Under what circumstances is the question of God’s existence addressed in different schools? Are there noticeable differences in tone and emphasis in the ways in which participants from different schools phrase their justifications? Are there words or concepts that appear in the justifications of participants from one type of school that are absent from those from another? The second set of questions concerns the conspicuous absence of age differences. Specifically, it seeks to identify differences that might be visible at a fine-grained level of analysis but which may have slipped through the coarse-grained coding scheme upon which the quantitative analyses were based. For example: How did participants of different ages frame and phrase their justifications? Did older participants
employ concepts and rhetorical techniques in their justifications that were different to those employed by younger participants? Both sets of questions are addressed below.

**Pre-interview coaching in religious elementary schools**

One of the problems facing anyone wishing to interview schoolchildren about their beliefs and why they hold them is the potential for “contamination” of interview responses by pre-interview coaching. There are two main sources of such contamination. The first is the participants themselves. On leaving the interview room, children are apt to share their experiences with their peers and prepare other potential interviewees with what they think are the “right” answers. The second major source of contamination is the school staff. Often a principal or teacher will provide an entire class with a set of “right” answers, so as to ensure that the interviewer will leave with a suitably glowing impression of the school and its pupils. In at least two of the schools that participated in the study, an attempt had clearly been made by a member of staff to coach the participants prior to the interview. Suspicions of coaching were first aroused by the similarity of the pupils’ initial responses and were later confirmed by explicit statements by pupils in the course of their interviews.

In one school, pupils had been told a story about Rabbi Akiva (though in one version, Akiva had mutated into Maimonides), who convinces a skeptic (in some versions a gentile, in others a heretic) by showing him a beautiful painting and telling him that his cat (in almost all versions: “Mitzi”) had painted it by accident by upsetting a box of paints on a canvas. When the skeptic objects that a cat could not have produced such a magnificent work of art, the rabbi points out the much greater complexity and beauty of the natural world, showing that it too must be the result of design. When asked where she had heard this story, one pupil spilled the beans:

*Example J36: Coached Justification, Religious Topic*

*(Interview No. 121, female fifth-grade pupil at a Torani school)*

The Rabbi told us. He said that if someone wants us to prove that there is a God then we should tell him that story.

In another school, the coached response was different but the basic approach seems to have been the same. Pupils were told a story about an inspector who comes to school and goads the children by insisting that, since he can’t see God, He must not exist. One of the
pupils in the story then responds that the inspector must have no intelligence, since he can’t see that either.

Four general points may be noted about these instances of coaching. First, both instances took place in religious elementary schools (one Religious and one Torani). This suggests that there was a concern amongst the staff at these institutions that pupils’ pre-interview level of religious thinking was in some way inadequate or unflattering to the school. At the very least, it suggests that the staff believed questions of faith to have been insufficiently addressed by the school in the period prior to the research. Second, most of the participants from classes that had been coached made no reference at all to the justifications in which they had been coached. In other words, it was only a minority of pupils that seemed to pay much attention to coaching by their teachers. Third, participants who presented coached justifications did not simply repeat what they had heard from their teachers. Rather, each interviewee seemed to have transformed and mutated what they had heard into a unique argument with its own special character and emphasis. One participant employed the “Mitzi the Cat” story as her primary justification, whereas another participant employed the story as a secondary, tactical argument aimed at persuading a non-believer. Similarly, one participant employed the “intelligence” argument as a rebuttal of disbelief in God, whereas another transformed into an authority argument. Fourth, participants who presented coached arguments tended to present these arguments as if they were conclusive, leaving no further room for doubt about God’s existence.

The above-described instances of pre-interview coaching suggest that the question of God’s existence is rarely addressed in religious elementary schools. Moreover, when teachers in these schools do address it (as in the examples above), their aim seems to be to provide their pupils with some kind of “knock-down proof” of God’s existence that resolves the question quickly and conclusively.

Seminars and proving God’s existence

The situation in religious high schools would appear be very different. In recent years, much concern has been expressed within the orthodox community in Israel about alarming “drop-out” rates amongst orthodox youth (Fisherman, 1998; Goodman, 2000; Saar, 1999; Sheleg, 2000). This has led to increased attention within religious high
schools to issues of faith. In particular, it has led to a dramatic increase in informal seminars organized by schools at which guest rabbis and youth counselors discuss issues of faith and theology with pupils explicitly and at great length. However, judging from the comments of participants in the present study, it appears that the underlying approach to theological discourse in such discussions and seminars is not all that different from that observed in elementary schools.

Examples J37 and J38 below are comments from participants about a discussion at one such seminar. Although the participants’ evaluations of the arguments put forward at the seminar are very different, both participants describe a form of discourse in which the aim of the moderator of the discussion is to provide conclusive proof of God’s existence.

**Example J37: Seminars, Religious Topic**

*(Interview No. 113, female eighth-grade pupil at a Religious school)*

They’ve proved to me that it’s correct. We were at some seminar and I asked questions [like]: How should I know? Maybe they’re just tricking us? It [the seminar] persuaded me. *Did you think about these arguments before you went [to the seminar]??* No. No, I didn’t think about them. It’s like, for example, a car. A car you don’t just make and then you’ve got a car. Somebody comes and puts together the wheel. In other words, it’s not logical that the wheel would just come by itself, the window by itself and the motor by itself. It’s the same with the world. In other words, it’s possible that something small could be created, but not something so complex.

**Example J38: Seminars, Religious Topic**

*(Interview No. 112, female eighth-grade pupil at a Religious school)*

Every seminar they bring up the whole thing; that God exists, proving to us that God exists. But their proofs are ridiculous. *Which seminars? All sorts of seminars that we go to on Shabbat. They get to the whole belief in God thing. Even this Shabbat we happened to have a seminar. I asked him, “How do you know there’s a God?”* He says to me, “I can prove it to you.” “How will you prove it me?” “Come and look in the Torah.” Excuse me! The Torah! Who gave it to us? Maybe it’s just some imposter. You can’t just tell me to come and look in the Torah!
These participants’ descriptions suggest that, although the amount of time and effort devoted to theological issues may increase as students move through the religious school system, the fundamental character of theological discourse appears to remain relatively unchanged. Specifically, the underlying structure of such discussions is that of an authority figure of some kind responding to questions about the existence of God by supplying students with what he or she considers to be conclusive proofs of His existence. This may explain why pupils at Religious and Torani schools tended less than did pupils at General schools to qualify their justifications in the religious topic. Pupils at religious schools may have been socialized into a culture of theological discourse in which the question of God’s existence is approached as if it is something that can or ought to be answered conclusively in a few easy moves. When the pupils themselves are requested to justify their beliefs they may seek consciously or unconsciously to emulate the decisiveness of their teachers.

**Approaches to cosmology and evolution: dismissal versus relativization**

Creation arguments were among the most popular reasons in the religious topic, especially amongst pupils at Religious and Torani schools. This meant that many of the interviews involved discussions by the participants of various aspects of cosmology and evolution. A striking feature of such discussions was a tendency for pupils at religious schools to dismiss out of hand scientific theories of cosmology and evolution, and in many cases even to ridicule them. Representative illustrations of this attitude are provided in examples J39 to J42 below.

**Example J39: Creation argument, Religious Topic**

*(Interview No. 198, female twelfth-grade pupil at a Religious school)*

There are the people who believe in the Big Bang and all that rubbish; that it’s all sub-atomic particles and it’s all Nature and it’s all Mother Earth [...] The Big Bang, all that rubbish, it’s an idiotic argument, in my opinion.

**Example J40: Cosmology and Evolution**

*(Interview No. 6, male fifth-grade pupil at a Religious school)*

All those people who say that God doesn’t exist have different reasons. Like, if you say we’re made up of a body, they say that they grew from monkeys and became people. I’ve heard a story like that; that someone actually believes in
that. There are all sorts of things. What? You think the whole world was just some mistake? Someone must have made it.

Example J41: Cosmology and Evolution

(Interview No. 42, male eighth-grade pupil at a Torani school)

You said that there are people that don’t believe. How do they justify themselves? By the scientific method and all sorts of things that prove that there isn’t a God. All sorts of things like that. They say, for example, that miracles are natural, that there isn’t anything above nature. They say that [the world was created from] an explosion, which in my opinion is just rubbish. Why is it rubbish in your opinion? Because we know it’s not realistic. The Big Bang isn’t realistic in your opinion? It’s not possible. From an explosion a world isn’t created.

Example J42: Cosmology and Evolution

(Interview No. 192, female twelfth-grade pupil at a Religious school)

I don’t have a shadow of a doubt, especially as someone who has studied biology, that this whole world must have been created by someone, something, I don’t know how to define it, very clever, the most brilliant in the world. Because this thing couldn’t be created, not from monkeys, not from colliding rocks, not from any of those things. I don’t have a shadow of a doubt. It’s enough to sit through one human biology class to know that this thing must have been created by something very, very, very clever, the most clever thing in the world, which is God [...] I have always said that if completely secular people would just learn biology, then they wouldn’t be able to come out with all that Stephen Hawking nonsense, that it’s rocks and all that stuff.

This dismissive attitude to evolutionary theory was quite specific to pupils at Religious and Torani schools. No such tendency was observed amongst pupils at General schools. Indeed, rather than dismiss evolutionary theory out of hand, pupils at General schools who wished to defend a creationist position sought to neutralize evolutionary theory by relativizing it. This tendency is illustrated in examples J43 to J45 below.

Example J43: Cosmology and Evolution

(Interview No. 25, male twelfth-grade pupil at a General school)
Why do I think that such powers exist? Because, first of all, every animal in the world was created for some purpose. There’s some driving force. It was created by some mind. It’s not just by coincidence that everything fits together. There are some who say that it’s evolution; that it happened by necessity. But opinions change. They’re always disproving things and making new discoveries. I believe that there was some mind behind it all that started everything.

*Example J44: Cosmology and Evolution*  
*Interview No. 163, female twelfth-grade pupil at a General school*  
It doesn’t seem all that logical to me. To me, personally, it doesn’t seem logical that the world could come into existence just like that, like in all those theories. I couldn’t explain to her, because nobody knows such things. Nobody can know unless, like in the Bible, God reveals Himself to her. I don’t think she’d manage to persuade me. I’d say to her that, personally, that’s what I believe.

*Example J45: Cosmology and Evolution*  
*Interview No. 183, female twelfth-grade pupil at a General school*  
It’s not possible that such a large world could be created just like that by some explosion. And it’s not possible that man, that animals, that plants and all that stuff came into existence just like that. I don’t know if it’s God, but there is something above us. I believe that it’s really God who created us. It just doesn’t make sense to me that we’re just here [...] I don’t think that this would persuade her, because a lot of people who don’t believe try and explain these things by saying that there was a Big Bang, that man evolved from monkeys and all that stuff. And it’s a little hard for them to see it. You might be able to persuade certain people who are in the middle, but not people who are really on one side [...] In spite of the fact that everything around us is a pretty big proof in my opinion, people don’t think about it. Not everybody thinks like that [...] A person who believes just believes, someone who doesn’t just doesn’t [...] When I started high school and came into contact with more of an Ashkenazi population, I was surrounded by this whole issue. Loads of them don’t believe in God, religion or anything. Somehow it affected me. I said, “Yes, it’s true:
How can I prove it? How do I know?” – all kinds of philosophy and stuff.

Then I understood that you can play around with this your whole life and say,

“How do I know?” Either you believe in it or you don’t.

In J43 the participant relativizes evolutionary theory to time. The implication of his argument is that evolutionary theory does not have the final word since it may be overthrown at some future time as science progresses. In J44 the participant relativizes evolutionary theory to people. Her argument is not that evolutionary theory is unconvincing per se, but that she, personally, is not convinced by it. A similar approach is taken in J45 where the participant attributes to personal psychology the ability of some and the inability of others to see the divine hand in worldly order.

This difference in the attitudes of pupils at Religious and General schools towards evolutionary theory (“dismissal” versus “relativization”) is quite striking. It becomes even more striking when we bear in mind that that all pupils at state schools encounter theories of cosmology and evolution in the same textbooks as part of the same national curriculum. Moreover, these differences help us to understand why pupils at different schools tended to favor some types of justification over others.

The preference for creation argument amongst pupils at Religious and Torani schools may reflect the fact that, in the kinds of theological discourse with which they are familiar, evolutionary theory is not seen to pose any serious threat to creationism. Pupils at these schools may feel confident, therefore, in putting forward creation arguments without too much concern that their arguments will be rebutted. Pupils at General schools, on the other hand, inhabiting as they do a culture of theological discourse in which evolutionary theory is taken more seriously, may seek to employ justifications that are less open to direct attack.

Additional support for this interpretation is provided by the finding that participants who presented creation arguments tended to qualify their justifications less than those who did not. This suggests that those who presented creation arguments considered these arguments to be conclusive and immune to serious challenge. On the other hand, participants who considered evolutionary theory to pose a serious challenge to their belief in God may not only have avoided creation arguments but may also have been more tentative in some of the other justifications they put forward in support of their belief.
Religious belief as a lifestyle preference

A further difference between the ways in which pupils at different schools justified their beliefs was in how they framed their initial responses to the interviewer’s questions. Whereas pupils at Religious and Torani schools usually stated immediately which side they agreed with, pupils at General schools would often preface their remarks by referring in some way to their religious background or level of observance.

Example J46: Religious Belief as Lifestyle

(Interview No. 181, male twelfth-grade pupil at a General school)

Who do you agree with? Who do I agree with? It’s not a question of agreement, it’s a question of thinking. Everyone has his own way of thinking. Although religion is something that you can’t question. But every person has a different belief. You can see it as sects. Like, there are the ultra-orthodox, the religious, the people who are learning to be traditional, there are all kinds of levels of religion. You can see it in other religions too. It’s belief in God. It comes from the home, it comes from society. And there are some people who change despite the fact that their society showed them only one thing. But I, personally, I do have faith, though as you see I don’t wear a kippah and I’m not a religious person. But there are still the Jewish roots, there’s Shabbat, the festivals and all the minimal mitzvot. But this is my way of faith.

Example J47: Religious Belief as Lifestyle

(Interview No. 58, female eighth-grade pupil at a General school)

Who do you agree with? With neither of them. Because I’m both. At home we eat kosher and stuff. I’m both.

Example J48: Religious Belief as Lifestyle

(Interview No. 148, female twelfth-grade pupil at a General school)

Who do you agree with? I think I’m more in the middle. On one hand my family don’t believe in God. On the other hand, I don’t completely disbelieve. I’m a little more than my parents. The festivals are more important to me. Not just from the religious aspect. More because it’s the family and so on. But, on the whole I don’t know. I’m somewhere in the middle.
The tendency of participants from General schools to frame their initial responses in this way suggests that, for such participants, expression of belief (or disbelief) in God is not merely a statement of what is (or is not) the case. Rather, it is an act of placing oneself in social context. Specifically, it is to say something about the kind of family background you have and about the customs and folkways that guide your behavior. In other words, it is to say something about your lifestyle (cf. Berger, 1979; Giddens, 1991).

Perhaps the reason that participants from Religious and Torani schools tended not to frame their initial responses in these terms is due to the fact that, within orthodox culture, saying that you believe in God does little to locate you socially. These differences in approach to the question of belief in God are discussed further in Chapter 7.

Given the tendency of pupils at General schools view the issue of religious belief as a matter of lifestyle, it is not surprising that they were often reluctant to describe people’s beliefs about the existence of God as being either right or wrong. Instead, they tended to talk of belief and disbelief as equally legitimate alternatives. The two statements below are typical.

Example J49: Religious Belief as Lifestyle

(Interview No. 87, female eighth-grade pupil at a General school)

She doesn’t have to believe in God. They don’t need to argue about it. It’s O.K. to believe. Maybe God doesn’t exist.

Example J50: Religious Belief as Lifestyle

(Interview No. 149, male fifth-grade pupil at a General school)

I don’t think I have anything to say about this. Each person has his own opinion. There are different people in the world.

Example J51: Religious Belief as Lifestyle

(Interview No. 186, male twelfth-grade pupil at a General school)

Who do I agree with? It’s a question, it’s not an argument, it’s not a question of agreeing or not here. There’s no one who’s right here. They’re both [pause]. I don’t understand what the argument is here, because each one, there are people who believe and there are people who don’t believe. There’s no mistake here or a right thing to do. Each person goes according to his education, according to his faith. And that’s that. In my opinion, the guy has to respect the other guy.
The person himself didn’t decide if he believes in God or not. It doesn’t say anything about the person.

This tendency to view decisions of whether or not to believe in God as choices between equally legitimate alternatives suggests that participants from General schools may have approached the task of justifying their religious beliefs quite differently to participants from Religious and Torani schools. Pupils at Religious and Torani schools seem to have understood the task to be to establish the truth of a specific claim. Participants from General schools, on the other hand, may have understood the task to be to show why one kind of lifestyle is preferable to another. These different conceptions of the task may explain why utilitarian motives where more popular amongst participants from General schools. If a person wishes to justify her preference for a particular lifestyle, an obvious way to do so is to highlight the tangible advantages afforded her by her adoption that lifestyle. Moreover, utilitarian motives avoid entirely any questions about whether or not belief in God is true and focus exclusively on what its advantages are. They thus allow the person presenting them to steer clear of unnecessary controversy and concentrate on what is most salient.

**Age differences in justification**

Quantitative analysis of participants’ approaches to justification, as categorized by the coding scheme, revealed few disparities between older and younger participants. However, a closer reading of individual interview transcripts exposed a number of interesting age differences. Before describing these in detail, it is important to place them within the context of one quantitative age difference that was deliberately ignored by the coding scheme. Older participants talked more than younger participants. Interviews with twelfth-graders were often twice as long as interviews with fifth-graders. As we shall see, it was not that older participants repeated themselves more often or that they were more prone to digressions than younger participants. Nor did older participants merely use more elaborate modes of speech to say substantially the same things as younger participants. Rather, older participants seem to have deployed a larger and more sophisticated repertoire of rhetorical skills in putting forward their case.

Since this particular age difference was common to both the religious and non-religious topics, we will illustrate it with examples from both topics. Examples J52 and
J53 below are attempts by a fifth-grader and a twelfth-grader respectively to justify their advocacy of punishment.

Example J52: Age Differences, Religious Topic

*(Interview No. 147, female fifth-grade pupil at a General school)*

I’m on Haya’s side, because you have to educate them. Otherwise, when they’re older they’ll do things they shouldn’t, like stealing. They might steal. Also, I see a lot of kids who steal in the shop here. Many of them steal. And their parents get angry and give them punishments. *If Ifat were to ask why you ought to punish, what would you say to her?* I would say that you have to punish, otherwise when they’re older, like I said, they’ll do worse things. They’ll steal; they’ll kill even. *Are there any other reasons?* No.

Example J53: Age Differences, Religious Topic

*(Interview No. 192, female twelfth-grade pupil at a Religious school)*

Because if you want to educate a child you have to punish him so that he’ll know that he did something wrong, a mistake, and that he receives some punishment for it. So, in future, he’ll know: “I did something wrong and it’s not worth my while repeating that mistake because I’ll get punished again.” And punishment, in general, affects him where he is most sensitive, like not going out, not watching television and stuff like that. And I also think that you need to be reasonable and not to give him a really harsh punishment, but rather a punishment that’s a little educational so that he’ll understand himself what his mistake was. Also, it’s only in this way that he will understand that he did something wrong and in this way that he won’t repeat it. Because if you say to him, “O.K. I won’t punish you. I’ll reprimand you. You’re not O.K.” then everything will repeat itself and he’ll repeat what he did wrong. He’ll be legitimizied to just go back and do the same bad things or mistakes or whatever. Because he’ll say, “They’ll let me off. They’ll reprimand me. Fine. But they won’t punish me.” *Are there any other reasons?* I think that it’s an educational way to learn to take responsibility for his actions. In this way he’ll know that there is a price for everything. And perhaps also by way of the punishments, you can give educational punishments like helping in the house and stuff like
that. And maybe he’ll understand that that’s the way of the world, that when a person makes a mistake, he’s supposed to be punished for it. For example, if a person commits a crime, he goes to jail. He has to understand that everything has a price and that he can’t just do whatever and think that they’ll forgive him.

Which of the things you’ve mentioned is your main reason? To let him take responsibility for his actions so that he’ll understand that everything has a price. In this way, he’ll take responsibility.

As far as the coding scheme is concerned, the justifications above are identical in that they are both instances of unqualified causal arguments in favor of punishment. However, a close reading of these two instances reveals that they differ in more than just length. In example J52 the participant puts forward a single reason for advocating punishment, namely, that if a person is not punished for minor infractions, he will go on to commit more serious crimes later on. However, no attempt is made by the participant to explain why such deterioration is likely or how it would be prevented by punishment. She seems to attempt to present a concrete example in support of her argument, but it remains unclear what the example is supposed to be an example of. Indeed, it may not even be an example at all, but rather a free association on the theme of stealing and punishment.

The basic argument put forward by the participant in J53 is fairly similar to that in J52, with the slight difference that it is repeated offence rather than deterioration that is predicted in the absence of punishment. However, in contrast to the participant in J52, the participant in J53 does several things to make her argument more plausible. First, she explains how punishment achieves prevention. She does this by focusing on the effects of punishment on the awareness and motivation of the person being punished, namely, showing him that what he did was wrong and that it is not in his interest to repeat the error. Second, she seeks to reinforce her case by highlighting particular aspects of punishment that enable it to achieve these ends, namely, affecting the person where he is most sensitive and tailoring the punishment to the offence. Third, she argues against the effectiveness of a standard alternative to punishment, explaining why verbal reprimand has less deterrent force than punishment. Fourth, she goes on to bolster her argument by presenting additional positive consequences of punishment, including learning to take responsibility for one’s actions and preparing one for lawful citizenship. Fifth,
throughout the excerpt she uses various rhetorical techniques to emphasize particular points. One such technique is the use of examples. Another is the use of “thought bubble” statements to draw attention to the mental states of the offender.

The twelfth-grader’s causal argument thus differs from that of the fifth-grader in at least three important ways. First, it incorporates a higher degree of specification: the causal processes to which she appeals are not simply stated but are described in considerable detail. Second, it is comparative: she justifies not only her advocacy of punishment, but also her rejection of alternatives to punishment. Third, it is rhetorically more sophisticated: key aspects of the argument are underscored via examples and other forms of emphasis.

Similar age differences were found in justifications of religious belief. Compare, for example, the two creation arguments below.

*Example J54: Age Differences, Religious Topic*
*(Interview No. 35, male fifth-grade pupil at a Torani school)*

There has to be someone who created everything and that’s the Holy One Blessed Be He.

*Example J55: Age Differences, Religious Topic*
*(Interview No. 163, female twelfth-grade pupil at a General school)*

Because I believe that there is something abstract and undefined that is stronger than man and stronger even than nature itself. I believe that there is a greater power that created us and placed us on the earth, and that it’s not as all the scientists say, volcanic eruptions and suddenly it’s created. I believe that something more spiritual, more complex than an erupting volcano and then suddenly here is a person with a heart, lungs, kidneys, suddenly a whole machine is created.

Here, too, the twelfth-grader’s argument incorporates a higher degree of specification than does that of the fifth-grader. Her argument is not simply that “there has to be someone who created everything,” but that beings of such complexity as humans must have been created by some power greater than the forces of nature. Her argument is also comparative, not just advocating creationism but also rejecting alternative accounts of the
origins of man. Finally, her justification is rhetorically more sophisticated, using examples and dramatic phrasing to underscore key contrasts in her argument.

These comparisons suggest that, whilst adolescents do not present justifications of a fundamentally different logical type to those presented by pre-adolescents, their justifications do tend to exhibit a higher degree of specification and rhetorical sophistication. It is as if the basic content of their justifications remains the same, but the complexity of their supporting argumentation develops as they grow older. These age differences are explored further in later chapters.

*Environmental explanations and the growth of autonomy*

Another age difference that was not picked up by the quantitative analyses was an increasing ambivalence on the part of older participants towards the use of environmental explanations in support of their religious beliefs. Younger participants were quite comfortable describing their religious beliefs as being inherited from those around them. Older participants appeared to be less comfortable with such justifications. This discomfort expressed itself in two ways. First, in interviews with older participants, environmental explanations tended to appear only as supplementary backing, or as afterthoughts, to other lines of reasoning. Second, older participants often expressed explicit reservations about the justificatory force of the environmental explanations they presented. These differences are illustrated in the three examples below.

*Example J56: Environmental Explanations and Autonomy, Religious Topic*

*(Interview No. 38, male fifth-grade pupil at a Torani school)*

*Who do you agree with?* With Danny. *Why?* Because that’s what my parents taught me. That’s how they educated me. That’s how they told me one should behave. And that’s that. *Are there any other reasons?* No.

In the above example, the participant presents the justification as if it is sufficient on its own to justify his belief. This approach to environmental explanations may be contrasted with that illustrated in the two examples below.

*Example J57: Environmental Explanations and Autonomy, Religious Topic*

*(Interview No. 49, female eighth-grade pupil at a Torani school)*
Are there any other reasons? It’s clear that I also come from a religious home. And my parents, it’s reasonable to assume that I’d follow in the footsteps of my parents. And apart from that, I’ve been educated at religious schools and religious institutions and I also go to Bnei Akiva. So it’s reasonable to assume that I’d follow that path.

Example J58: Environmental Explanations and Autonomy, Religious Topic

(Interview No. 110, female eighth-grade pupil at a Religious school)

I know that I just feel that there must be something. And once I believe that there is something, it helps me that He is there. When I’m sad I want to pray to him or [when I’m happy] I want to thank him or something. It just seems to me that it’s connected to the fact that, ever since I was small, I was taught that there is a God. So I’ve gone with it. Would you present that last point as a justification? I wouldn’t present it to Ifat. But, in principle, it is a justification.

The environmental explanation in J57 differs from that in J56 in at least two important ways. First, it is presented only after the participant has presented a number of other arguments in support of her belief. Second, the participant in J57 adopts a passive tone in presenting the environmental explanation. It is as if she seeks to create some distance between herself and the justification in order to emphasize its supplementary character. Rather than say outright that her belief in God has been inherited from her surroundings, she prefers to talk of the “reasonableness” of someone with her background believing what she does. A similar distancing strategy seems to be at work in example J58. Here too the environmental explanation is tagged on at the end of another line of reasoning. Moreover, the participant explicitly judges this justification to be of different status to her previous arguments. Unlike her previous justifications, this is one that she would not present in an actual argument with an opponent. It is as if she considers environmental explanations to be appropriate for bolstering the beliefs one already has, but not for persuading a non-believer.

Such reservations about the justificatory force of environmental explanations seemed to intensify with age. Where eighth-graders were ambivalent about environmental explanations, some twelfth-graders were downright skeptical.

Example J59: Environmental Explanations and Autonomy, Religious Topic
There’s no great wisdom in saying that that’s how I was educated and that I believe that there is a Torah and I believe that there are mitzvot and I believe that God gave them to us, that I believe in the whole reward and punishment thing, that if God gave us this whole world we need to thank him and that’s done by prayer and mitzvot. I don’t know how to explain it. Firstly, this whole area is just, sometimes, I don’t want to say anything, but there was this period in tenth and eleventh grade, when we came to school, our whole class, and suddenly we really began to question our faith, and we began to think, “Is there a God or isn’t there?” We now have this group in our “religious” [acts out quotation marks with her hands] class that thinks there is no God. I, who was always sure that there was, and I am still sure that there is, you just begin to think to yourself that you’re a fool, that maybe you’re just following some straight line, because that’s what they always taught you, that maybe you’re a fool to believe in God. And then I said to myself that it’s not just that they taught me at home that there’s a God […]

Example J60: Environmental Explanations and Autonomy, Religious Topic

The truth is it’s a little hard for me. The truth is that these are things I’ve never spoken about before. And it’s, I don’t know, it could be that my family really influenced me. I come from a non-believing family. But, at some point, there are always these things that you think, “Is there a God or isn’t there?” and to what extent you believe or don’t believe. But, I don’t know how to come to a conclusion. I think that in my own home, my family will be a little more Jewishly observant than is now the case. And not necessarily because of faith, but because, maybe, Judaism, to feel part of it, I don’t know. For me, that’s something I lack right now. O.K. Let’s say someone were doing a telephone survey and were to call you up today and ask you whether you believe or not. On which side would you place yourself? I’d put myself down as a non-believer, because I incline more to that side. But if I were now grown up, perhaps with children, then I’d switch myself over to the believing side, because then I’d
already be speaking for myself, and not my family, which kind of instills in me:

“You don’t believe! You don’t believe!”

In these two examples the participants acknowledge that their religious beliefs have been influenced by their environment, but explicitly reject the idea that this fact justifies their continued adherence to these beliefs.

This increasing skepticism about the validity of environmental explanations seems to derive from a developing awareness during adolescence of one’s intellectual autonomy. Older participants seemed keen to emphasize the role played by their own independent judgment in formulating their beliefs. Even those older participants who employed environmental explanations took pains to stress that their acceptance of received opinion was not uncritical, but considered and selective. This suggests that older participants considered themselves to be personally answerable for their beliefs to a greater extent than did younger participants.

**Moratorium and foreclosure**

Although adolescents were more inclined to see themselves as personally responsible for their beliefs, they were often reluctant to commit themselves to a particular point of view. Many twelfth-graders saw themselves as being in the middle of a process of making up their own minds about what to believe. Whilst no longer prepared to accept uncritically beliefs inherited from parents or teachers, they were not yet ready to commit themselves to an independent decision about which beliefs to adopt as their own.

**Example J61: Moratorium, Religious Topic**

*(Interview No. 206, male twelfth-grade pupil at a Torani school)*

At this age, that’s not what attracts you. You’ve got friends, girlfriends, parties, I don’t know, all kinds of stuff. It’s not the thing that most interests me, to see whether or not there’s a God. It’s possible that I may go to a pre-army religious studies program or something and then we’ll check it out. But, no, it really doesn’t attract me, like, you’ve got no interest in being drawn to that side. There’s nothing, like, to really interest you at this age. You want to enjoy this time because you know that your childhood will end sometime, yes, and then you can investigate it your whole life until you die. It’s not something that really attracts me right now.
Example J62: Moratorium, Religious Topic

(Interview No. 187, male twelfth-grade pupil at a Religious school)

I’m really haven’t reached a final conclusion. I don’t know. This is something
I need to think about more. Maybe after the army, I’ll, in terms of a period of
time, with time, I’ll formulate an opinion for myself.

Example J63: Moratorium, Religious Topic

(Interview No. 191, male twelfth-grade pupil at a Religious school)

In principle, I’m now in the middle of a period in which I’m formulating an
opinion for myself: what I’ll be, what I want to be, what kind of life I’ll have,
what kind of home I’ll have, things like that. I feel that it comes up more. I
believe more, try to understand more. I came at the beginning of eleventh
grade, I think, with a blank slate, I mean, neither this nor that. Let me believe
by myself. And from then on, I began to think a little. In the end, I think, I’m
almost certain that it will be in the religious direction.

In each of the above three examples the participants postpone formulation of an
independent opinion to some future point in time. Such postponement is characteristic of
the stage of moratorium as described in Erikson’s (1968) theory of identity formation (see
also Fisherman, 1998; Marcia, 1966; Marcia, 1980). With religious belief, as with other
aspects of identity, there were some who sought to avoid the uncertainty and insecurity of
moratorium by way of foreclosure. Such participants were reluctant to entertain
alternative points of view to their own for fear of the internal conflict that would result
from any challenge to their belief. An example of this approach is provided below.

Example J64: Moratorium, Religious Topic

(Interview No. 195, female twelfth-grade pupil at a Religious school)

I personally try as much as possible to avoid this whole issue, so that all sorts of
questions won’t get awakened within me. True, I’m still at the stage of
questions. And because all kinds of questions have now arisen within me, I
prefer to deal with this issue as little as possible. But if I’m already dealing with
it, it’s only in order to know more on the positive side – why there is and not
why there isn’t.
In some sense, increased acknowledgement of personal responsibility for one’s beliefs and reluctance to engage in serious investigation of what one’s beliefs ought to be may be seen as two sides of the same coin. If beliefs are not something you inherit but something you decide upon, the beliefs you hold are an expression of your own judgment and commitments. Individuals who are daunted by the responsibility of making independent judgments and taking on new commitments will understandably seek to avoid or postpone the adoption of a particular point of view as their own. The relationship between religious thinking and identity is discussed in more detail in Chapters 7 and 8.

**Section D: Summary**

*General differences between justifications of religious and non-religious belief*

Due to the limitations of the present study, it is not possible to derive any general conclusions about the similarities and differences between religious and non-religious thinking. Nonetheless, some aspects of peoples’ approaches to justifying their belief in God seem to be distinctive. Whereas justifications of non-religious belief were almost exclusively of one logical type, justifications of religious belief tended to combine several discrete lines of reasoning. In particular, when justifying their belief in God, children and adolescents tended to present both personal and impersonal reasons for their beliefs. This suggests that children and adolescents tend to view belief in God as an expression of who you are, not just of what is the case. This feature of religious belief and its justification is explored in more detail in the chapters that follow.

*Cultural differences in the justification of religious belief*

Interestingly, the view of religious and non-religious belief as requiring different kinds of justification seems to be more pronounced amongst participants from less explicitly religious backgrounds. Whereas participants from Religious and Torani schools were inclined to view the issue of belief in God as a question of what is or is not the case, participants from General schools seem to have been more inclined to view it as a matter of lifestyle. These divergent conceptions of the nature of religious belief appear to be related to the distinctive practices of theological discourse within the nominally secular and orthodox cultures with which such schools are respectively associated.
The pattern of theological discourse with which participants from Religious and Torani schools appeared to be most familiar was one in which God’s existence was conclusively proven by some authority figure, often by way of a striking analogy or short argument. Moreover, within such discourse, rival views and perspectives seem often to have been dismissed as unworthy of serious consideration. Perhaps as a result, participants from Religious and Torani schools tended to view God’s existence as something that can or ought to be proven conclusively in a few short moves. Participants from General schools, on the other hand, tended to couch their thoughts on the question of God’s existence within a more general attempt to place themselves in social context. For many, belief (or disbelief) in God was simply part and parcel of one’s level of religious observance and one’s attitude towards Jewish customs and traditions. This tendency to view religious belief as a question of lifestyle was often combined with a reluctance to judge the religious beliefs of others as incorrect or wrong and with a greater readiness to express reservations about one’s own belief and one’s reasons for holding it.

Age differences in the justification of religious and non-religious beliefs

In the non-religious topic, older participants tended to present more – and more qualified – reasons for their beliefs. This pattern replicates the findings of studies of the argumentative reasoning of children and adolescents in other domains (e.g., Means & Voss, 1996). However, in the religious topic, no such age differences were observed. Indeed, most of the reasons presented by twelfth-graders for their religious beliefs were surprisingly similar in basic content to those put forward by fifth-graders. Where the justifications of older participants differed from those of younger participants was in the detail and rhetorical skill with which they were put forward. This suggests that, whilst the basic contents of peoples’ reasons for their belief (or disbelief) in God do not change significantly over the course of adolescence, the persuasiveness with which they are presented and elaborated develops considerably.

Another notable difference between the justifications of older and younger participants in the religious topic was in the tendency for older participants to emphasize their need to figure things out for themselves, rather than rely upon the received opinions with which they had been imbued since childhood. This tendency seems to reflect the growth during adolescence of a general awareness that one is personally answerable for
one’s beliefs and actions. Understandably, some adolescents are daunted by this responsibility. Such individuals seek to postpone committing themselves fully to either belief or to disbelief, seeing themselves as inhabiting some religious “in-between” zone or period of moratorium.
CHAPTER FOUR: PERSUASION

In the preceding chapter we examined the reasons participants presented for their beliefs. Whilst the giving of reasons is an important aspect of argumentation, it is not the only one. As many students of argumentation have emphasized (e.g., Billig, 1987; Brem & Rips, 2000; Goldman, 1994; Toulmin, 1958), argument is primarily a social activity. Thus, “The arguer must not simply put forth an opinion, but do so in a way that persuades an audience of a particular sort” (Brem & Rips, 2000: 578). In the present chapter we examine this persuasive aspect of argumentation in more detail.

Section A: Approaches to Persuasion

Content analysis of interview protocols showed participants to employ five main strategies of persuasion. These five strategies were neither mutually exclusive nor exhaustive: some participants employed more than one strategy and others employed none. These latter were divisible into two groups: those who declined in principle to persuade their opponent and those who failed technically to employ any persuasive strategy.

The interview protocol included an explicit question designed to elicit participants’ strategies of persuasion (e.g. “If you wanted to show Ifat that you are right, what would you say to her in order to persuade her?”). However, sometimes participants would employ these strategies spontaneously, without having been asked to do so by the interviewer. The criterion for distinguishing persuasive strategies from other utterances in the course of the dialogue was the explicit intention of the participant. In order to qualify as a persuasive strategy an utterance had to be a clear attempt by the participant either to persuade her opponent or to describe how she would go about doing so. This “intention” criterion was especially important in distinguishing persuasion from justification. In presenting a justification, the participant sets out to show why she herself subscribes to a given point of view; in employing a persuasive strategy, she sets out to convince her opponent that this point of view is right.

As in the case of justification, coders’ imputations of intent were based on careful interpretation of contextual cues in the transcript. These cues included, among others, the stage of the interview at which the utterance was made and its relation to prior statements by the participant or the interviewer. Coders were trained to recognize such cues until
they were able to identify the different approaches to persuasion with high levels of agreement (see Chapter 2). In cases where it was unclear from the context whether a given utterance was intended by the participant as an attempt to persuade her opponent, the utterance was not coded as a persuasive strategy.

Five strategies of persuasion

Strategies of persuasion were categorized into five main types: documentary narratives, paradigmatic narratives, onus shifts, behavioral therapy strategies and appeals to conscience.

I. Documentary Narratives

A documentary narrative is an attempt by the participant to persuade her opponent with facts. She does this by citing an event, case or documentary source that she believes to have actually occurred or to be factually reliable. This strategy is illustrated in examples P1 to P5 below.

Example P1: Documentary Narrative, Non-Religious Topic

(Interview No. 178, female twelfth-grade pupil at a General school)

And what would you say if you wanted to show Ifat that you are right? I don’t think I’d have any problem at all to prove it to her. I’d show her sources from books about psychology and sociology. There are lots of things that explain it, many theories from a sociological perspective. I’d have no problem at all to explain it.

Example P2: Documentary Narrative, Non-Religious Topic

(Interview No. 101, male eighth-grade pupil at a General school)

I’d show him someone who did something bad and was punished, but who carried on doing it anyway. On the other hand, I’d bring someone who did something bad and they spoke to him and explained it to him and he stopped doing it.

In P1 the participant seeks to persuade her opponent by citing psychological and sociological theories and data. In P2 the participant proposes to persuade his opponent by confronting him with the results of a comparative case study in which the ineffectiveness of punishment is demonstrated empirically.
Example P3: Documentary Narrative, Religious Topic

(Interview No. 78, female fifth-grade pupil at a Religious school)

I’d tell her about people that I know who have had miracles happen to them and have become religious. *How would that show her that you are right?* If that didn’t help then I’d bring her to these people and they would tell her themselves. And anyway, if she doesn’t believe in God, she can see it for herself on television. They show a lot of stuff about people who have had miracles happen to them and things like that.

Example P4: Documentary Narrative, Religious Topic

(Interview No. 35, male fifth-grade pupil at a Torani school)

*If you wanted to persuade Yossi that there is a God, what would you say to him?* That many nations believe in the Torah. In the Torah it’s written that the Holy One Blessed Be He created the heavens and the earth and made everything [...] There are also lots of proofs [...] that what happened in the Torah is true. They’ve found all sorts of things that say that it’s true. *Do you have a specific example?* For example, the revelation at Mount Sinai. They don’t know which mountain it is. And researchers found this one mountain where there’s a burning bush. *How does that show that there is a God?* [It shows] that the Torah was given. So the Torah is true.

Example P5: Documentary Narrative, Religious Topic

(Interview No. 182, male twelfth-grade pupil at a General school)

*If you wanted to persuade Yossi that you are right and that there is a God, what would you say to him in order to persuade him?* I could prove it historically from archeological findings. That what is written in the Bible, for example, is a work of wonder. For example, the miracle of the jug of oil. How can he explain it? He has no way to explain it. Because, by natural processes it should have gone out after a day or two. But, to keep going for eight days, there’s no way for anybody to explain a situation like that.

In P3 the participant cites evidence of miracles in order to persuade her opponent of God’s existence. In both P4 and P5 the participants cite archeological findings. In P4 the participant cites the alleged discovery of a burning bush, thereby confirming the truth of
the Bible and, by extension, the existence of God. In P5 the role of archeological findings is less clear, with the participant focusing his persuasion on evidence of God’s miraculous intervention in events traditionally associated with the festival of Hanukkah.

P4 and P5 illustrate how the categorization of a particular attempt to persuade as a documentary narrative depends on the participant’s own appraisal of the factuality and relevance of the data cited, rather than on any external criterion of validity. The findings cited in P4 would probably not be taken very seriously by any professional archeologist, whilst those cited in P5 are never actually specified. Moreover, the participant in S5 goes on to cite the Bible in support of a miracle that is not mentioned in the Bible and that is traditionally associated with the post-biblical period. Nonetheless, both these attempts at persuasion qualify as documentary narratives, since, in each case, the participant himself considers the sources cited to be factual and to bear directly on the correctness of his belief.

II. Paradigmatic Narratives

A paradigmatic narrative is an attempt by the participant to persuade her opponent with narrative illustrations that enhance the plausibility of her position. Unlike in documentary narratives, the events or sources presented in a paradigmatic narrative are cited as hypothetical or paradigmatic exemplars rather than as empirical facts. This strategy is illustrated in examples P6 and P7 below.

Example P6: Paradigmatic Narrative, Non-Religious Topic

(Interview No. 8, female twelfth-grade pupil at a Torani school)

I’d give an example of a guy my age and they say to him, “I don’t want you to go out, because you were late, so you’re grounded until you’ve learnt your lesson.” Then he’d definitely go out. He’ll do it just to show his parents. At a younger age, I think he wouldn’t go against his parents, but he wouldn’t like it. He won’t understand why his parents are doing this to him. In contrast, if his parents would talk to him and explain what the problem is instead of just grounding him, he’d understand, he’d listen to them more.

Example P7: Paradigmatic Narrative, Religious Topic

(Interview No. 125, female fifth-grade pupil at a Torani school)
How would you persuade Ifat that there is a God? I’d tell her a story that our Rabbi once told us, that once a gentile came to a Rabbi and saw a very beautiful picture. [The gentile] asked him, “Who drew this picture?” [The Rabbi] said that the cat in the yard made the picture. The gentile didn’t believe him. So he said to him, “Just as it is clear that an artist drew this picture, so it is clear that God created the world.” Would that prove that there is a God? Yes.

In P6 the participant seeks to persuade her opponent that punishment is counterproductive by citing a hypothetical case illustrating the tendency for adolescents to resent punishments and to rebel against them. The basic structure of the narrative in P6 is very similar to that in P2 above. However, whereas the comparison proposed in P2 is an empirical one between actual cases of punishment and non-punishment, in P6 it is a hypothetical one between two illustrative scenarios. In P7 the participant seeks to persuade her opponent with a parable. Her strategy is to enhance the plausibility of God’s existence by drawing a parallel between human and divine artistry.

III. Onus Shifts

An onus shift is an attempt by the participant to shift the burden of proof onto her opponent. This strategy is illustrated in examples P8 and P9 below.

Example P8: Onus Shift, Religious Topic

(Interview No. 201, male twelfth-grade pupil at a Torani school)

I don’t need to prove anything to him. I don’t think that I’m in the position where I need to prove it to him. He’s the one who has to prove to me that he’s right.

Example P9: Onus Shift, Non-Religious Topic

(Interview No. 80, female fifth-grade pupil at a Religious school)

If you wanted to persuade Ifat that you should punish, what would you say to her? How will the child learn like that? How will he be more polite? In what way will she teach him if not that?

In P8 the participant makes an explicit statement shifting the burden of proof away from himself and onto his opponent. In P9 the tone of the participant’s response is more rhetorical, but its underlying form is substantially the same. In both cases, the
participants respond to the request to persuade their opponent by demanding that their opponent justify his or her own position.

**IV. Behavioral Therapy Strategies**

A behavioral therapy strategy is an attempt by the participant to persuade her opponent by getting her to engage in an activity or to undergo an experience. This strategy is illustrated in examples P10 to P12 below.

*Example P10: Behavioral Therapy Strategy, Religious Topic*

*(Interview No. 138, female fifth-grade pupil at a General school)*

*How would you persuade Ifat that there is a God?*  I’d say to her that it’s worth a try, that she shouldn’t just rule it out and that she shouldn’t just say, “No”. I don’t know if her not believing in God means that she thinks that He doesn’t exist. At least she should try to believe and see what it gives, what a feeling it gives. *What are you suggesting that she try?* That she should give it a try. I’m not really religious; I’m traditional. At least she should try to light [Shabbat] candles, for example. Or maybe you don’t even need to light candles. She should try to do something that gives her a feeling of faith, a feeling that she believes in something, in someone.

*Example P11: Behavioral Therapy Strategy, Religious Topic*

*(Interview No. 49, female eighth-grade pupil at a Torani school)*

I’d show her their way of life in contrast to our way of life […] she’d see how we are, what we are, and maybe in that way she’d come to live like us, pray like us, bless like us, and do all the things that we do. In that way, she’d get to faith. Everyone needs to seek these things out for himself. I can show her how we live. And maybe in that way she’ll get to feel that she also believes, that there is something behind it all.

*Example P12: Behavioral Therapy Strategy, Non-Religious Topic*

*(Interview No. 62, female eighth-grade pupil at a General school)*

Somehow I’d catch her red-handed when she was doing something bad. Then I’d say to her, “What would you do now if they said that you were going to be punished?” I don’t think she’d be pleased about it. She’d say, “It’s not fair!” and stuff like that.
In P10 the participant seeks to persuade her opponent by suggesting that she try out belief in God in order to see how it feels. The strategy employed in P11 is similar, though here the participant seeks to bring her opponent to faith by gradual immersion in a religious way of life. The participant in P12 proposes to persuade her opponent by bringing her to experience for herself how unpleasant it is to be threatened with punishment.

**V. Appeals to Conscience**

An appeal to conscience is an attempt by the participant to induce a sense of moral discomfort in her opponent for subscribing to the point of view opposed to her own. Such appeals were found only in the religious topic and usually focused on the alleged betrayal by the opponent of national or religious obligations. This strategy is illustrated in examples P13 and P14 below.

**Example P13: Appeal to Conscience, Religious Topic**

*(Interview No. 51, female eighth-grade pupil at a Torani school)*

If she calls herself Jewish, then she believes in God. What is a Jew? It’s someone who believes in God. In my opinion, a Jew has to believe in God and try to keep the mitzvot. I’m not saying he has to, but he should try and keep the mitzvot that he understands. If she says that we’re just a Jewish nation living in freedom, that’s just unacceptable. It’s just like the Christians. The Christians believe that they have Jesus, and they have Jesus. And the Muslims have Muhammad. Why should we Jews be without a God?

**Example P14: Appeal to Conscience, Religious Topic**

*(Interview No. 163, female twelfth-grade pupil at a General school)*

Maybe I’d also include this in my attempt to persuade her: that the Jewish people are really God’s people. That’s my personal opinion. So maybe a Jew is really obliged to believe in God.

**Two kinds of non-persuasion: principled and technical**

Though most participants employed at least one of the five strategies described above to persuade their opponent, a minority of participants did not. Some of this latter group actively declined to persuade their opponent on the basis of some logical, moral or epistemological principle. Others merely repeated previously stated reasons for their own
belief or declared themselves either technically inept at persuasion or temporarily unable to think of anything sufficiently persuasive to say to their opponent. Examples of both types of response are provided below.

Example P15: Principled Non-Persuasion, Religious Topic

(Interview No. 19, female twelfth-grade pupil at a General school)

I wouldn’t argue with her because it’s OK to think that. It’s OK not to believe.

Example P16: Principled Non-Persuasion, Religious Topic

(Interview No. 96, male eighth-grade pupil at a General school)


Example P17: Principled Non-Persuasion, Religious Topic

(Interview No. 95, female eighth-grade pupil at a General school)

I’d say, “OK, you’ve got your opinion and I’ve got mine.” I don’t want to get into discussions like these. Because maybe she’s right, but maybe I’m right. We’ll never know who’s right.

Example P18: Principled Non-Persuasion, Religious Topic

(Interview No. 186, male twelfth-grade pupil at a General school)

If you wanted to show Yossi that you are right, that there is a God, what would you say to him in order to persuade him? It’s impossible. It’s simply impossible. I can’t set a bush alight and say, “See, it burns without being consumed!” There isn’t anything. Things like that just don’t happen today.

In both P15 and P16 the participants decline to persuade their opponents on the moral grounds that the opponent is entitled to his or her own opinion. In P17 the participant declines to persuade her opponent on the epistemological grounds that there is no way of knowing whether she or her opponent is right. In P18 the participant declines to persuade his opponent on the logical grounds that there is, these days, no conclusive evidence with which to persuade him.

Example P19: Technical Non-Persuasion, Non-Religious Topic

(Interview No. 5, male fifth-grade pupil at a Torani school)

How would you show him you are right? What things would you say in order to
persuade him? I’d say what I said before; that if you don’t punish him then he
won’t know that someone has noticed and he’ll carry on doing it. OK, I
understand the principle, but is there anything specific that you’d show him in
order to persuade him that you are right? I can’t think of anything at the
moment. I’ll tell you at the end.

Example P20: Technical Non-Persuasion, Religious Topic
(Interview No. 3, female twelfth-grade pupil at a Torani school)

First of all, I’m not good at persuading people. There are people who are
qualified for it: all those people who stand in the street with the tefillin, and
Habad, and Tzomet. All those people have lots of material and knowledge and
can bring you proofs from here to eternity. What do I know? Not that much.
And there are lots of questions that are good questions and that I don’t have
answers for. If I were to get into a long and deep discussion with Ifat, all sorts
of questions would arise that I wouldn’t be able to answer.

In P19 the participant responds to the request to persuade his opponent by repeating a
previously stated reason for his belief. When pressed by the interviewer to think of
something specific that he might be able to say in order to persuade his opponent, he
declares himself temporarily unable to come up with anything. In P20 the participant
decides to persuade her opponent on the grounds that she is insufficiently knowledgeable
to persuade anybody to believe in God and that such acts of persuasion are better left to
more experienced evangelists.

Comparison with previous categorizations

As pointed out in the preceding chapter, the coding scheme used in the present study
covers much of the same ground as Kuhn’s (1991) scheme. However, one important
difference between Kuhn’s scheme and the present one is that whereas Kuhn subsumed
reason-giving and persuasive activities under one general heading of “evidence to support
theories,” in the present study these two aspects of justification are analyzed separately.
An advantage of Kuhn’s approach is that it allows her to bypass the complicated
hermeneutic problem of differentiating between statements in which participants are
saying why they themselves believe something and statements in which they are saying
how they would convince someone else to believe it. Indeed, it might be argued that such
differentiation is impossible, since whenever a person puts forward a reason they are doing so in order to convince some audience or other, whether that audience is actual or imagined (cf. Billig, 1987). Nonetheless, in omitting to make this distinction, Kuhn may have paid insufficient attention to the context within which people put forward particular lines of reasoning. As Brem and Rips (2000) have shown, even very small changes in the wording of questions can have a dramatic effect on the kinds of argumentation and evidence that participants present in support of their beliefs. In Kuhn’s (1991) interview schedule, as in the present one, participants were asked at different points in the interview to do different things. First they were asked to justify their own position, then they were asked to show how they would convince another person. In the present study, very few participants responded to these questions as if they were identical: the majority of participants saw them as distinct questions requiring responses of quite different kinds.

Another important difference between Kuhn’s scheme and the present one is that Kuhn was concerned primarily with evaluating the quality of the evidence that people presented in support of their theories. In the present study, no attempt was made to evaluate some kinds of reason or evidence as superior to others. This is not due to some “politically correct” squeamishness about making value judgments. Rather, it is in order to avoid introducing substantive theological criteria into the description of people’s religious reasoning. The kinds of reasoning and evidence that people employ in support of any given belief depends to a large extent on what other beliefs they hold. These “other” beliefs include beliefs about the availability of evidence, the reliability of particular sources of evidence or expertise, the possibility of certainty, the nature of the audience to which the reasons are being addressed, and many others. Whilst a few of these “other” beliefs are investigated explicitly in the present study, most are unknown quantities. Moreover, often these beliefs are elements within larger belief-systems that are idiosyncratic to particular cultural and theological traditions. It is thus impossible to evaluate the reasoning or evidence that people present in support of their belief (or disbelief) in God without making numerous assumptions about their adjacent beliefs. Given the theological diversity within even such a relatively homogeneous sample as the present one, it is clear that such assumptions cannot safely be made.
In spite of these general differences between Kuhn’s scheme and the present one, it is worth considering in more detail the similarities and differences between particular categories within the two schemes. Documentary and paradigmatic strategies are similar in some respects to Kuhn’s categories of evidence and pseudoevidence respectively. Like evidence, documentary strategies are attempts by the interviewee to supply a factual basis for her belief that is distinguishable from the belief itself and which bears on its correctness. Like pseudoevidence, paradigmatic strategies are attempts to enhance the plausibility of the belief by illustration. However, documentary and paradigmatic strategies differ from Kuhn’s categories of evidence and pseudoevidence in three important ways. First, whereas persuasive strategies focus on the interviewee’s attempts to persuade her opponent, Kuhn’s categories focus on the interviewee’s attempts to supply an adequate factual basis for her own belief. Second, whereas Kuhn’s categorization is explicitly evaluative, deeming evidence superior to pseudoevidence, documentary strategies are not assumed necessarily to be better or worse than paradigmatic strategies. Third, the inclusion as independent categories of onus shifts, behavioral therapy and appeals to conscience removes from the category of paradigmatic strategies some of the argumentative processes that Kuhn includes in the category of pseudoevidence.

Section B: Quantitative Findings

Approaches to persuasion in the two topics

In the previous chapter, several problems were highlighted regarding the comparison of justifications across the two topics. Specifically, basic structural differences between the two issues and in the ways in which they were presented made it difficult to interpret differences in the kinds of reasons participants presented across the two topics. However, concerns about cross-topic comparison are less acute in the context of persuasion. First, we need be less concerned in the case of persuasion that participants’ responses were an artifact of the discrepant framing of the two dilemmas. Participants in the study were asked to say how they would persuade their opponent only after they had already presented their own belief and their reasons for holding it. Even if the particular content of their reasons had been cued to some extent by the ways in which the dilemmas were framed, there were no constraints on the kinds of strategy participants could employ to
convince an opponent of their correctness. Second, whereas the coding scheme for justifications included some categories that were more appropriate to the religious topic (e.g., experiential arguments, deontological motives), the coding scheme for persuasion is comprised of approaches that are in theory equally applicable to either topic. For these reasons, more weight is given to cross-topic comparison in the analyses that follow than was the case regarding justification.

The frequencies with which particular approaches were adopted within each topic are summarized in Figure P1 below.

*Figure P1: Approaches to Persuasion by Topic*

<table>
<thead>
<tr>
<th>Approach</th>
<th>Religious Topic</th>
<th>Non-Religious Topic</th>
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</thead>
<tbody>
<tr>
<td>documentary narrative</td>
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<td>104</td>
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<tr>
<td>paradigmatic narrative</td>
<td>13</td>
<td>71</td>
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<td>35</td>
</tr>
<tr>
<td>principled non-persuasion</td>
<td>31</td>
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</table>

These data highlight a number of interesting similarities and differences between the two topics. Documentary narratives and technical non-persuasion were equally frequent in both topics. Paradigmatic narratives, on the other hand, were employed more than five times more frequently in the non-religious topic than they were in the religious topic. Conversely, onus shifts, appeals to conscience and principled non-persuasion were almost exclusive to the religious topic. These findings suggest that, whilst some approaches to persuasion are applied quite generally regardless of the topic, others are adopted only in relation to particular kinds of subject matter. One of the questions these findings raise is whether the approaches that were equally prevalent in both topics represent some kind of domain-general cognitive ability with respect to persuasion. More specifically: Do sophisticated arguers present documentary narratives whilst less sophisticated arguers fail to present any persuasive strategy?

This question was explored by conducting two-way contingency table analyses to investigate the extent to which participants who adopted a particular approach in one topic adopted the same approach in the other. Presentation of documentary narratives in the two topics was cross-tabulated, as was technical non-persuasion. Neither of the
associations examined in these analyses attained statistical significance. In other words, the probability that a participant who employed a documentary narrative or who failed technically to present any persuasive strategy in one topic would adopt that same approach in the other topic was not significantly above the chance level. These findings indicate that approaches to persuasion are even more domain-specific than is suggested by the frequencies data in Figure P1. In particular, they suggest that the relative prevalence of documentary narratives and technical non-persuasion in both topics is not due to any underlying domain-general cognitive ability with respect to persuasion. However, this does not rule out the possibility that, within each topic, documentary narratives and technical non-persuasion might be associated with more sophisticated and less sophisticated arguers respectively. This possibility is examined below.

Another question raised by the frequencies data is whether approaches that are specific to a particular topic have some underlying feature in common that can explain why they are adopted in one context and not in another. One way to answer this question is to view approaches to persuasion as lying along a continuum that describes the extent to which they accentuate or play down the distance between the opposing sides in the argument. We can call approaches at one end of this continuum, “distancing strategies” and those at the other end, “bridging strategies.” Approaches associated with the religious topic can be shown to fall into the former category, whilst that associated with the non-religious topic can be shown to fall into the latter. In onus shifts the participant accentuates the presumed superiority of her own position by implying that her opponent’s position is so weak that no substantial argument can be made in its support. In appeals to conscience the participant emphasizes the moral gap between her own position and that of her opponent and seeks to persuade her opponent by making her feel morally inadequate. In principled non-persuasion, the participant portrays the gap between her own position and that of her opponent as so fundamental as to be unbridgeable by persuasion. In paradigmatic narratives, on the other hand, the participant assumes that, merely by presenting her opponent with suitable illustrative examples, she will succeed in bringing her to appreciate the logic of her own perspective.

Onus shifts, appeals to conscience and principled non-persuasion occurred almost exclusively in the religious topic, whilst paradigmatic narratives were five times as
frequent in the non-religious topic as in the religious topic. These features of the approaches to persuasion adopted in each topic suggest that participants tended to view the two sides of the argument as less bridgeable in the religious topic than in the non-religious topic. This interpretation is consistent with the finding in the previous chapter that beliefs in the non-religious topic tended to be more qualified than beliefs in the religious topic and suggests that in the religious topic participants were less inclined to view points between the two extremes presented in the dilemma as inhabitable positions.

This “bridging-distancing” hypothesis provides an intuitively plausible explanation for the differences in persuasive strategies employed in the two topics. However, there may be an additional feature underlying these differences. The approaches to persuasion associated with each topic differ not only in the extent to which they are distancing or bridging strategies but also in the extent to which they focus on the opponent’s right or entitlement to her belief as opposed to the plausibility of the belief itself. In onus shifts the participant asserts her entitlement to maintain her opinion, given the absence of any challenge from her opponent. In appeals to conscience the participant challenges her opponent’s moral right to hold the belief that she does. In principled non-persuasion the participant refuses to persuade her opponent on the grounds that her opponent is either morally or logically entitled to her own point of view. In paradigmatic narratives, on the other hand, the participant attempts to persuade her opponent by demonstrating through illustrative examples the plausibility of the belief to which she subscribes.

This additional dimension of difference between the approaches to persuasion adopted in the two topics – “entitlement versus plausibility” – is reminiscent of the distinction in the previous chapter between personal and impersonal justifications. Whereas personal justifications and entitlement strategies focus on the appropriateness of the belief to the particular believer, impersonal justifications and plausibility strategies focus on the acceptability of the belief itself.

Using hierarchical cluster analysis, it is possible to investigate empirically the extent to which entitlement and plausibility strategies were related to personal and impersonal justifications respectively. By including all the categories of justification and persuasion in the analysis, we can examine which kinds of justification and approaches to persuasion tended to group together. Since it was only in the religious topic that both impersonal
and personal justifications were employed, analysis was restricted to this topic. Distances between variables were computed using squared Euclidean distance and clusters were combined using average between-groups linkage. The resulting agglomeration schedule and dendrogram are presented in Figures P2 and P3 below.

**Figure P2. Agglomeration schedule for HCA of approaches to justification and persuasion in the religious topic**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Cluster Combined</th>
<th>Stage Cluster First Appears</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
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**Figure P3. Dendrogram for HCA of approaches to justification and persuasion in the religious topic**
The results of this analysis indicate a two-cluster solution. In one cluster were impersonal arguments and documentary narratives; in the other were all other approaches to justification and persuasion. This finding suggests that participants were fairly consistent in their approaches to justification and persuasion. Impersonal justifications were grouped together with a plausibility strategy (documentary narratives), whilst personal justifications were related to entitlement strategies. However, this interpretation is complicated by the fact that paradigmatic narratives were grouped together with personal justifications and entitlement strategies, rather than with impersonal justifications and documentary narratives as might have been expected. A possible reason for this unexpected result is that many of those who presented paradigmatic narratives in the religious topic appear to have been coached by their teachers prior to the interview (see previous chapter). This may have led to a discrepancy in the participants’ approaches to justification and persuasion, as they followed their own inclinations in one task and followed a prepared script in the other.

The effects of gender, age and school on approaches to persuasion

Following the above general comparison of approaches to persuasion in the two topics, a number of more specific analyses were carried out. The aim of these analyses was to investigate how particular approaches of persuasion were related to demographic factors such as age, gender and school. Since each approach was represented as a dichotomous variable, hierarchical log-linear model selection was used. Only approaches that were employed by at least 15%, and by no more than 85%, of the participants were analyzed. This was to ensure that the number of participants employing a particular approach could be meaningfully compared across each factor level. Separate analyses were conducted for each approach to persuasion that satisfied these frequency criteria. Each analysis proceeded by backward elimination from a 2 (gender) X 3 (school) X 3 (grade) X 2 (approach to persuasion: present or absent) saturated model. The alpha for each analysis within this family of tests was calculated using Holm’s sequential Bonferroni method.

The results of these analyses indicated five significant interactions between approaches to persuasion and demographic variables. A significant third order (four-way) interaction was observed between gender, school, grade and documentary narratives
in the religious topic, $\chi^2 (4, 200) = 13.46, p = .0092$. However, none of the follow-up analyses of all lower order (three-way and two-way) interactions was significant, thus making interpretation of this result difficult. Interactions between demographic variables and the remaining approaches to persuasion were more straightforward. In the religious topic, behavioral therapy strategies were associated with school, whilst principled non-persuasion was associated with grade. In the non-religious topic, both documentary narratives and technical non-persuasion were associated with grade.

In the religious topic, behavioral therapy strategies were more often adopted by pupils at Religious schools (28%) than by pupils at Torani (18%) or General schools (8%), $\chi^2 (2, 200) = 10.27, p = .0059$. Follow-up tests were conducted in order to evaluate the pairwise differences between each school type. Only the difference between Religious and General schools was statistically significant, $\chi^2 (1, 150) = 9.81, \varphi = .27, p = .002$.

Behavioral therapy strategies were twice as common in the religious topic as in the non-religious topic. However, unlike the other approaches to persuasion associated with the religious topic, this strategy occupies a position somewhere towards the center of the “distancing-bridging” continuum. On one hand such strategies accentuate the differences between believers and non-believers by assuming that argument on its own is insufficiently persuasive to cause someone to move from one side to the other. On the other hand, they consider the differences between the two sides to be ultimately bridgeable by experience. The greater tendency amongst pupils at Religious schools to employ such strategies of persuasion may indicate that on one hand these pupils are more conscious than are pupils at the other schools of both the basic similarities between themselves and those with opposed religious beliefs and of the gulf in practice that this difference in belief represents. This in turn may be a function of the greater exposure that pupils at such schools have to competing religious and secular perspectives, compared with the more complete dominance of one perspective over the other within General and Torani schools.

In the religious topic, principled non-persuasion was more common amongst twelfth-graders (24%) than amongst eighth-graders (18%) or fifth-graders (4%), $\chi^2 (2, 200) = 12.35, p = .0021$. Follow-up tests were conducted in order to evaluate the pair-wise differences between each grade. Only the difference between twelfth-graders and fifth-
graders attained significance at the required alpha, $\chi^2 (1, 138) = 12.01, \varphi = .28, p = .001$, although the difference between fifth-graders and eighth-graders approached significance, $\chi^2 (1, 130) = 6.28, \varphi = .22, p = .012$. These findings indicate that as children get older they tend less and less to view belief in God as something that one can or ought to persuade another person to accept or reject. This may be related to a decreasing tendency with age to view the existence or nonexistence of God as something that can be conclusively proven. This possibility is explored in Chapter 7, where participants’ epistemological beliefs are examined in more detail.

In the non-religious topic, documentary narratives were more often employed by twelfth-graders (71%) than by eighth-graders (55%) or fifth-graders (29%), $\chi^2 (2, 200) = 25.42, p < .0001$. Follow-up tests were conducted in order to evaluate the pair-wise differences between each grade. The differences between fifth-graders and twelfth-graders and between fifth-graders and eighth-graders were significant, $\chi^2 (1, 138) = 25.13, \varphi = .42, p < .001$ and $\chi^2 (1, 130) = 8.72, \varphi = .26, p = .003$ respectively. However the difference between eighth-graders and twelfth-graders was not significant. This tendency towards increased employment of documentary narratives with age was accompanied by a corresponding decrease in instances of technical non-persuasion. In the non-religious topic, technical non-persuasion was more common amongst fifth-graders (29%) than amongst eighth-graders (16%) or twelfth-graders (7%), $\chi^2 (2, 200) = 12.29, p = .0021$. Follow-up tests were conducted in order to evaluate the pair-wise differences between each grade. Only the difference between fifth-graders and twelfth-graders was statistically significant, $\chi^2 (1, 138) = 12.18, \varphi = -.29, p < .001$. These results suggest that, within the non-religious topic, documentary narratives and technical non-justification may represent different levels of sophistication in argumentation. Specifically, as children get older they seem to develop an understanding that persuasion of the other side in a dispute requires the backing up of their claims with factual data, as opposed to mere repetition of the claims themselves.

The finding of this developmental trend in the non-religious topic raises the question of why no such trend was found in the religious topic. One possibility is that peoples’ approaches to persuasion in the religious domain do not develop with age, or that development in the religious domain lags behind development in other domains.
However, this possibility is not very plausible given the similar incidence of documentary narratives in both topics and the evidence of an age-related trend towards principled non-persuasion in the religious topic. An alternative possibility is that in the religious topic older participants were more skeptical about the availability of evidence. Brem and Rips (2000) have shown that even college-educated subjects are less likely to present factual evidence for their beliefs when they believe evidence to be scarce. If older participants were indeed more skeptical about the availability of pertinent evidence in the religious topic, we could expect them to be less inclined to present documentary narratives in support of their religious beliefs, despite appreciating the superiority of supporting evidence over other forms of persuasion. Support for this interpretation is provided both by the quantitative data regarding epistemic development presented in Chapter 7 and by the qualitative data presented in Section C below.

Section C: Qualitative Findings

The qualitative analyses in this section examine one theme from a number of different perspectives. One of the striking features of persuasion in the religious topic was the difficulty it seemed to pose for many participants. We examine below four different ways in which participants found persuasion in the religious topic to be problematic.

Strategies of persuasion and the availability of evidence

In the religious topic, many participants saw the task of persuasion as complicated by the lack of clear-cut evidence that they could present in support of their position. In many cases, the participants themselves considered the strategies they adopted to be a “second-best” to presentation of hard evidence. Examples P21 and P22 are typical.

Example P21: Availability of Evidence, Religious Topic

(Interview No. 108, male eighth-grade pupil at a Religious school)

It’s hard to persuade someone who doesn’t believe. Why? When you don’t believe, it’s hard to persuade you. You need to bring proofs. And when there are no proofs, it’s hard to persuade someone. So there are no proofs? There are proofs but they’re not clear-cut. There’s nobody who can testify, “I saw a miracle.” All the miracles happened a long time ago. [...] If you wanted to persuade Yossi, what would you say to him? I’d say to him that he should come and give it a try.
Example P22: Availability of Evidence, Religious Topic

(Interview No. 44, male eighth-grade pupil at a Torani school)

If you don’t believe in [the revelation at Mount Sinai] then you have no faith whatsoever. It’s not even worth trying to explain. It’s a waste of time. *So if a person has no faith at all, it isn’t worth explaining?* No. It’s possible; it’s always possible. But it depends. You also have to research the whole topic some more, to find better examples to persuade him with. *I don’t understand.*

You can persuade him with the knowledge you have. But your knowledge is not always enough to persuade someone that really doesn’t believe. You need more knowledge, to invest more time in it, more thought. You need to research it and all the examples that you are going to present to him […] But the final answer is always faith. It’s always the final answer. If you don’t have a real answer, then faith. *Faith isn’t a real answer?* It is. It’s just the final answer. Those who don’t believe will always prefer a real answer, but if you don’t have one, say faith. Faith won’t do anything for them. They don’t believe in faith.

But for yourself.

In P21 the participant begins to formulate a behavioral therapy strategy only after having pointed out the unavailability of clear-cut evidence that he can bring in support of his belief. In P22 the participant first expresses his pessimism regarding the whole enterprise of persuasion within a religious context. This pessimism derives from the participant’s belief that persuasion is not possible unless there is some initial common ground on which the two opposing sides can agree. Moreover, in order to identify this common ground and capitalize upon it, one needs to have appropriate knowledge and examples at one’s fingertips. The implication seems to be that, without extensive research and background knowledge, persuasion is futile. However, the participant goes on to suggest that, as a last resort, one can always appeal to “faith.” Thus, here as in P21, the participant suggests a particular approach to persuasion as a “second-best” option for use in cases where one’s access to relevant evidence is limited.

A similar approach is taken in example P23 below. In this example, the participant has previously employed a behavioral therapy strategy and is now asked by the interviewer whether she would present any proofs in support of her belief.
Example P23: Availability of Evidence, Religious Topic

(Interview No. 49, female eighth-grade pupil at a Torani school)

Would you bring any proofs? They might look at me [and say,] “So what? So you believe in it. Who says that it really exists? Where are they from, these things that you’re inventing?” Because in my own eyes, these are facts, I believe in this. So maybe more to show her how the other side lives.

The participant rules out any attempt to present evidence in support of her belief on the grounds that her opponent can simply dismiss such evidence as unsubstantiated or invalid. Her assumption seems to be that one person’s facts are another person’s myths or illusions. Her proposed solution to the lack of evidence that is acceptable to both sides is to show her opponent what being a believer feels like from the inside.

These examples lend support to the suggestion in the previous section that the tendency to employ strategies other than documentary narratives in the religious topic is due to participants’ appraisal of the religious topic as one in which clear-cut evidence is scarce. As the examples above show, the participants themselves are aware of the difference between the presentation of evidence and other methods of persuasion. However, in the absence of evidence that can be agreed upon by both sides, they choose consciously to avoid persuasive strategies that rely on the presentation of evidence.

The general reluctance to persuade

Although few participants explicitly refused to persuade their opponents in the religious topic, many participants were clearly reluctant to do so. This reluctance was particularly noticeable amongst female participants.

Example P24: Reluctance to persuade, Religious Topic

(Interview No. 62, female eighth-grade pupil at a General school)

To show her is hard. It’s possible to persuade her that it’s something that gives you an internal feeling, a good feeling inside. You know there’s something that can protect you from something that could happen to you, some bad thing or something. But it’s hard to persuade someone who doesn’t believe. It’s her total right not to believe. Everyone decides for themselves what they think is the right thing to do. Would you try and persuade her? I’d explain to her what
I think, what my opinion is. If she agreed with me, great. If not, that’s her complete right. I’d respect her opinion.

Example P25: Reluctance to persuade, Religious Topic

(Interview No. 77, female fifth-grade pupil at a Religious school)

Not that I’m saying that Ifat is wrong, but I’m saying what I feel about God. I’d persuade her with the fact that many years ago what happened in the Bible happened and today it is all coming to light, and that I believe what they teach me. I go to a religious school and they teach me and it persuades me to be more religious. But if I was in a secular school and my parents were secular […] then I wouldn’t believe in God because I wouldn’t have learned so much. But if Ifat believes in someone else rather than God, then, not that I’m saying that she can’t believe, but what I’m saying is that He created me, and that I very much enjoy being here in a religious school. […] What else would you add [in order to persuade her]? I’d add all sorts of things that bring me [pause]. I didn’t say that secular is no good. I think that secular is good. But I’m religious.

In neither P24 nor P25 does the participant refuse to persuade her opponent. Moreover, both participants appear to be comfortable telling their opponent why they themselves believe in God. At the same time, however, both of these participants seem anxious to draw the line at explaining their own position, as opposed to actively persuading their opponents to believe the same things they do. In P24, this reticence seems to derive from the participant’s ethical concern with respecting the integrity of her opponent’s position. It is as if the participant is prepared to “soft sell” her point of view, but not to “hard sell” it to the extent that her efforts at persuasion become intrusive and disrespectful of her opponent. In P25, the participant’s reticence seems to derive from a general reluctance to criticize her opponent. Although the participant in P25 does make some attempt to persuade her opponent, she seems anxious to avoid implying that her opponent is in any way blameworthy for holding the view that she does. Indeed, her overall message seems to be, “There but for the grace of God go I.”

This general reluctance to persuade one’s opponent in the religious topic suggests that the children and adolescents in the study were aware, however implicitly, of the centrality of one’s religious beliefs to one’s identity (cf. Herman, 1977). Persuading a person to
change their religious beliefs was understood by even some of the youngest participants in the study to be a potentially intrusive and aggressive act. Moreover, this reluctance to persuade was exclusive to the religious topic, suggesting that even fifth-graders understand that some beliefs are more central to a person’s identity than others.

The seemingly greater reluctance amongst female participants to persuade their opponents in the religious topic may reflect a more general reluctance amongst women to engage in aggressive argumentation (cf. Mapstone, 1998). The fact that this gender difference was restricted to the religious topic reinforces the impression that persuasion in the religious topic was seen as inherently more aggressive or confrontational than in the non-religious topic.

**The pragmatics of persuasion**

Another problem that persuasion posed for participants in the religious topic was that of predicting their opponent’s openness to being persuaded. Participants who were skeptical of their chances of persuading their opponent were often reluctant even to try. An illustration of this is provided in P26 below.

*Example P26: Pragmatics of Persuasion, Religious Topic*

*(Interview No. 38, male fifth-grade pupil at a Torani school)*

I’d say to him that if his parents think that one shouldn’t believe in God then he should go his own way. And if he thinks that he doesn’t believe in God, then let him not believe. I won’t tell him what to do or how to live his life. *So you wouldn’t try and persuade him?* I’d say to him only that my proof is that we received the Torah and that if the Torah exists, then who wrote it if not He who gave it to us? *So, apart from that, you wouldn’t try and persuade him?* No. If he wanted me to try, I’d try. But it depends: if he gave me some “opening,” something that I could say to him. *Why is it important that he give you an “opening”?* That’s how I am. I’ve argued about this previously with someone and every time he’d say something to me, I’d say something back.

Here the participant makes any attempt to persuade his opponent conditional on his opponent displaying some kind of openness to discussion and debate. The implication seems to be that unless his opponent is prepared to engage in debate, there is simply no point in trying to persuade him. This pragmatic approach to persuasion may be another
reason why people were reluctant to persuade their opponents in the religious topic. Understanding their opponents’ beliefs to be unchangeable, they may have seen no point in even attempting to persuade them.

The assumption that one’s opponent would refuse to be persuaded, whatever one’s arguments might be, was quite specific to the religious topic. The basis for this assumption often seemed to be the view that belief in God is fundamentally different from other beliefs or opinions in that it is something acquired either at birth or in infancy and that it is something felt and experienced rather than thought out and justified. This assumption is made explicit in example P27 below.

*Example P27: Pragmatics of Persuasion, Religious Topic*

*(Interview No. 88, male eighth-grade pupil at a General school)*

> How would you persuade Danny that there isn’t a God? I think this is something that it’s not good to argue about at all. It’s something you just believe in [...] Faith is something you’re born with and that’s that. It’s not like an opinion. It’s something, apparently, that people feel. You can’t change something like that.

The tendency of participants to modify their efforts at persuasion depending on the expected reactions of the opponent highlights the importance of audience in the construction of argumentation. This is an aspect of argumentation that has been little researched (though see Bailenson & Rips, 1996; Billig, 1987; Brem & Rips, 2000; Meyer, 1992; Petty & Cacioppo, 1984). The excerpts above show that even fifth-graders tailor their argumentation to their audience and are aware that they do so.

*Asymmetries in persuasion*

Persuasion seemed to pose a particular problem for non-believers in Religious schools. Whilst they were prepared to acknowledge and justify their own lack of belief, they were opposed to persuading others to question their belief. This reluctance to persuade others appeared to derive from an underlying respect for religious faith and a sense that their own move away from belief constituted some kind of loss. Examples S28 and S29 illustrate this phenomenon.

*Example P28: Persuasion Asymmetry, Religious Topic*

*(Interview No. 198, female twelfth-grade pupil at a Religious school)*
You shouldn’t try to persuade someone that there isn’t a God. You should try to persuade someone that there is [...] to help him find his God, because as soon as he has found his God he can live his life in peace. I think it’s a big mistake to try to persuade someone that there isn’t a God. [...] I haven’t found my God yet. I’m a young woman of nearly eighteen, and I still haven’t found my God. Maybe I will find my God someday. But in the meantime, I haven’t found Him. And, yes, I’m searching.

Example P29: Persuasion Asymmetry, Religious Topic

(Interview No. 11, male twelfth-grade pupil at a Religious school)

I think that, in truth, mine isn’t the correct approach. I don’t want everyone to think the same as I do. Maybe if people are certain in their opinions they are more moral. People who are very uncertain in their opinions [pause]. Maybe it’s better if they’re not like me. For you, is your opinion more correct? Yes. I don’t really want it, but I’ve fallen into it and I don’t think I can get out of it.

The above approaches to persuasion are “asymmetrical” in the sense that the participant holds one view but would rather that others held a different view. This asymmetry may reflect the high social cost of non-belief for individuals located within a religious community. To become a non-believer within such a community is to set oneself apart and, in many cases, to become an object of suspicion and resentment. Expressions of sympathy with religious belief and of ambivalence about the adequacy of one’s own position may be an attempt by such individuals to minimize the dissonance between their own self-perception and the perceptions of those around them. The ambivalence of many twelfth-graders at Religious schools about their religious beliefs is examined further in Chapter 7.

Section D: Summary

Domain-specificity in approaches to persuasion

The most striking finding regarding participants’ approaches to persuasion was the extent to which these approaches differed across the two topics. Not only were some approaches specific to the religious topic and others to the non-religious topic but adoption of a particular approach in one topic made it no more likely that an individual
would adopt the same approach in the other. This variation suggests that participants understood the two topics to be differently structured in a number of crucial respects.

In the religious topic, participants tended to accentuate the differences between their opponents’ point of view and their own. They also tended to focus on whether or not their opponent was entitled to their belief rather than on addressing the plausibility of the belief itself. Moreover, participants were generally reluctant to persuade their opponents in the religious topic. Sometimes this reluctance was due to pragmatic considerations; at other times it was due to sensitivity to the privacy and integrity of their opponent’s position. Strategies of persuasion in the non-religious topic, on the other hand, focused almost exclusively on establishing the plausibility of the participant’s point of view, either by appeal to factual evidence or by way of hypothetical illustrations.

These differences in approach to persuasion in the two topics suggest that children and adolescents are sensitive to structural differences between beliefs in the religious and non-religious domains. They seem to be aware that religious beliefs are more strongly held, more personally important and less open to change than are other kinds of belief. Moreover, even in fifth-grade, they take care to modify their strategies of persuasion accordingly.

**Age-related changes in approaches to persuasion**

Approaches to persuasion appear to develop with age. In the non-religious topic, documentary narratives were significantly more common, and instances of technical non-persuasion significantly less common, amongst twelfth-graders than amongst fifth-graders. This suggests that, as children get older, they begin to understand that persuasion of the other side in a dispute requires the backing up of their claims with factual data, as opposed to mere restatement of their own position.

This developmental trend towards increased reliance on evidence seemed to be absent in the religious topic. Instead, as children get older they become increasingly reluctant even to engage in persuasion. On the surface, these findings suggest that approaches to persuasion follow divergent developmental trajectories in the religious and non-religious domains. However, bearing in mind the structural differences between the two topics, these developmental trends may actually be seen as two sides of the same coin.
As can be seen in the excerpts discussed in the qualitative section, many participants were conscious of the fact that evidence that would be acceptable to both sides in the dispute was simply unavailable in the religious topic. Moreover, they explicitly and consciously modified their strategies of persuasion in the light of this lack. In addition, as will be shown in detail in Chapter 7, older participants tended to be more skeptical than were younger participants about the very possibility of answering conclusively the question of God’s existence. These findings suggest that, whilst older participants are more aware than are younger participants of the importance of evidence, they are also more aware of its scarcity in the case of belief in God. Thus, the developmental trend towards principled non-persuasion in the religious topic may reflect an increased reliance on evidence, coupled with a growing awareness of its lack.

**Consistency in approaches to justification and persuasion**

The approaches participants adopted to persuasion were generally consistent with their approaches to justification. Participants who justified their own beliefs by demonstrating their objective plausibility sought to convince others by presenting them with evidence or examples that enhanced this plausibility. Participants who justified their own beliefs by describing their personal and subjective reasons for holding them saw the task of persuasion as that of judging the personal entitlement of their opponent to their belief.

This consistency in approach to justification and persuasion underscores the basic coherence of participants’ religious thinking. Previous research into the religious thinking of children and adolescents has tended to emphasize its lack of coherence and its seeming irrationality. The findings reported in this chapter challenge this view by showing just how sensitive children and adolescents are to the structural peculiarities of theological questions and how consistent they are in the lines of reasoning they employ to justify their own beliefs and to persuade others. This basic coherence is a feature of religious thinking that will become increasingly apparent as we explore other features of argumentation in the chapters that follow.

**Argumentation as a social activity**

Another feature of argumentation highlighted by the results of this chapter is the extent to which children and adolescents understand argumentation to be a social activity.
This may be seen in various features of their approaches to persuasion. In the religious topic, successful persuasion was understood to require not just the adoption by the participant of an effective strategy of persuasion, but the readiness of the opponent to be persuaded. The reluctance of many participants to engage in persuasion was due to their pragmatic assessment that this latter requirement was not fulfilled. Participants were also sensitive to the personal and social importance of religious belief. Persuasion of another to change their religious belief was seen to constitute a potential invasion of the other’s privacy and disrespect of their integrity or social allegiances. In some cases, participants refused to persuade their opponents, so as to spare them the social and psychological cost of holding beliefs different to those near and dear to them.

Participants were also aware that persuasion is not possible unless there is at least some initial common ground between the person doing the persuading and the person being persuaded. Participants who adopted behavioral therapy strategies saw the enlargement of common ground between the two sides, in the form of shared experience, as a prerequisite for successful persuasion. Many other participants realized that the lack of common ground between themselves and their opponents would mean that their opponents would reject certain kinds of evidence as inadmissible. As a result they took care not to appeal to such evidence in their attempts to persuade them. These findings underscore the extent to which children and adolescents take their audience into account in their argumentation.

**From persuasion to refutation**

In the present chapter we have seen how participants’ expectations of their opponents shaped their approaches to persuasion. In the next chapter we explore these expectations in greater detail by examining the kinds of argumentation participants envisaged their opponents employing to refute their own position.
CHAPTER FIVE: REFUTATION

Section A: Approaches to Refutation

A key element of informal reasoning is the ability to consider and evaluate both sides of an issue (Ennis, 1987; King & Kitchener, 1994; Kuhn, 1991). In the present study, this ability was investigated by examining participants’ attempts to generate and rebut counterarguments. Counterarguments are arguments that attack reasons formulated previously in support of a given belief or conclusion (Quiroz, Apotheloz, & Brandt, 1992). In naturally occurring dialogues, counterarguments are usually introduced when one person attempts to refute the reasons put forward by another. In the present study, however, the participant was asked to take the role of her opponent and to present counterarguments that this opponent might employ in order to refute her own view.

Previous studies of counter-argumentation have singled out at least three ways of refuting a given line of reasoning (cf. Blair & Johnson, 1987; Kuhn, 1991; Quiroz et al., 1992). First, by disputing the plausibility of one or more of the reasons used. Second, by presenting a reason that has not yet been used and that supports a contradictory conclusion. Third, by disputing the relevance of the reasons to the conclusion. In the present study, most participants employed one or more of these three procedures in their attempts to engage in reasoning from their opponent’s point of view. However, a minority of participants resorted to other procedures, such as counter-assertions, onus shifts, repetition of their own initial position, and refusals to generate counterarguments. Procedures of the former kind were classified as counterarguments; those of the latter kind were classified as instances of non-refutation. When referring to both types of procedure, the umbrella term “approaches to refutation” is used.

How counterarguments were identified

The interview protocol included an explicit question aimed at eliciting counterarguments (e.g. “What do you think Ifat might say in order to show that you are wrong?”). However, sometimes participants would generate counterarguments spontaneously, without having been asked to do so by the interviewer. In order for an utterance to qualify as a counterargument, two criteria had to be fulfilled. First, the utterance had to be an attempt by the participant to argue against her own belief. Second, the participant had explicitly to present the utterance as the point of view of an actual or
imagined opponent.

The second criterion was important in distinguishing between reasoning subscribed to by the participant herself and reasoning that the participant intended to ascribe to people holding views opposed to her own. This distinction is illustrated in examples J1 and J12 from Chapter 3.

Example J1 (Interview No. 144, female fifth-grade pupil at a General school)

On one hand I agree with Haya because you should believe in God because God can help. On the other hand, I agree with Ifat because maybe God doesn’t exist. Who knows? Did anyone go up and check and come back and tell us?

Example J12 (Interview No. 142, male fifth-grade pupil at a General school)

Because there’s proof. There are people who think that someone just wrote it and made it up. I think it really happened, that the Bible really happened.

In both cases, the participant cites reasons for and against belief in God. However, in J1 the participant declares herself to agree with both lines of reasoning, whilst in J12 the participant explicitly contrasts his own view with that of his opponents. Thus in J12 the participant has presented a counterargument, whereas in J1 she has not. In cases where it was unclear from the context whether a participant intended to attribute a given line of reasoning to an actual or imagined opponent, the utterance was not coded as a counterargument.

Types of counterargument

In many ways, refutation is the mirror image of justification (Quiroz et al., 1992; van Eeemeren & Grootendorst, 1983). One way to classify counterarguments, therefore, is to use categories similar to those used to classify justifications. That is the approach adopted here. This approach differs from that adopted by Kuhn in her (1991) study of counterarguments. The differences between Kuhn’s classification and the present one, and the reasons for them, are described in detail later in the chapter.

There was considerably less variety in participants’ counterarguments than in their justifications. Therefore, several of the categories employed in the classification of justifications were collapsed in the analysis of counterarguments. In order to avoid repetition, no attempt will be made in the present chapter to define and illustrate each type of counterargument. Instead, a few representative examples will be presented and
briefly discussed. For a comprehensive discussion of the distinctions between different argument types, the reader is referred to Chapter 3.

Counterarguments were grouped into four categories: causal, authority, epistemological and personal. In the religious topic, causal counterarguments were further subdivided into creation and intervention counterarguments. Definitions of these counterargument types are identical to the definitions of the corresponding argument types described in Chapter Three, with three minor adjustments. First, whereas arguments set out to justify a belief by appeal to grounds of a given type, the corresponding counterarguments set out to challenge the belief, either by attacking the plausibility or relevance of those grounds or by appealing to grounds of the same type in support of a contradictory belief. Second, the category of personal counterarguments is a composite category including all counterarguments that focus on the individual’s personal reasons for holding the belief, as opposed to the objective validity of the belief itself. It includes counterargument analogues of identification-based authority arguments and mixed authority arguments, experience arguments, explanations, and motives. Third, since identification-based authority counterarguments and mixed authority counterarguments are included in the “personal” category, the category of authority counterarguments is reserved for counterarguments of the knowledge-based variety. Examples of each type of counterargument are presented below.

*Example R1: Causal Counterargument, Religious Topic: Intervention*

*(Interview No. 61, female eighth-grade pupil at a General school)*

*What might Ifat say in order to show that you’re wrong?* She’d try and persuade me by saying, “If there’s a God, then why has the Jewish people gone through the Holocaust and lost six million people?”

*Example R2: Causal Counterargument, Religious Topic: Creation*

*(Interview No. 15, male twelfth-grade pupil at a General school)*

I think that, in the same way that I asked him where He [God] has been lately, he could ask me, “So how come we exist? How were we created? How was this whole world created?”

In both R1 and R2, the opponent is portrayed as attacking the plausibility of the participant’s earlier arguments. In R1 the opponent attacks the plausibility of the
participant’s conclusion on the grounds that if God did exist then surely he would have intervened to prevent the Holocaust. In R2 the opponent counters the participant’s earlier intervention argument against God’s existence with a creation argument in which he argues that it is implausible that the world could exist without having been created.

*Example R3: Authority Counterargument, Religious Topic*  
*(Interview No. 151, male fifth-grade pupil at a General school)*

> What do you think Yossi would say in order to show that there isn’t a God?  
> He’d ask if I think the Torah really exists. Maybe they made it all up. Maybe they just say it so that kids will believe in it.

*Example R4: Epistemological Counterargument, Non-Religious Topic*  
*(Interview No. 66, male eighth-grade pupil at a General school)*

> What might Yossi say in order to show you that you shouldn’t punish? That in the course of being punished, maybe people get hurt. I don’t know. *How would that show that you are wrong?* The people who committed the crime caused someone to suffer. If we punish them, then we’ll cause them to suffer. Then the one who punishes is no better than the one being punished.

In R3 and R4 the opponent is portrayed as attacking the relevance of the participant’s earlier arguments. In R3 the opponent does not deny that the Torah contains references to the existence of God. However, he attacks the relevance of the participant’s earlier citation of such references on the grounds that the Torah is not a reliable source of information. Similarly, in R4 the opponent does not launch a direct attack on the participant’s previous causal and epistemological arguments in support of punishment. Instead, he points out that there are other relevant considerations that the participant has failed to take into account. Specifically, whilst not denying that punishment is effective and often deserved, the opponent in R4 argues against it on the grounds that it is wrong to cause suffering, even to those who have caused others to suffer.

*Example R5: Causal Counterargument, Religious Topic: Intervention*  
*(Interview No. 40, male fifth-grade pupil at a Torani school)*

> What things might Yossi say in order to show you that you’re wrong? He’d say,  
> “Look. I travel in a car on Shabbat and God doesn’t do anything to me.”
Example R6: Epistemological counterargument, Non-Religious Topic  
(Interview No. 96, male eighth-grade pupil at a General school)

What might Yossi say in order to show you that you shouldn’t punish? Maybe that you should give the child some space or something like that.

In both R5 and R6 the participant portrays his opponent as employing against him arguments of the same type as those the participant himself presented in order to justify his belief. In R5 the opponent counters the participant’s earlier intervention argument in favor of belief in God (“[Because] God helps us”) with an intervention argument of his own in which sinners are shown to go unpunished. In R6 the opponent counters the participant’s earlier a priori argument in favor of punishment (“[Because] he did something that was forbidden”) with a new a priori argument in which punishment is deemed wrong on the grounds that it restricts the child’s autonomy.

Example R7: Personal Counterargument, Religious Topic  
(Interview No. 200, male twelfth-grade pupil at a Torani school)

What do you think he’d say to you in order to show that you’re wrong and that there isn’t a God? [He’d say,] “Listen, I don’t have this faith thing. I just don’t have it. I don’t know what you’re talking about. It’s all Greek to me.”

Example R8: Personal Counterargument, Religious Topic  
(Interview No. 3, female twelfth-grade pupil at a Torani school)

What do you think she’d say to you in order to show you that you’re wrong and she’s right? That it’s all nonsense, that I’m just a crazy person and that it’s all in my head. [...] And how would that show that you’re wrong? Basically, what Ifat is trying to show is that belief in God is not really a proof. In other words, it’s no proof that there is a God; it’s only a proof that people need something to believe in.

Example R9: Personal Counterargument, Religious Topic  
(Interview No. 11, male twelfth-grade pupil at a Religious school)

He’d say that if I was born a believing Jew, then that’s the right way for me to be and that’s the way I ought to stay.

In both R7 and R8 the opponent is represented as attacking the participant’s earlier experiential argument in support of God. In R7 the opponent’s attack consists of an
experiential argument of his own against belief in God, in which he argues that he has never had a religious experience and that he finds talk of such experiences unintelligible. In R8 the opponent’s attack consists of a psychological explanation of the participant’s purported experience of God’s presence, in which she criticizes the experience as a delusional state brought about by the participant’s need to believe. In R9 the opponent does not attack any specific argument of the participant’s against belief in God. Instead, he presents a deontological motive in favor of belief, in which he argues that the participant has a duty to believe.

Non-refutation

Non-refutation responses are responses in which the participant either fails or does not attempt to reason from her opponent’s perspective. These include refusals by the participant to present counterarguments, portrayals of the opponent as making no attempt to justify her position, and responses in which the participant continues to reason from her own perspective rather than from that of her opponent.

Refusals to present counterarguments were of two kinds: logical and technical. In logical refusals, the participant refused to present a counterargument on the grounds that the opponent would have nothing to say in justification of her position. In technical refusals the participant declared herself unable to think of what her opponent might say. Examples of both types of refusal are presented below.

Example R10: Non-Refutation, Non-Religious Topic: Logical Refusal

(Interview No. 149, male fifth-grade pupil at a General school)

What might Yossi say in order to show you that you shouldn’t punish? In my opinion, he wouldn’t have anything to show me, because he’s wrong. If you’re right, you have proofs. If you’re wrong, there are no proofs.

Example R11: Non-Refutation, Non-Religious Topic: Technical Refusal

(Interview No. 170, male twelfth-grade pupil at a General school)

What do you think he’d say in order to show you that you shouldn’t punish? Then how is it possible to teach a child? To say to him, “Never mind”? You still have to set up some boundaries and show that not everything is permitted. You have to limit it somehow. Do you think he could bring any argument? I’m sure he could bring some argument, but I can’t think what it would be.
Other types of non-refutation were counter-assertions, onus shifts, rationalizations and re-statement by the participant of her own initial position. Counter-assertions are responses in which the participant portrays her opponent as asserting a belief without arguing in its favor. Onus Shifts are responses in which the participant portrays the opponent as shifting the burden of proof onto the participant. In both these types of response the participant portrays the opponent as merely stating her own position without attempting to justify it. Examples of both types of response are presented below.

Example R12: Non-Refutation, Religious Topic: Counter-assertion

(Interview No. 86, female eighth-grade pupil at a General school)

What would Ifat say to you in order to show you that you shouldn’t punish? What would she say to me? She’d say to me that I have to change my opinion and that what I say isn’t always right. Are there any specific arguments that she could present? Yes, she could present arguments. Can you think of anything in particular? She could say that it’s not correct.

Example R13: Non-Refutation, Religious Topic: Onus shift

(Interview No. 35, male fifth-grade pupil at a Torani school)

What do you think Yossi would say to you in order to show you that you’re wrong? “Give me proof that there is a God.”

In R12 the participant represents her opponent as simply asserting her opposition to punishment without providing any arguments in support of this view. In R13 the opponent is represented as shifting the burden of proof onto the participant.

Rationalizations are responses in which, instead of attempting to reason from her opponent’s perspective, the participant provides her own hypotheses about what has brought her opponent to believe what she does. Rationalizations included responses in which the participant attributed the opponent’s belief to her upbringing, personality, needs or desires, or to her expectation that her belief would provide her with some specific benefit. Example R14 below contains rationalizations of two different kinds.

Example R14: Non-Refutation, Religious Topic: Rationalization

(Interview No. 7, male eighth-grade pupil at a Torani school)

I can tell you what he’d say, why he believes there is no God: because it’s good for him to believe that. There are no mitzvot; you do whatever you like. It’s
easier to believe that. Is there anything else? Other reasons why someone might not believe, apart from the fact that it’s easier? Wait a minute. Maybe some disaster occurred in his family and that’s why he doesn’t believe. I saw something like that on the television in America.

In R14 the participant rationalizes his opponent’s disbelief by attributing it to the latter’s desire for an easy life. In response to further questioning by the interviewer, he presents a further rationalization, in which he suggests that his opponent’s disbelief might be the result of a personal tragedy.

Participants who presented rationalizations in response to the interviewer’s request for counterarguments failed in practice to consider the issue from their opponent’s perspective. The same is true of participants who responded by simply repeating their own initial position. An example of this type of response is provided in R15 below.

Example R15: Non-Refutation, Non-Religious Topic: Repetition of Initial Position

(Interview No. 42, male eighth-grade pupil at a Torani school)

Yossi says that you shouldn’t punish. What do you think he would say in order to show that you’re wrong? What would he say? He’d give a weak example, like the one I mentioned before of a guy who didn’t do anything all that serious. Why does he deserve to be punished at all, if you can explain it to him nicely and he’ll be persuaded? And how would that show that you are wrong? How would that show that I’m wrong? It wouldn’t show that I’m wrong, because I agreed with his opinion. So you’d accept his argument? Yes, I’d accept it. But I already said that before. Is there anything else he could argue against you? I don’t think so, because there isn’t anything else. If it’s something serious it must be punished.

In R15 the participant represents his opponent as concurring with his own position. When pressed by the interviewer to think of something that the opponent might argue against his view, the participant ends up re-stating his own initial position.

Combinations of counterarguments and non-refutation

Counterarguments and non-refutation responses are not mutually exclusive categories. Several participants presented responses of both types. For example, the participant
below initially presents an authority counterargument, but then follows this up with a rationalization of his opponent’s position.

*Example R16: Counterargument and Rationalization, Religious Topic*

*(Interview No. 139, male fifth-grade pupil at a General school)*

Maybe he’d say that the Bible was invented by ancient writers who wrote made-up stories [...] Is there anything else he might argue against belief [in God]? I don’t think so. Those are the main things. That maybe someone invented the whole thing? I think so, in his opinion, because he doesn’t believe in God. This is the main reason. There are people who have the time to go to the synagogue and pray and light candles. He doesn’t have the time. He wants to do other things, to watch TV and all that stuff.

*Qualification of counterarguments*

As with reasons, counterarguments may be qualified or unqualified. In presenting a qualified counterargument, the participant portrays her opponent as restricting the validity of her counterargument or expressing reservations about its ability to undermine the participant’s belief. Examples of qualified counterarguments are presented below.

*Example R16: Qualified Counterargument, Non-Religious Topic*

*(Interview No. 56, female eighth-grade pupil at a Torani school)*

What might Ifat say to you in order to show that you shouldn’t punish? Maybe that there are some children who get back at their parents afterwards if they punish them.

*Example R17: Qualified Counterargument, Non-Religious Topic*

*(Interview No. 184, male twelfth-grade pupil at a General school)*

He’d say to me that punishment isn’t something that you need to do, because if you talk to a guy and explain to him and talk with him and say to him what’s allowed and what isn’t, then maybe he’ll take it in without receiving a punishment.

In R16 the opponent is portrayed as restricting the validity of her counterargument to a particular sub-set of cases. Rather than arguing that punishment leads in general to a backlash from the person being punished, the opponent argues only that in some cases children may react in this way. In R17 the opponent is portrayed as suggesting
tentatively that the desired outcome might be achieved without resort to punishment. In this instance, it is not the generality of the counterargument that is restricted, but the degree of certainty with which it is put forward.

**Comparison with previous categorizations**

Previous studies of informal reasoning have tended to focus on a particular subset of counterarguments, namely, those that appear as spontaneously generated sub-arguments within larger chains of reasoning (Means & Voss, 1996; Rips, 1998; Rips, Brem, & Bailenson, 1999). Accordingly, previous classifications have focused on the contributions of counterarguments to the overall structure of the arguments in which they are embedded, rather than on the specific content of the counterarguments themselves. An exception is Kuhn’s (1991) study, which examined the counterarguments that people generated when they were asked explicitly to do so by an interviewer. Like Kuhn’s study, the present study examined elicited counterarguments. However, the categories used in the present study to classify counterarguments differ in several important respects from those that Kuhn used in her study.

As was pointed out in the previous chapter, Kuhn’s study was concerned with the kinds of argumentation people employ in order to support causal theories. In order to investigate peoples’ ability to evaluate their theories from a perspective other than their own, Kuhn asked participants first to generate alternatives to their own theories and then to present counterarguments that an opponent might put forward in order to refute their theories. Kuhn considered participants to have successfully generated alternatives to their own theories to the extent that the alternative theory was (a) distinct from that initially presented and (b) understood by the participant to contradict her initial theory. Similarly, attempts to generate counterarguments were evaluated as more or less successful depending on the extent to which they challenged the correctness of the participant’s initial theory. The correctness of a causal theory can be challenged either by denying the necessity or sufficiency of the cause for the effect or by denying the existence of the cause. Kuhn was able, therefore, to group counterarguments into a small number of well-defined categories corresponding to the particular aspects of the initial theory (such as necessity, sufficiency or existence of the cause) that the counterargument undermined or left in place.
Thus, as with her approach to the study of justification, Kuhn’s approach to the study of counterarguments is shaped to a large extent by her specific interest in people’s reasoning about causal theories. As we argued in Chapter 3, this makes her classification system difficult to apply to beliefs that are neither causal nor theoretic. This is even more apparent with respect to counterarguments than it is with respect to justifications. In the present study, the objects of refutation are beliefs rather than theories. The distinction between alternative theories and counterarguments is therefore not a relevant one. Similarly, since in the present study counterarguments may be directed at non-causal as well as causal beliefs, the distinctions between necessity, sufficiency and discounting counterarguments are simply not applicable in a large proportion of cases.

For these reasons, the classification of counterarguments in the present study was based on an alternative approach. Viewing refutation as a mirror image of justification, counterarguments were classified using the same basic categories as those that were used for classifying justifications. This approach allows us to examine the ways in which people imagined their opponents’ arguments would be different from and similar to their own. Although this approach loses some of the finer category distinctions within Kuhn’s classification of successful counterarguments, it maintains Kuhn’s basic distinction between successful counterarguments on one hand and unsuccessful counterarguments and non-counterarguments on the other. These latter two categories from Kuhn’s scheme are grouped together in the present study under the category of non-refutation responses.

Section B. Quantitative Findings

As with justification, caution must be exercised in interpreting differences between the two topics with respect to participants’ approaches to refutation. The kinds of counterargument that a person presents against a given belief are likely to be influenced by the kinds of argument that have been put forward previously in its support. Since structural differences between the two dilemmas may have led participants to present predominantly causal justifications in the non-religious topic (see Chapter 3), we would expect a high proportion of their counterarguments to be directed at undermining these causal justifications. Thus, apparent evidence of a greater number and variety of counterarguments in the religious topic may be an artifact of the research design. This
must be taken into account in interpreting the differences between the distributions of approaches to refutation in the two topics. Accordingly, more weight will be given to analyses that focus on the distribution of approaches to refutation within a single topic, than analyses that focus on differences between the two topics.

**The number of counterarguments presented**

The total number of counterarguments presented by a participant was calculated by summing the number of distinct types of refutation generated in the course of the interview. The criteria for counting counterarguments were identical to those for counting justifications: if a counterargument was to be counted it had to differ either in type or valence from counterarguments the participant had presented previously in the interview. As in the case of justification, this conservative criterion was employed so as to control for differences between more and less talkative participants.

Overall, participants presented more counterarguments in the religious topic than in the non-religious topic. In the religious topic, $M = 1.38$, $SD = .77$, in the non-religious topic, $M = .98$, $SD = .50$. The distribution of approaches to refutation in each topic is summarized in Figure R1 below.

*Figure R1. Distribution of Approaches to Refutation*

<table>
<thead>
<tr>
<th></th>
<th>Religious Topic</th>
<th>Non-Religious Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>percent</td>
</tr>
<tr>
<td>causal counterargument</td>
<td>153</td>
<td>76.5</td>
</tr>
<tr>
<td>authority counterargument</td>
<td>57</td>
<td>28.5</td>
</tr>
<tr>
<td>epistemological counterargument</td>
<td>37</td>
<td>18.5</td>
</tr>
<tr>
<td>personal counterargument</td>
<td>28</td>
<td>14.0</td>
</tr>
<tr>
<td>non-refutation</td>
<td>43</td>
<td>21.5</td>
</tr>
</tbody>
</table>

The most striking features of the above figure are the similar distributions of causal and epistemological counterarguments in the two topics on one hand and the exclusivity of authority and personal counterarguments to the religious topic on the other. These findings indicate that, in both topics, people expect their opponents to challenge the logical and empirical validity of their beliefs. However, only in the religious topic do they expect their opponents’ challenges also to focus on the personal and received nature of their beliefs. This suggests that children and adolescents are conscious of differences between religious and non-religious controversies. Many of them seem to understand that one individual’s personal experiences, needs, desires, allegiances and commitments may lead her to believe in God, whilst those of another may lead her to disbelieve.
Similarly, they realize that people who hold differing religious beliefs often have differing opinions about what constitute authoritative sources of reliable information. These results thus complement the findings in previous chapters, which suggest that children and adolescents view religious belief as both more personal and more dependent on one’s social framework than non-religious belief.

Almost all the counterarguments presented by participants were unqualified. In the religious topic no qualified counterarguments were presented. In the non-religious topic, only 14% of participants presented qualified counterarguments (M = .14, SD = .35). These figures are much lower than the corresponding figures for qualified justifications (see Chapter 3, Figure J4). This suggests that people tend to characterize their opponents as putting forward less moderate lines of reasoning than their own. However, it is unclear how we ought to interpret these results. On one hand they might be interpreted as evidence that people tend to view their opponents as being less subtle and more extreme than themselves. On the other hand, they can be interpreted as an indication that, when asked to generate counterarguments to their own view, people seek to present the strongest argument that they can. This problem of interpretation arises in part from the fact that it is unclear whether participants approached the task as if it were one of imagining as accurately as possible the kinds of counterargument that an actual opponent would employ, or as one of generating a maximally damaging challenge to their own position, regardless of whether or not an actual opponent would in fact make such a challenge. The relation between participants’ approaches to refutation and their expectations of their opponents are explored in detail in Section C.

**Comparison of approaches to justification and refutation**

Since similar categories were used to classify justifications and counterarguments, it was possible to compare the kinds of reasoning participants employed in order to justify their beliefs with the kinds of reasoning they imagined that an opponent might use in order to refute them. Before conducting the comparison, approaches to justification were recoded into categories corresponding exactly to those used in the classification of counterarguments. Figure R2 below compares the distributions of different argument types in the justification and refutation tasks. The figures in the table are the percentages of participants that adopted a particular approach.
Three points are noteworthy about results summarized in the above figure. First, in both topics, causal and epistemological argumentation is more or less equally prevalent in both justifications and refutations. This indicates that there are core characteristics of argumentation that are common to both domains and which are present regardless of whether one is attempting to justify one’s own point of view or to refute it. These core features of argumentation represent the impersonal, “objective” aspects of proof and persuasion that are common to debate on any topic. Second, in both topics, non-argumentation is more common in the case of refutation than it is in the case of justification. This indicates that, in line with the findings of belief bias studies (cf., e.g., Evans & Over, 1996; Sutherland, 1992), people find it more difficult to argue against their own belief than they do to argue in its favor. Third, in the religious topic, authority and personal argumentation is considerably less common in counterarguments than it is in justifications. This indicates that, when justifying their own religious belief, people seek to demonstrate not only that it is logically and empirically sound, but also that it is supported by reliable authority and that they have their own personal reasons for believing it. However, when generating possible objections to their belief, they tend to ignore these latter aspects and focus exclusively on the belief’s logical and empirical soundness.

This last finding is particularly intriguing. It suggests that domain differences in argumentation that are striking in the context of justification are flattened out in the context of refutation. Specifically, argumentation in the religious topic loses its distinctive triple focus on causal, authority and personal arguments and becomes restricted, like argumentation in the non-religious topic, to a concern with the causal grounds for belief. This can be seen graphically in Figures R3 and R4 below: the domain differences in Figure R3 are drastically reduced in Figure R4. (In both graphs,
percentages along the vertical axis represent the proportion of participants exhibiting a particular type of argumentation.)

There are at least two possible explanations for why this is so. These two explanations will be referred to as the “core argument” and the “dual factors” explanations respectively.

The “core argument” explanation proposes that, regardless of the topic, people consider causal arguments to be the core grounds on which their beliefs are based. In justifying their religious beliefs, people supplement these core arguments with additional
forms of support, such as authority arguments and personal justifications. However, when considering possible objections to their beliefs, they ignore these supplementary justifications and focus exclusively on the core causal arguments on which their beliefs stand or fall. According to this interpretation, what needs explaining is not why the differences between the two topics fade away in peoples’ approaches to refutation, but why people bother to supplement their core causal arguments in the first place when justifying their religious beliefs. The answer to this may be that, given the scarcity of clear-cut evidence regarding God’s existence, they consider their causal arguments to be on their own insufficient to warrant belief and therefore seek to bolster them with additional kinds of justification.

The “dual factors” explanation proposes that the kinds of argumentation people employ in relation to their religious beliefs are influenced by at least two distinct factors. The first factor is a psychological factor corresponding to a person’s general level of argumentative skill. The second factor is a theological factor corresponding to the person’s particular religious beliefs and commitments. When the task with which people are faced is cognitively undemanding, the psychological factor is relatively unimportant and argumentation is shaped largely by the theological factor. However, when the cognitive demands of the task are more substantial, the psychological factor gains in importance and the theological factor has less effect on argumentation. According to this explanation, the reason why domain differences are more pronounced with respect to justification than they are with respect to refutation is that the task of reasoning against one’s own beliefs is more cognitively demanding than is the task of reasoning in their support.

Evidence can be brought in support of each of these explanations. Some of this evidence has been presented in earlier chapters. However, some of it will be presented for the first time in the sections below. Further discussion of these alternative explanations is deferred, therefore, until Section D.

**The effects of gender, age and school on approaches to refutation**

The effects of gender, grade and school on the total number of counterarguments presented in each topic could not be investigated using ANOVA because normality and homogeneity of variance assumptions were violated. Instead, interactions between these
variables were investigated using hierarchical log-linear model selection, since this technique does not assume normal distributions or equal variances for each factor level. The total number of counterarguments was calculated by summing the number of distinct counterargument types that a participant presented. In the non-religious topic, the maximum number of counterarguments was four, and was attained by participants who presented at least one each of causal, authority, epistemological, and personal counterarguments. In the religious topic, the maximum was five, since creation and intervention counterarguments were considered to constitute distinct counterargument types. In order to increase cell sizes and minimize sampling zeros, the total number of counterarguments was entered into these analyses in the form of a dichotomous variable that categorized participants into those who presented one or fewer counterarguments and those who presented two or more. Analyses in each topic proceeded by backward elimination from a 2 (gender) x 3 (grade) x 3 (school) x 2 (number of counterarguments) saturated model.

In the religious topic, a significant first-order interaction was observed between age and the number of counterarguments presented, $\chi^2 (2, 200) = 14.93, p = .0006$. 59% of twelfth-graders presented two or more counterarguments, compared with only 45% of eighth-graders and 27% of fifth-graders. Follow-up tests were conducted to evaluate the pair-wise differences between each grade level. Only the difference between fifth-graders and twelfth-graders was statistically significant, $\chi^2 (1, 138) = 14.83, \phi = .32, p < .001$. These findings indicate that, as children get older, their ability to generate multiple lines of objection to their religious beliefs increases.

In the non-religious topic, no significant interactions were observed between demographic variables and the number of counterarguments presented. However, this finding may be an artifact of the analytic framework. When, in the religious topic, the distinction between creation and intervention counterarguments was collapsed, no significant interactions were observed between demographic variables and the number of counterarguments. This indicates that the tendency of older participants to present more counterarguments is most pronounced with respect to subcategories of causal counterargument. Since, in the non-religious topic, all causal counterarguments were grouped into one category, possible age-related variation may have been overlooked.
Following the above general analyses, a number of more specific analyses were carried out to investigate how demographic factors affected particular approaches to refutation. Since each approach to refutation was represented as a dichotomous variable, hierarchical log-linear model selection was used. Only approaches that were employed by at least 15%, and by no more than 85%, of the participants were analyzed. This was to ensure that the number of participants employing a particular approach to refutation could be meaningfully compared across each factor level. Separate analyses were conducted for each approach to refutation that satisfied these frequency criteria. Each analysis proceeded by backward elimination from a 2 (gender) X 3 (school) X 3 (grade) X 2 (approach to refutation: present or absent) saturated model. The alpha for each analysis within this family of tests was calculated using Holm’s sequential Bonferroni method.

In the religious topic, a significant first order interaction was observed between age and creation counterarguments. Creation counterarguments were more common amongst twelfth-graders (41%) than amongst eighth-graders (21%) or fifth-graders (10%), $\chi^2 (2, 200) = 18.96, p = .0001$. Follow-up tests were conducted to evaluate the pair-wise differences between each grade. Only the difference between fifth-graders and twelfth-graders was statistically significant, $\chi^2 (1, 138) = 18.36, \phi = .36, p < .001$, although the difference between eighth-graders and twelfth-graders also approached significance, $\chi^2 (1, 132) = 6.48, \phi = .22, p = .012$.

This result indicates that, as children get older, they become more aware of the controversial nature of creationist and evolutionist claims. Whereas very few fifth-graders expected their opponent to challenge them on creationist or evolutionist grounds, nearly half of the twelfth-graders did. Interestingly, this pattern of age-related change appears to be replicated across all school groups. The lack of any school effect is surprising, given the association observed in Chapter Three between creation arguments and school. If, as the above findings suggest, pupils at all three kinds of school are more or less equally aware of the possible challenges to creation arguments, why do pupils at Religious and Torani schools choose nonetheless to employ them, whilst pupils at General schools avoid them? The answer appears to lie in the differences in attitude towards evolutionary theory described in Chapter 3. As the results reported in this chapter show, pupils at Religious and Torani schools are just as aware as are pupils at
General schools of the challenges that theories of evolution pose to creationism. Where they differ is in the seriousness with which they take these challenges. These differences in attitude will be explored further in the next chapter, when we examine participants’ attempts to rebut creation counterarguments.

In the non-religious topic, a second-order (three-way) interaction was observed between causal counterarguments, school and age, $\chi^2 (4, 200) = 15.96, p = .0031$. Follow-up analyses were conducted in order to evaluate all lower order interactions. A significant first-order interaction was observed between age and causal counterarguments. Causal counterarguments were more common amongst twelfth-graders (91%) than amongst eighth-graders (73%) or fifth-graders (69%), $\chi^2 (2, 200) = 12.91, p = .0016$. Follow-up tests were conducted to evaluate the differences between each grade level. The differences between twelfth-graders and fifth-graders, and between twelfth-graders and eighth-graders were significant, $\chi^2 (1, 138) = 11.41, \phi = .28, p = .001$ and $\chi^2 (1, 132) = 8.33, \phi = .25, p = .004$ respectively. However, the difference between fifth-graders and eighth-graders was not significant.

In order to further investigate the interaction between school, age and causal counterarguments, the sample was decomposed into school groups and follow-up tests conducted to evaluate interactions between age and causal counterarguments for each school type separately. Only one such interaction approached significance. Amongst pupils at General schools, causal counterarguments were more often presented by twelfth-graders (86%) than by fifth-graders (64%), $\chi^2 (1, 71) = 6.94, \phi = .31, p = .008$. These findings indicate that the tendency to present causal counterarguments in the non-religious topic increases with age and that this age-related trend is most pronounced amongst pupils at General schools. Interestingly, this is the only result so far that suggests any difference between the schools with respect to argumentation in the non-religious topic. However, close inspection of the cross-tabulation data reveals that the lack of significant association between age and causal counterarguments amongst pupils at Religious and Torani schools is probably an artifact of the smaller cell sizes used to represent each grade level at these schools.

In the non-religious topic, a second-order (three-way) interaction was observed between epistemological counterarguments, school and age, $\chi^2 (4, 200) = 17.46, p = $
Follow-up analyses were conducted in order to evaluate all lower order interactions. Amongst Torani pupils, epistemological counterarguments were presented more often by eighth-graders (38%) than by fifth-graders (0%), \( \chi^2 (1, 34) = 10.52, p = .001 \). Similarly, amongst fifth-graders, epistemological counterarguments were presented more often by pupils at General schools (33%) than by pupils at Torani schools (0%), \( \chi^2 (1, 51) = 11.20, p = .004 \). However, due to the small cell sizes in each of these cross-tabulations, neither significance test is reliable. These results probably indicate, therefore, nothing more than a coincidental absence of epistemological counterarguments amongst the particular Torani fifth-graders who participated in the study.

**Relations between approaches to justification, persuasion and refutation**

The relationship between participants’ approaches to refutation and their approaches to justification and persuasion were investigated by hierarchical cluster analysis. Separate analyses were conducted for the religious and non-religious topics respectively. Distances between variables were computed using squared Euclidean distance and clusters were combined using average between-groups linkage. The agglomeration schedules and dendrograms for each analysis are presented in Figures R5 to R8 below.

*Figure R5. Agglomeration Schedule for HCA of Approaches to Justification, Persuasion and Refutation in the Religious Topic*

<table>
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188
As can be seen in Figure R6, approaches to justification, persuasion and refutation in the religious topic were grouped into two main clusters. Causal counterarguments were grouped together with documentary narratives, causal arguments and knowledge-based authority arguments. All other approaches to refutation were grouped together with the remaining approaches to justification and persuasion. The make-up of the first cluster indicates that participants whose efforts at justification and persuasion focused on establishing the objective validity of their beliefs imagined that their opponents would employ similar approaches in order to undermine their validity. The second cluster is more heterogeneous, thus making interpretation more difficult. However, it is interesting to note the stages of the analysis at which different approaches to refutation are introduced into the cluster. Since clustering is based on similarities between the distributions of the variables, this can tell us which approaches to refutation are most closely associated with particular approaches to justification and persuasion. The first
approach to refutation to join the second cluster is personal counterarguments. At this stage of the analysis, the cluster includes mainly approaches to justification and persuasion that focus on the believer’s personal reasons for believing. This indicates that participants whose approaches to justification focused on establishing the personal basis for belief envisaged their opponents employing personal counterarguments in order to undermine their belief.

A similar pattern is observed in the non-religious topic. As can be seen in Figure R8, two clusters were formed. In the first cluster were causal counterarguments, causal arguments and documentary narratives; in the second were all the other approaches to justification, persuade and refutation. These findings lend additional support to the observation in the previous chapter that participants were generally consistent in their argumentation. Just as they adopted strategies of persuasion that were compatible with their own reasons for believing, so they envisaged their opponents employing argumentation of the same logical type in order to undermine their beliefs.

Figure R7. Agglomeration Schedule for HCA of Approaches to Justification, Persuasion and Refutation in the Non-Religious Topic

<table>
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Figure R8. Dendrogram for HCA of Approaches to Justification, Persuasion and Refutation in the Non-Religious Topic

Section C. Qualitative Findings

Refutation and conceptions of the other

An interesting feature of participants’ approaches to refutation was the different ways in which they portrayed their opponents. Whilst some participants considered their opponents to be much like themselves, others saw their opponents as being radically different kinds of people. An illustration of the former view is presented in Example R18 below.

Example R18: Opponent as Similar, Religious Topic

(Interview No. 77, female fifth-grade pupil at a Religious school)

*Ifat claims that God doesn’t exist. What do you think she would say in order to show you that there isn’t a God?* I think she’d get angry with me, exactly like I would with her. If I were to say to her, “Why don’t you believe in God? Why do you drive on Shabbat? Why this, and why that?” then she’d get angry with me in exactly the same way: “Why don’t you drive on Shabbat? What don’t you watch television on Shabbat? Why, like, do you do all those religious things?” So I’d be angry with her too. She could be exactly like me.
The participant in R18 acknowledges that her opponent’s perspective is diametrically opposed to her own. Indeed, she imagines that their discussion would become heated on account of their differences. At the same time, however, she expects her opponent’s emotional reactions and rhetorical moves to be exactly the same as her own, albeit from an opposed perspective. This conception of one’s opponent as similar to oneself may be contrasted with the conceptions implicit in examples R19 and R20 below.

**Example R19: Opponent as Different, Religious Topic**  
*(Interview No. 36, male fifth-grade pupil at a Torani school)*

*What do you think Yossi would say to you in order to show you that there isn’t a God? That there isn’t a God? Does he believe in other gods? He doesn’t believe in any God. I don’t know what to say. You don’t know what he would say? No. I have one way, so I don’t know another way.*

**Example R20: Opponent as Different, Religious Topic**  
*(Interview No. 39, male fifth-grade pupil at a Torani school)*

*What would Yossi say in order to show you that there isn’t a God? He’d say all the Arabs’ things. How does that go? But I wouldn’t be convinced. I don’t understand. All the religion of the Arabs. Do you mean Muslims? Yes. I don’t think I’d be convinced. What things would he say? I don’t know. I don’t know what, what the Muslims say. You wouldn’t be convinced? Look, I’m strongly connected to my religion.*

In Example R19, the participant finds it difficult to imagine the kind of person that would disagree with him. His first approach is to attempt to reframe the dispute in classical Biblical terms as one between a monotheist and an idolater. When this interpretative route is blocked off by the interviewer, the participant concedes that he does not know what to answer. Finally, he explains that his inability to imagine what his opponent would say results from his strong commitment to his own perspective. The assumption implicit in this explanation is that if a person is committed to one point of view he is unable to see things from another. In other words, the participant in R19 considers his opponent’s position to differ so radically from his own as to be literally incomprehensible. The participant in R20 takes a similar approach. In this case, however, the “otherness” of the opponent is made even more explicit. The participant
portrays his opponent as what is perhaps the ultimate “other” for many Israeli Jews: an Arab. As in R19, the participant is unable to imagine what this opponent might say. In Example R21 below, this approach is taken one step further.

Example R21: Opponent as Different, Religious Topic

(Interview No. 118, female fifth-grade pupil at a Torani school)

Are there any people like Ifat, who don’t believe? Yes. Could they be right?

No. Not at all. Maybe, like, they know there’s a God but they don’t care, like it’s no big deal. Like the Arabs. They know there’s a God, I think, but they don’t pay Him any attention. They just do whatever they want to do. They just throw stones and everything and they are hardly ever punished. Even Arabs who are Muslims? Even they don’t believe all that much? Maybe, kind of. The Arabs don’t really, really believe. Unless they convert. Just Jews really believe and other religions don’t really? They believe; they know there’s a God. But they don’t really care […] Maybe they do. I don’t really know the Arabs. But kind of, yes. I have cousins who live in Kiryat Arba and sometimes when we go to them for Shabbat we always hear the Arabs praying when we go to sleep. They don’t pray to God. They pray to the floor. So they’re not praying to anything. They’re praying to the air. Are there people like Ifat, who don’t believe at all? She knows that there’s a God. Ifat knows. Like, she doesn’t believe. She knows there’s a God. She just doesn’t believe in Him. What do you mean? Like, if she, let’s say, she doesn’t, she knows that there are people who think there is, but she thinks there isn’t. She still believes? She kind of believes. Half yes, half no. But you’re saying that she believes that God exists? Kind of.

As in R20, the participant in R21 seeks to identify “the Arabs” as her opponent. Her first move in this direction is her substitution of the Arabs for Ifat in her reply to the interviewer’s question about whether Ifat could be right. When the interviewer seeks clarification regarding her claims about the Arabs, the participant describes the Arabs as not really believing in God, even though they pray. Finally, when Ifat is reintroduced into the discussion, the participant does not accept the interviewer’s description of her as not believing in God. Instead, she describes her as “kind of” believing in God, even
though she thinks that “there isn’t” a God. The net effect of these maneuvers is to place Ifat – the opponent as defined by the interviewer – at some mid-point between the participant and the “real” opponent, i.e., the Arabs. One possible explanation for these curious moves by the participant is that she finds it difficult to accept that someone like her, namely a Jew, could be so unlike her, namely an unbeliever. In order to overcome this paradox, she appears to recruit the Arabs as a surrogate “other,” hoping thereby to close the gap between herself and Ifat, whilst widening the gap between this “other” and belief in God.

In a few cases, participants’ conceptions of their opponents as being very different from themselves found expression in portrayals of their opponents as being particularly aggressive and antagonistic in their challenges. Illustrations of this tendency are provided in Examples R22 to R24 below.

Example R22: Opponent as Antagonistic, Religious Topic
(Interview No. 149, male fifth-grade pupil at a General school)

What would Yossi say in order to show you that there isn’t a God? He’d take all sorts of strange situations and excuses. What excuses? That, I don’t know. Can you think of anything he might say? “What? Are you crazy? You really believe in something like that?” Are there any other things that he could argue against your belief? There are things that he could argue, but I don’t know what they are. He could bring all sorts of excuses and all kinds of incitement.

Example R23: Opponent as Antagonistic, Religious Topic
(Interview No. 90, male eighth-grade pupil at a General school)

Are there any other things that he could argue against your point of view? He’d say that I’m a “goy” or something. He’d say that it’s a duty to believe. He wouldn’t try and listen to me when I say that God doesn’t exist. He knows that God exists and he tries to persuade everybody else.

Example R24: Opponent as Antagonistic, Religious Topic
(Interview No. 191, male twelfth-grade pupil at a Religious school)

Is there anything else that Yossi could argue? “What’s all this nonsense? You get up in the morning. You go and wash your hands. Things like that. The Passover Seder. To eat matzah. What is this? I can’t be bothered with it. I
don’t understand it.” And how is that supposed to show that there isn’t a God?

Because, in his view, these are just superstitions. They’re just something that you do.

In R22, the participant portrays his opponent as suggesting that the participant is “crazy” to believe in God. Moreover, he imagines his opponent’s arguments to include various kinds of “incitement.” In R23, the participant envisages his opponent scornfully labeling him as a “goy” and refusing to hear him out. Interestingly, the participant in R23 shifts tense in the middle of his description of his opponent from the future conditional to the present continuous. This gives the impression that he envisages his opponent as some kind of archetype, rather than as a specific individual. The antagonism of his opponent thus seems to represent the hostility of believers in general rather than just the aggression of a particular person. Finally, the participant in R24 identifies his opponent with the “wicked son” of the Passover Haggadah, deriding Jewish traditions and beliefs as superstitious.

It is noteworthy that these portrayals of the opponent as antagonistic were exclusive to the religious topic. This indicates that participants viewed the religious topic as more contentious and more likely to arouse passions than the non-religious topic. Such portrayals were also more common amongst males than females. This gender difference is consistent with findings in previous studies that indicate that men tend to have a more antagonistic conception of argumentation than women (Mapstone, 1998; Tannen, 1998). However, whilst female participants tended less than male participants to portray their opponents as aggressive and antagonistic, they sometimes portrayed them as unfeeling or insensitive. This kind of portrayal is illustrated in Example R24 below.

Example R24: Opponent as Insensitive, Religious Topic

(Interview No. 51, female eighth-grade pupil at a Torani school)

What would Ifat say in order to show you that you’re wrong? She’d say, “How can it be that there is such a thing as God? What is it? Some kind of air? You can’t see Him, you can’t feel Him, you don’t talk to Him. How can I know?” That’s the problem with secular people. They don’t understand that the Holy One Blessed Be He is not a person, is not an image that you can see. It’s something you have to feel. And they don’t feel it because they are insensitive.
So they say that if you can’t see Him then He doesn’t exist. That’s the problem with secular people. Not all secular people. Extreme secularists. I think she’d say, like, “How can there be such a thing as God if I don’t see Him, I don’t hear from Him, I don’t nothing? I’m just completely cut off from Him.”

Refutation, self-perception and identification with the other

Whilst some participants’ approaches to refutation brought into relief their implicit conceptions of their opponent, the approaches of other participants provided insight into their own beliefs and perceptions of self. Some participants, in presenting the possible objections to their beliefs, seemed to be expressing their own deepest doubts and difficulties, as opposed to merely acting as a mouthpiece for their imagined opponents. A particularly striking illustration of this phenomenon is provided in Example R25 below.

Example R25: Refutation and Self-Perception, Religious Topic

(Interview No. 199, female twelfth-grade pupil at a Religious school)

Are there really people like Ifat? Sure. My friend who was in here before. But I think that it’s very legitimate. Because it’s really a drag to believe in God. Because you feel terrible. You feel like an idiot. Because, “I believe, I believe.” “But what do you believe in? There isn’t [a God]. Prove it. Fine, believe. But that’s a very simplistic and naïve approach to life. It’s not really like that. You can’t believe in God, because there isn’t a God.” That’s what Ifat could say. “Prove there’s a God.” So it’s pretty clear that there are people like Ifat, because you can’t prove that there’s a God. And it’s a drag to believe in God, because you feel stupid and idiotic. Why do you feel stupid? Because it’s like you open up all your questions, if you’re still, there are people who ask and investigate and so on, but the bottom line is that there is something you don’t understand, but God commanded, so you’ll do it. You don’t understand, you don’t know who God is, you don’t know anything, and it’s a kind of feeling of “Why am I doing this?” Even though I believe, it seems funny to me. And so I don’t do half of the things. That’s why I won’t do them. But I don’t think that faith is something that expresses itself in what I do. And so you feel stupid. That’s what I used to feel. When I didn’t believe in God, I felt smart.
In the course of elaborating her opponent’s view, the participant in R25 reveals her reservations about her own belief in God. Although she believes in God, she considers herself “naïve,” “stupid” and “idiotic” for doing so. This view of religious belief as something unsophisticated and “uncool” was quite common amongst older pupils at Religious schools. It found expression not only in participants’ approaches to refutation, but also in their ambivalence about rebutting the counterarguments they had generated. This ambivalence amongst older pupils at Religious schools is examined further in the next two chapters.

Often participants would present counterarguments by literally taking the role of their opponent and speaking in the first-person from the opponent’s perspective. In most cases, this taking up of the opponent’s voice was done in short bursts and surrounded by clearly marked reversions by the participant to her own voice. However, in a few cases, participants took up their opponent’s voice for more extended passages. In these latter cases, it often seemed as if the participant was not so much speaking for her opponent as using her opponent as a mouthpiece for her own doubts and reservations. That this is what the participant was doing was often confirmed by her reluctance to rebut her opponent’s counterarguments once she had presented them. This form of implicit identification with the opponent is illustrated in examples R26 and R27 below.

Example R26: Identification with the Opponent, Religious Topic

(Interview No. 19, female twelfth-grade pupil at a General school)

Ifat says she doesn’t believe. What do you think she’d say in order to show you [that she’s right]? “Prove it. Like, prove it. I don’t believe that there is anything. I live my life in my town with my family and I like it. I don’t need to believe in anything. I believe in myself and that’s enough. I believe in my ability and that’s all. I don’t believe that there is something. Like, who said that there is something? Who decided? The religious people decided. God decided. That’s all.” Also, things that cause you not to believe. Like when you lose someone dear to you, or when the good really do die young, someone important to you. Or, you really wanted to succeed at something and you didn’t succeed. So, “Why? I don’t deserve to succeed?” Or many situations where you’re disappointed, where perhaps you believed in something but that
something disappointed you and you say, “Wow, there isn’t anything after all. I’ll believe in myself. That’s what’s best for me.” How would you react to these things? How would I react? What would you say to her? It’s very hard for me to react. “OK, if that’s what you think and that’s what’s good for you and it’s comfortable for you live your life according to the specific belief that there is no such power, then [pause].” I wouldn’t persuade her because I’m not too sure myself. Because it’s something very, that’s unproven. I haven’t got anything that I can prove to her. And it’s not like the religious people say, “See, He brought us out of Egypt.” So, it’s very easy for them to say He brought them out of the Land of Egypt. No. I do believe in the Big Bang and I do believe in those things, you understand? So it’s very hard for me to prove it her. So, it’s not just that you can’t prove it, but also that you don’t want to? Yes. It’s not like my opinion is so clear-cut that I can, like before [in the non-religious topic] come and really say, because I’m not, my own opinion isn’t strong enough.

The participant in R26, in presenting her opponent’s reasoning, switches in and out of the first person several times. The emphatic tone of these first person statements give the impression that she identifies strongly with the arguments that she is putting forward in her opponent’s name. This impression is confirmed to some extent by her later reluctance to rebut these statements on the grounds that she is “not too sure” herself and that her own opinion “is not strong enough.” The identification of the participant with her opponent is even more pronounced in the next example.

Example R27: Identification with the Opponent, Religious Topic
(Interview No. 192, female twelfth-grade pupil at a Religious school)

What arguments do you think Ifat would bring against your opinion? First, Why is there so much evil in the world? If God loves us so much, why does He bring us into a world filled with so much evil? Second, Why doesn’t He let us see Him? If He loves us so much and everything, then let us see You. Reveal Yourself to us. Tell us why You’re hiding from us. Why do You play with us like puppets? Why do You play with us and abuse us, do bad things to us, do good things to us, drive us crazy, and all those things? Why was there a
Holocaust? That’s something I think everyone sits and thinks about at some point. I also had that once. Why was there a Holocaust? Why did six and a half million Jews die in such a cruel and brutal fashion? We’re righteous and simple people, so why did it happen to them? Why? That’s a question a kid in nursery would ask. But why so much? If you say that the righteous will be rewarded, then why should a month-old baby die suddenly? What could he have managed to do, so that he has to die? What for? Why? Why are there so many wicked people who have it good and good people who are poor and unfortunate?

Like the participant in R26, the participant in R27 appears to switch between statements in her opponent’s voice and statements in her own. However, in comparison with R27, the distinction between these two voices is much more blurred. Particularly intriguing is the shift in the third line from talking of God in the third person to addressing him directly in the second person. It is unclear whether the participant is here portraying the opponent’s questions to God or her own. The emphatic and emotional tone of the questions strongly suggests the latter.

The closeness of the participant’s and the opponent’s perspectives in examples R25 to R27 stands in stark contrast to the gulf between the participant and the opponent in examples R19 to R24. Although it is impossible to generalize from such a limited number of cases, it is perhaps not coincidental that the participants in R25 to R27 are female twelfth-graders whilst those in R19 to R24 are predominantly male fifth-graders and eighth-graders. The different approaches to argumentation embodied in these two sets of examples may well be related to gender and maturity. Whereas boys may tend to emphasize the oppositional and combative aspects of argumentation, young women may tend to focus on finding common ground between the two sides in the dispute and on empathizing with their opponents.

**The problem of evil**

Intervention counterarguments were by far the most common form of counterargument in the religious topic. They were presented by fully 65% of the participants. The vast majority of these counterarguments were comprised of some variant of the “argument from evil” (cf. Peterson, 1997). Moreover, the instance of evil
and suffering most frequently cited within these counterarguments was the Holocaust. The prevalence of such counterarguments is unsurprising, given the extent to which the problem of evil has occupied religious thinkers since antiquity, and given the salience of the Holocaust for Jews living in Israel at the end of the twentieth century. More interesting are the subtle ways in which participants’ formulations of intervention counterarguments varied with school and age.

Although the Holocaust was the most frequently cited counterevidence within participants’ intervention counterarguments, it was rarely cited by fifth-graders. Indeed, unlike the intervention counterarguments of eighth-graders and twelfth-graders, those of fifth-graders tended to focus on God’s intervention at the individual level rather than at the national or global level. Example R5 above is characteristic, as are examples R28 to R30 below.

Example R28: Intervention Counterargument, Religious Topic

(Interview No. 122, female fifth-grade pupil at a Torani school)

She’d show that she wanted God to help her with something and that in the end she didn’t succeed.

Example R29: Intervention Counterargument, Religious Topic

(Interview No. 72, female fifth-grade pupil at a Religious school)

That she never keeps Shabbat and nothing happens to her. She doesn’t pray and nothing happens to her.

Example R30: Intervention Counterargument, Religious Topic

(Interview No. 84, female fifth-grade pupil at a Religious school)

What would Ifat say in order to persuade you that God doesn’t exist? “I had some flowers that I watered a while ago. I prayed and waited by the flower for ages and ages and ages and ages. And the flower that I watered didn’t grow. It didn’t grow at all.” And she’d try and persuade me. I’d say to her that you’re not allowed to test God. If you test Him, then sometimes you won’t succeed. And sometimes He’ll test you back.

Eighth-graders’ intervention counterarguments were more mixed. Whilst some eighth-graders’ counterarguments focused, like those of fifth-graders, on intervention at the individual level, others focused on intervention at the national or global level. This
spectrum of approaches is represented in examples R31 to R34 below. Particularly interesting is R34, in which individual and global concerns are addressed together.

**Example R31: Intervention Counterargument, Religious Topic**
*(Interview No. 103, male eighth-grade pupil at a Religious school)*

We have wars and God doesn’t help us. And people are dying here. There are terrorist attacks and all kinds of things.

**Example R32: Intervention Counterargument, Religious Topic**
*(Interview No. 43, male eighth-grade pupil at a Torani school)*

He’d give the example of the Holocaust. It happened to the Jews, who are supposed be His Chosen People.

**Example R33: Intervention Counterargument, Religious Topic**
*(Interview No. 108, male eighth-grade pupil at a Religious school)*

He’d say to me, “Look. I travel on Shabbat and nothing at all happens to me. It’s written in the Torah that someone who desecrates the Shabbat dies.” He’d say to me that he sins. He doesn’t fast on Yom Kippur. Nothing. He’d tell me many other things that he does, sins, and nothing happens to him. He’d say to me, “I’m still alive, living, breathing, eating, and nothing happens to me.”

**Example R34: Intervention Counterargument, Religious Topic**
*(Interview No. 28, male eighth-grade pupil at a Torani school)*

Yossi would probably say, “My grandmother died last week. Why didn’t He help her or me? My friend died in a traffic accident. Or, there’s an atomic holocaust now.” Things like that.

In the intervention counterarguments of twelfth-graders, the individual level disappears almost entirely and the focus is shifted exclusively to either the national or the global level. Example R27 is characteristic, as are examples R35 and R36 below.

**Example R35: Intervention Counterargument, Religious Topic**
*(Interview No. 199, female twelfth-grade pupil at a Religious school)*

“There’s no God, because everything is evil. God is the embodiment of good. But everything is really bad. So that’s a contradiction. If there’s a God, why are things so bad?”
Example R36: Intervention Counterargument, Religious Topic

(Interview No. 187, male twelfth-grade pupil at a Religious school)

You can bring classic examples, like the Holocaust and things like that, which in themselves are situations where you say that if God was there, you’d expect Him to do something. Either He did it, He caused it, or He was passive. At any rate, there’s something not right here.

These age trends are consistent with those reported in Rosenberg’s (1990) study of concepts of prayer amongst Israeli children and adolescents. Rosenberg found that, whereas fourth-graders’ petitions focused on specific problems and requests at the individual level, those of older children and adolescents tended to address problems and requests at the general, community, or global level. These findings indicate that as children get older their expectations of divine intervention become less egocentric. The findings of the present study suggest that Rosenberg’s results may reflect more than a just a tendency amongst older children and adolescents to consider personal petitions inappropriate. Rather, they may reflect a more basic belief that God is not responsible for events at the individual level.

Interestingly, adolescents’ expectations of God in the present study appear to differ considerably from those of the German adolescents studied by Nipkow and Schweitzer (1991). Nipkow and Schweitzer (1991: 92) found that the majority of their 16-22 year old subjects did not relate their doubts about divine intervention to “worldwide problems, but rather to inexplicable suffering in their own neighborhoods or within their own group of friends.” This suggests that the age related changes in conceptions of divine intervention that were observed in the present study might be to some extent culture specific. The question of how cultural and cognitive factors may interact in the development of religious thinking will be addressed in detail in Chapter 8.

The content of participants’ intervention counterarguments also varied with school. Whereas pupils at General and Religious schools often cited the Holocaust as the primary counterevidence against God’s existence, pupils at Torani schools rarely even mentioned it. Moreover, when they did mention it, they tended to group it together with other instances of suffering, rather than endow it with any uniquely problematic status. These differences in approach to the Holocaust are illustrated in examples R37 to R40 below.
Example R37: Intervention Counterargument, Religious Topic

(Interview No. 68, female eighth-grade pupil at a General school)

Like I said to you, they say, “Why was there a Holocaust?” She’d say that to me, for sure. Every person I know that doesn’t believe always comes and attacks me with that sentence. I don’t have anything to answer them. Because I wasn’t in the Holocaust and I didn’t suffer. But I’ve seen pictures. There’s also a four-hour long film that I’ve seen. At every memorial ceremony I just cry. Really. It’s emotional. It’s impossible to say that I don’t care or anything.

Example R38: Intervention Counterargument, Religious Topic

(Interview No. 117, female eighth-grade pupil at a Religious school)

I think she’d give the Holocaust as an example, which is also a little hard for me to understand myself. But after many explanations, I’ve also accepted it. The Holocaust, that after all, we’re the Jewish people, and according to what we believe, we’re the Chosen People and millions of people were killed there. And how can you understand that a person that apparently wants things to be good for you, and that you’ll eventually get to paradise, would kill so many people, would cause suffering to so many people.

Example R39: Intervention Counterargument, Religious Topic

(Interview No. 50, female eighth-grade pupil at a Torani school)

She’d say that it’s a fact that God didn’t help those people who were in the Holocaust. And all sorts of things like that. Say, with the 73 people who were killed [this year] in terrorist attacks. In her opinion, God could have done something. So why didn’t He?

Example R40: Intervention Counterargument, Religious Topic

(Interview No. 203, male twelfth-grade pupil at a Torani school)

He could show me the lack of justice in the world. If I look at it in a way that you need God in order for there to be justice, then he’d say that if so, then why is there no justice? That’s also an emotional argument, because he sees it as unjust and I see that there is justice. For example, like the question of the Holocaust. How was there a Holocaust? Why was there a Holocaust? These are arguments that he could bring.
In R37 and R38, the participants cite the Holocaust as the primary counterevidence that an opponent would cite against their belief in God. Moreover, the Holocaust is presented here as a single category of counterevidence in its own right. In R39 and R40, on the other hand, the participants include the Holocaust as one instance among others of suffering and apparent injustice.

These differences in the approaches of participants from different schools are in line with more general trends in religious thought about the Holocaust. Within more traditional orthodox theology, the Holocaust tends not to be endowed with any unique theological significance (cf., e.g., Leibowitz, 1992; Sacks, 1992). In less traditional theologies, on the other hand, the Holocaust is seen as entailing a radical redefinition of God’s covenant with the Jewish people (e.g., Fackenheim, 1989; Greenberg, 1982). The approach of pupils at Torani schools to the Holocaust thus reflects a more traditional orientation towards theological reflection on suffering.

**The presumption of atheism**

In the religious topic, variants of most approaches to refutation were presented by both believers and non-believers. However, there were two exceptions. Both epistemological counterarguments and onus shifts were exclusive to believers. These two approaches to refutation have much in common. In onus shifts, the opponent is portrayed as challenging the participant to prove her case. In epistemological counterarguments the opponent is portrayed as denying the participant’s ability to do so. Thus, both approaches assume (the former explicitly and the latter implicitly) that the burden of proof is on the participant rather than the opponent.

The fact that these approaches were exclusive to believers indicates that participants expect that the burden of proof will be placed on the side that seeks to establish God’s existence rather than on the side that seeks to deny it. This expectation is an example of what Antony Flew (1966; 1997) has called, “the presumption of atheism.” As a philosophical thesis, the presumption of atheism argues that, since theism is less parsimonious and intuitively plausible a theory than atheism, the burden of proof rests with theism. The responses of participants in the present study suggest that they expect people around them to subscribe to some version of this thesis, even if they might not accept it themselves.
Whilst most believers seemed themselves to accept the presumption of atheism, a few participants identified this presumption as underlying their opponent’s challenge and explicitly rejected it as inappropriate. Illustrations of these two approaches to the presumption of atheism (implicit acceptance versus explicit rejection) are provided in examples R41 and R42 respectively.

**Example R41: Presumption of Atheism, Religious Topic**

*(Interview No. 189, male twelfth-grade pupil at a Religious school)*

_What would Yossi say in order to show you that you are wrong?_ That there isn’t a God. “Listen. What God? Which? Give me one proof.” What can I say to him? It’s like, it’s easier for him to say. It’s easier to say, “Show me. I’m here. I’m completely open to suggestions. Show me something. Give me a sign. Give me something.” If there was something, I could take him to the microscope and say to him, “Look. Here it is.” What can I say to him? Nature, development, a big line, one, two, three, what evolved evolved, and it ended up as this. His position is much easier to prove in a way. He sits in his chair and looks and says, “I’m a realistic guy. I see what happens and that’s what I believe in.” What can I say to him?

**Example R42: Presumption of Atheism, Religious Topic**

*(Interview No. 191, male twelfth-grade pupil at a Religious school)*

_What would Yossi say in order to show you that there isn’t a God?_ “Prove it to me.” I mean, perhaps he’ll want to see a whole proof, a decisive proof that He exists. It’s like this thing [*lifts tape recorder*]. I want to see that it’s a tape recorder. Tell him that it’s a tape recorder and he’ll believe you. But, in principle, he’d want more proof from me. But faith is not something that I can prove to him. Faith is a matter of the heart. It’s an emotional thing. God isn’t something solid. It’s some kind of Being. If you want to dodge it, no problem, because you can always say, “Where are You?” And that’s that. But if you want to be a little more understanding, to do things and understand them, then you’ll get there. But he wants us to prove it. Something, so he’ll have something to grasp onto. But obviously I want that too. Everyone wants that.
But that’s already a question of faith. The more you believe, the more you are able to grasp it.

The participants in R41 and R42 both express frustration at their opponent’s demand for proof. However, the participant in R41, whilst complaining that his task his more difficult than his opponent’s, implicitly accepts his opponent’s framing of the issue. Having nothing concrete to show his opponent, he considers himself to have nothing further to say to his opponent that might convince him. In contrast, the participant in R42 rejects his opponent’s framing of the issue, criticizing his presumption of atheism as a category mistake. As far as the participant in R42 is concerned, his opponent’s demand for proof is symptomatic of a shallow and erroneous understanding of the nature of faith. For this participant, faith is not a matter of proof but “a matter of the heart,” “an emotional thing” that is achieved through commitment: “The more you believe, the more you are able to grasp it.”

Section D. Summary

Domain-generality of approaches to refutation

In the previous two chapters, differences were noted between the kinds of argumentation participants employed in the religious and non-religious topics. In the non-religious topic, participants’ efforts to justify their beliefs and persuade their opponents focused on presenting causal evidence and examples in their support. In the religious topic, on the other hand, this empirical focus was combined with attention to the personal and social aspects of belief. In particular, when justifying their religious beliefs, participants often supplemented their causal arguments with personal justifications and appeals to authority. In the non-religious topic, however, personal justifications and appeals to authority were extremely rare.

Such differences between the two topics are largely absent from participants’ approaches to refutation. In both topics, the vast majority of participants presented counterarguments that focused exclusively on the causal evidence for their beliefs.

Earlier in the chapter, two alternative explanations were proposed for this lack of domain differences in participants’ approaches to refutation. The “core argument” explanation proposes that people consider causal arguments to be the core grounds for their beliefs. They therefore focus on these arguments, regardless of the topic, and
irrespective of whether they are justifying their belief or generating objections to it. According to this explanation, domain differences in peoples’ approaches to justification were due to the paucity of evidence regarding God’s existence. In the absence of clear-cut evidence, people considered their causal arguments to be insufficient to warrant belief and sought to buttress them with supplementary justifications of other kinds. In generating counterarguments, on the other hand, they focused exclusively on the core arguments on which they considered their beliefs to stand or fall. In other words, the domain differences observed with respect to peoples’ approaches to justification were the exception and not the rule.

The “dual factors” explanation proposes that argumentation in the religious topic is shaped partly by a psychological factor and partly by a theological factor. The first corresponds to the individual’s general level of argumentative skill, the second to the individual’s particular religious beliefs and commitments. When the cognitive demands of an argumentative task are low, the psychological factor is relatively unimportant and argumentation is shaped primarily by the theological factor. However, as the cognitive demands of the task increase, the psychological factor becomes more important, even to the extent of eclipsing the theological factor. According to this explanation, the absence of domain differences in peoples’ approaches to refutation is due to the cognitive difficulty of reasoning against one’s own beliefs. In the less cognitively demanding task of justification, peoples’ argumentation was shaped largely by theological factors. As a result argumentation varied considerably across the topics. However, in the more demanding task of reasoning against their own religious beliefs, psychological rather than theological factors dominated. Accordingly, the differences between religious and non-religious argumentation were less pronounced.

What evidence is there for each of these explanations? In the previous chapter, participants were found to consider evidence to be scarce in the religious topic and to modify their strategies of persuasion accordingly. This finding increases the plausibility of the “core argument” hypothesis by providing a motive for the bolstering of causal arguments in the religious topic. However, it provides no direct evidence that people actually considered their personal or authority justifications to be any less “core” than
their causal arguments. To a large extent, then, the “core argument” explanation is based on speculation.

Support for the “dual factors” is provided by the effects of demographic variables on approaches to justification and refutation in the religious topic. These effects are summarized below.

**The effects of demographic factors on approaches to refutation**

Approaches to refutation were affected more by age than they were by school. In both topics, older participants were more likely than were younger participants to present some kind of causal counterargument. This suggests that, as children get older, they become more able to consider possible inadequacies in the causal evidence for their beliefs. Moreover, in the religious topic, the effects of age on causal counterarguments were not only quantitative, but also qualitative: Whereas the intervention counterarguments of older participants tended to be concerned with God’s intervention, or lack of it, at the global or general level, those of younger participants were concerned with intervention at the personal level.

The influence of age, and the relative lack of influence of school, on participants’ approaches to refutation are shown most clearly in the distribution of creation counterarguments. Creation *counterarguments* were significantly more common amongst older participants than they were amongst younger participants, but more or less equally distributed amongst participants from all three types of school. Creation *arguments*, on the other hand, were significantly more common amongst participants from Torani and Religious schools than they were amongst participants from General schools, but more or less equally distributed amongst participants from all three age groups.

These findings further highlight the domain-generality of participants’ approaches to refutation. Peoples’ religious backgrounds have little effect on the counterarguments they generate against their religious beliefs. Age, on the other hand, affects their counterarguments in both the religious and the non-religious topics.

These findings provide supporting evidence for the “dual factors” explanation. Arguing against one’s own beliefs is cognitively more demanding than is arguing in support of one’s beliefs. Thus, if the relative influence of theological and psychological factors on argumentation in the religious topic varies as a function of the cognitive
difficulty of the argumentative task, we would expect peoples’ theological commitments to affect how they justify their own religious beliefs but not necessarily the kinds of counterarguments they generate against these beliefs. Moreover, assuming that cognitive sophistication and skill increase with age, we would expect age to affect refutation more than justification, since refutation is more cognitively complex. Thus, if the “dual factors” explanation is correct, it explains not only why domain differences in argumentation are largely absent from peoples’ approaches to refutation, but also why school affects people’s religious justifications more than age, and why age affects their approaches to refutation more than school.

The “dual factors” explanation thus appears to be better substantiated than the “core argument” explanation. However, both hypotheses yield predictions that can be tested against the results to be reported in the next chapter. As Kuhn (1991) has pointed out, the task of rebutting counterarguments that one has generated against one’s own point of view is more cognitively complex than either the generation of counterarguments or of justifications. Thus, if the “dual factors” explanation is correct, school effects should be less significant and age effects even more significant in relation to rebuttals than they were in relation to counterarguments. On the other hand, if the “core arguments” explanation is correct, participants’ rebuttals in the religious topic should focus primarily on reinstating the causal arguments they presented in support of their beliefs. Both predictions are investigated in the next chapter.

**Consistency in approaches to justification, persuasion and refutation**

Relationships between participants’ approaches to refutation and their approaches to justification and persuasion were investigated by hierarchical cluster analysis. The findings of these analyses lend additional support to the observation in the previous chapter that participants were generally consistent in their argumentation. Just as they adopted strategies of persuasion that were compatible with their own reasons for believing, so they envisaged their opponents employing argumentation of the same logical type in order to undermine their beliefs. In contrast to the view that the religious thinking of children and adolescents is fragmentary and inconsistent, these findings underscore the basic coherence of participants’ religious thinking.
**Approaches to refutation and perceptions of “self” and “other”**

Whereas some participants saw their opponents as fundamentally different to themselves, others identified with their opponents to such an extent that it was difficult at times to know whether they were speaking from their opponent’s point of view or their own. It is difficult to know to what to attribute these differences in orientation. One possibility is that they reflect basic dispositional or personality differences between the participants (cf. de St. Aubin, 1999). Another possibility is that they reflect participants’ epistemological beliefs about the nature of the controversies in which they were engaged. Though this latter possibility will be addressed in Chapter 7, a comprehensive examination of this question is beyond the scope of the present study.

Nevertheless, the existence of these different orientations highlights an important feature of argumentation that is often overlooked. Argumentation in real controversies is sometimes more than just an act of logical reasoning or a regurgitation of socially learned calls and responses. Often it is an act of self-definition. This aspect of argumentation will be explored further in the next chapter as we examine the different ways in which participants sought to rebut the counterarguments they had generated.
Chapter Six: Rebuttal

Section A: Approaches to Rebuttal

A rebuttal is an attempt by a person to restore the force of her initial justification by neutralizing the threat posed by a counterargument. Rebuttals may be grouped into two main classes: integrative and non-integrative (Kuhn, 1991). In an integrative rebuttal, the participant attempts to integrate the counterargument with her original justification by comparing the plausibility, validity or relevance of the two lines of reasoning, explaining why her initial position is better supported than her opponent’s. In a non-integrative rebuttal, the participant addresses only one of the sides in the controversy, either refuting the counterargument or bolstering her initial position with further justifications.

How rebuttals were identified

After the participant had presented a counterargument, she was asked by the interviewer to rebut the opposing line of reasoning (e.g. “What would you say to Ifat in order to show that she is wrong?”). However, often participants would anticipate this question and generate a rebuttal spontaneously in the course of presenting a counterargument. Obviously, participants who had either failed or refused to present counterarguments were unable to rebut them. In such cases, therefore, the interviewer would propose a counterargument before inviting the participant to rebut it.

Most participants responded to the interviewer’s request by presenting integrative or non-integrative rebuttals. However, a minority of participants responded either by refusing to present a rebuttal or with statements that failed technically to rebut the counterargument. Responses of the former type were categorized as principled non-rebuttals; responses of the latter type were categorized as technical non-rebuttals.

Often participants would offer more than one response to the rebuttal question, addressing different aspects of the counterarguments that they were attempting to rebut. In some cases, participants would initially refuse to rebut the counterargument, but later provide a rebuttal. Thus, integrative rebuttals, non-integrative rebuttals, principled non-rebuttals and technical non-rebuttals are not mutually exclusive categories: in theory a single participant could present responses of all four types.
Four approaches to rebuttal

I. Integrative rebuttals

Integrative rebuttals can integrate counterarguments with an initial justification in one of three ways. First, the participant can accept that the counterargument has partial validity, whilst denying that it has sufficient force to undermine the initial justification. Rebuttals of this type often took the form of qualification by the participant of her initial position. Second, the participant can weigh up the argumentation presented by each side in the controversy, showing that the balance of evidence and argument is in favor of her initial position. Third, the participant can criticize the relevance of the counterargument, showing that the considerations cited in her initial justification are more pertinent to the issue under discussion than those cited in the counterargument. Examples of Integrative rebuttals are provided in RB1 to RB6 below.

Example RB1: Integrative Rebuttal, Non-Religious Topic

(Interview No. 120, female fifth-grade pupil at a Torani school)

She’d show that there are all kinds of people. There are those whom it helps and those whom it doesn’t. How would you answer her? That it’s true. Not everybody is the same. All people aren’t the same. So, to some extent, she’s right. But with most people it does work.

Example RB2: Integrative Rebuttal, Religious Topic

(Interview No. 41, female twelfth-grade pupil at a General school)

She could present many other cases where, without doubt, God must have been involved. [She’d say] “But in my eyes that’s the easiest thing to believe. You can’t think of anything else, so [you say] it was coincidence.” How would you rebut her arguments? I’d say to her, “Listen, it’s impossible to say absolutely yes or no. There are no proofs. It’s not black and white.” I’d say to her that, in my eyes, until it’s proven that He exists, He doesn’t.

In both RB1 and RB2, the participants accept that the counterargument has some validity, though not enough to overturn their initial position. In RB1 the participant concedes that there are some people for whom punishment is ineffective, but argues that such people are in the minority. In RB2, the participant concedes that her attribution of seemingly miraculous events to coincidence is no more substantiated by evidence than is
her opponent’s attribution of the same events to divine intervention. However, invoking the “presumption of atheism” principle (see previous chapter), she argues that her opponent’s position requires more evidence than does her own, and that therefore, by default, her own position is the better justified of the two.

*Example RB3: Integrative Rebuttal, Religious Topic*

*Interview No. 160, female twelfth-grade pupil at a General school*

What would she say to me? That if I were to say to her that the world could not have come into existence just like that, then she’d say that God couldn’t have come into existence just like that. If I argue that something can’t just come out of nowhere, then where did God come from? Or she’d say that there is nothing directing what happens, that, at the end of the day, things just happen. Everyone is responsible for himself. And if by chance you drove in an area where two minutes later or two minutes earlier there was an accident, it’s because of you, not because of someone directing it from above. *So how would you react to these arguments?* Regarding her question about how God came into existence, it’s a bit infinite. Which came first: the chicken or the egg? You can’t really reach any conclusion. But really what she’s saying, I think, what she’s saying is a little harder to resolve. Because if she’s saying “So who created God?” then she’s really asking, “How did everything get created?” And I think that there was some initial thing. [...] But if she’s saying, “How was it created?” then from her perspective nothing can be created, because each time she’d ask, “How was it created? And who created it?” So my answer is a little more logical.

*Example RB4: Integrative Rebuttal, Non-Religious Topic*

*Interview No. 7, male eighth-grade pupil at a Torani school*

He’d say, for sure, that however much you punish, people still break the law. *So it’s ineffective?* Yes, that’s the main point, I think. *And how would that show that you’re wrong?* Because if the law is ineffective, then why punish? Why pointlessly invest millions of shekels in prisons? *And how would you respond to this argument?* I’d say to him that if there were no punishment, then, if now three percent of the population are criminals, then it would go up to ninety...
percent. Then everybody would steal from everybody else and nobody would be safe.

In RB3 and RB4 the participants evaluate the arguments for both sides, making the case that their own arguments are superior to those of their opponents. In RB3 the participant compares her argument from design with her opponent’s counterargument that the design argument begs the question. Whilst admitting that neither line of reasoning is susceptible to conclusive proof, she points out that her opponent’s argument results in an infinite regress. Accordingly, she rejects her opponent’s argument as less coherent than her own. In RB4 the participant compares his argument that punishment prevents crime with his opponent’s counterargument that punishment is ineffective as a deterrent. He argues that the consequences of following his opponent’s argument to its logical conclusion would compare unfavorably with the consequences of following his own.

Example RB5: Integrative Rebuttal, Religious Topic

(Interview No. 175, female twelfth-grade pupil at a Torani school)

What could she say against belief in God? Why are things bad for us? The righteous who suffer. Like, “Why do you keep the commandments and things aren’t good for you?” For example, the Holocaust. Like, I also have hard questions. Like, “Why are You so evil sometimes?” […] I’d say to her, first of all, that there are things that I don’t know myself. I myself am still learning. And I’d check it out, because it’s really terrible, but I don’t know how I’d get out of it. I think I’d say to her that, if there’s something that I don’t understand, that still doesn’t mean that it’s not correct. Let’s say that she didn’t know some particular formula in mathematics. Is the formula incorrect? So it doesn’t mean that there isn’t an answer. […] I don’t really know what I’d answer. But it doesn’t contradict belief in God. He exists for sure. Why He does what He does, that is the question.

Example RB6: Integrative Rebuttal, Religious Topic

(Interview No. 182, male twelfth-grade pupil at a General school)

I think he’d say to me that if you come and punish a child, then at the end of the day, he’ll do it on purpose. Because his parents punished him, he’ll purposely do it again to make them angry. That’s what I think he’ll argue, but it’s not
correct, in my opinion. Because when you do it to a small child, you start to show him from the outset, from age zero, that there are things that you are allowed to do and there are things that you are not allowed to do, then from an age like that, he won’t start doing things on purpose. From age zero he will understand your form of education, and he’ll be educated in the best possible way. […] Perhaps there are parents that started, for example, when they were young they said, “Never mind. We won’t punish them.” But when the child grows up they decide to punish him. The child is not used to being punished. Let’s say at twelve or thirteen, at the beginning of adolescence. Then it’s clear that he will do it on purpose to his parents and will defy them.

In both RB5 and RB6, the participants question the relevance of the counterarguments put forward by their opponents. In RB5 the participant agrees with her opponent that the existence of pain and suffering in the world are hard to reconcile with the existence of God. However, she argues that the fact that something is difficult to explain or understand does not mean that it is not the case. She thus accepts the truth of her opponent’s charge but disputes its relevance. In RB6 the participant both qualifies his own initial position and questions the relevance of his opponent’s argument. He argues that, whilst it is true that some older children react to punishment by purposely re-offending, this is only in cases where the children have not been raised in the way he is proposing. Emphasizing that he is arguing for a comprehensive approach to discipline from birth onward, he rejects as irrelevant his opponent’s claims about the reactions of children who have grown up without ever having been punished.

II. Non-Integrative Rebuttals

In non-integrative rebuttals, the participant focuses on the arguments for one side in the controversy without comparing their force with that of those for the other side. Non-integrative rebuttals were of three main types: those that criticized the validity of the counterargument, those in which the participant added further justifications in support of her initial position, and those in which the participant simply repeated her earlier lines of reasoning. Examples of non-integrative rebuttals are provided in RB7 to RB11 below.

Example RB7: Non-Integrative Rebuttal, Non-Religious Topic

Interview No. 134, male fifth-grade pupil at a General school)
What would Yossi say in order to show you that you shouldn’t punish? That the child won’t carry on like that. That he won’t go on to more serious things and that he’ll behave nicely. But that’s impossible. If you don’t do anything to him, he won’t start being good if he’s already been bad.

Example RB8: Non-Integrative Rebuttal, Non-Religious Topic

(Interview No. 88, male eighth-grade pupil at a General school)

One of the arguments that I have heard is that the world could not have come into existence by coincidence. How would you react to that argument? There are scientific theories about that. That life evolved from single-celled organisms and afterwards there were mutations and they evolved into other things. And the theory of evolution. That each time there was a mutation and, at the end of the day, the mutation turned into us. A good mutation happened and we have managed to survive.

In both RB7 and RB8 the participants challenge the validity of the counterargument but do not address explicitly the validity of their own arguments. In RB7 the participant rejects as simply incorrect his opponent’s assumption that a child who has been bad once can be deterred from future wrongdoing without resort to punishment. The participant in RB8 was unable to generate a counterargument of his own and was therefore presented with one by the interviewer. He rejects the interviewer’s creationist argument as invalid on the grounds that the existence of the world and human beings can be explained scientifically without invoking supernatural claims.

Example RB9: Non-Integrative Rebuttal, Non-Religious Topic

(Interview No. 29, female fifth-grade pupil at a Religious school)

She’d say to me that if you didn’t punish children then they wouldn’t learn. […] I’d say to her that it’s not right, because, if you punish a child, then the child will be upset. Children are offended when people punish them. Even if he knows that it’s right, it hurts his feelings.

In RB9 the participant responds to the counterargument by presenting a new argument in support of her own position. Prior to her generation of a counterargument, she has put forward only causal arguments in support of her position. However, in response to the counterargument that without punishment children wouldn’t learn, she argues that
punishment is wrong because it hurts children. She thus responds to the counterargument by adding to her previous causal arguments a new argument of a different type.

*Example RB10: Non-Integrative Rebuttal, Religious Topic*

*(Interview No. 97, male eighth-grade pupil at a General school)*

I’d say everything I said, with the Bible and everything. On the other hand, I’d say, “See, proof: loads of people believe in God and everything.”

*Example RB11: Non-Integrative Rebuttal, Non-Religious Topic*

*(Interview No. 80, female fifth-grade pupil at a Religious school)*

[She’d say] that then the child thinks that you don’t love him. And then he won’t love you in return either. And that it’s a bad way to do it and that there are other ways. […] I’d say to her what I answered you at the beginning: that he has to be punished so that he will learn.

In RB10 and RB11 the participants respond to the counterarguments by simply restating their initial position. In RB10 the participant responds to the counterargument by restating his earlier authority arguments in support of belief in God. In RB11 the participant responds to the counterarguments by restating her initial causal argument in favor of punishment.

**III. Principled Non-Rebuttals**

Some participants declined in principle to rebut the counterarguments that had been presented against their own beliefs. Principled non-rebuttals were of three kinds: logical refusals, moral refusals, and pragmatic refusals. In logical refusals the participant declines to generate a rebuttal on the grounds that the counterargument is irrefutable. In moral refusals the participant declines on the grounds that it would be wrong to enter into further argumentation with her opponent. In pragmatic refusals the participant declines to generate a rebuttal on the grounds that to do so would be pointless, since her opponent is unlikely to be moved by whatever rebuttal she might offer. Examples of principled non-rebuttals are presented in RB12 to RB15 below.

*Example RB12: Principled Non-Rebuttal, Religious Topic*

*(Interview No. 100, female eighth-grade pupil at a General school)*
I don’t have any way to respond to it, because she’s right. I don’t see Him; I can’t touch Him. I have no contact at all with Him. I can’t believe in something just because that’s what they told me. But, despite that, He exists.

RB12 is a logical refusal wherein the participant concedes that there is no way to rebut the counterargument. At the same time, however, she continues to insist that her belief is correct. Her orientation towards the counterargument is thus one of resignation rather than acceptance. Her approach may thus be contrasted with that of participants who accepted the counterargument. This latter approach is described in more detail under the heading of technical non-rebuttals.

Example RB13: Principled Non-Rebuttal, Religious Topic

(Interview No. 148, female twelfth-grade pupil at a General school)

_How would you answer her? Do I have to argue with her? How would you react?_ I wouldn’t argue. I’d say to her that she should live her life in whatever way she thinks is best. It’s a personal matter. It’s not something about which I can tell her that she’s wrong. Each person lives their life how they think, how they see fit. […] Each person can live their life however they want, as long as it doesn’t interfere with other people and they don’t force their opinion on anyone.

Example RB14: Principled Non-Rebuttal, Non-Religious Topic

(Interview No. 205, male twelfth-grade pupil at a Torani school)

I can’t prove it, so it’s a waste of time to get into an argument that it’s impossible to end.

Example RB15: Principled Non-Rebuttal, Religious Topic

(Interview No. 162, male twelfth-grade pupil at a General school)

_How would you react to his argument?_ In no way at all. I’d try and cooperate with him for the sake of argument. It’s clear that I can’t make him believe in God, just as he can’t make me stop believing in God. So there’s not much point in arguing.

RB13 is a moral refusal in which the participant declines to rebut the counterargument on the grounds that her opponent is entitled to her opinion. RB14 and RB15 are both pragmatic refusals in which the participants decline to rebut the counterargument on the grounds that further debate is pointless, since the opponent is unlikely to be convinced
IV. Technical Non-Rebuttals

Technical non-rebuttals were of three kinds: technical refusals, rebuttals by assertion, and acceptance of the counterargument. In technical refusals the participant declares herself incapable of generating a rebuttal. Often such refusals were accompanied by an explicit claim by the participant that an adequate rebuttal could be generated by some other person or at some other time. In rebuttals by assertion, the participant responds to the counterargument by simply asserting that she is right and her opponent wrong, whilst offering no argument in support of her assertion or against the counterargument. In acceptance of the counterargument, the participant declares herself in agreement with the opposed line of reasoning and therefore unprepared to argue against it. This latter kind of non-rebuttal is somewhat paradoxical, since the participant seems to assent to two contradictory lines of reasoning at one and the same time. Indeed, participants who responded in this way did not revise their initial position but either failed or refused to acknowledge the contradiction between their opponent’s position and their own. It is important, therefore, to emphasize the difference between acceptance of the counterargument and logical refusals. In the former the participant attempts to hold two contradictory lines of reasoning simultaneously. In the latter the participant continues to reject the counterargument’s conclusion but admits that the counterargument itself is not susceptible to rebuttal. Examples of technical non-rebuttals are provided in RB16 to RB18 below.

Example RB16: Technical Non-Rebuttal, Religious Topic

(Interview No. 110, female eighth-grade pupil at a Religious school)

*How would you answer her?* Like I said earlier, I really don’t know how to answer questions like these. *Are you saying that you would accept the argument?*

I would say that I don’t know how to answer her.

Example RB17: Technical Non-Rebuttal, Religious Topic

(Interview No. 151, male fifth-grade pupil at a General school)

*How would you answer him?* I’d answer him, “Perhaps you’re right. I believe in God. I say He exists. You can think whatever you want. I have my opinion.”
Example RB18: Technical Non-Rebuttal, Non-Religious Topic

(Interview No. 57, female eight-grade pupil at a General school)

How would you respond to her argument? I’d say that she’s right. You wouldn’t rebut the argument, but you’d accept it? Yes. How does that fit in with your view? It doesn’t fit in. But what she said is true. And what I said is true. You support both at the same time? Yes.

In RB16 the participant admits that she does not know how to rebut the counterargument. Whilst neither accepting the counterargument nor judging it to be irrefutable in principle, she finds herself at a loss as to how to rebut it. In R17 the participant responds to the counterargument by asserting that he believes in God, whilst offering no argument in support of his assertion or against the counterargument. In RB18 the participant accepts the counterargument. Seemingly inconsistently, she continues to subscribe to her initial position whilst admitting that it is contradicted by the counterargument to which she has just assented.

Comparison with previous categorizations

As in the case of counterarguments, few previous studies have examined in any detail the structure and content of elicited rebuttals. The notable exception is Kuhn’s (1991) study. The classification of rebuttals employed in the present study is based largely on that devised by Kuhn. However, the scope and definition of some of the categories were modified.

The category of integrative rebuttals is almost identical Kuhn’s category of the same name. The only difference is that, in the present study, this category includes challenges to the relevance of counterarguments in addition to comparisons of the relative force and comprehensiveness of the counterargument and the participant’s own initial line of reasoning. Although Kuhn did not explicitly include such kinds of argumentation in her category of integrative rebuttals, they clearly fall under her general definition of integrative rebuttals as rebuttals that involve combined attention to the arguments for and against one’s own point of view. For in order to evaluate the relevance of a counterargument to a particular position, one must not only consider the content of the counterargument itself, but also the extent to which it conflicts with the previously cited grounds for the initial position. The category of non-integrative rebuttals is similar to
Kuhn’s category of simple rebuttals. However, in the present study, this category includes not only rebuttals that focus exclusively on the opponent’s position, but also those that focus exclusively on the participant’s own position. The rationale for this inclusion is that the latter kinds of rebuttal, no less than the former, omit to consider simultaneously both sides of the argument. The categories of principled non-rebuttals and technical non-rebuttals are identical respectively to Kuhn’s categories of non-attempts and unsuccessful attempts to generate rebuttals.

**Section B: Qualitative Findings**

*Approaches to rebuttal in the two topics*

Compared with the classification schemes for justification and refutation, the classification scheme for rebuttals focuses more on the structure of argumentation than on its specific content. Concerns about the validity of cross-topic comparison in the contexts of justification and refutation are thus reduced considerably in the context of rebuttal. Moreover, coming as they did at the end of involved sequences of argumentation during which participants had examined the issues from a number of perspectives, participants’ approaches to rebuttal were less likely to have been influenced by the initial framing of the dilemmas. In the analyses that follow, therefore, more weight is given to cross-topic comparison than was the case in Chapters 3 or 5.

Nonetheless, one structural difference between the two topics does need to be taken into account in interpreting these comparisons. The question of whether or not one ought to punish children is one to which most participants were not prepared to give an unqualified answer. Most participants began their responses with phrases such as, “It depends what you mean by punishment” or “It depends what they have done” or with questions such as, “Is it the first time they’ve done it?” or “Have they been warned before?” The question of God’s existence, on the other hand, was usually answered with an unqualified yes or no. This difference reflects a basic dissimilarity between the two topics. Whereas punishment may be considered appropriate in some instances and inappropriate in others, the existence of God is generally something that one either believes in or does not (cf. Forrest, 1997; Swinburne, 1996; Thouless, 1935). The scope for integrating one’s opponent’s lines of reasoning with one’s own is thus greater by
definition in the non-religious topic than in the religious topic. We can therefore expect more integrative rebuttals in the non-religious topic than in the religious topic.

The frequencies with which particular approaches to rebuttal were adopted in each topic are presented in Figure RB1 below.

Figure RB1: Approaches to Rebuttal by Topic

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Topic</td>
<td>Non-Religious Topic</td>
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<td></td>
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<td>integrative rebuttal</td>
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<td>114</td>
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<td>4</td>
</tr>
<tr>
<td>technical non-rebuttal</td>
<td>33</td>
<td>16.6</td>
<td>13</td>
</tr>
</tbody>
</table>

Wilcoxon tests were conducted to evaluate the differences between participants’ approaches to rebuttal in each topic. The results, which are summarized in Figure RB2 below, indicated significant domain differences for each approach to rebuttal.

Figure RB2: Results of Wilcoxon tests of differences between the two topics in participants’ approaches to rebuttal

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>integrative rebuttal (non-religious topic) - integrative rebuttal (religious topic)</td>
<td>Z = -7.079&lt;sup&gt;a&lt;/sup&gt;, .000</td>
</tr>
<tr>
<td>non-integrative rebuttal (non-religious topic) - non-integrative rebuttal (religious topic)</td>
<td>Z = -6.532&lt;sup&gt;b&lt;/sup&gt;, .000</td>
</tr>
<tr>
<td>principled non-rebuttal (non-religious topic) - principled non-rebuttal (religious topic)</td>
<td>Z = -4.902&lt;sup&gt;b&lt;/sup&gt;, .000</td>
</tr>
<tr>
<td>technical non-rebuttal (non-religious topic) - technical non-rebuttal (religious topic)</td>
<td>Z = -3.063&lt;sup&gt;b&lt;/sup&gt;, .002</td>
</tr>
</tbody>
</table>

<sup>a</sup> Based on negative ranks.  
<sup>b</sup> Based on positive ranks.  
<sup>c</sup> Wilcoxon Signed Ranks Test

Three points are noteworthy about these findings. First, integrative rebuttals were significantly more common, and non-integrative rebuttals significantly less common, in the non-religious topic than in the religious topic. As was pointed out above, this finding is predictable given the results reported in previous chapters, which indicate that people tend to view opposed religious beliefs as being more polarized and less reconcilable than opposed non-religious beliefs. Nonetheless, it adds a new dimension to these earlier results, suggesting that people not only tend to view religious beliefs themselves as irreconcilable, but also the lines of reasoning by which they are supported. Second, there

1 Due to oversights of the interviewer, one participant was not asked to present rebuttals in the religious topic, and another participant was not asked to present rebuttals in the non-religious topic. Thus, for rebuttals analyses, n = 199 and not 200.
were significantly more technical non-rebuttals in the religious topic than in the non-religious topic. Most of these technical non-rebuttals were technical refusals, indicating that people found it more difficult to rebut counterarguments to their religious beliefs than to rebut counterarguments to their non-religious beliefs. Third, there were significantly more principled non-rebuttals in the religious topic than in the non-religious topic. This finding is consistent with the results reported in previous chapters, which indicate that people are often reluctant to engage in persuasive argumentation regarding belief in God.

Another interesting feature of the data summarized in Figure RB1 is the relatively low incidence of technical non-rebuttals. This may be contrasted with the more frequent incidence of non-refutation reported in the previous chapter. These results indicate that, as suggested in the previous chapter, people find it more difficult to argue against their own belief than to argue in its favor. Wilcoxon tests were conducted to evaluate the difference, within each topic, between participants’ abilities to argue against their opponent’s belief and to argue against their own. In the non-religious topic, the difference was significant, $z = 2.61, p = .009$. In the religious topic, however, no significant difference was observed. This suggests that the greater difficulty of arguing against one’s own belief depends to some extent on the belief being argued about. In the case of belief in God it seems that people find it just as hard to argue against their opponent’s belief as to argue against their own.

An additional difference was noted between the topics in the tendency of participants to present spontaneous rebuttals: 36% of participants presented spontaneous rebuttals in the religious topic, compared with 28% in the non-religious topic. A Wilcoxon test was conducted to evaluate this difference. The results of the test were not significant, though they did approach significance, $z = 1.94, p = .052$. This suggests that people may be slightly less inclined to allow arguments against their religious beliefs to pass without immediate challenge. If so, this would be consistent with the findings of previous chapters that indicate that people both hold their religious beliefs more strongly and consider them to be more definitive of their identity than their non-religious beliefs. Taken together, these findings seem to reflect a general tendency for people to consider
there to be more at stake in arguments about religious belief than in arguments about non-religious belief.

**The effects of gender, age and school on approaches to rebuttal**

Following the above general comparison of approaches to rebuttal in the two topics, a number of more specific analyses were carried out. The aim of these analyses was to investigate how particular approaches to rebuttal were related to demographic factors such as age, gender and school. Since each approach was represented as a dichotomous variable, hierarchical log-linear model selection was used. Only approaches that were employed by at least 15%, and by no more than 85%, of the participants were analyzed. This was to ensure that the number of participants employing a particular approach could be meaningfully compared across each factor level. Separate analyses were conducted for each approach to rebuttal that satisfied these frequency criteria. Each analysis proceeded by backward elimination from a 2 (gender) X 3 (school) X 3 (grade) X 2 (approach to rebuttal: present or absent) saturated model. The alpha for each analysis within this family of tests was calculated using Holm’s sequential Bonferroni method.

The results of these analyses indicated five significant interactions between approaches to rebuttal and demographic variables. All of these interactions were first-order, and four out of the five were age effects.

In the religious topic, principled non-rebuttals were more common amongst twelfth-graders (33%) than amongst eighth-graders (10%) or fifth-graders (6%), $\chi^2 (2, 199) = 20.42, p < .0001$. Follow-up tests were conducted to evaluate the pair-wise differences between each grade. The differences between twelfth-graders and fifth-graders, and between twelfth-graders and eighth-graders were significant, $\chi^2 (1, 137) = 17.05, \phi = .34, p < .001$ and $\chi^2 (1, 132) = 10.94, \phi = .28, p = .001$, respectively. This finding is consistent with the results reported in Chapter 4, which showed that, in the religious topic, twelfth-graders were more reluctant to persuade their opponents than were eighth-graders or fifth-graders. The majority of participants who declined in principle to rebut their opponent’s counterarguments (58%) did so on logical grounds, arguing that their opponent’s argument was not susceptible to refutation. This suggests that older participants’ reluctance to persuade or refute their opponent’s may be related to their epistemological beliefs about the provability of God’s existence. More specifically, as
they get older, children may become more skeptical about the ability of either side to prove their case conclusively. These findings will be discussed further in the next chapter, where participants’ epistemological beliefs are examined in detail.

In the religious topic, technical non-rebuttals were more common amongst pupils at General schools (29%) than they were amongst pupils at Religious schools (13%) or Torani schools (10%), \( \chi^2 (2, 199) = 12.01, p = .0025 \). Follow-up tests were conducted to evaluate the pair-wise differences between each school type. Only the difference between General and Torani schools attained significance at the required alpha, \( \chi^2 (1, 152) = 7.47, \phi = -.21, p = .006 \), though the difference between General and Religious schools also approached significance, \( \chi^2 (1, 150) = 5.15, \phi = -.18, p = .023 \). This finding is particularly intriguing. It suggests that pupils at General schools are less able to defend their religious beliefs against counterarguments than are pupils at Religious or Torani schools. Even more intriguing is the precise form these technical non-rebuttals took. Fully 40% of the participants from General schools who presented technical non-rebuttals did so by accepting the counterargument. This incidence of acceptance of the counterargument compares with only 17% of the technical non-rebuttals of Religious pupils and 0% of the technical non-rebuttals of Torani pupils. These results suggest that participants from General schools had a less coherent conception of their own religious belief and its logical implications.

One possible explanation for this school difference is that participants from General schools simply cared less about the question of God’s existence and were therefore less concerned than were participants from other schools that their religious beliefs should be coherent and consistent. If this explanation is correct, we would expect participants from General schools both to hold their religious beliefs less strongly and to consider their religious beliefs to be less important to them than participants from Religious and Torani schools. These predictions were tested empirically using the questionnaire data. In order to control for differences due to the valence of belief in God (belief versus disbelief), non-believers in God were excluded from these analyses. Mann-Whitney U tests were conducted to evaluate the extent to which participants from General schools believed in God less strongly, and attached less importance to belief in God, than participants from Religious and Torani schools. The results of both tests were significant, \( z = 3.36, p = \)
and $z = 4.18$, $p < .001$, respectively. These findings suggest that, the less importance one invests in a given belief, the less one is concerned to avoid incoherence and inconsistency in reasoning about that belief.

In the religious topic, spontaneous rebuttals were more common amongst twelfth-graders (51%) than amongst eighth-graders (31%) or fifth-graders (25%), $\chi^2 (2, 199) = 11.49, p = .0032$. Follow-up tests were conducted to evaluate the pair-wise differences between each grade. Only the difference between twelfth-graders and fifth-graders attained significance at the required alpha, $\chi^2 (1, 137) = 9.97, \phi = .27, p = .002$, though the difference between twelfth-graders and eighth-graders also approached significance, $\chi^2 (1, 132) = 5.91, \phi = .21, p = .015$.

A similar pattern was observed in the non-religious topic. In the non-religious topic, spontaneous rebuttals were more common amongst twelfth-graders (41%) than amongst eighth-graders (25%) or fifth-graders (16%), $\chi^2 (2, 199) = 11.41, p = .0033$. Follow-up tests were conducted to evaluate the pair-wise differences between each grade. Only the difference between twelfth-graders and fifth-graders attained significance at the required alpha, $\chi^2 (1, 138) = 10.99, \phi = .28, p = .001$, though the difference between twelfth-graders and eighth-graders also approached significance, $\chi^2 (1, 131) = 4.20, \phi = .18, p = .040$.

These findings indicate that older children are less inclined than are younger children to let counterarguments to their beliefs stand without being subjected to immediate challenge. This suggests that older children have a greater appreciation than do younger children of the threat that counterarguments pose to their own position. This age difference may reflect a greater tendency for younger children to employ what David Perkins and his colleagues (Perkins, 1985; Perkins, Allen, & Hefner, 1983; Perkins, Farady, & Bushey, 1991) have called a “makes sense” epistemology, and what Kuhn and her colleagues (Kuhn, Weinstock, & Flaton, 1994), borrowing Simon’s (1982) term, have called a “satisficing” approach to the coordination of theory and evidence. This is an approach to informal reasoning in which people analyze an issue only up to the point at which it makes superficial sense or fits in with their initial conceptions. Younger children, having already given what they consider to be satisfactory reasons for their belief, do not feel any urgency to show that these reasons withstand the attacks of an
opponent. Older children, on the other hand, understand that the adequacy of the reasons they have given depends on their ability to withstand refutation, and are thus more eager to rush to their defense.

In the non-religious topic, integrative rebuttals were more common amongst twelfth-graders (76%) than amongst eighth-graders (56%) or fifth-graders (40%), $\chi^2 (2, 199) = 18.90, p = .0001$. Follow-up tests were conducted to evaluate the pair-wise differences between each grade. Only the difference between twelfth-graders and fifth-graders attained significance at the required alpha, $\chi^2 (1, 138) = 18.81, \phi = .37, p < .001$, though the difference between twelfth-graders and eighth-graders also approached significance, $\chi^2 (1, 131) = 5.86, \phi = .21, p = .016$. If we accept Kuhn’s (1991: 170-171) characterization of integrative rebuttals as the most rationally adequate and cognitively sophisticated type of rebuttal, this indicates that, in the non-religious topic, older participants were better rebutters than younger participants. This raises the question of why no similar developmental trend was observed in the religious topic. For although one would expect there to be fewer integrative rebuttals overall in the religious topic (see above), one might still expect them to be more common amongst older participants than amongst younger participants. One possibility is that participants’ reasoning in the religious domain is less sophisticated than their reasoning in other domains. Another possibility is that, though older participants were just as able to present integrative rebuttals in the religious topic as they were in the non-religious topic, they chose for some reason not to.

Since participants were not asked why they elected to rebut counterarguments in one way and not another, it is not possible to know for sure which of these interpretations is correct. However, in seeking an explanation for the apparent lack of development in religious thinking, it is important to bear in mind that argumentation that is adequate and sophisticated in one context may be inadequate and naïve in another. Moreover, this is especially true in relation to rebuttals. Consider, for example, the kinds of rebuttal that would be most appropriate in the following contexts: defending yourself in court, responding to a television interviewer’s questions about your pre-election tax cut promises, explaining to a police officer why you do not deserve a parking ticket despite having triple parked in front of a fire hydrant. One could argue that, in most if not all of
these situations, a balanced consideration of the arguments for both sides of the issue would be not only naïve, but disastrously so. In these situations, non-integrative rebuttals, which undermine the other side’s argument whilst avoiding any concessions from one’s own side, are perhaps the wisest form of response. It is possible that participants’ approaches to rebuttal in the religious topic are influenced by considerations similar to those that dictate our approaches to such situations. Given the importance that people attach to their religious beliefs and the extent to which they consider these beliefs to be definitive of who they are, more is at stake when one is defending one’s religious beliefs than when one is defending one’s opinion on more mundane topics. Thus, as in the situations described above, there may be less incentive in religious argumentation to let down one’s defenses and seek a balanced appreciation of both sides of the issue. When people argue in defense of their religious beliefs they may therefore attach more importance to discrediting as completely as possible the arguments of their opponents than to considering dispassionately the implications of their opponent’s arguments for their own belief (cf. Batson, 1975; Festinger, et al., 1956; Klaczynski, 2000).

**Relations between justification, persuasion, refutation and rebuttal**

The relationship between participants’ approaches to rebuttal and their approaches to justification, persuasion and refutation were investigated by hierarchical cluster analysis. Separate analyses were conducted for the religious and non-religious topics. Distances between variables were computed using squared Euclidean distance and clusters were combined using average between-groups linkage. The agglomeration schedules and dendrograms for each analysis are presented in Figures RB3 to RB6 below.

In each topic, the results indicated a two-cluster solution, in which the first cluster contains causal arguments, causal counterarguments and documentary narratives and the second cluster all other approaches to persuasion and refutation. However, in each topic, the first cluster also included other variables. These additional variables were not the same in the two topics. In the religious topic, the additional variables were authority arguments, personal arguments and non-integrative rebuttals. In the non-religious topic the single, additional variable was integrative rebuttals. In light of the frequencies data reported in this and previous chapters, the constitution of these “causal” clusters can be seen to represent the major forms of argumentation adopted by participants in each topic,
whilst the other cluster in each analysis groups together the less common approaches to argumentation.

Figure RB3. Agglomeration schedule for HCA of approaches to justification, persuasion, refutation and rebuttal in the religious topic

<table>
<thead>
<tr>
<th>Stage</th>
<th>Cluster Combined</th>
<th>Coefficients</th>
<th>Stage Cluster First Appears</th>
<th>Next Stage</th>
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Figure RB4. Dendrogram for HCA of approaches to justification, persuasion, refutation and rebuttal in the religious topic

Hierarchical Cluster Analysis

Dendrogram using Average Linkage (Between Groups)

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</table>

*(J) = Approach to Justification  
(P) = Approach to Persuasion  
(R) = Approach to Refutation  
(RB) = Approach to Rebuttal

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In the non-religious topic, the “mainline” approach to argumentation was to present causal arguments supported by documentary narratives, to generate causal counterarguments against these arguments, and to rebut them by evaluating the relative force of arguments for and against the participant’s belief. In the religious topic, on the other hand, the mainline approach was to present a combination of causal, authority and personal justifications, to support these justifications with documentary narratives, to generate causal counterarguments against these justifications, and to rebut such counterarguments by challenging their validity.

These analyses thus highlight elegantly the core differences in argumentation in the two topics. Whilst argumentation in both topics focuses to a large extent on presenting causal evidence for the participant’s belief, in the religious topic such argumentation is supplemented by appeals to authority and personal justifications. Similarly, whilst in both topics most participants are able to rebut counterarguments to their beliefs, they do so differently in each topic. In the non-religious topic they weigh up the relative force of the arguments for and against their belief. In the religious topic, they focus on either undermining the validity of the counterargument or emphasizing the support for their own position.

Figure RB5. Agglomeration schedule for HCA of approaches to justification, persuasion, refutation and rebuttal in the non-religious topic

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**Approaches to rebuttal compared with approaches to refutation**

In the previous chapter, two hypotheses were proposed to explain the lack of domain differences in participants’ approaches to refutation. The “dual factors” explanation proposed that, in cognitively complex argumentative tasks, religious argumentation is shaped more by participants’ reasoning ability than by their particular theological commitments. The “core argument” explanation proposed that, in generating arguments for and against their beliefs, people focus on the causal evidence that can be adduced in its support. However, when such evidence is scarce, as in the case of religious belief, people supplement their causal arguments with reasons of other kinds, such as appeals to authority or to personal preference.

The rebuttal of counterarguments is cognitively more complex than their generation. Thus, according to the “dual factors” explanation, there should be even less evidence of
domain differences in participants’ approaches to rebuttal than in their approaches to refutation. Clearly, this prediction was not upheld. Significant differences were observed between the two topics with respect to each of the approaches to rebuttal investigated. A further prediction of the dual factors explanation is that the effects of age on approaches to rebuttal in the religious topic should be more pronounced than they were with respect to approaches to refutation, and, conversely, the effects of schools less pronounced. The results relating to this prediction are mixed. On one hand, older participants tended more than did younger participants both to present spontaneous rebuttals and to decline in principle to rebut counterarguments. On the other hand, technical non-rebuttals were significantly more common amongst participants from General schools than amongst participants from Religious and Torani schools. On balance these results suggest that, contrary to the “dual factors” explanation, the influence of theological factors on argumentation does not disappear in the face of increased argumentative complexity.

According to the “core argument” explanation, participants’ rebuttals in the religious topic should focus on reinstating the causal arguments for their beliefs rather than on defending their appeals to authority or their personal justifications. Since rebuttals were not coded according to their specific content, exhaustive testing of this explanation would have required reanalysis of most of the interview transcripts. Rather than do this, the subset of participants who presented creation arguments and creation counterarguments were used for a more selective test. Of the 37 participants who fell into this category, only 3 focused any of their rebuttals on reinstating their initial authority or personal justifications. The rest focused explicitly on reinstating their creation arguments. These results support the core argument explanation.

Though the findings reported above appear to provide better support for the core argument explanation than for the dual factors explanation, they do not rule out either explanation conclusively. On one hand, rebuttal is cognitively more complex than refutation, since it requires the participant to bear in mind both her opponent’s line of reasoning and her own. On the other hand, however, once a counterargument has been generated, the participant need only argue from her own point of view in order to refute it. As so many “belief bias” studies have shown, the task of arguing for a point of view opposed to one’s own is one that people find especially difficult. Thus, whilst the
generation of a counterargument is less complex an act of argumentation than the generation of a rebuttal, it may still be a more demanding one. This distinction has an empirical basis in the responses of participants in the present study: some participants were unable to generate counterarguments but able to rebut them when they were presented to them by the interviewer. It is also important to recognize that, whilst the two explanations offer quite different interpretations of the findings reported in the last two chapters, these interpretations are not mutually exclusive. Moreover, both interpretations are supported to some degree by the findings. It is possible, therefore, that both explanations are correct to some extent and that argumentation in the religious domain is shaped both by the scarcity of causal evidence and by the specific theological commitments of the arguer. Some of the ways in which these two factors interact are explored further in the next chapter.

Section C. Qualitative Findings

Cosmology and evolution revisited

In Chapter 3, creation arguments were shown to be significantly more common amongst participants from Religious and Torani schools than amongst participants from General schools. Moreover, qualitative differences were observed between the approaches of participants at different types of schools to scientific theories of cosmology and evolution. Whereas participants from Religious and Torani schools often dismissed such theories out of hand, participants from General school tended to take them more seriously. In Chapter 5, however, we found creation counterarguments to be more common amongst twelfth-graders than amongst eighth-graders or fifth-graders, but more or less equally common amongst participants from different types of school. This latter finding suggests that, as children get older, they become more aware of the controversial nature of creationist and evolutionist claims. Since this pattern of development applies equally to participants from all three types of school, this raises the question of why more participants at Religious and Torani schools choose nonetheless to employ creation arguments in support of their belief in God, whilst pupils at General schools prefer to avoid them. Close reading of participants’ rebuttals of evolution counterarguments provides some insight into these school differences.

Participants from Religious and Torani schools often viewed evolutionary theory and
belief in God as mutually exclusive. Participants from General schools, on the other hand, often sought to reconcile evolutionary theory with religious belief. Examples are presented below.

*Example RB19: Rebuttal of Evolution Counterargument, Religious Topic*
*(Interview No. 20, male twelfth-grade pupil at a General school)*

It doesn’t necessarily contradict. I can believe in God and believe in scientific laws that have been proven. I mean, these laws don’t always contradict. I mean, even if I find that man came from apes, apes were also created from something.

*Example RB20: Rebuttal of Evolution Counterargument, Religious Topic*
*(Interview No. 8, female twelfth-grade pupil at a Torani school)*

I’d say that she’s wrong. In contrast to what I said earlier, where I agreed with what she said, I’d say here that she’s wrong. And I’d bring up the Book of Genesis, and the first verses, and there are countless interpretations for each word there. I’d show them to her, I’d sit down with her over them and try and prove that I’m right.

*Example RB21: Rebuttal of Evolution Counterargument, Religious Topic*
*(Interview No. 115, female eight-grade pupil at a Religious school)*

I too used to have doubts about it. I too wasn’t sure that there’s a God. But this year, at the beginning of the year, we had a seminar that dealt with this topic and brought proofs that there is a God. That parents can’t come out of nothing. Nor can the world. That there is someone responsible for it all. Also that the world is constructed so precisely. Like, the sun rises and the sun sets and things like that. How could they have been created just like that? So there is someone, there is a supreme power that is responsible for everything.

In RB19 the participant attempts explicitly to reconcile belief in evolution and belief in God. This conciliatory approach may be contrasted with the approaches of the participants in RB20 and RB21. In RB20 the participant contrasts her partial acceptance of other counterarguments with her total rejection of the counterargument from evolution. Whilst conceding that counterarguments such as the argument from evil have some validity, she insists that the argument from evolution is just plain wrong. In RB21 the participant’s first response to the counterargument is to admit that, like her opponent, she
used to find the argument from evolution somewhat convincing. However, she then goes on to explain why, since attending a seminar earlier in the year, she has become convinced that it is fundamentally incorrect.

The participants in RB20 and RB21 were less dismissive of evolutionary theory than were many other participants from Religious and Torani schools. Compare, for example, the following one-line rebuttal from an eighth-grader at a Religious school.

*Example RB22: Rebuttal of Evolution Counterargument, Religious Topic*

*(Interview No. 106, male eighth-grade pupil at a Religious school)*

I’d say to him, “If you evolved from monkeys, you are a monkey!”

However, all the participants in R20 to R22 share the implicit assumption that belief in God and belief in evolution are irreconcilable and that theories of evolution are ultimately mistaken. Thus, whilst participants from Religious and Torani schools are just as aware as participants from General schools of the challenges posed to creationism by theories of evolution, they are more inclined to believe that these challenges may be conclusively rebutted. This difference in evaluation of the refutability of scientific theories of cosmology and evolution is underscored in examples RB23 and RB24.

*Example RB23: Rebuttal of Evolution Counterargument, Religious Topic*

*(Interview No. 200, male twelfth-grade pupil at a Torani school)*

Every argument I can rebut. Every argument. He’ll tell me that there is no God and that there was a Big Bang. I’ll tell him that there are scientists who say otherwise. Every argument that he can say, I can rebut.

*Example RB24: Rebuttal of Evolution Counterargument, Religious Topic*

*(Interview No. 91, female eight-grade pupil at a General school)*

The Big Bang. So what? The Big Bang is also a theory. It can’t be proved either. She’d say that it sounds more logical than a supreme power that rules over everything, that created the world, that there is such a thing. I’d say to her that, in my opinion, her theory of the Big Bang is not logical. […] The problem is that both sides are supported by arguments that appear to be correct.

The participants in RB23 and RB24 employ the same basic strategy of rebuttal. Their approach is to argue that Big Bang theory is “just a theory” and not a proven account of the origins of the universe. The striking difference between these two rebuttals, however,
is in the participants’ respective evaluations of their force. The participant in RB23 considers himself to have decisively rebutted the counterargument. The participant in R24, on the other hand, considers herself to have shown only that preference for either cosmology is ultimately a matter of subjective opinion and personal taste.

The above examples suggest that the reason that participants from Religious and Torani schools are more inclined to present creation arguments in support of their religious belief is that they consider such arguments to be ultimately defensible against evolutionary counterarguments. Participants from General schools, on the other hand, consider evolutionary counterarguments to reduce considerably the force of creation arguments. In justifying their belief in God, they therefore stick to reasons that they consider to be more easily defensible.

It is interesting that these school differences find their expression primarily in tone and nuance rather than in specific content. Participants from all three types of school use similar terminology and degrees of specification in their descriptions of scientific theories of evolution and cosmology. This suggests that they do not differ significantly in their knowledge of the basic arguments and evidence associated with these theories. Where they differ is in their evaluation of these arguments and evidence. From the few clues that are offered by participants’ passing references to other occasions on which they have discussed these questions, it appears that such differences in evaluation may reflect more general characteristics of theological discourse within different schools. In Religious and Torani schools, such discourse seems to be officially guided and to encourage early closure (see example RB21 above and examples cited in Section C of Chapter 3). In General schools on the other hand, such discourse seems to occur unofficially between peers and to evade closure. Participants’ descriptions of such unofficial discourse are presented in examples RB25 to RB27 below.

Example RB25: Theological Discourse in General Schools, Religious Topic

(Interview No. 162, male twelfth-grade pupil at a General school)

To tell you the truth, I had exactly the same argument with my friend. We sometimes go hiking and speak about this kind of stuff. And I didn’t succeed. I’m always saying stuff to him and he’s always saying stuff to me, but neither of us is ever persuaded.
Example RB26: Theological Discourse in General Schools, Religious Topic

(Interview No. 178, female twelfth-grade pupil at a General school)

It’s hard to persuade someone that doesn’t believe in God that God exists. For example, there’s this girl in my class says, “To hell with it! I don’t believe in God. Leave me alone! Let me live in peace!” She thinks that religious people are this, that and the other. And I explain to her that it’s a way of life and that if she’d believe in God a little it wouldn’t be so terrible, that it’s something intangible, something she can’t see. It’s belief from the heart. I find loads of things from the Bible, loads of proofs. I find a verse and I show it to her. She believes there’s something in it but she still doesn’t believe in God. She’s not prepared to accept the fact that God exists. She thinks that God is just something they made up to control people.

Example RB27: Theological Discourse in General Schools, Religious Topic

(Interview No. 184, male twelfth-grade pupil at a General school)

My friend, who is a believer, comes from a religious family. Also his grandfather became religious. He’s always arguing with me about these things. But when we see that we’re arguing too much and things are getting nasty, we stop, it’s enough. We’ve been friends since we were kids, not just for the last two or three years. It’s not worthwhile to let things deteriorate and to stop being friends over one argument.

Participants from different schools thus appear to have quite different experiences of theological discourse. For participants from General schools, arguments about God’s existence arise informally between peers and end with the participants agreeing to disagree. For participants from Religious and Torani schools, on the other hand, arguments about God’s existence are addressed formally and officially by teachers and seminar counselors, and end with the conclusive rebuttal of any counterarguments that may have been raised. These different experiences may explain the differences in participants’ evaluations of the force of their rebuttals of evolutionary counterarguments. Participants from Religious and Torani schools have seen these rebuttals employed officially to conclusively rebut evolutionary counterarguments. Participants from General schools, on the other hand, have seen these rebuttals result only in unofficial
If this interpretation of school differences regarding creation arguments is correct, it emphasizes the extent to which argumentation is influenced by the context within which it occurs. The kinds of argumentation people employ to defend their religious beliefs are determined not only by what they believe, but by when, where and how they have defended these beliefs, or seen them defended by others, in the past.

These findings thus provide empirical support for Evans’s (2000) interpretation of the differences she observed between fundamentalist and non-fundamentalist adolescents’ belief in evolutionism. Evans (2000) found that belief in evolution was rare in either community before early adolescence, but that amongst adolescents and adults such belief was significantly more common amongst non-fundamentalists than amongst fundamentalists. She interpreted these findings as suggesting that there are general cognitive constraints on belief in evolution as a result of evolutionary theory being less intuitively plausible than creationism and requiring a specific knowledge structure to back it up – hence its rarity amongst preadolescents. Yet, in addition to these cognitive constraints, she proposed that there are culture-specific environmental constraints on the extent to which evolutionist and creationist beliefs are privileged or suppressed by the surrounding community – hence the differences between fundamentalist and non-fundamentalist adolescents and adults.

Since Evans’s (2000) findings focused on belief rather than on the ways in which people actually engage in thinking about evolutionism and creationism, her conclusions about cognitive and cultural constraints were somewhat speculative. However, the findings of the present study indicate that there is indeed a general age trend in understanding of the nature and basis for evolutionism – hence the increase in evolutionary counterarguments with age across all school groups. Moreover, they show not only that thinking about evolutionism is culturally constrained – hence the greater tendency for creation arguments amongst Religious and Torani pupils – but also how it is culturally constrained, namely, by forms of theological discourse that actively suppress or dismiss it.

*Skepticism about “stock” rebuttals*

In generating rebuttals, participants often seemed to be drawing upon a set of “stock”
responses that they had heard elsewhere. Some participants simply rehearsed these rebuttals without further comment. Others, despite putting forward formulaic rebuttals, expressed personal reservations about their adequacy. Examples of such reservations are presented in examples RB28 and RB29 below.

Example RB28: Skepticism about “stock” rebuttals, Religious Topic

(Interview No. 171, female twelfth-grade pupil at a General school)

There are these things like the Holocaust, terrible natural disasters like happened now in Turkey, and all kinds of stuff like that. And of course there are the answers that Judaism provides, but I don’t always, sometimes I’m satisfied with them and everything, and sometimes I too have these things of, “Really, how can it be?” How are these things supposed to show that there isn’t a God? That there is no divine providence. If six million Jews were killed in the Holocaust, what kind of Chosen People is this? Chosen to be killed, or what? And these are such big things that it’s hard for us to grasp them. And, for a person who believes and thinks that there is divine providence, that’s very hard to come to terms with. And how would you react to these arguments? I generally prefer not to react. Because, yes, I can say that there are things that are on a much larger scale than what we can grasp at the moment, and that our view should be much more comprehensive. But sometimes I think, “Who am I really kidding?” I mean, I feel, “Enough!” I can’t explain it to someone. It’s hard to explain these things. These are hard things for me to come to terms with.

Example RB29: Skepticism about “stock” rebuttals, Religious Topic

(Interview No. 114, female eighth-grade pupil at a Religious school)

I’d say to her that that’s how the world is: it’s made up of pain and goodness. In everything there is some good and some bad. And if there weren’t any bad, then people wouldn’t be able to be good. All kinds of things like that. The whole world turns. It’s like a circle of life. […] If Ifat were to ask you why these bad things happen, you said you’d answer her that it’s the circle of life. Do you think your argument would convince her? [Pause] It wouldn’t convince me. So, fine, it’s the circle of life, so God doesn’t control it. Because that’s how it goes. It’s good and evil. It’s the world. God doesn’t control it.
That’s just the way it is. [...] When I said the circle of life, I said it as an argument from a religious perspective. If I bring it as an argument from a secular perspective, it’s not: it’s just a revolving circle of life. [...] As a religious person, you have to say, “That’s what God decreed. It’s fate. That’s how God decided it would be, so that’s how it’s going to be. In the end, God will have some goal. Maybe he’s punishing us now for something that we did in previous generations. Maybe even at the time of the destruction of the temple. So now He’s punishing us,” and so on. But now I’ll come from the other side. “Why are they at fault? What did they do wrong? Why must they suffer so?”

In RB28 the participant identifies certain responses to the problem of evil as “the answers that Judaism provides.” These answers propose that what seem to us to be instances of unnecessary suffering may be in fact an essential stage in the unfolding of some inscrutable divine plan. The participant mentions this rebuttal but is ambivalent about subscribing to it herself. Indeed, she suggests that she would rather remain silent than use this rebuttal, since she herself is not convinced of its adequacy. In RB29 the participant attempts initially to rebut her opponent’s counterargument from evil by arguing that evil and suffering are necessary features of the world for which God cannot be held responsible. However, when asked by the interviewer if she thinks that her opponent would be convinced by this response, the participant admits that she herself does not find the rebuttal convincing. She goes on to explain that, in presenting her rebuttal, she was arguing “from a religious perspective,” suggesting that this is not a perspective with which she herself fully identifies.

These examples show that children and adolescents are sometimes suspicious of the ease with which thorny theological problems are dismissed in the rebuttals that they hear from others. Older participants especially seemed to be more respectful of admissions by others of their inability to answer difficult questions than of rebuttals that they saw as too slick or simplistic.

**Example RB30: Skepticism about “stock” rebuttals, Religious Topic**

*(Interview No. 164, male twelfth-grade pupil at a General school)*

These [arguments] are clichés, because they’re what people usually use. I mean, they’re hackneyed arguments. People have simply used them for years and
years. I suppose I’d call them basic assumptions of, “on one hand” and “on the other hand.” […] This whole game, this counterpoint of “on one hand” and “on the other hand.” I mean, there’s no real effort here to really understand these things.

Example RB31: Skepticism about “stock” rebuttals, Religious Topic

(Interview No. 193, female twelfth-grade pupil at a Religious school)

Reward and punishment? I don’t have an answer for it. I can tell you plainly and simply: I don’t have an answer. Also, perhaps as a modest person, a small and simple person, one who doesn’t know the Torah, I really don’t know the whole Torah. But even people who are perhaps greater than me, I don’t know, I’m pretty sure that they don’t have answers to these questions. So there will be things that I can answer Ifat, about which she will perhaps agree with me. But, like I said, if she really wants to know the things she is asking, then the investigation has to come from her. I mean, maybe I will be one more stage on her journey. But if she wants to get a really satisfactory answer, she has to go and research it. Me too. If I haven’t had a satisfactory answer from one rabbi, I’ll go and ask another rabbi. If I don’t get one from him, I’ll go and ask another rabbi. And so on until I receive the most satisfactory answer. And if I don’t get it, and they say to me, “Sorry, I have no answer to give you,” OK, I understand that. We are not angels. And it’s hard enough getting to their level. But if you can’t give me an answer, OK, that’s logical, that’s truthful.

These examples suggest that adolescents have a sophisticated appreciation of the complexity and difficulty of theological questions. They suggest also that when adolescents encounter proofs and rebuttals that fail to take this complexity and difficulty into account, they are liable to reject them as dishonest or shallow. This seems to be the case in some of the examples presented in earlier chapters. The sensitivity of adolescents to overly simplistic proofs and rebuttals has important educational implications that will be discussed in detail in Chapter 8.

Living with unanswerable counterarguments

Another reflection of participants’ appreciation of the difficulty and complexity of theological questions was the declaration by some that certain counterarguments were
unanswerable. A particularly interesting feature of such declarations was that they were rarely accompanied by a modification of the participant’s initial position. On the face of it, such responses seem irrational. Having acknowledged that there are irrefutable grounds for doubting the existence of God, a person might be expected to qualify their belief in some way, if not to revise it entirely. However, rather than do this, participants often followed up acknowledgement of a counterargument’s irrefutability by restating their initial commitment to belief in God.

How then did participants reconcile these counterarguments with their beliefs? In some cases it appears that an implicit conservative principle was at work. According to this principle, a greater weight of argument and evidence is required to unseat an incumbent belief than to maintain it (cf. Harman, 1986; Rips, 1998). Thus, if one is strongly committed to a particular belief and has been so for some time, one is entitled to continue to hold it, even if one is not able to rebut every counterargument that can be brought against it. In other cases it seems that participants simply overruled the counterarguments, as if their force was something to be determined by the participant rather than some objective quality of the counterarguments themselves. R32 is an example of the former type of response, R33 an R34 are examples of the latter.

Example RB32: Living with unanswerable counterarguments, Religious Topic
(Interview No. 163, female twelfth-grade pupil at a General school)

I can’t answer these things. So you wouldn’t try and rebut these arguments, even though you don’t accept them? No. Would you be prepared to explain to her why you don’t accept her arguments? I think because it’s my personal belief. Because that’s what I believe, that’s how I was educated, that’s how I grew up. I can’t think any other way. It’s something ingrained.

Example RB33: Living with unanswerable counterarguments, Religious Topic
(Interview No. 89, male eighth-grade pupil at a General school)

Well, that really is something that I can’t explain. […] I’d say to him that I believe in it and that for me it’s enough that I know it. And I don’t need any other opinion.

Example RB34: Living with unanswerable counterarguments, Religious Topic
(Interview No. 61, female eighth-grade pupil at a General school)
I understand these arguments. There is a basis for them. And they are correct from a certain perspective. But I believe in what I believe in. And these arguments aren’t what will cause me to change my belief. Although sometimes I do think that they’re right and they’re correct. But my feelings are stronger than these arguments. It doesn’t affect your feelings? No. Do you see it as two different levels? Your feelings on one level and the arguments on another level? They always affect each other. And there are arguments that are correct and that are connected to my faith. I decide which arguments I accept and which I don’t accept.

The participant in RB32 concedes that she cannot answer her opponent’s counterargument but refrains from accepting its conclusion. In explaining why she does not accept her opponent’s argument she does not point to any flaws in the argument itself but to her own personal history of belief. This suggests that she considers this history of belief to entitle her to continue to believe, even in the face of unanswerable counterarguments. Like the participant in RB32, the participants in RB33 and RB34 concede that they are unable to rebut their opponent’s counterarguments. However, in these cases, the participants do not appeal to any conservative principle to justify their continued belief. Instead, they seem to make some kind of executive decision to ignore the implications of these counterarguments.

These examples are intriguing in that they show people consciously weighing up lines of reasoning not solely on the basis of their argumentative force or the extent to which they are supported by evidence, but on the basis of their compatibility with their other beliefs and commitments. An uncharitable interpretation of these responses might view them as nothing more than articulate versions of rebuttal by assertion. However, there is a great deal of difference between replying, “Well, she’s wrong and I’m right” and replying, “She’s got a good point, but it won’t make me change my mind.” In the former case the individual supplies no rationale at all for her continued belief. In the latter case she consciously weighs up and orders her epistemic commitments. When people weigh up, order and decide what they believe they often take into consideration the logical and evidentiary basis for beliefs. In the examples above, however, other considerations are given more weight.
There is little novel in the observation that people’s judgments about whether to accept the conclusion of a given argument are affected by their prior beliefs. This has been well documented in studies of belief bias (Evans, 1989; Evans & Over, 1996; Henle, 1962; Kahnemann, Slovic, & Tversky, 1982; Sutherland, 1992; Tversky & Kahnemann, 1974). The examples above, however, show that such “biases” are not always errors that creep into an individual’s thinking unbidden and unnoticed. Sometimes they reflect conscious decisions and judgments by the individual about what she wants to believe or is able to believe. These decisions and judgments are perhaps best seen as processes of epistemic management, whereby the individual seeks to organize her beliefs into as manageable a whole as possible. When the cost of integrating a particular conclusion into one’s current beliefs is an extensive rearrangement and reevaluation of many of the beliefs one already holds, a person might choose consciously to resist such integration. These are the kinds of considerations that the participants in examples RB32 to RB34 seem to be addressing. The notion of epistemic management will be developed further in the next chapter.

**The ethics and pragmatics of rebuttal**

As was the case with persuasion, many participants were reluctant to offer rebuttals in the religious topic. Some were concerned that their rebuttal would be interpreted as a criticism of their opponent or a denial of her right to her own opinion. Others thought it pointless to respond to their opponent’s counterarguments since their opponent was unlikely to be convinced by any rebuttal they might offer. Particularly interesting were responses that combined both pragmatic and ethical reservations. Examples of such responses are presented in RB35 to RB37 below.

**Example RB35: Ethics and pragmatics of rebuttal, Religious Topic**

*(Interview No. 100, female eighth-grade pupil at a General school)*

This is my opinion. I can’t dismiss her opinion because of my opinion. If a person doesn’t believe in God that’s that. It’s an opinion.

**Example RB36: Ethics and pragmatics of rebuttal, Religious Topic**

*(Interview No. 32, male fifth-grade pupil at a Torani school)*

I can’t change his opinion. And if I did change his opinion it wouldn’t be a real opinion. It would be what I said to him. I’d leave him to find his own faith. If he decides to believe then he’ll believe. And if not, then he won’t.
Example RB37: Ethics and pragmatics of rebuttal, Religious Topic

(Interview No. 10, male twelfth-grade pupil at a Religious school)

How would you react to his arguments? How would I react? Yes. What would you say? How would you rebut them? I wouldn’t even try. If someone believes in these things, it’s impossible to persuade him. Why is it impossible to persuade him? Because he’s locked into something. Like, he has to understand it on his own. […] Someone who is locked into something, unless something happens to him, won’t want to understand, however much you try and explain it to him. Is the same true of you? Are you also locked into your opinion? If someone came along with all sorts of arguments, is there any chance that you would be persuaded? If it were against my principles in life, I wouldn’t be persuaded. So is this something about which you could never be persuaded? No one would succeed in persuading me. It’s something that I’m locked into. It’s one of my principles. If he were to try and persuade me about something else not connected to this, I’d try and listen.

In RB35 the participant’s reluctance to offer a rebuttal is due to her belief that one person cannot change another’s opinions. However the wording of the response is ambiguous. It is unclear whether the “I can’t” means “It is not possible” or “It is wrong” or some combination of the two. In RB37, the ethical and pragmatic elements are more clearly differentiated. The participant first voices a pragmatic concern that his rebuttal will not convince his opponent. He then voices a separate, ethical concern that, even if his rebuttal were to succeed in persuading his opponent this would not have any real value, since faith is something that each person needs to develop for himself. The participant in RB38 voices similar concerns. He first argues that it there is no point trying to rebut his opponent’s arguments, since his opponent would resist all attempts to convince him. He then suggests that, anyway, this is something that his opponent has to understand on his own. In response to the interviewer’s questions about his own openness to change, the participant explains that, since belief in God is for him a core principle, he too would resist all attempts by others to change his opinion.

These examples highlight important features of participants’ conceptions of religious
belief. Not only do people expect religious beliefs to be especially resistant to change. They also consider them to be somehow inauthentic unless they are objects of personal commitment as well as cognitive acceptance. As the examples above show, these features of religious belief have a direct impact on the kinds of argumentation that children and adolescents employ, or choose not employ, in their support. This underscores once again the extent to which children’s and adolescents’ argumentation is sensitive to the content and context of the claims being discussed.

Section D. Summary

Domain-dependence of approaches to rebuttal

Non-integrative rebuttals, principled non-rebuttals and technical non-rebuttals were all significantly more common in the religious topic than in the non-religious topic. Whilst some of these differences are predictable given the findings reported in previous chapters, they indicate that domain differences do not disappear as the complexity of the argumentative task increases. Not only did participants tend to consider opposed religious beliefs to be less reconcilable than opposed beliefs about punishment. They were also less inclined to evaluate the grounds for their own religious belief in the light of their opponents’ counterarguments.

Participants were generally more reluctant to rebut their opponents’ counterarguments in the religious topic than in the non-religious topic. This reluctance appeared to stem from a number of different sources. First, participants seemed to find it more difficult in general to generate rebuttals to counterarguments in the religious topic. This suggests that people may tend to give less consideration to arguments against their religious beliefs than they do to arguments against their other beliefs. Second, participants expressed both ethical and pragmatic concerns about seeking to convince their opponent to change his or her religious belief. These concerns reflect a conception of religious belief wherein a person’s religious convictions are seen as both more resistant to change and more private and personal than are their beliefs and opinions in other domains. Third, older participants in particular considered some counterarguments to their religious beliefs to be simply unanswerable.

These differences between participants’ approaches to rebuttal in the two topics underscore the sensitivity of children and adolescents to the content and context of
argumentation. The kinds of argumentation they employ to defend their beliefs against counterarguments appear to depend less on their possession of some domain-independent set of argumentative reasoning skills than on the particular features of the particular beliefs that are being attacked and defended.

**Age differences in approaches to rebuttal**

In the non-religious topic, integrative rebuttals were more common amongst twelfth-graders than amongst eighth-graders or fifth-graders. However, no corresponding age difference was found in the religious topic. These results suggest that the ability to evaluate one’s own belief from a perspective other than one’s own is one that develops during adolescence, though not in all domains. It is unclear to what extent the absence of such development in the religious topic reflects a lower degree of argumentative sophistication in the religious domain or simply an appreciation of the differences between religious and non-religious beliefs and commitments. The fact that in the religious topic principled non-rebuttals were most common amongst twelfth-graders indicates that older participants were particularly conscious of the limitations of attempting to reconcile opposed perspectives on the question of God’s existence. Older participants may therefore have refrained from presenting integrative rebuttals in the religious topic not because they were unable to evaluate their own religious beliefs from their opponents’ perspectives, but because they were more accepting of the legitimacy of these perspectives and their resistance to change. Moreover, approaches to rebuttal that are sophisticated in one context may be naïve in another. Given the contentiousness and personal relevance of the question of God’s existence, some participants may have been more concerned to undermine as completely as possible their opponent’s position than to engage in a balanced consideration of the implications of their opponents’ arguments for their own religious belief. There does not appear to be any simple way to isolate the cognitive and motivational factors that may underlie these domain differences.

In addition to this content-dependent association between integrative rebuttals and age, a tendency was observed in both topics for older participants to rebut counterarguments spontaneously. This tendency to seek to neutralize the force of counterarguments as soon as they surface appears to reflect a greater appreciation amongst older participants of the implications of counterarguments for one’s own belief. Younger participants may be
inclined to consider their belief sufficiently justified as long as they have provided reasons for it that they themselves find convincing. Older participants, on the other hand, realize that the adequacy of their own justifications depends on their ability to withstand challenges to their validity, plausibility and relevance. They may therefore be more motivated to head off such challenges at the first available opportunity. These findings thus provide evidence that, as children get older, they move from a “makes sense” approach to belief justification towards greater a concern with belief-evidence coordination (cf. Kuhn, 1991; Perkins et al., 1983; Perkins et al., 1991).

**School differences in approaches to rebuttal**

Participants from General schools were significantly more likely to fail technically to rebut counterarguments to their religious beliefs than were participants from Religious or Torani schools. In particular, they were more likely to accept the counterargument, thereby subscribing to two contradictory lines of reasoning at one and the same time. This school difference appears to be related to the fact that participants from General schools attached less importance to belief in God than did participants from Religious and Torani schools. Since their belief was less important to them, they were less fastidious in excluding inconsistencies and contradictions from their supporting argumentation.

School differences were also evident in participants’ attempts to rebut challenges from scientific theories of cosmology and evolution to their creationist arguments for belief in God. Whereas participants from Religious and Torani schools tended to consider such theories to be both incompatible with belief in God and susceptible to conclusive rebuttal, participants from General schools saw them as compatible with belief in God but irrefutable. These dissimilarities appear to reflect more general differences in participants’ experiences and conceptions of theological discourse. Pupils at Religious and Torani schools are often exposed to arguments about the existence of God in the official contexts of classes and seminars on “Faith” or “Jewish Thought,” where counterarguments against the existence of God are raised only to be conclusively and quickly rebutted by teachers, rabbis and counselors. Pupils at General schools, on the other hand, are more used to such arguments arising in the informal context of conversations with peers, where the opposed sides usually end up agreeing to disagree.

These findings further highlight the sensitivity of argumentation to content and
context. How or whether one attempts to rebut an opposed line of reasoning depends not only on one’s possession of particular argumentative skills but also on one’s interest in employing these skills in a particular situation. Moreover, the particular methods of argumentation that one employs in order to defend one’s religious beliefs are determined to a large extent by the experiences, conceptions and repertoires of theological discourse that one has absorbed from one’s surrounding culture. The roles of cognitive and cultural factors in the development of religious thinking will be considered in detail in Chapter 8.

Living with unanswerable theological questions

Most participants believed that the counterarguments against their religious beliefs were answerable. However, some of the participants were less sanguine. These participants seemed to fall into two groups. In one group were those who sought to minimize the challenge posed by recalcitrant counterarguments by simply ignoring them or overruling their force. This first group of participants seemed to engage in some form of conscious epistemic management whereby problematic lines of reasoning were filed away into some peripheral area of consciousness where they could not disrupt the individual’s core beliefs and commitments. In the second group were participants who insisted on recognizing the full import of these counterarguments and who were suspicious of formulaic rebuttals that played down their awkwardness.

These two approaches to coping with unanswerable theological questions appear to reflect distinct conceptions of the nature of religious truth and knowledge. For participants in the first group, religious truth is something that one constructs for oneself according to one’s needs. For those in the second group, the truth is somewhere out there to be discovered, but there is no guarantee that we will ever know what it is.

These strategies for coping with unanswerable counterarguments were not the only aspects of argumentation that were affected by participants’ epistemic beliefs. It is to a detailed exploration of the relations between argumentation and epistemology that we turn in the next chapter.
CHAPTER SEVEN: EPISTEMOLOGY

Section A. Approaches to epistemology

What is epistemology?

Epistemology is an area of philosophy concerned with questions of what knowledge is and how it is justified. Whilst few people give these questions such detailed and sustained attention as professional philosophers, any person engaging in argumentation relies, at least implicitly, on some set of epistemological beliefs or assumptions. Previous investigations of people’s epistemological beliefs have tended to use the term “epistemological” to describe a wide range of beliefs including beliefs about the nature of knowledge, the nature of justification, the nature of learning and instruction, the nature of intelligence, and the nature of expertise (cf. Hofer & Pintrich, 1997). In the present study, however, the term is limited to beliefs about the nature of knowledge and its justification. Not only is this use of the term closer to its original philosophical use. It also helps us to avoid confusing beliefs about what knowledge is and how it is justified with beliefs about who possesses it and how it is acquired. Whilst the latter are interesting in their own right and can even shed light on the former, they are not identical with them. In much previous empirical research into personal epistemology these quite distinct beliefs have often been confounded (cf., e.g., Hofer & Pintrich, 1997; King & Kitchener, 1994; Kuhn, 1991; Perry, 1970; Schommer, 1990). As the results of this chapter will show, people’s beliefs about one aspect of epistemology are not always predictable from their beliefs about other aspects.

How epistemological beliefs were identified

Previous studies have shown that people’s epistemological beliefs influence the kinds of argumentation they employ in the context of ill-structured problems (e.g., Bendixen, Dunkle, & Schraw, 1994; King & Kitchener, 1994; Kitchener, 1983; Kitchener & King, 1981; Kuhn, 1991; Schraw, Dunkle, & Bendixen, 1995). In order to investigate how participants’ approaches to argumentation in each topic were related to their epistemological beliefs, the interview included a number of questions that were explicitly epistemological in nature. Some of these questions occurred at the end of the interview (e.g. “How sure are you that there is a God?” “Is it possible to know for certain?” “Are there really people like Ifat who don’t believe in God?” “Could they be right?”). Others
occurred at earlier points in the interview (e.g. “Does what you said just now prove that you are right?” “Is it possible to prove that you are right?” “Does what you said just now prove that Ifat is wrong?” “Is it possible to prove that Ifat is wrong?”). Participants’ responses to these questions were the main basis for their classification into different categories of epistemological belief. However, as is clear from some of the examples cited in previous chapters, participants often referred to their beliefs about knowledge and its justification at other points of the interview as well. These unprompted epistemological statements were also taken into account in classifying participants’ approaches to epistemology.

**Approaches to epistemology**

An initial attempt was made to classify participants’ approaches to epistemology using categories similar to those developed in previous studies (e.g., Boyes & Chandler, 1992; Chandler, Boyes, & Ball, 1990; King & Kitchener, 1994; Kuhn, 1991; Perry, 1970). Whilst researchers have differed about the precise definitions, causes, onset, duration and endpoint of particular forms of epistemological thinking, they have all tended to describe such thinking as evolving through least three distinct stages. The first stage is one of “naïve realism” or “absolutism” in which a person considers every question to have a single, correct answer that can be known, at least by experts, with absolute certainty. The second stage is one of “relativism” or “multiplism” in which all knowledge claims are considered to be entirely subjective and idiosyncratic to the tastes and preferences of the individual. The third stage is one of “evaluativism,” “postskeptic rationalism,” or “reflective thinking” in which knowledge is seen as something that is tentatively constructed by evaluating the evidence for and against competing beliefs and points of view.

Most previous research into the development of epistemological thinking has focused on adults, and on university students in particular (cf. Hofer & Pintrich, 1997). However, the few studies that have included younger participants have tended to characterize middle to late adolescence as a period during which individuals begin the move from absolutism to relativism (e.g., Boyes & Chandler, 1992; Chandler et al., 1990; King & Kitchener, 1994). It was expected, therefore, that participants’ responses to the
epistemological questions in the interview would provide a basis on which to classify them into some such categories of epistemological thinking.

This expectation was not met. Participants’ responses to the epistemological questions in the interview were surprisingly varied and eclectic. Participants often combined apparently absolutist responses to some questions with apparently relativist or evaluativist responses to others. Moreover, this eclecticism was not attributable to any particular subset of interview questions but was a general feature of responses to all of the epistemological questions included in the interview.

One way to deal with this “within-subjects” diversity of epistemological belief would have been to focus on only one interview question or subset of questions and to classify participants on the basis of their beliefs about this single aspect of epistemology. This seems to have been the approach taken by Kuhn (1991) and to some extent by King and Kitchener (1994). Kuhn’s classification of participants into absolutists, multiplists and evaluativists was based exclusively on their responses to questions about expertise. Similarly, although King and Kitchener’s theoretical framework claims to categorize individuals in terms of their assumptions about reality, knowledge and justification, in the lower four stages these assumptions appear to be defined primarily in terms of the individual’s beliefs about the ability of figures of authority to know what is true (cf. King & Kitchener, 1994; Kitchener & King, 1981). However, the disadvantages of such an approach are obvious. First and foremost, it arbitrarily distorts what the participants themselves said. Second, it buys simplicity at the cost of focusing on what is arguably a peripheral aspect of epistemological belief. Third, it ignores as “too messy” what may well be the most salient and interesting feature of children’s and adolescents’ epistemological thinking, namely, its eclecticism.

Having found existing classifications to be inadequate to describe the eclecticism and diversity of participants’ epistemological beliefs, an attempt was made to derive more appropriate categories inductively from the interviews themselves. This was done using a similar iterative procedure to that employed in the generation of categories employed in previous chapters (see Chapter Two). Three dimensions of epistemological belief were found to provide a reliable framework for describing participants’ responses. These three dimensions were: ontology, fallibility and decidability.
**Three dimensions of epistemological belief**

I. Ontology

Ontological beliefs are beliefs about what exists or what is the case. In the context of the present study, beliefs about ontology were defined as beliefs about whether or not there is a single, correct answer to the issue under discussion. Participants who believed that there was a single, correct answer were categorized as realists; those who denied that there was single, correct answer were categorized as perspectivists. Realist and perspectivist responses are illustrated below in examples E1 to E3 and E4 to E6 respectively.

*Example E1: Realist, Religious Topic*

*(Interview No. 11, male twelfth-grade pupil at a Religious school)*

At the end of the day, either there is a God or there isn’t.

*Example E2: Realist, Religious Topic*

*(Interview No. 138, female fifth-grade pupil at a General school)*

I believe it 100%. But I don’t know if what I think is correct.

*Example E3: Realist, Religious Topic*

*(Interview No. 172, female twelfth-grade pupil at a Torani school)*

I’m pretty sure [there’s a God]. If in the end this all turns out to be wrong, it’ll be a serious bummer!

In E1 to E3 the participants assume that the question of God’s existence ultimately has a single, correct answer. In E1 the participant makes this assumption explicit, paraphrasing the Law of the Excluded Middle. In E2 and E3 the assumption is not stated explicitly but is implicit in the participants’ acknowledgement that their belief in God might be incorrect: The participants contrast their subjective confidence that they are right with the objective possibility that they are wrong, implying thereby that the question of God’s existence does have some definite answer.

*Example E4: Perspectivist, Non-Religious Topic*

*(Interview No. 160, female twelfth-grade pupil at a General school)*

I don’t think there’s any right or wrong here. [...] So neither you nor Ifat is right? On the contrary, we’re both right.
Example E5: Perspectivist, Non-Religious Topic

(Interview No. 168, female twelfth-grade pupil at a General school)

I am certain that I am right and you are certain that you are right. But there is no criterion for rightness. Everyone is entitled to his own opinion.

Example E6: Perspectivist, Religious Topic

(Interview No. 159, male fifth-grade pupil at a General school)

They could be right according to what they think, but not according to how I think. […] They are right according to their worldview. I just don’t accept it.

In E4 to E6 the participants deny that there is a single, correct answer to the issue under discussion. In E4 and E5 the participants state explicitly that each side in the dispute is equally right. In E6 the participant proposes that a belief’s rightness is relative to the worldview of the believer. This implies that rather than there being a single correct answer, there are as many correct answers as there are worldviews.

II. Fallibility

Fallibility describes the extent to which a person considers herself to be susceptible to error. Participants who believed that it was possible that they might be wrong were categorized as fallibilists; those who ruled out such a possibility were categorized as infallibilists. Fallibilist and infallibilist responses are illustrated below in examples E7 to E10.

Example E7: Fallibilist, Non-Religious Topic

(Interview No. 61, female eighth-grade pupil at a General school)

I think I’m 100% right, but if someone succeeded in persuading me that I’m wrong then I’d agree with her. So far I haven’t met any such person.

Example E8: Fallibilist, Religious Topic

(Interview No. 166, female twelfth-grade pupil at a General school)

Yes, it’s possible [that Ifat is right]. I’m just one person out of all the billions of people on this small planet floating in infinite space. My powers of understanding are so limited. So, yes, anything’s possible.

Example E9: Infallibilist, Religious Topic

(Interview No. 189, female fifth-grade pupil at a Religious school)

No. I don’t think there is any possibility at all that God doesn’t exist.
Example E10: Infallibilist, Religious Topic

(Interview No. 42, male eighth-grade pupil at a Torani school)

If I’ve already said that God is who created the world then it’s obvious that he can’t be right, in my opinion. If I say he’s right then I’m contradicting myself.

In E7 the participant concedes that, although she is certain that she is right, she cannot rule out the possibility that she will at some later point be persuaded that she has been mistaken. In E8 the participant acknowledges that her powers of understanding are insufficient to guarantee that her beliefs are not in fact incorrect. In contrast to these admissions of fallibility, the participants in E9 and E10 deny that there is any possibility that they might be wrong. In E9 the denial is explicit. In E10 the participant does not explicitly deny that he might be wrong, but implicitly commits himself to this view by insisting that to admit that his opponent might be right would be self-contradictory. His underlying thinking appears to be that, even if it is in fact possible that he is mistaken, this possibility is something that he is committed to denying.

III. Decidability

Decidability describes the extent to which a person believes that there is some rational way to decide which of two or more contradictory claims is to be believed. Participants were categorized as believing the issue to be decidable if they considered some such rational procedure to exist for choosing between the conflicting claims; they were categorized as believing the issue to be undecidable if they denied the existence of any such rational procedure. Decidable and undecidable responses are illustrated in examples E11 to E14 below. All of the quotations in these examples are responses to some variant of the question, “Is it possible to prove that you are right?”

Example E11: Decidable, Non-Religious Topic

(Interview No. 64, female eighth-grade pupil at a General school)

Yes, you could do an experiment [to prove it].

Example E12: Decidable, Religious Topic

(Interview No. 119, female fifth-grade pupil at a Torani school)

Yes. There are many proofs and I believe them all. I think there really is a God.

Example E13: Undecidable, Religious Topic

(Interview No. 61, female twelfth-grade pupil at a General school)

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I don’t think that this is something that you can prove. Even if there is a God, it’s something intangible. You can’t see it; you can’t touch it. It’s impossible to prove something like that.

Example E14: Undecidable, Non-Religious Topic

(Interview No. 138, female fifth-grade pupil at a General school)

There’s no way you can prove it. It depends on your faith.

In E11 and E12 the participants state that there is some rational procedure for deciding which of the conflicting claims is right. In E11 the participant proposes that the question of whether or not to punish could be settled by carrying out an experiment. In E12 the participant proposes that the question of God’s existence is not only decidable in theory, but that it has been settled in practice by the “many proofs” that demonstrate that He exists. In contrast, in E13 and E14 the participants deny that there is any rational procedure for deciding between the conflicting claims. In E13 the participant argues that the nature of God is such that the question of His existence is undecidable in principle: since God cannot be seen or touched, the belief that He exists can be neither verified nor falsified. In E14 the participant characterizes the question of God’s existence as one that can be settled only by a non-rational, subjective act of commitment and not by any rational, objective procedure of proof.

How the three dimensions of epistemology are related

Most existing models of epistemological thinking characterize epistemological beliefs as forming integrated belief-systems that develop through an invariant sequence of hierarchically ordered stages. Moreover, these shifts in epistemological thinking are claimed to be more or less domain-independent (cf. Chandler et al., 1990; King & Kitchener, 1994; Kitchener & King, 1981; Kuhn, 1991; Kuhn, 2001; Perry, 1970). This characterization of epistemological thinking makes at least three assumptions. First, it assumes that beliefs about various aspects of knowledge and justification are closely interrelated. Second, it assumes that a person’s epistemological beliefs are more or less the same in all domains, regardless of the topic. Third, it assumes that epistemological beliefs may be ordered hierarchically according to their sophistication or adequacy. None of these assumptions is immune to challenge. The first two may be challenged empirically, as indeed they have been (e.g., Hofer, 2000; Schommer, 1990). However,
the third assumption is a conceptual one. As such it is not open to empirical challenge, only to conceptual critique. So far, no such critique has been forthcoming. Whilst some investigators have expressed doubts about particular hierarchical models of epistemological belief (cf., e.g., Chandler et al., 1990: 374; Hofer, 2001: 401), all seem to have assumed that some epistemological stances are inherently more sophisticated than others.

All three assumptions are avoided in the present categorization scheme. First, no assumptions are made about how beliefs about ontology, fallibility and decidability are related. Whilst it is not claimed that these three dimensions of epistemological belief are orthogonal, it will be argued that they are conceptually distinct. Second, beliefs about ontology, fallibility and decidability are not assumed to be domain-independent: whether they are or not is an empirical question to be addressed by “within-subjects” comparative studies. The present study is one such study. Third, beliefs about ontology, fallibility and decidability are not ordered hierarchically according to some a priori criterion of adequacy or sophistication.

By declining to order epistemological beliefs hierarchically in terms of their relative adequacy, the present study places itself in opposition to all preceding investigations of epistemological development. This approach requires some justification. The form this justification will take will be to illustrate each of the possible combinations of the three dimensions of epistemological belief described above using examples from the writings or speeches of respected philosophers, psychologists and social thinkers. These illustrations will show that individuals who are generally considered to be paradigms of sophisticated thinking have held epistemological beliefs that contemporary models of epistemological development categorize as naïve or immature. The overall intention is to provide a reductio ad absurdum argument against the hierarchical ordering of epistemological beliefs.

The eight possible combinations of the three dimensions of epistemological belief are enumerated and named in Figure E1 below. Though each combination is referred to as an epistemic type, these combinations do not represent distinct classes of personality. Rather, they represent epistemic orientations that any individual might adopt in relation to some particular topic. Following the presentation of Figure E1, each of the eight
epistemic types is characterized in more detail and illustrated with reference to a particular thinker and with examples from participants in the present study.

It is important to point out that this characterization of epistemic types is an attempt to present a maximally explicit and coherent description of how beliefs about ontology, fallibility and decidability might be combined. Not every individual who holds a particular configuration of epistemological beliefs would necessarily choose or be able to express their overall epistemological orientation in this particular way. Indeed, it is probably rare for people to reflect consciously upon the connections between their various epistemological beliefs. These descriptions are thus but one attempt to flesh out the epistemological assumptions underlying each configuration. In order to emphasize this point, actual examples of each epistemic type are presented from amongst participants in the present study. These children and adolescents generally expressed their epistemological beliefs less articulately and coherently than the respected figures with whom they are compared. Nonetheless, the underlying structural similarities in epistemological stance are clear.

Figure E1: A typology of epistemological belief

<table>
<thead>
<tr>
<th>Epistemic Type</th>
<th>Is there a single correct answer?</th>
<th>Could I be mistaken?</th>
<th>Is the question rationally decidable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modest Realist</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Tragic Realist</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Confident Realist</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Dogmatic Realist</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Modest Perspectivist</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Tragic Perspectivist</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
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<tr>
<td>Confident Perspectivist</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Dogmatic Perspectivist</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>
**Eight epistemic types**

I. **The modest realist**

The modest realist believes in the existence of a single, objective reality and in the possibility of human knowledge of this reality. According to the modest realist, the route to such knowledge is via processes of rational evaluation whereby the grounds for a given belief are subjected to critical examination. However, whilst maintaining that, *in principle*, such processes can lead to knowledge, the modest realist acknowledges that, *in practice*, they may often fail to do so: a relevant piece of evidence may have been overlooked, a point of view ignored or some error of reasoning occurred undetected. This leads the modest realist to conclude that, whilst some beliefs are better grounded than others, no belief is ever so secure as to be beyond refutation or revision. The modest realist judges between competing beliefs by examining critically the extent to which they are warranted by evidence and argumentation. She acknowledges however, that such judgments might eventually be overturned should undetected errors, unconsidered arguments or new evidence come to light.


> The facts of epistemic life require us to recognize that, as concerns our scientific understanding of the world, our most secure knowledge is very likely no more than presently acceptable error . . . The point is not that our pursuit of truth is futile, but rather that the information we obtain is best seen as no more (but also no less) than the best available *estimate* of the truth that is available to us in the circumstances. Fallibilism is something very different from nihilistic scepticism.

Rescher does not propose that the truth is ultimately inaccessible, only that, “A kind of intellectual humility is in order – a diffidence that abstains from the hubris of pretensions to cognitive finality.” Examples of modest realism amongst participants in the present study are presented in E15 and E16 below.

*Example E15. Modest Realism: Religious Topic*

* (Interview No. 161, female twelfth-grade pupil at a General school)
Is it possible to prove that there’s no God? Yes, there are studies and experiments that can explain all these things. [...] If it turns out that there is a God then I’ll admit that I was wrong. I can’t be sure of anything. [...] There are always things that are hard to explain, that even science can’t explain. So there will always be room for some doubt.

Example E16. Modest Realism: Non-Religious Topic

(Interview No. 11, male twelfth-grade pupil at a Religious school)

I think that you can approach a level of certainty if you’re experienced. Someone who investigated with a lot of experimentation and reflection could reach a level approaching certainty. But, since people are so complicated, you can never fully know the person. You won’t know all the baggage of his past. And it might be that in this one case, despite it being appropriate in 99% of cases, that something happened his past.

The participants in E15 and E16 both believe that there are systematic and objective procedures that they can employ in order to reach a reasoned conclusion. Indeed, both participants identify these procedures with scientific study and experimentation. At the same time, however, they acknowledge that employment of these methods does not guarantee in practice that the conclusion reached is the correct one. Thus, whilst believing that the question does ultimately have a definite answer and that it is possible to reach a reasoned conclusion based on the available evidence, they admit that this conclusion could turn out after all to be mistaken.

II. The tragic realist

The tragic realist believes in the existence of a single, objective reality but argues that human knowledge of this reality is ultimately impossible. The source of this epistemic pessimism is the tragic realist’s belief that every human attempt to know is constrained by the particular perspective in terms of which the inquiry is framed. The tragic realist allows that we might be able to compare alternative perspectives and find some to be preferable to others. She denies, however, that we could ever know that the beliefs we hold to be justified from our favored perspective actually correspond to the way things really are, out there in objective reality. And so, whilst believing in the existence of an objective reality, the tragic realist despairs of ever knowing this reality as it really is.
The philosopher, Karl Popper adopts a tragic realist position in his books, *The Logic of Scientific Discovery* (1992/1935) and *Objective Knowledge* (1972). According to Popper, no scientific theory can ever be conclusively verified, no matter how many tests it has survived. Science can improve its theories by replacing them with new theories that pass all the tests that the old theories passed, as well as some that the old theories failed. But no theory can ever lay claim to having discovered the ultimate truth about nature. Popper’s view is close to that of Rescher, but it differs in one crucial respect. According to Popper, even if a theory were to be completely and unqualifiedly true, we could not know that it was. Rescher, on the other hand, allows that it is logically possible to know that a theory is true. He merely advises us against claiming that any particular theory is true, given the overwhelming odds that we will turn out to have been mistaken.

Examples of tragic realism amongst participants in the present study are presented in E17 and E18 below.

*Example E17. Tragic Realism: Non-Religious Topic*

*(Interview No. 101, male eighth-grade pupil at a General school)*

> How sure are you that you shouldn’t punish? Is it something that you know for certain? I know that you shouldn’t punish, but perhaps there’s a small chance that it’s good to punish. Are there people who think that you shouldn’t punish?
> Yes. Could they be right? Yes. […] I can’t prove that I’m right and he can’t prove that he’s right.

*Example E18. Tragic Realism: Religious Topic*

*(Interview No. 11, male twelfth-grade pupil at a Religious school)*

> No one can prove that there is a God and no one prove that there isn’t […]
> There’s no way to prove it, because it’s always possible to provide an alternative explanation. Even if there were some voice that you couldn’t explain, then perhaps it’s the Messiah or maybe it’s a group of aliens playing a joke. It’s always possible. It could be God or it could be something else.
> Could [people who deny the existence of God] be right? In principle: yes. No one can prove that they’re right, but yes […] At the end of the day, either there is a God or there isn’t. The problem is that it’s impossible ever to know.
Like the participants in E15 and E16, those in E17 and E18 believe that there is a definite answer to the question they are discussing. In E18 this commitment to ontological realism is stated explicitly (“either there is a God or there isn’t”). In E17, on the other hand, it is implicit in the participant’s framing of the question of his own knowledge in zero-sum terms (“but perhaps there’s a small chance that …”). Also like the participants in E15 and E16, they both admit that they might after all be wrong. However, whereas the participants in E15 and E16 believe that there is some rational procedure that they can employ in order to reach a considered judgment that at least approximates the truth, those in E17 and E18 deny that any such a procedure exists. Thus, for the participants in E17 and E18, irrefutable knowledge is not only unlikely in practice: it impossible in principle.

III. The confident realist

Like the modest realist, the confident realist believes in the existence of a single, objective reality and in the possibility of human knowledge of this reality. She also agrees that such knowledge is attained via processes of rational evaluation. Where she differs from the modest realist is in her more upbeat assessment of her own cognitive powers. Whereas the modest realist shrinks from holding up any of her beliefs as being beyond revision or refutation, the confident realist suffers no such qualms. Believing herself to have reasoned impeccably from irrefutable grounds to the only acceptable conclusion, the confident realist sees no reason to qualify her claim that the truth has been grasped and the question settled once and for all.

The young Bertrand Russell was a confident realist with respect to his belief that he had demonstrated that all pure mathematics could be deduced from the general axioms of logic. As he wrote in an article published in The International Monthly on 4 July 1901 (quoted in Monk, 1996: 131),

All pure mathematics - Arithmetic, Analysis, and Geometry - is built up by combinations of the primitive ideas of logic, and its propositions are deduced from the general axioms of logic . . . And this is no longer a dream or an aspiration. On the contrary . . . it has already been accomplished . . .

Philosophers have disputed for ages whether such a deduction is possible; mathematicians have sat down and made the deduction.

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Russell later reflected on this period (Monk, 1996: 132-133) as one during which I thought all difficulties were solved and all problems were at an end . . .

Suddenly, in the space of a few weeks, I discovered what appeared to be definitive answers to the problems which had baffled me for years.

Examples of confident realism amongst participants in the present study are presented in E19 and E20 below.

Example E19. Confident Realism: Religious Topic
(Interview No. 121, female fifth-grade pupil at a Torani school)

How sure are you that there’s a God? It’s something that I know for certain.
Are there really people like Haya who don’t believe? Yes. Could they be right? No, because these [arguments and examples] are proof that there’s a God. It’s proof. […] It’s true that there are people who think that there isn’t, and that’s their opinion. But this proves it without doubt. So they can’t be right? There’s no chance that they’re right.

Example E20. Confident Realism: Non-Religious Topic
(Interview No. 166, female twelfth-grade pupil at a General school)

I see the differences in behavior. I know how my parents educate me and I see how their parents educate them. And I see the results in both cases. These are interesting experiments with results. Do you think that this would prove to Ifat that you’re right? Yes. […] So in your view this is something that can be proven? Yes. How sure are you of your opinion. 100%. It’s something that you know for certain? Yes. I usually qualify everything, so it’s a bit scary. But yes: I’m 100% certain. And are there really people like Ifat who believe that you should never punish? I don’t know any people like that. Do you think that there are such people in the world? I believe there are such people. I can picture to myself a kind of nice stereotype of a free and easy kind of person, but I’ve never seen one. […] OK. Assuming that there are such people, could they be right? I’m speaking about what I’ve seen. And according to what I’ve seen, I’ve never seen it work. So I think that, although I never negate anything and I’m not extreme in anything, or in most things, I think that it’s wonderful, that it can be very nice, that you can do anything, so that everything should look
beautiful and aesthetic and everything should be like an American TV serial
with a happy ending. But in reality it’s not like that.

Like the participants in the four preceding examples, those in E19 and E20 believe
that the question they are discussing has a definite answer. However, unlike them, they
believe that it is possible to find out for certain what this answer is by following rational
procedures of argumentation and proof. Indeed, both participants believe such
procedures to have been followed in their own case. Thus, in contrast to the modest
realists in E15 and E16, they believe the question to have been settled beyond all
possibility of refutation or revision.

**IV. The dogmatic realist**

Like the confident realist, the dogmatic realist believes in the existence of a single,
objective reality and in the possibility of human knowledge of this reality. Also like the
confident realist, she displays no timidity in asserting that her belief is correct beyond all
doubt. Where she differs from the confident realist is in the source of her certainty.
Whereas the confident realist’s confidence derives from her faith in her own powers of
reasoning, the dogmatic realist’s confidence derives from some non-rational source. This
non-rational source might take the form of revelation or some other kind of overriding
authority, such as conscience or intuition.

The civil rights leader, Martin Luther King Jr. adopted a dogmatic realist position
with respect to his belief that segregation was wrong. As he declared in his first major
public speech in support of the Montgomery bus boycott in December 1955, “We are not
wrong in what we are doing . . . If we are wrong, God Almighty is wrong” (King, 1955).
He later recalled how he felt when uttering these words: “I came to see for the first time
what the older [preachers] meant when they said, ‘Open your mouth and God will speak
for you.’” (quoted in Gardner & Laskin, 1995: 206). Whilst King never denied the
existence of rational grounds for desegregation (indeed, many of his speeches and actions
include various rational arguments for this position), his utter conviction that he was right
appears to have derived from a different, non-rational source: his moral conscience and
his faith in divine guidance. In later writings he explicitly contrasted the abilities of
reason and faith to lead men to truth (King & King, 1993: 41):
reason by itself is little more than an instrument to justify man’s defensive ways of thinking. Reason, devoid of the purifying power of faith, can never free itself from distortions and rationalizations.

Examples of dogmatic realism amongst participants in the present study are presented in E21 and E22 below.


(Interview No. 25, male twelfth-grade pupil at a General school)

Do you think that Yossi could prove that you’re wrong? Prove it? No. I also don’t think that I could really prove it to him. This isn’t science. How sure are you that you should … [Interrupting] use educational punishment? Yes. Very much so. Would you say that you know that you should punish, or would you put it another way? I know that you should. […] I don’t think: I know. Are there really people like Yossi? Yes. […] Could they be right? I don’t think they’re right. […] In my opinion they’re wrong.

Example E22. Dogmatic Realism: Religious Topic

(Interview No. 49, female eighth-grade pupil at a Torani school)

That’s the thing about faith: you can’t see what you believe in, you simply believe in it. There’s no way to explain it. It’s faith; it’s a feeling. […] I can’t prove that God exists. […] If a person comes with the attitude that there is no God, then there’s nothing you can do. I’m sure that there’s a God; I’m 100% certain. […] Could [people who deny that God exists] be right? If I wasn’t sure, and I thought that they could be right, I wouldn’t live my life the way I do. You have no doubts? No.

Like the participants in E18 and E20, those in E21 and E22 believe that the question they are discussing has a definite answer and that they themselves know for certain what this answer is. However, unlike them, they deny that this answer is attainable by rational procedures of scientific proof or explanation. In E21, the participant leaves it at that, without providing any positive account of the basis for his certainty. However, in E22 the participant ascribes her certainty explicitly to her personal faith.
V. The modest perspectivist

Unlike the preceding four epistemic types, the modest perspectivist denies the existence of a single, objective reality. According to the modest perspectivist, it is not just our attempts to know reality that are perspective-constrained, but reality itself. It is senseless, therefore, to worry, as does the tragic realist, that our beliefs do not correspond to the way things really are, out there in objective reality. For the modest perspectivist, there simply is no objective reality to which her beliefs could fail to correspond. This denial of a single, objective reality does not entail, however, that all perspectives are equally valid. According to the modest perspectivist, some rational criterion exists whereby perspectives may be compared and judged more or less adequate. Accounts of what precisely this criterion is may vary: not every modest perspectivist will agree on a single criterion. Some may appeal to coherence and comprehensiveness, others to utility or justice. What all such perspectivists share, however, is the belief that it is possible to grade perspectives in some non-arbitrary fashion. This belief is the source of the modest perspectivist’s modesty. She acknowledges that, if at some future time she were to become acquainted with a more adequate perspective or to recognize hitherto unnoticed flaws within her own perspective, she would be forced to revise her opinion.

The philosopher of science, Thomas Kuhn adopts a modest perspectivist position in his toned-down theory of scientific paradigms, as expressed in his “Introduction” and “Postscript” to the second edition of his Structure of Scientific Revolutions (1970) and in his article, “Commensurability, comparability, and communicability” (1982). Attempting to distance himself from more radical versions of the incommensurability thesis (cf., e.g., Feyerabend, 1975), Kuhn proposed that trans-paradigmatic criteria exist which may be employed in the rational evaluation of competing scientific paradigms. These include relative puzzle-solving ability, explanatory power, predictive power, neatness, suitability, and simplicity. The existence of such criteria opens the door to modesty by forcing us to acknowledge that our current judgments will need to be revised as and when we become acquainted with more adequate paradigms. Kuhn’s belief in the possibility of rational choice between paradigms appears to be coupled with an insistence that there is no objective, paradigm-neutral reality to which paradigms do or do not correspond. As he writes (Kuhn, 1962: 150),
proponents of competing paradigms practice their trades in different worlds . . .

[and] see different things when they look from the same point in the same
direction.

Examples of modest perspectivism amongst participants from the present study are presented in E23 and E24 below.

Example E23. Modest Perspectivism: Religious Topic

(Interview No. 77, female fifth-grade pupil at a Religious school)

Is it possible to prove to Ifat that you’re right? If she’s not too stubborn. So it depends on her? Yes. I’m a very persuasive person. If I were face to face with her I could probably persuade her. With the things you’ve just said? Yes. And I’d add other many other arguments too. […] You’ve spoken about people who believe that God doesn’t exist. Could they be right? Yes, it’s possible […] I’m not saying that Ifat is wrong. I’m just saying what I feel with respect to God. […] We’re both right.

Example E24. Modest Perspectivism: Non-Religious Topic

(Interview No. 3, female twelfth-grade pupil at a Torani school)

Could Ifat prove that she’s right? Is it possible to prove whether or not one should punish? I just don’t believe that there is a realistic way to teach a person without any punishment whatsoever. I just don’t believe it would work. […] How sure are you in your belief that you should punish? I’m fairly sure. Sure, but not 100%. Why not 100%? Because there’s always the possibility that I’ll change my mind, that someone will come with a proof that I’ve never heard of. Perhaps she’s right. Perhaps she’s right and there is another way. […] Every person formulates their opinion in different ways. If people arrive at different conclusions, then apparently there is no absolute truth. Something that is clear to one person, others can understand in different ways. […] Do you think that there really are people like Ifat, who believe that you shouldn’t punish? Do you know any people like that? No. But I’ve heard of them. Could they be right?

From my perspective, they’re not right. In their own eyes, they’re right.

Unlike the participants in examples E15 to E22, those in E23 and E24 deny that there is a single, correct answer to the question they are discussing. For these participants, the
difference between their own view and that of their opponent is not one of right versus wrong. Rather, it is one of perspective. Nonetheless, neither participant considers all perspectives to be equally valid, even if they are all to some extent legitimate. Both participants believe that criteria exist whereby some perspectives may be judged more adequate than others. Indeed, for both participants, these criteria are the coherence and comprehensiveness of the arguments that can be brought in support of a given perspective. However, whilst both participants believe their own perspectives to fare better on these criteria than any others with which they are currently acquainted, neither of them considers the superiority of their own perspective to have been demonstrated with any finality. In E23 this modesty is implicit in the participant’s admission that her opponent “could be right.” In E24 the participant admits explicitly that, if she were to discover that the arguments for some other perspective were better than those for her own, she would revise her current opinion.

VI. The tragic perspectivist

Like the modest perspectivist, the tragic perspectivist denies the existence of a single, objective reality. Also like the modest perspectivist, she admits that she cannot rule out the possibility that her current perspective is flawed and inadequate. Where she differs from the modest perspectivist is in her denial that any rational criterion exists for assessing the relative adequacy of competing perspectives. Her grounds for this denial may be of various kinds. She may reject the possibility of grading perspectives in terms of their coherence on the grounds that perspectives are rarely, if ever, internally consistent. Or she may deny that competing perspectives may even be compared; for example, by pointing out that perspectives may diverge so radically as to make any meaningful comparison between them impossible. Whatever the basis for her denial, however, the tragic perspectivist finds herself condemned to adopting a particular perspective without being able to provide any rational basis for her tacit assumption that it is more worthy of her allegiance than some other, competing perspective.

The tragic perspectivist position coincides with the “value-pluralism” and “agonistic liberalism” (Gray, 1995: 1) of Isaiah Berlin. According to Berlin, competing systems of human values are often incommensurable, that is, the principles upon which they are based are so divergent as to render impossible any attempt to compare them, let alone
assess their relative adequacy. Moreover, value systems themselves are never internally consistent. As a result, no rational criterion exists for justifying one’s adherence to one moral perspective rather than to some competing one. Our choice of moral perspective can thus be based on no more than “a groundless commitment to one among the forms of life with which we are acquainted” (Gray, 1995: 142). This moral epistemology is most forcefully expressed in Berlin’s essay, ‘On the Pursuit of the Ideal,’ in which he writes (Berlin, 1990: 13-17),

Some of the Great Goods cannot live together. That is a conceptual truth. We are doomed to choose, and every choice may entail an irreparable loss … if we allow that the Great Goods can collide, that some of them cannot live together … in short that one cannot have everything, in principle as well as in practice … then, as Chernyshevsky and Lenin once asked, ‘What is to be done? How are we to choose between possibilities? What and how much are we to sacrifice to what?’ There is, it seems to me, no clear reply.

Examples of tragic perspectivism amongst participants from the present study are presented in E25 and E26 below.

Example E25. Tragic Perspectivism: Non-Religious Topic

(Interview No. 12, male twelfth-grade pupil at a Religious school)

It’s a pointless argument. You can’t really prove it. […] I think that in topics like these there are always exceptions and nothing is certain. Nothing is really certain. Even if someone were to write a doctorate on it, it’s still wouldn’t be possible to know. Are there really people like Yossi, who think that you shouldn’t punish? That you shouldn’t punish? Yes. I’m sure there are few my age. Mostly young people. Not parents. Why? Is it an age-related phenomenon? It’s something completely subjective. You mean it depends whether you’re on the side of those being punished? Yes. It’s subjective. Could they be right? Could they be right? Well, it’s a fact that most of them think that they’re right. Yes, they could be right. […] Like I said, it’s subjective. It’s completely subjective.

Example E26. Tragic Perspectivism: Religious Topic

(Interview No. 109, male eighth-grade pupil at a Religious school)
Is this something that can be proven? No. In my opinion, it’s something where each person proves to himself what he already thinks. [...] It’s possible to prove that there’s no God. But it’s also possible to prove that they’re right and God does exist. Each person can prove whatever he wants. [...] Each person knows for certain what he thinks, but it’s impossible to really know it. No one can really prove it.

Like the participants in E23 and E24, those in E25 and E26 deny that there is a single, correct answer to the question they are discussing. Also, like the participants in E23 and E24, they admit that they cannot demonstrate conclusively that their own perspective is the most adequate. However, unlike the participants in E23 and E24, they deny that any rational, perspective-neutral criteria exist whereby their own perspective may be judged even provisionally superior to any other. For the participant in E25, this tragic perspectivism is expressed in his insistence that all perspectives on the issue of punishment are “completely subjective.” In E26 it is expressed in the participant’s assertion that all knowledge-claims and proofs are relative to some perspective or other, and that none therefore has any greater claim than any other to being “real” knowledge or “real” proof.

VII. The confident perspectivist

Like the modest perspectivist, the confident perspectivist denies the existence of a single, objective reality whilst maintaining that a rational criterion exists for grading competing perspectives. Where she differs from the modest perspectivist is in her belief that the superiority of her perspective can be conclusively demonstrated. This confidence allows her to discount the claims of competing perspectives. The confident perspectivist does not deny that other perspectives exist. She denies only that they have any legitimate claims on her allegiance.

The psychologist, Carol Gilligan adopts a confident perspectivist position with respect to psychological theories of moral development. In an early paper on women’s moral development, she described her aim as being (Gilligan, 1977: 482),

to identify in the feminine experience and construction of social reality a distinctive voice, recognizable in the different perspective it brings to bear on the construction and resolution of moral problems.
Gilligan thus sees feminine morality as a socially constructed perspective. At the same time, however, she views this perspective not merely as an alternative to earlier, male-dominated perspectives, but as a better one. As she states towards the end of the same paper (1977: 509),

The developmental conception delineated at the outset . . . has been limited insofar as it has been predominantly a male conception … To admit to this conception the truth of the feminine perspective is to recognize for both sexes the central importance in adult life of the connection between self and other, the universality of the need for compassion and care.

Some of the grounds for Gilligan’s preference for the feminine moral perspective (“care and responsibility”) over the masculine (“justice and autonomy”) are stated explicitly in her writings, others are left implicit (cf. Gilligan, 1982). In the above passage, however, she appeals to the criterion of comprehensiveness, arguing that theories based on the male perspective arbitrarily ignore aspects the moral experience of both women and men, which the feminine perspective addresses.

Examples of confident perspectivism amongst participants from the present study are presented in E27 and E28 below.

Example E27. Confident Perspectivism: Religious Topic

(Interview No. 188, male twelfth-grade pupil at a Religious school)

Every person has his own faith. If he feels inside that there’s no God and that everything started from some insect and that’s what feels right for him, then that’s what’s right for him. A person has to find his own answers. […] Look, I’m a guy who is always changing. What I thought yesterday is not what I think today. I’m always open to somebody coming along and telling me something, and if I think that it’s correct I’ll accept it. But my belief has always been that there is a God. […] In my opinion, a person who doesn’t believe in God is at the end of the day someone who doesn’t care. He doesn’t invest his time in thinking. He’s not someone who thinks logically. You don’t need to be smart or intelligent to understand that there’s a God. It’s enough to think for a few minutes. Look around and you’ll understand. […] Could [people who deny
that God exists) be right? From their own perspective they’re right. But in my opinion, it’s incorrect.

Example E28. Confident Perspectivism: Religious Topic

(Interview No. 68, female eighth-grade pupil at a General school)

Do you think that the examples that you’ve just given prove that you’re right? I think so. If I sat down with her and explained to her as I’ve just explained to you. There would be things that I could do to try and persuade her. It’s not like in the previous topic about belief in God. What’s the difference? That this is something that can be proven? This can be proven. That’s what I think. […] How sure are you of your opinion? In this topic? 100%. You know for certain? Yes, I think I do. Are there really people who think that you shouldn’t punish? Many. Could they be right? Not to punish? Right? No chance. From my perspective. Like I said, everyone has his own opinion, his own feeling. If it works for them, let them carry on with it.

Like the participants in examples E23 to E26, those in E27 and E28 deny that there is a single, correct answer to the question they are discussing. Also, like the participants in E23 and E24, they believe that rational, perspective-neutral criteria exist whereby their own perspectives may be judged superior to those of their opponents. However, unlike the participants in E23 and E24, they seem to rule out the possibility that their own perspective may eventually be found to require revision. Thus, whereas the participants in E23 and E24 admit that their opponents’ perspectives could turn out to be more adequate than their own, those in E27 and E28 label their opponents’ perspectives definitively as incorrect.

VIII. The dogmatic perspectivist

The dogmatic perspectivist denies the existence of a single, objective reality and of any rational criterion for assessing the relative adequacy of competing beliefs and perspectives. In the absence of such a criterion, the dogmatic perspectivist feels free to subscribe to whatever perspective or belief is most attractive to her at any one moment. Moreover, since, according to the dogmatic perspectivist, no competing perspective has any greater claims to objectivity than her own, she has no qualms in rejecting these alternatives out of hand. Indeed, the dogmatic perspectivist denies the possibility that she
could ever be mistaken on the grounds that whatever belief she asserts or perspective she adopts, it is by definition the right one for her. Since rightness-for-me is, according to the dogmatic perspectivist, the only possible measure of rightness, she thereby places herself beyond all refutation.

The psychologist, Kenneth Gergen advocates a dogmatic perspectivist position in his article, “Multiple identity: the healthy, happy, human being wears many masks” (1972) and in his book, The Saturated Self (1991). Gergen argues that the self as classically conceived in Western thought has become increasingly eroded in post-modernity. According to Gergen, this development should not be viewed in a negative light. Instead, the shaking off of romantic notions of authenticity and modernist notions of responsibility should be seen as a positive move towards a more healthy conception of psychological well-being. As Gergen puts it (1972: 65-66),

the value that society places on coherent identity is unwarranted and possibly detrimental. It means that the heterosexual must worry over homosexual leanings, the husband or wife over fantasies of infidelity, the businessman over his drunken sprees, the commune dweller over his materialism. All of us are burdened by the code of coherence, which demands that we ask: How can I be X if I am really Y, its opposite? We should ask instead: What is causing me to be X at this time? We may be justifiably concerned with tendencies that disrupt our preferred modes of living and loving; but we should not be anxious, depressed or disgusted when we find a multitude of interests, potentials and selves … we should learn to play more roles, to adopt any role that seems enjoyable … The mask may be not the symbol of superficiality that we have thought it was, but the means of realizing our potential. Walt Whitman wrote: ‘Do I contradict myself? Very well then, I contradict myself. (I am large. I contain multitudes.)’”

Gergen thus rejects the notion that a person’s conceptions of what is right or wrong need be consistent or coherent. Rather, he favors a freewheeling approach in which people adopt any role that fits their current mood. Implicit in this approach is the assumption that the only appropriate measure of rightness is what feels right to a person at any given moment.
Examples of dogmatic perspectivism amongst participants from the present study are presented in E29 and E30 below.

**Example E29. Dogmatic Perspectivism: Non-Religious Topic**

*(Interview No. 168, female twelfth-grade pupil at a General school)*

The concept of proof seems to me to be completely inappropriate to the situation we're discussing. […] Perhaps reaching a conclusion, but not proof. *But is it possible to say which one of you is right?* I think that each person can decide with whom they agree. […] Because each person has his own opinion and he can agree with one side or the other. I can say that I agree with one side, but […] I am certain that I am right and you are certain that you are right. But there is no criterion for rightness. Everyone is entitled to his own opinion.

**Example E30. Dogmatic Perspectivism: Religious Topic**

*(Interview No. 30, male twelfth-grade pupil at a Torani school)*

I’m 100% certain, because I believe in it. Faith isn’t 90% or 40% or 30%. I’m 100% certain, because faith is subjective belief. It’s not objective truth. […] *Could they be right?* Yes, to the same extent that I can be right. To the same extent that I have faith in God and I am 100% certain that He exists, they can disbelieve in God and be 100% certain that He doesn’t exist. And there is no way to prove which of us is right. At least not on the basis of empirical proofs or rational proofs. *So as far as you are concerned, neither of you is more right than the other?* No, I’m right because this is what I believe in. But from an absolute perspective, no.

Like the participants in E27 and E28, those in E29 and E30 deny both that there is a single, correct answer to the question they are discussing and that their own perspective could ever be shown to be inadequate. However, unlike the participants in E27 and E28, they deny that there is any rational, perspective-neutral criterion by which competing perspectives may be judged. Their certainty that their own perspective is more right-for-them than is that of their opponent is thus not based on any rational evaluation of the competing points of view. Rather, in both E29 and E30 the decision to subscribe to a particular point of view is characterized as an arbitrary choice.
Comparison with previous categorizations

As has already been made clear, the present classification differs significantly from previous models of epistemological belief. Specifically, it jettisons three assumptions that are common to almost every previous attempt to categorize epistemological beliefs. In spite of these differences, some aspects of the present classification are prefigured in previous investigations. Like most other investigators, Chandler characterizes epistemological beliefs as evolving in stages from absolutism to post-skeptical rationalism (Boyes & Chandler, 1992; Chandler, 1975; Chandler, 1987; Chandler et al., 1990). However, not all of the “stations” on this journey follow each other in linear sequence: there are two alternative routes to the same destination (Chandler et al., 1990). Thus, where other models (e.g., King & Kitchener, 1994; Kuhn, 1991; Perry, 1970) portray skepticism as a stage of epistemological thinking that supersedes dogmatism, Chandler and his colleagues portray dogmatism and skepticism as parallel and developmentally equivalent epistemorientations that are situated between absolutism and post-skeptical rationalism. Implicit in this characterization is an acknowledgement that two people may share some epistemological beliefs (in this case, beliefs about decidability) whilst having diametrically opposed views about others (e.g. ontology and fallibility). Thus, though Chandler and his colleagues neither refer explicitly to the dimensionality of epistemological belief nor reject altogether the notion that some epistemological beliefs are more sophisticated than others, they do recognize that the particular epistemological orientation one adopts is not simply a function of one’s level of cognitive sophistication. Marlene Schommer (1990; 1993; 1994) too has argued for a multi-dimensional characterization of epistemological belief. However, unlike the present classification, hers assumes that some epistemological beliefs are inherently more sophisticated than others. (A more comprehensive consideration of previous psychological models of epistemological thinking is provided in Chapter 1.)

Section B. Quantitative findings

Epistemological beliefs in the two topics

Of all the aspects of argumentation examined in the present study, epistemological beliefs are perhaps the most abstract and thus, in theory at least, the least tied to any particular belief or line of reasoning. Furthermore, the questions concerning
epistemological belief were put to participants at the end of the interview, once they had had ample opportunity to consider the issue from a number of different perspectives. There is thus little concern that participants’ responses were influenced by nuances in the initial framing of the dilemmas. In the analyses that follow, therefore, full weight is given to cross-topic comparison.

At the same time, however, it is important to bear in mind that the present study investigated epistemological beliefs across only two topics. It is possible, therefore, that the domain differences described below are due to the specific content of the two topics used and would not be replicated in comparisons of epistemic beliefs across other topics. However, even if we take this possibility into account, the findings still provide strong counterevidence to the “domain-generality” claims of previous accounts of personal epistemology. According to these accounts, differences in epistemological belief across different topics should by slight, regardless of the topics’ specific content.

The distribution of epistemic beliefs in each topic is summarized in Figure E2 below.

*Figure E2. Epistemological Beliefs by Topic*

<table>
<thead>
<tr>
<th></th>
<th>Religious Topic</th>
<th>Non-Religious Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>percent</td>
</tr>
<tr>
<td>realist (perspectivist)</td>
<td>179 (21)</td>
<td>89.5 (10.5)</td>
</tr>
<tr>
<td>fallibilist (infallibilist)</td>
<td>104 (96)</td>
<td>52.0 (48.0)</td>
</tr>
<tr>
<td>decidable (undecidable)</td>
<td>89 (111)</td>
<td>44.5 (55.5)</td>
</tr>
</tbody>
</table>

Wilcoxon tests were conducted to evaluate the extent to which participants’ epistemological beliefs varied across the two topics. Participants’ beliefs about fallibility and decidability differed significantly across the two topics, $z = -4.59, p < .001$ and $z = -7.41, p < .001$ respectively. However, differences in participants’ beliefs about ontology did not. Differences in epistemological beliefs across the two topics are presented graphically in Figure E3 below. (In all the graphs that follow, an asterisk next to a variable label indicates a significant difference with respect to that variable across the topics or groups being compared. Percentages along the vertical axis are percentages of participants subscribing to a particular epistemic belief or type.)
Three points are noteworthy about these findings. First, they provide counterevidence to the claim that epistemological beliefs are domain-independent. Second, they indicate that participants were more inclined to admit that they might be wrong in the religious topic than in the non-religious topic. This finding is particularly intriguing, given that participants’ beliefs in the religious topic tended to be less qualified than their beliefs in the non-religious topic (see Chapter 1). This suggests that the confidence with which one holds a particular belief is not necessarily a good indicator of the extent to which one considers that belief to be falsifiable. Put another way, the psychological (or subjective) certainty with which one holds a belief does not necessarily reflect the extent to which one considers that belief to be philosophically (or objectively) certain. This interpretation was tested empirically by conducting Mann-Whitney U tests to evaluate the extent to which fallibilists tended to express more qualified belief than infallibilists. In the religious topic, the test was significant, $z = 3.72, p < .001$. However, in the non-religious topic, the test was not significant ($p = .145$). These results support the interpretation, showing that psychological and philosophical certainty are not always congruent.

A third noteworthy finding is the difference between participants’ beliefs about decidability in the two topics. Over half of the participants believed the question of God’s existence to be undecidable, whereas less than a fifth of them believed the punishment question to be undecidable. This difference between the two topics may explain some of the differences in argumentation observed in the previous chapters.
particular, it may explain why approaches to persuasion and rebuttal differed across the topics in the ways that they did. Since these differences are related to age trends, a detailed discussion of them will be postponed until the relations between epistemological beliefs and demographic variables have been presented.

**Relations between beliefs about ontology, fallibility and decidability**

The relations between beliefs about ontology, fallibility and decidability were investigated using hierarchical log-linear model selection. Separate analyses were conducted for each topic. Each analysis proceeded by backward elimination from a 2 (ontology) X 2 (fallibility) X 2 (decidability) saturated model. In the religious topic, analysis terminated at the second iteration, indicating significant first-order interactions between each dimension of epistemological belief. Belief that the question of God’s existence has a single, correct answer was positively associated with belief that the question could be decided by rational procedures, $\chi^2 (1, 200) = 13.62$, $\phi = .24$, $p < .001$, and that one’s own belief (or disbelief) in God might turn out to be mistaken, $\chi^2 (1, 200) = 10.81$, $\phi = .23$, $p = .001$. However, the latter two epistemological beliefs were negatively associated with each other, $\chi^2 (1, 200) = 7.02$, $\phi = -.19$, $p = .008$.

In the non-religious topic, analysis terminated at the first iteration, indicating a significant second-order interaction between the three dimensions of epistemological belief, $\chi^2 (1, 200) = 10.32$, $p = .0013$. Follow-up analyses were conducted to investigate all lower order interactions. Belief that the question of whether or not to punish children has a single, correct answer was positively associated with belief that the question could be decided by rational procedures, $\chi^2 (1, 200) = 22.45$, $\phi = .38$, $p < .001$. However, it was not significantly associated with belief that one’s own belief might turn out to be mistaken. Nor were the latter two epistemological beliefs significantly associated with each other.

In order to further explore the second-order interaction between the three dimensions of epistemological belief in the non-religious topic, two-way contingency table analyses were conducted to evaluate the association between beliefs about ontology and beliefs about decidability amongst fallibilists and infallibilists respectively. Amongst infallibilists, belief that there was a single, correct answer was positively associated with belief that the question could be decided by rational procedures, $\chi^2 (1, 200) = 32.62$, $\phi =$.
.55, p < .001. Amongst fallibilists, on the other hand, these epistemological beliefs were not significantly interrelated. However, given the small cell counts in these latter analyses, there is some question about the reliability of these results.

Taken together, the results of these analyses indicate that, whilst the three dimensions of epistemological belief are not orthogonal, they are only moderately interrelated. In both topics, beliefs about ontology and decidability were the most closely interrelated dimensions of epistemological belief. However, the strength of their association varied considerably across the two topics, and in neither topic was it more than moderate. Moreover, belief in one’s own fallibility appeared to follow no consistent pattern of association with the other two dimensions of epistemological belief. In the religious topic, it was positively associated with realism but negatively associated with decidability. In the non-religious topic, on the other hand, it interacted significantly with both dimensions at the second-order level, but with neither in any direct, two-way association.

This statistical evidence of moderate covariance amongst the three dimensions of epistemological belief is complemented by the fact that each of the eight epistemic orientations described in the previous section was adopted by at least one participant in each topic. This indicates that the combinations of epistemological beliefs represented by each epistemic type are not just theoretical constructs but are empirical descriptions of orientations that people actually adopt in relation to controversial questions. The distribution of epistemic types in each topic is summarized in Figure E4 below.

**Figure E4. Epistemic Types by Topic**

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Religious Topic</th>
<th>Non-Religious Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>frequency</td>
<td>percent</td>
</tr>
<tr>
<td>modest realist</td>
<td>36</td>
<td>18.0</td>
</tr>
<tr>
<td>tragic realist</td>
<td>64</td>
<td>32.0</td>
</tr>
<tr>
<td>confident realist</td>
<td>51</td>
<td>25.5</td>
</tr>
<tr>
<td>dogmatic realist</td>
<td>28</td>
<td>14.0</td>
</tr>
<tr>
<td>modest perspectivist</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>tragic perspectivist</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>confident perspectivist</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>dogmatic perspectivist</td>
<td>16</td>
<td>8.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>200</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The effects of gender, age and school on epistemological beliefs

The effects of age, gender and school on each of the three dimensions of epistemological belief were investigated by hierarchical log-linear model selection. Separate analyses were conducted for each epistemic dimension in each topic. Each analysis proceeded by backward elimination from a 2 (gender) X 3 (school) X 3 (grade) X 2 (epistemic belief: e.g., fallibilist versus infallibilist) saturated model. Although each dimension represented a discrete aspect of participants’ epistemological stances, the same transcript material was often used to locate them along more than one dimension. Therefore, in order to control for Type I error, statistical tests involving any one epistemic dimension were treated as if they belonged to a larger family of hypotheses concerning participants’ overall epistemic type in that topic. Alphas for individual tests within these families of hypotheses were calculated using Holm’s sequential Bonferroni method.

In the religious topic, no significant interactions were observed between demographic variables and beliefs about ontology. However, a significant first order interaction was observed between school and beliefs about fallibility, $\chi^2 (2, 200) = 25.65, p < .0001$. The effects of demographic variables on beliefs about decidability were more complex. Model selection terminated at the first iteration, showing that elimination of the third order (four-way) interaction between gender, school, age and decidability results in a significant decrease in the goodness of fit of the model to the data, $\chi^2 (4, 200) = 14.39, p = .0062$. However, follow-up analyses of all lower order (three-way and two-way) interactions found only the first order interactions between school and decidability, $\chi^2 (2, 200) = 16.16, p = .0003$, and between age and decidability, $\chi^2 (2, 200) = 23.68, p < .0001$, to be significant.

Follow-up tests were conducted to evaluate pair-wise differences in the religious topic between each school type with respect to beliefs about fallibility and decidability, and between each age group with respect to decidability.

Participants from General schools tended more than participants at either Religious schools or Torani schools to be fallibilists, $\chi^2 (1, 150) = 12.48, p < .001, \phi = -.29$ and $\chi^2 (1, 153) = 21.00, p < .001, \phi = -.37$, respectively. However, differences between Religious and Torani pupils were not significant. This indicates that participants from...
General schools were more inclined than were participants from Religious or Torani schools to admit that their belief (or disbelief) in God might be mistaken. This finding is consistent with the results reported in previous chapters, wherein participants from General schools were shown to be both more qualified in their religious belief and more conciliatory in their consideration of counterarguments than were participants from Religious and Torani schools.

Participants from General schools tended less than participants from either Religious schools or Torani schools to believe the question of God’s existence to be rationally decidable, $\chi^2 (1, 150) = 7.90, p = .005, \phi = .23$ and $\chi^2 (1, 153) = 13.26, p < .001, \phi = .30$, respectively. However, differences between Religious and Torani pupils were not significant. This indicates that participants from Religious and Torani schools were more inclined than were participants from General schools to believe the existence of God to be susceptible to rational demonstration. This finding too is consistent with the results reported in previous chapters, wherein participants from Religious and Torani schools were shown to be more confident than were participants from General schools that their own justifications were conclusive and that their opponents’ counterarguments could be categorically rebutted.

Fifth-graders tended more than either eighth-graders or twelfth-graders to believe the question of God’s existence to be rationally decidable, $\chi^2 (1, 130) = 7.76, p = .005, \phi = -.24$ and $\chi^2 (1, 138) = 23.44, p < .001, \phi = -.41$, respectively. However, differences between eighth-graders and twelfth-graders were not significant. This finding may explain why the developmental trend towards increased employment of documentary narratives was restricted to the non-religious topic (see Chapter 4). It may also explain why older participants were more likely than younger participants to refuse to rebut counterarguments in the religious topic. Whilst older participants were more aware than were younger participants of the importance of evidence in argumentation, they were also more aware of its scarcity in relation to the question of God’s existence. In light of this perceived lack, older participants were less sanguine than were younger participants about the possibility of settling the question of God’s existence by rational procedures. Correspondingly, they preferred to refrain from persuading their opponents or attempting to rebut their counterarguments rather than attempt to convince them on the basis of
inconclusive evidence. The relations between beliefs about decidability and approaches to persuasion and rebuttal are examined further below.

Distributions of epistemological beliefs in the religious topic by grade and school are summarized in Figures E5 and E6 and presented graphically in Figures E7 and E8. The numbers in each column are the percentages of participants from that grade or school that exhibited a particular epistemic belief.

Figure E5. Religious Epistemology by Grade

<table>
<thead>
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<th>GRADE</th>
<th>5th</th>
<th>8th</th>
<th>12th</th>
</tr>
</thead>
<tbody>
<tr>
<td>realist (perspectivist)</td>
<td>96 (4)</td>
<td>89 (11)</td>
<td>84 (16)</td>
</tr>
<tr>
<td>fallibilist (infallibilist)</td>
<td>44 (56)</td>
<td>56 (44)</td>
<td>56 (44)</td>
</tr>
<tr>
<td>decidable (undecidable)</td>
<td>66 (34)</td>
<td>42 (58)</td>
<td>26 (74)</td>
</tr>
</tbody>
</table>

Figure E6. Religious Epistemology by School

<table>
<thead>
<tr>
<th>SCHOOL</th>
<th>General</th>
<th>Religious</th>
<th>Torani</th>
</tr>
</thead>
<tbody>
<tr>
<td>realist (perspectivist)</td>
<td>87 (13)</td>
<td>85 (15)</td>
<td>98 (2)</td>
</tr>
<tr>
<td>fallibilist (infallibilist)</td>
<td>69 (31)</td>
<td>38 (62)</td>
<td>30 (70)</td>
</tr>
<tr>
<td>decidable (undecidable)</td>
<td>31 (69)</td>
<td>55 (45)</td>
<td>62 (38)</td>
</tr>
</tbody>
</table>

Figure E7. Religious Epistemology by Grade
In the non-religious topic, the only significant interactions observed between demographic variables and the three dimensions of epistemological belief were first order interactions between age and ontology, $\chi^2 (2, 200) = 8.83, p = .0121$, and between age and decidability, $\chi^2 (2, 200) = 13.90, p = .0010$. Follow-up tests were conducted to evaluate the pair-wise differences between each age group with respect to these two dimensions of epistemology. Twelfth-graders tended more than fifth-graders to be perspectivists in the non-religious topic, $\chi^2 (1, 138) = 8.83, \varphi = -.25, p = .004$. However, differences between fifth-graders and eighth-graders and between eighth-graders and twelfth-graders were not significant. Associations between age and decidability followed a similar pattern. Twelfth-graders tended less than fifth-graders to consider the question of whether or not one ought to punish to be rationally decidable, $\chi^2 (1, 138) = 12.68, \varphi = -.30, p < .001$. However, differences between fifth-graders and eighth-graders and between eighth-graders and twelfth-graders were not significant. These findings suggest that there may be a domain-general developmental trend between fifth and twelfth grade towards the belief that ill-structured problems are not susceptible to rational resolution. Moreover, this trend seems to be accompanied, in the non-religious topic, by a corresponding movement away from realism and towards perspectivism.

Distributions of epistemic beliefs in the non-religious topic by grade are summarized in Figure E9 and presented graphically in Figure E10 below.
Comparison of Figures E7 and E10 suggests that the age-related shift in beliefs about decidability begins earlier and is more rapid in the religious domain than in the non-religious domain. However, whilst in the religious topic this shift is not accompanied by significant changes along either of the other two dimensions of epistemological belief, in the non-religious topic it is accompanied by a shift towards perspectivism. Taken together, these findings suggest that developments in epistemological thinking vary in onset, substance and pace across the two topics.

Distributions of epistemic types by grade and school

The distributions of epistemic types by grade are presented in Figures E11 and E12 below. Figure E13 summarizes the distribution of epistemic types by school in the religious topic. The numbers in each column are the percentages of participants in that grade or school exhibiting a particular epistemic orientation.
Figures E11 to E16 present graphically the data summarized in Figures E11 to E13 respectively. Numbers along the vertical axis represent percentages of participants of a particular epistemic type. In order to simplify presentation, epistemic types that were found amongst fewer than 10% of participants were omitted from the graphs.
Whilst it is important to bear in mind that the present study is cross-sectional rather than longitudinal, three points are noteworthy about these distributions. First, in the non-religious topic, the only major shift in epistemic type with age is a decrease in confident realism between fifth and twelfth grade in favor of realist or perspectivist versions of dogmatism (see Figure E14). This pattern supports the view of Chandler and his colleagues (Chandler, Boyes, & Ball, 1990) that dogmatism and skepticism are twin reactions to a decreased in confidence over the course of adolescence in the rational decidability of controversial questions. Second, although a similar tendency is observable in the religious topic, the decrease in confident realism is both steeper and more complete, and is accompanied by different changes in epistemic stance. Specifically, though increases in dogmatic realism and dogmatic perspectivism account for some of the decrease in confident realism, much of the slack is taken up by an increase in tragic realism (see Figure E15). This indicates that, in the religious topic, not all adolescents react to their loss of confidence in the power of rational processes by dogmatically asserting their belief: some react by admitting their own limitations. If (contrary to the assumptions of the present study) one were to use the evaluative descriptions of previous models of epistemological development, one would say that epistemological maturity is achieved earlier in the religious topic than in the non-religious topic. Third, in the religious topic, it is between schools, rather than between age groups, that the largest differences in epistemic type are to be found (compare the school differences in E13 and E16 with the age differences in E12 and E15). The most striking of these concerns the ratio of confident realists to tragic realists. In each type of school, these two epistemic types together account for approximately half of the participants. However, in General schools the ratio of confident realists to tragic realists is approximately 1:4, in Religious schools it is 2:1, and in Torani schools it is almost 4:1. (Indeed, these differences in ratio are conservative, since age differences are ignored. In fact, as participants get older, these differences increase dramatically, with the ratio of confident realists to tragic realists reaching 1:18 amongst twelfth-graders at General schools, compared with 3:2 amongst twelfth-graders at Religious and Torani schools.) This finding underscores perhaps more than any of the previous analyses the value-ladeness and culture-dependence of epistemological beliefs. As such, it poses a major
challenge to contemporary models of epistemological development, which tend to characterize epistemological belief as something that is relatively independent of specific cultural commitments or values.

Relations between epistemological beliefs and approaches to argumentation

Due to the moderate covariance among the three dimensions of epistemological belief and the large number of variables used to describe participants’ approaches to argumentation, hierarchical cluster analysis could not usefully be employed to investigate the relations between epistemological beliefs and argumentation. Instead, investigation of these relations was restricted to four specific issues arising from the findings reported in previous chapters and from other studies of epistemological development.

1. Epistemological beliefs and the number of reasons presented

One of the most striking features of participants’ approaches to justification in the religious topic was the tendency for individuals to give reasons of several different kinds for their religious beliefs. Specifically, participants tended to combine causal justifications with personal reasons and appeals to authority. This tendency to combine multiple lines of reasoning was restricted to approaches to justification. When it came to generating and rebutting counterarguments to their religious beliefs, participants’ argumentation focused almost exclusively on the causal evidence for belief in God. In discussions of these findings in Chapters 3, 5 and 6, it was suggested that these features of argumentation in the religious topic might be due to an appreciation by participants that the causal evidence for God’s existence is sparse. Thus, when justifying their belief in God, participants may have sought to bolster their causal arguments with justifications of other kinds. If this interpretation of the findings is correct, we should expect the number of distinct lines of justification presented by participants in support of their religious beliefs to be related to their epistemological beliefs. Specifically, if the number of justifications presented by participants reflects their lack of confidence in the ability of any one line of reasoning to adequately justify their belief, we would expect participants who presented more justifications to be more inclined to acknowledge that they might be mistaken. This prediction was investigated by conducting a two-way contingency table analysis to evaluate whether fallibilists presented more reasons for their religious belief than infallibilists. The prediction was confirmed: 54% of fallibilists presented four or
more justifications for their religious belief, compared with only 33% of infallibilists, $\chi^2 (1, 200) = 8.60, \phi = .21, p = .003$. 

2. Epistemological beliefs and creation arguments

Another feature of argumentation in the religious topic that has been given much consideration in the preceding chapters is the different approaches of participants from different schools to creationist arguments for the existence of God. Creation arguments were more popular amongst participants from Religious and Torani schools than amongst participants from General schools. Moreover, those who presented them tended to consider them to be conclusive and to dismiss evolutionary counterarguments as unsubstantiated or illogical. Based on qualitative analysis of participants’ responses, it was suggested that these differences might be due to a tendency for Religious and Torani schools to foster a culture of theological discourse in which the question of God’s existence is approached as if it can be answered conclusively via set proofs, one of which is the argument from design. The school differences in epistemological beliefs reported above tend to confirm this interpretation: participants from Religious and Torani schools tended more than participants from General schools both to believe the question of God’s existence to be rationally decidable and to deny that they might be mistaken in their religious belief. However, in order to examine specifically how the tendency to present creation arguments was related to such differences in epistemological belief, two-way contingency table analyses were conducted to evaluate the associations between presentation of creation arguments and each dimension of epistemology. Contrary to expectations, presentation of creation arguments was not significantly associated with any dimension of epistemological belief, although a positive association between the presentation of creation arguments and realism approached significance, $\chi^2 (1, 200) = 5.28, \phi = .16, p = .022$. These results suggest that the apparent certainty and decisiveness with which individuals present creation arguments and dismiss evolutionary counterarguments does not necessarily reflect a deep confidence in the irrefutability of creationist proofs. Rather, such seeming confidence may be no more than a surface feature of creationist rhetoric that is not always matched by explicit commitment to the “confident realist” epistemology that this rhetoric implies. The distinction between explicit and implicit epistemological beliefs will be explored further in Section C.
3. Epistemological beliefs and reliance on authority

All existing models of epistemological development characterize the belief that some authority knows the right answer as a paradigm of immature and unsophisticated epistemological thinking (cf. Hofer, 2001; King & Kitchener, 1994; Kuhn, 1991; Perry, 1970; Schommer, 1990). Indeed, some of these models actually define naïve epistemological thinking in terms of such belief. The tendency to equate reliance on authority with naïve thinking has a long history in Western thought. From Socrates to contemporary empiricists, philosophers have contrasted received opinion with genuine knowledge. Indeed, logicians and rhetoricians have generally regarded appeals to authority as fallacies, even coining a special term (“argumentum ad verecundiam”) to describe them (Walton, 1992). Nonetheless, the equation of reliance on authority with unsophisticated epistemological thinking may be challenged on two counts. First, it underestimates the extent to which we all rely on authority for many of our beliefs, be they abstract and theoretical (e.g. that the square of the hypotenuse is equal to the sum of the squares of the adjacent sides) or concrete and practical (e.g. that the diagnosis given by my car mechanic or cardiologist is correct). Second, it assumes that the extent to which a person relies on authority determines where she is situated along other dimensions of epistemological belief. In order to test this latter assumption empirically, two-way contingency table analyses were conducted to evaluate the associations between appeals to authority and epistemological beliefs. In neither topic was any significant association found between authority-based justifications and any of the three dimensions of epistemological belief, although in the religious topic a positive association between knowledge-based authority arguments and realism approached significance, $\chi^2 (1, 200) = 5.74$, $\phi = .17$, $p = .015$. These results suggest that reliance on authority is related to beliefs about ontology, fallibility and decidability only weakly, if at all.

In order to further explore the relation between beliefs about authority and beliefs about ontology, fallibility and decidability, two-way contingency table analyses were conducted to evaluate the associations between authority counterarguments and each dimension of epistemological belief. Only the association with fallibility was significant, with authority counterarguments in the religious topic being more common amongst fallibilists (37%) than amongst infallibilists (20%), $\chi^2 (1, 200) = 6.98$, $\phi = .19$, $p = .008$. 

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This finding provides support for the claim in both Perry’s and King and Kitchener’s models of epistemological development, that the recognition that authorities sometimes make mistakes and disagree with one another is associated with a tendency to view one’s own knowledge as uncertain. However, the lack of any significant association between authority counterarguments and beliefs about ontology and decidability in the religious topic or between authority counterarguments and any dimension of epistemological belief in the non-religious topic tends to confirm the conclusion above that beliefs about authority are only weakly related to other core epistemological beliefs.

Though these results appear to pose a serious challenge to existing models of epistemological development, it is important to emphasize that very few authority-based justifications were presented in the non-religious topic. These findings are thus based, in effect, on data from a single topic. It is possible, therefore, that they are unique to the religious domain. Specifically, people may appeal to authority when justifying their religious beliefs, even though they acknowledge that their beliefs are fallible and unsusceptible to conclusive proof. Indeed, such epistemic doubts may even motivate their appeals to authority. For example, participants may have employed authority arguments precisely in order to bolster other justifications that they considered to be inconclusive. If so, participants’ reliance on authority in justifying their religious beliefs is of an entirely different order to that described in previous accounts of epistemological thinking. It is not that they see authorities as omniscient: it is just that they consider the support of authorities for a given belief to provide at least some grounds for believing it oneself.

Yet, even bearing such qualifications in mind, these findings do not sit well with existing accounts of epistemological thinking. At the very least, these accounts appear to have brushed over crucial gradations in the ways in which people rely on authority in different contexts.

4. Epistemological beliefs and approaches to persuasion and rebuttal

Earlier in the chapter it was suggested that the tendency for older participants to consider the question of God’s existence to be undecidable might explain some of the findings reported in preceding chapters. In particular, it was suggested that the reluctance of older participants to persuade their opponents and to rebut their opponents’
counterarguments might be due to their belief that there is no rational way to settle the question and that therefore any attempt to persuade their opponent is hopeless. This interpretation was tested by conducting two-way contingency table analyses to evaluate the extent to which beliefs about decidability were associated with principled non-persuasion and principled non-rebuttal respectively. Belief that the question of God’s existence is rationally decidable was associated negatively with both principled non-persuasion and principled non-rebuttal, $\chi^2 (1, 200) = 7.58$, $\phi = - .19$, $p = .006$, and $\chi^2 (1, 199) = 9.07$, $\phi = - .21$, $p = .003$, respectively. These results support the interpretation above, suggesting that older participants’ approaches to persuasion and rebuttal in the religious topic were shaped to a significant extent by their epistemological beliefs.

The influence of epistemological beliefs on participants’ approaches to persuasion was expressed in other ways too. Realism was associated positively with documentary narratives, $\chi^2 (1, 200) = 8.30$, $\phi = .20$, $p = .004$. This indicates that participants who believed that the question of God’s existence has a definite answer were more inclined than were those who did not to attempt to present objective evidence in support of their belief. Fallibilism was associated positively with technical non-persuasion and negatively with behavioral therapy strategies, $\chi^2 (1, 200) = 8.79$, $\phi = .21$, $p = .003$, and $\chi^2 (1, 200) = 6.96$, $\phi = - .19$, $p = .008$, respectively. This indicates that participants who acknowledged that their belief might be mistaken found it more difficult to persuade their opponents that they were right and tended less to seek to persuade their opponents by experience. These findings suggest that the kinds of argumentative strategy that people employ in order to persuade their opponents may be determined at least as much by their general epistemological beliefs about the question under discussion as they are by the particular argumentative skills that they may have at their disposal.

Section C. Qualitative Findings

Fallibility and tolerance

The quantitative results reported in Section B indicate that participants from Religious and Torani schools are significantly less inclined than are participants from General schools to admit that their belief in God might be mistaken. This would appear to indicate that pupils at Religious and Torani schools are less tolerant than are pupils at General schools of approaches to religious belief that differ from their own. For if one is
absolutely convinced that one is right, one is unlikely to have much time or respect for
the errors or willfulness of those who fail to see the light (cf. Berlin, 1990). Indeed, we
have already encountered several examples of Religious and Torani pupils being
intolerant, antagonistic or mocking their opponents (see Chapters 3 and 5). However, the
link between infallibilism and intolerance is not a necessary one: being convinced that
one is right does not entail that one is intolerant of those with whom one disagrees. This
can be seen quite clearly in several participants’ responses: many pupils at Religious and
Torani schools were keen to stress that, whilst their opponents were mistaken, they were
not blameworthy. The two examples below are typical.

Example E31. Fallibility and Tolerance: Religious Topic
(Interview No. 75, female fifth-grade pupil at a Religious school)

Are there people like Haya who think that there is no God? Yes, but you can’t
blame them, because they might not be really sure. They don’t have enough
proof. They don’t understand. They think that it’s illogical. Everyone follows
their own logic, whether that’s their parents or their intellect or their friends.
People do what they understand. [...] Is it possible that they could be right?
No.

Example E32. Fallibility and Tolerance: Religious Topic
(Interview No. 34, male fifth-grade pupil at a Torani school)

Could they be right? They’re right because they don’t know what I know. If
they did know, then they wouldn’t be right. I’m not sure I understand. They’re
not, [pause] there are some people who were born into it. Like I was born into
observing mitzvot and believing in God. They learned that there is no God. I’m
told there is and they’re told there isn’t. So they get used to it. They don’t
believe in anything else. They’re so sunk into it that when they encounter it for
the first time they’re repulsed by it. It can’t be. Maybe some are also afraid,
very afraid: afraid that they’ll have to observe Shabbat, afraid that they won’t be
allowed to eat non-kosher food, afraid of the whole thing. When they imagine a
religious Jew, they think of an ultra-orthodox person who prays all day and
can’t have fun or enjoy himself. They’re repulsed by it and afraid of it. Is it
possible that they’re right? Are you saying that they are, to some extent? Since
they have never encountered it, they’re right. *So in their view, they’re right?*

Yes. *And what about in your view?* No chance.

In these two examples it is actually the participants’ insistence that they know better than their opponents that allows them to excuse their opponents’ disbelief. In E31 the participant argues that non-believers cannot really be blamed, since they have been led astray by an impoverished understanding of the issue. In E32 the participant takes this line of reasoning a step further to argue that if non-believers *did* have the benefit of his own understanding, then they *would* be blameworthy. It is only their ignorance and fear of religion that excuses their disbelief.

This strategy of accommodation with non-believers and heretics is one that has often been advocated by Orthodox rabbis (see Kook, 1979; Ravitsky, 1993; Sacks, 1993; Yaron, 1991), and which can be traced back at least as far as Maimonides (see e.g. Yad, Mamrim 3:3). It is therefore unsurprising that we should find such responses amongst pupils from modern Orthodox schools. However, as even advocates of such an approach admit (e.g., Sacks, 1993), the attribution of non-belief to “excusable error” permits tolerance only by denying the integrity and authenticity of the non-believer’s point of view (ibid, 143ff; see also Hick, 1985). Participants who had had extensive exposure to approaches different from their own seemed to be sensitive to this, and were more inclined to emphasize the intrinsic value of their opponent’s point of view. Examples are presented below. (The participant in E33 is a newly religious General school pupil who is active in a local project of religious-secular dialogue. The participant in E34 is a Religious school pupil who has read extensively about religions other than Judaism.)

*Example E33. Fallibility and Tolerance: Religious Topic*

*(Interview No. 171, female twelfth-grade pupil at a General school)*

No, they’re not right. But you have to respect their opinion. […] I’m not a pluralist. There is one truth. But I definitely respect people who think differently to me. I live with them. […] If I don’t respect them, I can miss the message that they have to pass on to the world, whether it’s related to all kinds of humanistic values or whatever. There are so many different domains that you can’t just dismiss a person. Every person has something important to pass on. And if you dismiss him and don’t respect his opinion, it’s a kind of arrogance.
If a person puts forward a serious opinion, you have to respect it. I mean you ought to respect a person with a serious opinion. After all, he’s a person.

*Example E34. Fallibility and Tolerance: Religious Topic*

(Interview No. 11, male twelfth-grade pupil at a Religious school)

There are so many different approaches that it makes your own approach seem small. You see other approaches and you get smaller. You don’t stay the same size. I’ve read the Koran. I’ve read a lot of literature. I’ve read about Buddhism. [...] It made me feel that I am no better than others. [...] I once saw a picture in the newspaper of a suicide bomber. He was very certain that he was doing the right thing. They are very certain. [...] To tell you the truth, I think that you have to be not all that smart to know 100% that you’re right. At some level you have to realize that others can be more right than you.

Like the participants in E31 and E32, the participant in E33 preaches tolerance for those who do not believe in God whilst insisting that they are mistaken. However, unlike the participants in E31 and E32, her tolerance extends not only to her opponents as people but also to her opponents’ points of view. Her view seems to be that if a person is committed to a particular belief, then it is disrespectful to that person not to take that belief seriously. The participant in E34 also extends his tolerance to opposed points of view. However, unlike the participant in E33, he argues that taking these opposed points of view seriously requires that he modify the certainty with which he holds his own belief.

These examples show that the relationship between tolerance and fallibility is not a simple one and that it can take a variety of forms. They also suggest that extent to which one is exposed to multiple points of view can affect one’s overall epistemic orientation. These findings have important educational implications that will be discussed in the next chapter.

*Epistemic management*

In the previous chapter, examples were presented of participants whose strategy for coping with unanswerable counterarguments was to make an executive decision to ignore their implications. It was suggested that such responses to counterarguments constitute conscious acts of epistemic management, whereby individuals attempt to minimize contradictions between the beliefs they hold by compartmentalizing them. Acts of
epistemic management were even more evident in participants’ responses to direct questions about their epistemological beliefs.

Example E35. Epistemic Management: Religious Topic

(Interview No. 189, male twelfth-grade pupil at a Religious school)

You said that you believe in God wholeheartedly. Would you say that you know for certain? Is that the same thing, or is it different? Yes, [I know] for certain. It’s stupid when you think about it, because if there’s one thing that you can’t know for certain then it’s this. But I do know for certain because, I’m telling you, if I didn’t know it for certain, I’d go crazy. No one can accept [that there isn’t a God]. There are some people who simply push it away and don’t deal with it. That’s easy. You can do that. I can too. But I’m telling you, if I knew, if some omniscient person were to come and tell me that there isn’t a God, then I’m telling you, I’d go crazy in one second. I couldn’t stand it. Suddenly everything would be in doubt. It would be like the floor opening up beneath my feet. Suddenly you don’t know anything. Maybe that’s what I think. Perhaps it’s only me that thinks that, but I’m comfortable thinking it. It’s the only thought that I am prepared to accept on this topic.

Example E36. Epistemic Management: Religious Topic

(Interview No. 203, male twelfth-grade pupil at a Torani school)

Could [Yossi] be right? No, because this is my faith. I can’t say to you that I could be wrong. I can’t accept that. So, as far as you’re concerned, there’s no chance that he’s right? I don’t believe that he’s right. […] I can’t say to you that there’s a chance that he’s right, because I’d be contradicting myself. It’s not like in the education topic. It really contradicts. Because I believe something opposed to it. Perhaps he is right, but I can’t – how can I put it? – I can’t believe that he’s right. Do you understand me?

The participants in E35 and E36 both insist that it is impossible that their belief in God is mistaken. At the same time, however, both acknowledge that their confidence is not the product of a dispassionate assessment of the grounds for their belief. Rather it is the product of a conscious act of will or decision-making. The participant in E35 is not prepared to consider his belief in God as anything but certain, since to do so would be too
much for him to bear. The participant in E36, on the other hand, is committed to a view of faith in God as something total and free of doubt. Thus, even if it is logically possible that God might not exist, he is committed in principle to denying this possibility.

A number of participants in the study admitted that they felt uncomfortable subjecting their core religious beliefs to scrutiny. In some cases, participants said that such feelings of discomfort led them to avoid altogether thinking about theological questions. In the example below, the participant attributes her discomfort to the fear that her questions will overwhelm her and that she will cease to believe.

**Example E37. Epistemic Management: Religious Topic**

*(Interview No. 195, female twelfth-grade pupil at a Religious school)*

I personally try as much as possible to avoid this whole issue, so that all sorts of questions won’t get awakened within me. True, I’m still at the stage of questions. And because all kinds of questions have now arisen within me, I prefer to deal with this issue as little as possible. But if I’m already dealing with it, it’s only in order to know more on the positive side – why there is and not why there isn’t [a God]. *Why is it important for you to distance yourself from these questions?* Because they might cause me to stop believing. And I don’t want to stop believing. I think on the whole that I’m not such a strong personality and I’m really easily influenced. People who know how to persuade me can persuade me. So when I come in search of proofs, I’m seeking them more for myself, so that if Haya comes and asks me why there is no God I’ll have something to answer her, so that she’ll be persuaded and not the other way around.

These examples suggest that it may sometimes be more accurate to talk of epistemological commitments rather than epistemological beliefs. The participants above are each committed to a particular epistemological stance, yet this stance is not identical with what they consider to be the objective epistemical status of their belief. The participants in E35 and E36 both admit that it is objectively possible that they are wrong. However, they refuse to accept this objective possibility and choose consciously to adopt an epistemic stance that rules it out. The participant in E37 takes such commitment a stage further by refusing even to think about the objective epistemical status of her belief.
These examples underscore the extent to which epistemological beliefs are closely interwoven with particular commitments and values and are far from the neutral and abstract entities that they are often taken for.

Epistemological belief and identification with the other

In Chapter Five, a difference was noted in the extent to which participants seemed to identify with their opponents in the religious topic. Whereas some participants saw their opponents as fundamentally different to themselves, others identified with their opponents to such an extent that it was sometimes difficult to distinguish between the participant’s own argumentation and argumentation that she attributed to her opponent. One of the suggestions raised in the discussion of these findings was that such differences might be related to participants’ epistemic beliefs.

We might expect that confident realists would tend to see their opponents as very different to themselves. Confident realists believe that the truth of their belief has been conclusively proven. The existence of people with opposed beliefs to their own is thus potentially difficult for them to explain. Since they are demonstrably right, their opponents must be ignorant, stupid, or wicked not to have seen the light. On the other hand, we might expect participants who identified strongly with their opponents to be tragic realists or tragic perspectivists. If there is no guarantee that I am right and there is no rational procedure for settling the question, then my opponent has much in common with me: neither of our beliefs is provable and either of us might be right.

In most of the cases cited in Chapter Five these expectations were met, suggesting that the degree to which one identifies with one’s opponent is related to one’s underlying epistemological beliefs. However, there were some striking exceptions. The participant in E38 below was shown in Chapter 5 (see example R27) to identify strongly with her opponent’s counterarguments, even at times expressing them as if they were her own. Yet in her epistemological beliefs she was a dogmatic realist. This initially perplexing combination can be understood better in the light of the participant’s remarks towards the end of the interview. These are presented below, following a telescoped summary of her approach to refutation and her epistemological beliefs.
Example E38: Epistemological Belief and Identification with the Other

(Interview No. 192, female twelfth-grade pupil at a Religious school)

Why doesn’t He let us see Him? If He loves us so much and everything, then let us see you. Reveal Yourself to us. Tell us why You’re hiding from us. Why do You play with us like puppets? […] I think it’s impossible to prove that she’s mistaken. […] But] they are completely mistaken. There is a God and that’s that. They just don’t appreciate Him. How important is this whole question for you personally? Very. Personally, I believe. So I don’t spend my time considering whether or not there is [a God]. But it concerns me very much with respect to other people and I think that I would find it hard to get along, say, with a friend like Ifat, if I had a friend like that. I’ll tell you straight, we have [in this school], I reckon, many more girls, I don’t know how many exactly, but there is this one girl that will say it at every possible opportunity. And it’s very annoying and irritating. If you think that, then why are you in a religious framework? You’re not doing us any favors. You’re doing yourself a favor. And it annoys me each time. And I think that I couldn’t be her friend. There’s no doubt that I couldn’t. Perhaps I could be a friend, but it would be hard for me to feel connected to her. Faith and religion is something that surrounds a person day in and day out, almost every minute of the day. So I couldn’t get along with someone who doesn’t believe, because it’s so opposite, it simply contradicts me completely. And I admit that it distances me from that girl in my class who doesn’t believe that there is a God. Sometimes I say to myself, “What is she? Stupid or something?” I don’t want to sound patronizing, but it’s obvious.

From these later remarks, it becomes clear that the participant identifies strongly with her opponent’s arguments, but not at all with her as a person. Indeed, not only does she see non-believers as quite different from herself. She admits that it would be hard for her even to consider such people her friends. In this example, then, the extent of the participant’s identification with her opponent as a person is reflected more in her epistemological beliefs than in her approach to refutation.

In the following example, the relationship between approaches to refutation and epistemology is reversed. In the counterarguments he generated, the participant in E39
characterized his opponent as being very different to himself. Indeed he portrayed his opponent as being antagonistic and scathing of religious belief. Yet the participant’s epistemic type in the religious topic was that of a tragic realist.

**Example E39: Epistemological Belief and Identification with the Other**

*(Interview No. 191, male twelfth-grade pupil at a Religious school)*

*Is there anything else that Yossi could argue? “What’s all this nonsense? You get up in the morning. You go and wash your hands. Things like that. The Passover Seder. To eat matzah. What is this? I can’t be bothered with it. I don’t understand it.” […] in his view, these are just superstitions. […] Are there really people like Yossi, who don’t believe? There are. And that’s completely legitimate. […] I think differently to them. Perhaps they think differently to me. They’re allowed. It’s permissible to come with different ideas in you head. […] He thinks that he’s right just like I do, and I think I’m right just like he does. But, at the end of the day, it’s all relative. There’s no right or wrong here. No one knows. Only at the end, when we get upstairs: then we’ll know.*

In this example too, the participant’s view of the other turns out on inspection to be consistent with his epistemological beliefs. The participant sees his opponent as being very different to himself, but considers this difference to be a legitimate one given that there is no way to tell which of them is right.

Overall, these findings suggest that the extent to which one identifies with one’s opponents is closely related to one’s epistemological beliefs. However, it is unclear which one of these is cause and which effect. Given the tendency noted above for people to consciously choose their epistemological commitments in light of their particular needs or loyalties, it may be that people adopt epistemological positions that conform to their pre-existing view of the differences and similarities between themselves and their opponents. On the other hand, one’s view of one’s opponents may be influenced by one’s beliefs about the rationality or irrefutability of one’s own point of view. It is not possible to investigate this question systematically within the confines of the present study. However, further investigation of the relations between these two background features of argumentation are essential if we are to understand of how social and cognitive factors interact in peoples’ attempts to address controversial questions.
Procedural and declarative epistemology

In Chapter 3 we found that participants who employed creation arguments in support of their religious beliefs often considered these arguments to be conclusive proof of God’s existence. However, no significant relationship was observed in the present chapter between presentation of creation arguments and any of the three dimensions of epistemological belief. These results suggest that the apparent confidence and certainty with which people put forward creation arguments might be a surface feature of creationist rhetoric rather than a reflection of the person’s explicit epistemological beliefs. In several instances this seems indeed to have been the case. The participant in E40 below is the same participant who in E39 above denied the possibility of our ever knowing (at least before we die) whether or not God really exists. Yet, earlier in the interview, he had argued that it is impossible that God does not exist, given the overwhelming evidence of design in the natural world.

Example E40: Procedural and Declarative Epistemology

(Interview No. 191, male twelfth-grade pupil at a Religious school)

Without God it’s impossible that everything here would work just like that by coincidence. It’s impossible that everything that exists here was created without any design. Not just design, but real intricacies. Forget about it. Why are both arms the same length? It’s real design. Without it, it wouldn’t have happened. The world wouldn’t have been created.

In this example, then, the certainty with which the creation argument is originally put forward does not reflect the participant’s more qualified epistemological stance as expressed later in the interview. A similar pattern is evident in E41 below.

Example E41: Procedural and Declarative Epistemology

(Interview No. 137, female fifth-grade pupil at a General school)

There are proofs that there is a God. Without God the world wouldn’t have been created. Without God there would be nothing. […] There are proofs. If there were no God then nothing would exist. […] If you wanted to persuade Ifat that there’s a God, what would you say to her? I’d prove it to her. I’d say to her that if there were no God then nothing in the whole world would exist. How sure are you that there is a God? I don’t know for certain because I can’t prove
things that I haven’t seen. But in my opinion there is a God. […] There are many people who don’t believe in God. They don’t have proof so they don’t know that it’s true. […] In my opinion they’re not right. But perhaps in their opinion they’re right.

When justifying her own belief or attempting to persuade her opponent, the participant in E41 asserts a number of times that her creation argument proves that God exists. However, when she is asked later in the interview how certain she is that God exists, she admits that she is less than certain, since she cannot prove the existence of something that she has never seen. Here too, then, the participant qualifies the initial confidence and certainty with which she had originally put forward her creation argument.

It is to be expected that participants’ positions would in general become more nuanced and qualified over the course of the interview, since the interview procedure required them to reflect upon their beliefs from a number of different perspectives. However, given the extraordinary confidence that participants tended to have in the creation arguments they put forward, it is remarkable that even those who presented such arguments often toned down their claims about proof and certainty when asked directly about their epistemological beliefs. These examples indicate that people sometimes employ one set of epistemic standards when engaging in argumentation and another when responding to direct questions about their epistemological beliefs. Borrowing terms from the psychology of learning and memory, we shall refer to these distinct sets of epistemic standards as “procedural” and “declarative” respectively.

On the limited basis of participants’ incidental descriptions of theological discourse in Religious and Torani schools, it appears that such discourse often takes place in the formal context of classes and seminars and consists of attempts by teachers, rabbis and counselors to demonstrate conclusively to pupils the existence of God. The examples above suggest that the net effect of such discourse may be to foster a double epistemological standard amongst pupils. When repeating the arguments they have heard, they take on the assumptions of certainty and irrefutability that accompany these arguments as officially encountered. However, when reflecting explicitly on their own epistemological beliefs, they are considerably less confident. In other words, their procedural and declarative epistemologies are mismatched. For some, this double
epistemological standard can be a source of anxiety and confusion. This seems to be the case in example E42 below.

**Example E42: Procedural and Declarative Epistemology**

*(Interview No. 201, male twelfth-grade pupil at a Torani school)*

*How sure are you that there’s a God? Is it something that you know for certain?*

Don’t ask me that. I know there’s a God because that’s the tradition. I really believe. But what does it mean to know for certain? I don’t think I really [pause] I’d be lying to you if I said that I know for certain, one million percent, that there’s a God. In fact, the question itself bothers me, because I don’t think about it too much. I accept it as a given. I haven’t researched it. I don’t know what exists and what doesn’t. It’s something that speaks to me from a logical perspective, and I know there is a Holy One Blessed Be He. I don’t know if I can research and say one million percent the He exists. And [Yossi] can’t tell me that He doesn’t exist one million percent. I think it’s each person and their own belief. I believe that there is, and that’s that. *So are you saying that this is not something that can be known for certain?* It can’t be known for certain.

And that’s why I told you before that perhaps you should turn off the tape, because if everybody else gave you a clear answer … *There were people on both sides.* There were people who said that there isn’t [a God]? How can that be? *That’s what they told me.* That’s why I told you before to turn it off, because I don’t know if there is or there isn’t. I’m supposed to go one way or the other, right? *What interests me is what you think. There’s no right or wrong answer.* What I think is that there can’t be one answer that someone could prove one million percent that there is or there isn’t. I take upon myself, as I said before, that there really is a God and that it really is the Holy One Blessed Be He. But from saying yes to proving it: I don’t think that it’s really possible to prove that there’s a God. You can’t really go and check. You can bring me all kinds of proofs that will allow me to say that there really is a God. But to really say one million percent that I know, I’ve seen, etc.: that’s impossible. […]

*So is this something that it’s impossible for anyone to know?* I think that the tradition is very important here, because it’s clear that we know that there’s a
God. What’s the Bible all about? What’s the Torah all about? Actually, that
contradicts what I said before, that it’s impossible to prove it, right? Now erase
that. I’m saying something else now. I’m saying that there has to be a God.
The whole Bible, everything that happened in the scriptures, it’s all tradition.
That’s the proof that there’s a God. How does the Bible prove that there’s a
God? Who promised us the Land of Israel? Who told us to go to Egypt? The
Holy One Blessed Be He! Who appeared to Solomon in the first temple? Who
appeared to Solomon in a dream at Givon? Who? It was all God. So you’re
saying that it is really possible to prove it? Yes. So erase what I said before. I
wasn’t thinking properly. […] Could people who don’t believe in God be right?
On one hand they could be right. I don’t know what to tell you. Now that
you’ve asked this question, I’d say that what I said before is right. Really it’s
impossible to prove it. He could say that to me. I could say that to you. From
this conversation, that’s what you’re making me think. You’re saying, I’m not
just [pause]. Perhaps there were people who thought only about their own side
and when they talk to you they think about their own side and the other side. So
perhaps not every proof that he brings will be acceptable to me, but perhaps
he’ll still believe that there isn’t a God. But it’s not necessarily acceptable to
me.

The participant in E42 is clearly anxious about more than the consistency of his
epistemological beliefs. His repeated references to the tape recorder indicate that he is
nervous about going on record with thoughts or opinions that do not conform to what he
believes to be the official line of the school. Nonetheless, much of his anxiety seems to
be due to his inability to reconcile his personal epistemological beliefs with the
epistemological assumptions implicit in the argument from tradition that he appears to
retrieve from memory late in the conversation.

Whilst in the example above, the double epistemological standard is a source of
anxiety, for others it may be a source of suspicion. In the previous chapter we found that
older adolescents were often suspicious of what they perceived to be oversimplifications
of complex theological questions. As they become more aware of the divergence
between their own epistemological beliefs and the epistemological assumptions of
official theological discourse, the potential for such suspicion may increase. The educational implications of these discrepancies between procedural and declarative epistemological beliefs will be discussed in the next chapter.

Section D. Summary

*The dimensionality, domain-specificity and value-ladeness of epistemological belief*

Previous investigations of epistemological thinking have tended to characterize peoples’ epistemological beliefs as forming integrated belief-systems that develop through an invariant sequence of hierarchically ordered stages. Moreover, these shifts in epistemological thinking are claimed to be more or less domain-independent. The findings reported in the present chapter challenge this view of epistemological development.

Participants in the present study were remarkably eclectic in their epistemological beliefs and thus resistant to simple classification into existing categories of epistemological thinking. In order to capture this eclecticism, a three-dimensional classification scheme was developed to describe participants’ epistemological thinking. These three dimensions of epistemological belief – ontology, fallibility, and decidability – were found to be only moderately interrelated. Moreover, participants’ epistemological beliefs varied significantly across the two topics. These findings indicate significant dimensionality and domain-specificity in epistemological thinking.

The hierarchical ordering of epistemological beliefs was challenged on both conceptual and empirical grounds. First, a *reductio ad absurdum* argument was put forward in which epistemological beliefs defined as immature and unsophisticated by existing models of epistemological development were shown to be held by respected intellectuals. Second, empirical findings were presented that indicate that epistemological beliefs that have been characterized previously as the preserve of highly educated adults are held in some cases even by fifth-graders. For example, King and Kitchener (1994: 219) have claimed that, “the ability to understand the fallibility of knowledge typically does not emerge until the early twenties.” Yet such understanding was found amongst 44% of fifth-graders in the present study with respect to the question of God’s existence.
Peoples’ epistemological beliefs were also found to be highly dependent on their particular backgrounds, loyalties and commitments. In the religious topic, more variance in epistemological beliefs was due to school than to age. Moreover, several instances were presented in which participants explicitly modified their epistemological beliefs in order to conform to some other highly valued belief or commitment.

These findings contradict not only the assumptions of previous investigations of epistemological development, but also their findings. This discrepancy requires explanation. The differences between the present findings and those of previous studies appear to be due to at least three aspects of the present study’s design. First, the ill-structured problems concerning which participants presented their epistemological beliefs were both familiar and personally salient. The problems used in other studies, on the other hand, such as how the pyramids were built (King & Kitchener, 1994) and what causes unemployment (Kuhn, 1991), are much more distant from the everyday concerns and experience of ordinary children and adolescents. The apparent epistemological naïveté of children with respect to these problems may thus have been an artifact of their lack of knowledge or concern (cf. Chandler et al., 1990). Second, the sample in the present study was, to the best of our knowledge, the largest single sample of children and adolescents yet to have been interviewed explicitly about their epistemological beliefs. Few previous studies have included school-age participants and even fewer have included participants younger than eighth grade. Many empirical claims about epistemological development in childhood and adolescence are based on extrapolations from studies of older samples or on studies that have included small numbers of high school students within larger samples of predominantly college-educated adults. Thus, one reason that the patterns of epistemological belief found in the present study have not previously been reported is that they have never in fact been sought (cf. ibid). Third, the analytic framework employed in the present study distinguished between beliefs about knowledge and beliefs about authority. Previous investigations have tended to confound the two. The findings of previous studies that suggest that children’s epistemological thinking is characterized by reliance on authority may thus be artifacts of analytic frameworks that pay insufficient attention to other dimensions of epistemological belief.
The effects of age and school on epistemology

In both topics, twelfth-graders tended less than fifth-graders to believe the question to be rationally decidable. However, this shift appears to have been steeper and more extensive in the religious topic than in the non-religious topic. These age-related changes support the basic claim of previous accounts of epistemological development that, over the course of adolescence, epistemological beliefs become less absolutist and more tentative. However, the nature, rate and onset of these changes were not quite as described in any previous account.

Moreover, more significant than the effects of age on epistemological belief in the religious topic were the effects of school. Pupils at General schools tended less than pupils at Religious or Torani schools to believe that the question of God’s existence is rationally decidable, and more than pupils at Religious and Torani schools to admit that their own belief (or disbelief) in God might be mistaken. These school differences underscore the extent to which epistemological beliefs are dependent on cultural context. Participants from Religious and Torani schools inhabit a culture of theological discourse in which the question of God’s existence is considered to be conclusively provable whilst those from General schools inhabit a culture in which God’s existence is considered uncertain and unsusceptible to proof. These divergent cultural experiences result in distinct patterns of epistemological belief. However, that is not to say that every individual takes on all and only those epistemological assumptions that are dominant in the surrounding culture. Particularly as they get older, adolescents seem to struggle to reconcile their own epistemological thinking with the epistemological assumptions and beliefs of those around them. This struggle expresses itself in attempts to accentuate or minimize differences between themselves and their opponents, to explicitly tailor their epistemological beliefs to pre-existing values and commitments, and to navigate between the epistemological assumptions implicit in standard forms of justification and their own epistemological beliefs.

Epistemology and argumentation

In the religious topic, epistemological beliefs were related to several aspects of argumentation. Fallibilists tended to present more distinct lines of reasoning in support of their religious beliefs than did infallibilists. Believing that no justification was
conclusive, they seem to have attempted to compensate in quantity for what their justifications lacked in quality. Participants who considered the question of God’s existence to be undecidable tended to decline in principle to persuade their opponents or to rebut their opponents’ counterarguments. Since they believed proof to be impossible, they seem to have considered all attempts to persuade their opponents to be unworkable or hopeless. Realists tended more than perspectivists to employ documentary narratives in support of their religious beliefs. This supports the commonsense expectation that empirical evidence would be of more concern to those who believe the question to have a definite answer than to those who believe that it has no definite answer.

In contrast to these associations, two predicted relationships between justification and epistemological beliefs were conspicuous in their absence. Epistemological beliefs were not significantly related to either authority arguments or creation arguments. The lack of any significant relationship between epistemological beliefs and appeals to authority presents a challenge to previous models of epistemological development, which have tended to view appeals to authority as definitive of naïve epistemological thinking. Even if this finding turns out to be specific to the particular religious topic studied, it suggests that the assumed relationship between reliance on authority and “absolutist” or “naïve realist” epistemological orientations needs to be closely reexamined.

The lack of association between epistemological beliefs and creation arguments was equally surprising. Given the certainty and conclusiveness with which participants had put forward creationist arguments in support of their belief in God, it was expected that they would tend also to believe God’s existence to be conclusively provable. However, creation arguments were associated neither with fallibility nor with decidability. Qualitative analysis of individual protocols indicated that, in some cases at least, individuals employed a double epistemological standard: the certainty implicit in their argumentation was not matched by similar certainty in their explicit declarations of epistemological belief. This double standard seems to occur when personal epistemological uncertainty is combined with extensive exposure to forms of theological argumentation that assume the provability and certainty of God’s existence.
**Epistemology and open-mindedness**

The readiness to admit that one might be mistaken is at least one aspect of what it means to be open to alternative points of view and tolerant of others. Pupils at Religious and Torani schools were much less inclined to make such admissions than were their peers from General schools. Does this mean that they were less open and tolerant? In some cases, yes; but not necessarily. One can be absolutely convinced that one is right without being intolerant of other points of view, and one can be intolerant of other points of view whilst admitting that one might oneself be mistaken. Indeed, many of the infallibilists at Religious and Torani schools were quick to point out that although non-believers were definitely mistaken they were not blameworthy. Nonetheless, there is a limit to how seriously one can take one’s opponents if one is absolutely convinced that they are wrong. Older participants, especially those who had had extensive exposure to other points of view, were sometimes sensitive to this limitation and explicitly modified their epistemological beliefs in order to be more accommodating. Other participants modified their epistemological beliefs in the opposite direction: in order to spare themselves the discomfort of uncertainty, they refused to admit their own fallibility, even whilst acknowledging implicitly that they might indeed be mistaken.

The relationship between epistemology and openness is a complex one. In some cases it appears that peoples’ openness to other points of view is constrained by their underlying epistemological assumptions. In other cases, it seems to be the epistemological assumptions that are constrained by the person’s desire for openness or closure. This complexity underscores the extent to which epistemological beliefs are both productive of and influenced by particular values and commitments. The educational implications of this interplay between epistemological beliefs and commitments will be explored in the next chapter.
CHAPTER EIGHT: GENERAL DISCUSSION

1. Religious thinking

The main objective of the present study was to investigate the ways in which children and adolescents think about questions of religious belief. More specifically, it was to examine the kinds of argumentation that children and adolescents employ in justifying of their belief (or disbelief) in God. Our decision to focus on this aspect of religious thinking was motivated by the desire to provide an empirical description of how children and adolescents think about religious subject matter as opposed to merely what they think about such subject matter. For though previous studies have provided us with numerous accounts of how forms of religious thinking evolve as children grow older, none of these studies has examined such forms directly. Rather, they have extrapolated their conclusions from analyses of the contents of children’s and adolescents’ religious beliefs and conceptions.

In considering the implications of the present findings for our understanding of the nature of religious thinking and its development, we shall be concerned therefore with three main questions. First, how if at all do forms of religious thinking change over the course of adolescence? Second, how do these changes compare with those described in previous accounts of religious development? Third, what do these findings tell us about the relations between form and content in the development of religious thinking?

The religious thinking of fifth-graders

Previous accounts of the religious thinking of fifth-graders diverge. Goldman (1964), Fowler (1981) and Oser (Oser & Gmunder, 1991) describe the religious thinking of fifth-graders as concrete and literal, whereas Elkind (1961; 1962; 1963; Elkind, Spilka, & Long, 1968; Long, Elkind, & Spilka, 1967) and Heller (1986) describe it as abstract and differentiated. These divergent descriptions of fifth-graders’ religious thinking are not strictly contradictory since they focus on quite distinct aspects of religious thinking and appear to be based on differing conceptions of abstract and concrete thought. For example, Goldman’s claim that the religious thinking of fifth-graders is concrete is based on evidence that they understand Biblical stories to be literally true, subscribe to anthropomorphic conceptions of God and see prayer as a semi-magical formula for making egocentric petitions (cf. Goldman, 1965c: 17-19). On the other hand, Elkind’s
claim that their religious thinking is abstract and differentiated is based on evidence that they consider religious identity to be a function of a person’s beliefs rather than the product of concrete actions, and that they see prayer as a private conversation with God that need not be associated with particular activities or rituals (cf. Elkind et al., 1968). Clearly, Goldman and Elkind mean different things by the term “concrete.” For Goldman, concrete religious thinking is characterized by taking religious language “at face value” (1965c: 103), as opposed to interpreting it metaphorically or symbolically. For Elkind, on the other hand, concrete religious thinking is characterized by focusing exclusively on the behavioral or physical aspects of religious concepts, as opposed to their doctrinal or psychological aspects.

These different uses of the terms “concrete” and “abstract” raise doubts about the adequacy of any global description of the religious thinking of this age group as either concrete or abstract. More generally, they underscore the problems associated with drawing general conclusions about the forms of children’s and adolescents’ religious thinking from analyses of the contents of their religious beliefs, conceptions or interpretations. A person can subscribe at one and the same time to some religious beliefs and conceptions that are “concrete” and others that are “abstract.” For example, a person can see prayer as both a private conversation with God and as a formula for making egocentric petitions. Indeed, many do (cf. Rosenberg, 1990). Moreover, the mere fact that a person subscribes to a particular religious belief or conception tells us very little about how that person thinks about religious matters in general. For example, a person can believe strongly in the literal truth of the Bible and at the same time think in “abstract” and sophisticated ways about the basis for this belief (cf. Evans, 2000; Kwilecki, 1988a).

Goldman’s and Elkind’s divergent uses of the terms “concrete” and “abstract” also reveal just how much both researchers deviate from Piaget’s own use of these terms (cf. Kay, 1996). It is perhaps no coincidence that both Goldman and Elkind prefer to talk of concrete and abstract religious thinking, as opposed to concrete-operational and formal-operational religious thinking. For whereas Piaget’s stages are defined in terms of the employment of increasingly complex schemes of action and logical organization, Goldman’s and Elkind’s stages of concrete and abstract religious thinking are defined in
terms of subscription to particular beliefs and conceptions. In Piaget’s own work, what distinguishes formal-operational from concrete-operational thinking is essentially the ability to reason about propositions one does not oneself believe, i.e., the ability to reason hypothetically (Piaget & Inhelder, 1969: 132). This achievement is seen as an elaboration and extension of earlier moves from thinking that is “centered” or “egocentric” to thinking in which the individual is able to move freely from one point of view to another (cf. Piaget & Inhelder, 1969: 131, 138-139; Donaldson, 1978: 139-142).

Despite their adoption of Piagetian terminology and their emphasis on parallels between their own findings and those of Piagetian studies, neither Goldman nor Elkind actually examined the abilities of children and adolescents to reason hypothetically about religious material or to think about religious subject matter from a perspective other than their own.

Since the present study has studied such capacities, we are in a position to address the question of the “concreteness” or “abstractness” of religious thinking amongst children and adolescents from at least two distinct perspectives. First, we can compare the contents of participants’ religious beliefs and conceptions with those described in previous accounts religious development. Second, we can examine to what extent the forms of thinking that participants employed in relation to their religious beliefs bear the hallmarks of concrete-operational thought as outlined in Piaget’s studies of intellectual development. These latter include the inability to reason about religious beliefs they do not themselves hold or to consider their own religious beliefs from a perspective other than their own.

In the present study, we found that, in some respects, the contents of fifth-graders’ religious beliefs and conceptions were indeed more “concrete” and “egocentric” than those of older participants. This was particularly evident in their beliefs about divine intervention in human affairs. In justifying their religious beliefs, but even more so in generating counterarguments to these beliefs, fifth-graders tended more than older participants to focus on the presence or absence of direct intervention in people’s personal lives, whether in the form of help in personal matters or punishment of individual transgressions. Eighth-graders and twelfth-graders, on the other hand, generally conceived of divine intervention in more abstract and general terms as a guiding hand in broad historical processes or matters of universal or global significance.
These age trends are similar to those described in previous studies (e.g., Goldman, 1964; Oser & Gmunder, 1991; Rosenberg, 1990).

However, concerning the forms of thinking that fifth-graders employ in relation to their religious beliefs, the picture is more complicated. Though they appeared to find it more difficult than did eighth-graders or twelfth-graders to reason about religious beliefs they do not themselves hold, or to consider their own religious beliefs from a perspective other than their own, they were generally able to do so in response to minimal prompting by the interviewer. Indeed, differences in this regard between all three age groups appear to be differences of degree rather than of kind. In justifying their religious beliefs, participants of all ages tended to combine arguments from creation or intervention with appeals to authority and personal reasons. However, in comparison with older participants, the argumentation and evidence with which fifth-graders fleshed out and backed up these justifications was often meager. In general, fifth-graders seemed to be less concerned than older participants with providing supporting evidence for their belief (or disbelief) in God or with ruling out lines of reasoning opposed to their own. They tended not to include a consideration of alternatives in their justifications or rebuttals, or to cite empirical evidence in their attempts to persuade their opponents. In fact, they seemed to find it difficult to envisage alternative lines of reasoning to their own, generally managing to generate no more than one counterargument against their own point of view. These findings indicate that fifth-graders were less able than were older participants to “decenter” in their religious thinking.

On the other hand, however, when asked specifically to do so, most fifth-graders managed to generate and rebut counterarguments to their own religious beliefs, and many distinguished consciously and explicitly between their own subjective confidence in the truth of their religious belief and the objective possibility that they might be wrong. This indicates a fairly sophisticated ability to reason hypothetically about beliefs one does not oneself hold and to reflect upon one’s own religious belief from perspectives other than one’s own. These latter findings contrast markedly with previous accounts of preadolescent religious thinking. According to such accounts, preadolescence is a period of “imprisonment within concrete concepts” (Goldman, 1965c: 30), in which children are “trapped in the narrative” (Fowler, 1981: 136-137) of religious beliefs, stories and rituals.
and unable to think about them reflectively. The present findings indicate that, on the contrary, fifth-graders are able to reflect in a sophisticated manner on the grounds for their religious beliefs and to “step outside” (ibid) their own religious experience and consider it from another’s perspective.

It is interesting nonetheless that, unlike older participants, they tended not to do so spontaneously, but only in response to specific prompting by the interviewer. This suggests that the ability to think reflectively about one’s own religious beliefs is a capacity that lies within the preadolescent’s “zone of proximal development,” i.e., it is a capacity that has “not yet matured but [is] in the process of maturation, […] that will mature tomorrow but [is] currently in an embryonic state (Vygotsky, 1978: 86). The educational implications of this feature of preadolescent religious thinking will be explored later in the chapter.

Taken together, the above findings indicate that, whilst some concrete and egocentric elements are discernible in their religious thinking, preadolescents are generally more sophisticated religious thinkers than previous studies have suggested. Possible reasons for the discrepancies between the findings reported here and those reported in previous studies will be discussed following consideration of the findings for other age groups.

The religious thinking of eighth-graders

According to Goldman, by the age of thirteen most children have advanced from concrete to abstract religious thinking. Though “some cruder anthropomorphic ideas of God linger on, especially with less able pupils,” most early adolescents have begun to conceive of God and other religious material in “symbolic, abstract and spiritual terms” (Goldman, 1965c: 162-163). He is careful to point out, however, that this “move away from childish thinking about religion … to more adult concepts” is a gradual one wherein adolescents become increasingly “dissatisfied with their concrete limitations” and less prone to interpret religious statements in literal terms (ibid: 48, 162-163).

Unlike Goldman, neither Fowler nor Oser makes any distinction between the religious thinking of early, middle, or late adolescents. According to Fowler (1981: 151-173), adolescents are typically synthetic-conventional in their approach to faith, that is, they are tacitly committed to a particular system of values and beliefs, but unaware that this system is only one among many. One expression of this “conformist” and
unreflective faith is the purported tendency of adolescents to experience differences of religious outlook as differences in “kind” of person. Oser, on the other hand, characterizes the religious orientation of adolescents as one of absolute autonomy or deism, wherein God’s role in human affairs is dramatically reduced and individuals see themselves as absolutely responsible for their own lives. According to Oser, this orientation is often accompanied by rejection of religious and ecclesial authority and attempts by adolescents to distance themselves from the influence of parental and educational forces (Oser & Gmunder, 1991: 68, 71-72).

Also relevant here is Fisherman’s (1998) account of the development of religious identity in adolescence. Building on Marcia’s (1966; 1980) elaboration of Erikson’s (1968) account of adolescent identity development, Fisherman (1998) describes adolescence as a period of religious questioning, doubt and testing of boundaries as individuals struggle to construct their own religious identity as something distinct from the religious identity they have inherited from their parents or religious community. Depending on how such questions and doubts are handled by the adolescent and by her peers, parents and teachers, development of religious identity can follow a “healthy” or “unhealthy” course. In healthy development, the adolescent actively explores her questions and doubts until she finds answers with which she is satisfied. In unhealthy development, questions and doubts are suppressed or ignored resulting ultimately in a diffuse or foreclosed religious identity.

The findings of the present study concur with some aspects of these accounts of adolescent religious thinking whilst contradicting others. In line with Goldman’s account, development in religious thinking appears to occur incrementally over the course of adolescence rather than suddenly with the advent of formal operations. This was seen to some extent in the patterns of group differences in religious thinking between the three age groups included in the study. Whereas group differences between the religious thinking of fifth-graders and twelfth-graders were generally statistically significant, those between eighth-graders and fifth-graders and between eighth-graders and twelfth-graders tended to be non-significant. Of course, this impression of incremental transition may be due to some extent to the form of analysis: non-significant tests of group differences do not rule out discontinuities in individual development. Nonetheless, qualitative analyses
of individual protocols suggest that, even at the qualitative level, the religious thinking of eighth-graders was in important ways “in between” that of fifth-graders and twelfth-graders.

For example, consistent with Goldman’s account, there appears to be a gradual move away from “concrete” and “egocentric” religious beliefs and conceptions over the course of adolescence. Once again, this is seen most clearly in relation to participants’ beliefs about divine intervention in human affairs as expressed in the counterarguments they generated against their religious beliefs. Whereas twelfth-graders tended to focus exclusively on divine intervention in national or global affairs such as wars or natural disasters and fifth-graders tended to focus exclusively on divine intervention in personal affairs such as exam success or punishment of specific transgressions, eighth-graders tended to speak of divine intervention (or its lack) at both the universal and the individual levels. This gradual shift in conceptions of divine intervention over the course of adolescence is also consistent to some extent with Oser’s (Oser, 1991; Oser & Gmunder, 1991) account of the tendency of adolescents to reduce God’s role in human affairs. However, given most adolescents’ continued belief in some kind of divine intervention, this shift appears to fall well short of absolute autonomy or deism.

Development in forms of religious thinking over the course of adolescence appears also to be gradual. On the whole, eighth-graders seemed to find it easier than fifth-graders to reason about religious beliefs they do not themselves hold and to consider their own religious beliefs from a perspective other than their own. They were able to generate more counterarguments to their own religious beliefs than were fifth-graders and often (though not as often as twelfth-graders) sought spontaneously to rebut the counterarguments they had generated. They also tended more than fifth-graders (though less than twelfth-graders) to admit that their religious beliefs were fallible and unsusceptible to conclusive proof. These findings indicate a gradual development over the course of adolescence in the ability to decenter in one’s religious thinking and to step outside of one’s own religious outlook and reflect upon it from another’s perspective.

These last findings diverge markedly Fowler’s account of adolescent faith. Rather than a “tacit” and unreflective acceptance by adolescents of the system of religious beliefs and values into which they have been socialized, these findings indicate a
widespread understanding amongst adolescents that alternative points of view are both possible and plausible. Also inconsistent is Fowler’s claim that adolescents tend to view those whose religious outlooks differ from their own as fundamentally different kinds of people to themselves. In the present study participants were asked explicitly to present arguments from the perspective of a person holding religious beliefs opposed to their own. In doing so, very few of them portrayed their opponents as being radically different kinds of people to themselves. Moreover, most of those who did were fifth-graders. Amongst twelfth graders, and especially amongst female twelfth-graders, an opposite tendency was more common, namely, adolescents sometimes identified with their imagined opponents to such an extent that it was hard to distinguish arguments they sought to ascribe to these opponents from those to which they themselves subscribed. Taken together, these findings suggest that the kinds of religious thinking that Fowler attributes to adolescents are more characteristic of preadolescents. One likely reason for this discrepancy is Fowler’s apparent reliance on retrospective data. In formulating his accounts of preadolescent and adolescent faith, Fowler appears to have relied on analyses not only of the responses of the children and adolescents he and his colleagues interviewed, but also of the retrospective reconstructions of older individuals of their earlier faith experiences (cf. Fowler, 1981: 218ff.). In describing their adolescent selves, Fowler’s adult interviewees may have recalled being less reflective in their religious thinking than they actually were (cf. Ericsson & Simon, 1980; Nisbett & Wilson, 1977).

Oser’s and Fisherman’s characterizations of adolescence as a period of questions and doubts, of preoccupation with issues of autonomy, and of a struggle to construct one’s own distinct religious identity are largely consistent with the present findings. In seeking to justify their religious beliefs, fifth-graders appeared to be quite comfortable citing the influence of family or peers. In contrast, eighth-graders, and to an even greater extent twelfth-graders, generally sought to downplay such influences and to portray their religious belief as the exclusive product of autonomous reflection and independent judgment. Similarly, in their attempts to rebut counterarguments to their religious beliefs, many adolescents expressed dissatisfaction with the “stock” rebuttals that they had heard from parents, teachers, rabbis and counselors and admitted that they continued to find the counterarguments problematic. Similar doubts and uncertainties were evident in other
aspects of adolescent religious thinking. Not only were their religious beliefs more qualified than those of preadolescents. They also tended more than preadolescents to admit that the truth or falsity of their religious could never be conclusively demonstrated. Also in line with Fisherman’s account of religious identity formation, adolescents in the present study were found to react in a variety of ways to such doubts and uncertainties. Some attempted to ignore or suppress their doubts, others saw themselves as engaged actively in a search for satisfactory answers, and others sought to postpone addressing such questions and uncertainties to some point in the future such as graduation from high school or completion of army service.

In addition to these points of comparison with previous studies, the present study identified a dimension of adolescent religious thinking that previous studies appear to have overlooked. In the present study, eighth-graders were found to pay much more attention than fifth-graders to the evidentiary basis for their beliefs and to be more conscious than fifth-graders of the paucity of conclusive evidence regarding the existence of God. Moreover, they tended to see this lack of evidence as a potential barrier to successful persuasion of their opponents.

Analyses of the relations between different aspects of participants’ argumentation (see Chapters 4, 6 and 7) indicate that this combination of increased concern with the evidentiary basis for belief and increased awareness of the lack of such an evidentiary basis for deciding the question of God’s existence may be responsible for many of the features of adolescent religious thinking described in this and previous studies. In particular, it appears to underlie the general decline in intensity of religious belief over the course of adolescence, the tendency for adolescents to admit that their belief (or disbelief) in God may be mistaken and is unsuscceptible to conclusive proof, their dissatisfaction with simplistic rebuttals of counterarguments to their religious beliefs and their general reluctance to attempt to persuade those who hold religious beliefs opposed to their own. It may even underlie their tendency to conceive of divine intervention in increasingly abstract terms: by restricting intervention to global processes, they reduce drastically the potential for disconfirming evidence (cf. Harris, 2000).

Overall then, the present findings with respect to eighth-graders are consistent with many features of previous studies of adolescent religious thinking. At the same time,
however, they diverge from previous studies in at least three respects. First, they suggest that previous studies may have overlooked a crucial shift in adolescent religious thinking that may explain many of their findings, namely, an increasing concern with and skepticism about the evidentiary basis for belief in God. Second, shifts that previous studies have characterized as definitive of adolescent religious thinking, such as rejection of religious authority, reduction of God’s role in human affairs and abandonment of literalist interpretations of religious concepts appear to be less extreme and more gradual than their authors have suggested. Third, as we shall see below, previous studies have tended to overlook important changes in religious thinking between early and middle adolescence.

*The religious thinking of twelfth-graders*

As already noted, most previous accounts of adolescent religious thinking do not distinguish between early, middle and late adolescence. In contrast, the findings of the present study indicate significant differences between the religious thinking of eighth-graders and twelfth-graders. In general, most of the developments in religious thinking noted in the previous section continue and intensify between eighth-grade and twelfth-grade. Thus, even more than eighth-graders, twelfth-graders were concerned with the evidentiary basis for their beliefs. This found expression in various aspects of their argumentation. In justifying their beliefs, they often spontaneously cited examples and evidence to back up their arguments and took into account alternative lines of reasoning. Even more than eighth-graders, they tended to downplay the influence of upbringing and environment and emphasize the role of reflection and independent judgment in deciding what to believe. Whereas eighth-graders expressed a reluctance to attempt to persuade those who held religious beliefs opposed to their own, twelfth-graders in the study often refused in principle to attempt to persuade their opponents or to rebut their counterarguments, most commonly on the grounds that the truth of their own religious belief could not be conclusively demonstrated. Taken together, these findings indicate that, more than either eighth-graders or fifth-graders, twelfth-graders consider the plausibility of a belief to be dependent on the extent to which it is supported by evidence and argumentation.
Twelfth-graders also seemed to find it easier than eighth-graders or fifth-graders to step back from their own religious belief and consider lines of reasoning opposed to their own. Whereas younger participants generally managed to generate only one or two counterarguments, twelfth-graders often presented numerous counterarguments of quite distinct kinds.

The contents of twelfth-graders’ religious beliefs and conceptions also tended to be more abstract and nuanced than those of younger participants. Like fifth-graders and eighth-graders their counterarguments often focused on the lack of divine intervention in human affairs. However, unlike younger participants, they were concerned almost exclusively with the lack of intervention at the national or global level. This suggests that their conceptions of divine intervention are less egocentric than are those of younger participants and that they may not hold God directly responsible for events at the individual level. Twelfth-graders also tended more than younger participants to cite challenges to belief in God from scientific theories of cosmology and evolution, indicating that they were more aware than younger participants of the controversial nature of belief in creationism.

In considering the content of twelfth-graders’ arguments and counterarguments, it is interesting to compare the present findings with those of Nipkow and Schweitzer’s (1991) study of German adolescents’ reasons for faith or doubt in God. Nipkow and Schweitzer (ibid: 92-93) categorized adolescents’ reasons into four main kinds of fulfilled or unfulfilled expectation: expectations of God as a guarantor of goodness in the world, expectations of God as a key to explaining the origins of the universe and the meaning of life, expectations of God as an entity that exists independently of the dreams, wishes or symbols of human beings, and expectations of the Church as a trustworthy witness to God. Adolescents in the present study employed similar lines of reasoning. The first two categories of “expectation” are equivalent to our categories of creation and intervention arguments and the third to our category of psychological explanations. Similarly, though (for obvious reasons) there was no precise equivalent to the fourth kind of “expectation” in the present study, this reason type covers ground similar to that of authority arguments.

However, despite these general similarities in the basic categories of reasons that adolescents presented, the precise content of these reasons appears to have differed across
the two studies. For example, in the present study middle adolescents were found to differ from younger participants in their conceptions of divine intervention: whereas fifth-graders focused on intervention at the personal level, twelfth-graders focused on intervention at the global level. In contrast, Nipkow and Schweitzer (1991) found that the majority of their middle to late adolescent subjects did not relate their doubts about divine intervention to “worldwide problems, but rather to inexplicable suffering in their own neighborhoods or within their own group of friends” (ibid: 92). This combination of similarities and differences between the reasons given by German and Israeli adolescents for their faith or doubt in God raises interesting questions about how cultural and cognitive factors may interact in adolescent religious thinking. These questions will be explored in detail below.

Twelfth graders also differed from eighth-graders and fifth-graders in their epistemological beliefs. Even more than eighth-graders, twelfth-graders tended to consider God’s existence to be unsusceptible to conclusive proof and to admit that their belief in God might be mistaken. In particular, there appears to be a steep decline during middle adolescence in the belief that the question of God’s existence is susceptible to conclusive proof. In addition, twelfth-graders seemed to be more concerned than younger participants with the epistemic status of their religious belief. This greater concern found expression in diverse ways. In some, it expressed itself in a rejection of simplistic rebuttals. In others, it expressed itself in attempts to compartmentalize epistemic doubts so as to minimize their influence on everyday thinking and belief. These different reactions were found more often amongst twelfth-graders than amongst younger participants and appear to be similar to the divergent courses of religious identity development described by Fisherman (1998).

Overall, these findings indicate continuous development in religious thinking during middle adolescence in the directions outlined with respect to eighth-graders.

**Religious thinking between fifth- and twelfth-grade: what develops?**

The above comparisons between the present findings and those reported in previous studies indicate a number of discrepancies. According to the present findings, previous accounts of religious development have underestimated the sophistication of children and adolescents as religious thinkers, characterized as stage-like shifts in religious thinking.
that are gradual, and overlooked aspects of religious thinking that may be crucial for understanding the nature of these shifts.

Specifically, previous accounts of religious development have characterized preadolescents as concrete religious thinkers who are “trapped” within a literalist understanding of religious concepts and unable to think reflectively about their own religious beliefs. The present findings indicate that, though the content of their religious beliefs and conceptions is in some respects more concrete and egocentric than that of older adolescents, the ways in which they think about such content are much more complex and reflective than has previously been supposed. Indeed, the forms of reasoning and argumentation that preadolescents employ in relation to the question of God’s existence appear to differ from those of adolescents in degree rather than in kind. In particular, many of these age differences appear to be attributable to a gradual increase over the course of adolescence in concern with and attention to the evidentiary basis for religious belief. As we shall see below, this increased concern with belief-evidence coordination is not unique to the religious domain but appears to be a general feature of adolescent belief-justification and argumentation.

In seeking to identify what is responsible for the discrepancies between the present findings and previous accounts of religious development it is important to distinguish between the claims of these accounts and the findings on which they are based. As we have noted, previous accounts of religious development have tended to derive conclusions about how children and adolescents think about religious subject matter from empirical studies of what they think about such subject matter. The findings of the present study suggest that the relationship between how and what people think about religious subject matter is not a simple one. Significant changes do appear to occur in both the forms and contents of people’s religious thinking over the course of adolescence. However, these changes are not always in step with one another. Thus, the literalistic and egocentric religious beliefs and conceptions of preadolescents are not always symptomatic of a general naiveté in their religious thinking. Often they are combined with a highly sophisticated appreciation of the epistemic status of these beliefs and conceptions and of the degree to which they are supported by evidence and
argumentation. By focusing exclusively on content, previous studies thus appear to have systematically underestimated the sophistication of children’s religious thinking.

However, whilst this emphasis on the distinctness of form and content in religious thinking may help explain some of the discrepancies between the present findings and previous accounts of religious development, it raises difficult questions of its own: Are form and content completely independent dimensions of religious thinking, each with their own unique developmental trajectory? Or do they interact in some way? And what are the factors driving change along each dimension over the course of adolescence? In order to answer these questions we must enlarge the scope of our discussion to include not only age differences in religious thinking, but also cultural differences.

**Culture and cognition in the development of religious thinking**

Previous accounts of the development of religious thinking have tended to play down the influence of cultural factors. Indeed, most previous accounts have claimed that religious thinking develops through a sequence of stages that is culturally invariant. As we saw in Chapter 1, criticism of these accounts has tended to focus on this invariance claim. In particular, critics have argued that the stage theories themselves embody a particular theological outlook and that, as a result, the developmental sequences they describe are appropriate only to some religious cultures. However, though this is not always made explicit in the arguments put forward by stage theorists and their critics, there are at least two distinct questions at issue in this debate: the question of universality and the question of source. The question of universality concerns the range of religious cultures to which the developmental theory can appropriately be applied. The question of source concerns the nature of the factors that are responsible for age differences in religious thinking.

Generally, these two questions are answered as one. Stage theorists tend to claim not only that age differences in religious thinking are due to qualitative changes in the underlying structures of religious thought as the individual matures but also that these changes follow an identical sequence in every religious culture\(^1\). Critics, on the other

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\(^1\) This tendency has its roots in the structuralist view of development as a progression through a set of hierarchically integrated thought structures or total ways of thinking. This hierarchical integration entails that one’s attainment of later stages depends, *by definition*, on one’s having first attained preceding stages. Accordingly, though individual differences and cultural factors may affect the speed with which one progresses through the stages or even one’s ability to reach beyond a certain stage, development can occur only through this particular sequence of stages.
hand, tend to argue that age differences in religious thinking are due to learning, acculturation and the accumulation of specific theological knowledge and that, correspondingly, they vary considerably across cultures.

Nonetheless, the two questions are logically distinct. It is possible to attribute age differences in religious thinking to fundamental changes in the ways in which people think as they mature whilst admitting that the nature of these changes varies across cultures. Conversely, it is possible to attribute such age differences to acculturation whilst maintaining that very similar processes of social learning and knowledge accumulation occur in all cultures (cf. Chandler, Lalonde, & Sokol, 2000; Nisbett, Peng, Choi, & Norenzayan, 2001).

Moreover, neither the stage theorists nor their critics have been able to provide any empirical evidence that disproves their opponents’ claims. One cannot rule out universality merely by showing that the ages at which particular stages are reached vary significantly across cultures or that sophisticated adults in one culture score at the same level as young children in another (e.g., Kwilecki, 1988a; Kwilecki, 1988b; Tamminen, 1976). Such findings demonstrate only that cultural factors may sometimes constrain the pace of development, not that the developmental sequence itself varies across cultures. Similarly, one cannot rule out the possibility that age differences in religious thinking are due solely to acculturation and social learning merely by showing that equivalent differences are found across several cultures (e.g., Elkind, 1978; Oser & Gmunder, 1991). Such findings demonstrate only that individuals in different cultures pass through similar stations at a similar pace as they become initiated into religious discourse, not that the source of these similarities is some universal feature of human psychological development.

The empirical basis for either a strong developmental thesis (in the style of the stage theorists) or a strong acculturation thesis (in the style of their critics) is thus weak. Moreover, the findings of recent cross-cultural studies (Evans, 2000; Rosenberg, 1990) weaken it still further. For not only did these studies find significant differences between the religious beliefs and conceptions of children and adolescents from different cultures: they also found these differences to increase significantly as children get older. As the
authors of these studies point out, this suggests that age related changes in religious thinking are due to a combination of both cognitive and cultural factors.

These interpretations by Rosenberg and Evans of their respective findings are tentative and rightly so. It is difficult under any circumstances to distinguish between the influence of cognitive and cultural factors in developmental processes (cf. Chandler et al., 2000; Nisan, 1984; Nisan, 1987; Nisan, 1988; Turiel, Nucci, & Smetana, 1988). However, it is especially difficult to distinguish between such factors when one’s data are limited to descriptions of the contents of peoples’ beliefs and conceptions. Knowing what a person thinks tells us little or nothing about how that person thinks. Yet, in order to gauge the relative effects of cognitive development and acculturation on religious thinking, it is precisely the relationship between what people think and how they think that we must investigate. Since, unlike most previous studies, the present study has examined both these aspects of religious thinking, it is better placed to investigate this relationship. Our findings suggest that, contrary to the extreme claims of both the stage theorists and their critics, the development of religious thinking is shaped in significant ways by both cognitive and cultural factors. However, the precise division of labor between these two factors appears to be considerably more complex than even recent cross-cultural studies have suggested.

The present findings indicate that students at General and Religious schools inhabit distinct religious subcultures: Significant differences were found between these two groups not only on standard quantitative measures of religious beliefs, values and behavior but also in the very ways in which they approached and engaged in theological discourse. Examination of the nature of these differences and of their relation to age differences across the two subcultures provides us with intriguing insights into the respective roles of culture and cognition in the development of religious thinking.

Religious thinking was affected by age and religious subculture (as measured by school type) in three distinct ways. Some aspects of religious thinking were influenced by age irrespective of school type; other aspects were affected by school type irrespective of age; and further aspects were affected to some extent by both age and school type.

2 For the remainder of the chapter, the term “Religious schools” will be used to denote students at both Religious and Torani schools, unless otherwise indicated. Students at both types of school and were found to differ significantly from their peers at General schools in many aspects of their religious thinking. Though the differences were generally more pronounced between students at General and Torani schools, the same basic pattern of difference was found between students at General and Religious schools.
The effects of age on religious thinking included an increasing concern with the evidentiary basis for one’s religious belief, a greater tendency to take opposed lines of reasoning into account, and a greater tendency to see one’s religious belief as the product of an autonomous decision or commitment. These effects were not restricted to one particular subset of interview questions but were evident in numerous aspects of participants’ argumentation. For example, the concern of older participants with evidence and opposed argumentation affected not only their justifications, but also their approaches to persuasion, refutation and rebuttal. Moreover, these latter effects were not limited to religious argumentation, but were evident also in participants’ argumentation in the non-religious topic. These age effects thus appear to reflect changes in the underlying principles in terms of which individuals formulate and evaluate arguments as they get older. In other words, we seem to be dealing here with changes that are due to general features of cognitive development.

The effects of school type on religious thinking included the tendency to view religious belief as a question of fact (or a question of identity); to employ (or not to employ) creationist arguments in support of one’s religious belief; and to dismiss (or not to dismiss) as implausible scientific theories of cosmology and evolution. In contrast to global nature of the age effects above, these subcultural effects were highly localized, in the sense that they were tied to particular interview questions and did not affect in any obvious way other aspects of participants’ argumentation. Moreover, qualitative analyses of individual protocols suggest that these school differences are the result of divergent experiences of theological discourse and religious socialization. For example, the tendency of students at State-Religious schools to dismiss scientific theories of cosmology and evolution as implausible appears to reflect their frequent exposure to attitudes of this kind in their formal religious instruction. Similarly, the tendency for students at State-General schools to approach the question of belief in God as one of identity rather than of fact appears to reflect their experience of theological discourse as something that takes place informally between peers as they attempt to define themselves in relation to traditional Jewish practices and contemporary religious groups in Israel.

Finally, some aspects of religious thinking were influenced by both age and school type. These included participants’ epistemological beliefs about the provability of God’s
existence and the fallibility of their own religious convictions. For example, older participants tended to be more skeptical than younger participants about the possibility of ever proving whether or not God exists. At the same time, however, such skepticism was more common at all age levels amongst students from State-General schools than amongst pupils from State-Religious schools. These effects suggest that both cognitive and cultural factors have a significant affect on a person’s epistemological beliefs in the religious domain. On one hand, as children mature they attend increasingly to the evidentiary basis for their beliefs. Accordingly, they become more skeptical about the possibility of proving beliefs for which reliable evidence is scarce. On the other hand, the cultures of theological discourse into which students at Religious and General schools have respectively been socialized differ significantly in their hospitality to such skepticism. In the former, theological questions are approached as if they can and ought to be resolved beyond all doubt. In the latter, they are approached less formally and more tentatively.

An integrative two-factor model of the development of religious thinking

The above pattern of school and age effects suggests that religious thinking is shaped both by general changes in cognitive processing with age and by culture-specific traditions and practices of theological discourse. However, in contrast to the suggestions of previous cross-cultural studies, these two factors do not appear to interact in the development of religious thinking. Rather, they appear to act relatively independently. For the most part, each factor affects different aspects of religious thinking. And even where both factors exert a significant influence, this influence does not appear to involve any interaction between the two factors. Rather, both factors affect the same aspect of religious thinking, but each does so independently. Accordingly, even in the case of participants’ epistemological beliefs, no significant age-by-school interaction was observed.

This view of the roles of cognitive and cultural factors in the development of religious thinking is similar in many respects to Nisan’s (1984) account of their role in the development of moral reasoning. According to Nisan, the general principles in terms of which people interpret and evaluate moral issues are the product of individual development, whereas the specific moral norms to which people subscribe are acquired
through social learning. Nisan goes on to characterize some of the components of such norms. These include evaluative components such as hierarchies of value and value judgments about particular behaviors, and cognitive components such as particular beliefs about the world and definitions of the scope of certain norms.

The influence of culture on religious thinking appears to be mediated by a similar combination of evaluative and cognitive components. People from different religious subcultures were found to diverge both in their beliefs about the nature of religious faith and in their value judgments about how religious questions ought to be approached. We shall discuss these differences in more detail later in the chapter when we consider the effects of religious background on procedural and declarative epistemology.

Also, like Nisan’s (1984) model of moral reasoning, the present model proposes that neither the developmental nor the cultural factor in religious thinking is subordinate to the other, but that both factors exert an independent influence on religious thinking. Accordingly, the effects of cognitive development and acculturation on religious thinking are not apportioned according to some general and fixed formula. Rather, their relative influence varies with the particular aspect of religious thinking being considered. Thus, for example, the influence of cognitive development on one’s tendency to take opposing points of view into account in justifying one’s belief in God is much greater than is its influence on one’s beliefs about the plausibility of evolutionary theory.

**Advantages and limitations of the two-factor model**

This latter feature of the proposed two-factor model provides a plausible explanation for the discrepancies between the present findings and those of previous studies. Previous studies have tended to assume that the contents of a person’s beliefs and conceptions concerning particular aspects of religious life are indicative of some underlying and consistent approach to religion in general. Thus, peoples’ conceptions of religious identity or prayer (Elkind), their interpretations of biblical narrative (Goldman), their centers of value, images of power and guiding stories (Fowler), or their judgments about how to act in contingency situations (Oser) have been used to diagnose their positions along some general scale of sophistication in religious thinking. However, if, as we propose, the relative influence of acculturation and psychological development on religious thinking varies considerably from one aspect of religious thinking to another,
we would expect these different methods of diagnosis to lead to divergent characterizations of age trends in religious thinking. Such divergence is especially likely when the studies on which the characterizations are based are conducted with samples containing different concentrations of individuals from different religious cultures. As we saw earlier in the chapter, divergence of this kind is precisely what we find when we compare previous accounts of the development of religious thinking with each other and with the present findings.

A major advantage of the proposed two-factor model is thus its generality. It provides a framework within which to integrate many findings considered hitherto to be discrepant. Yet this generality may also be seen as a weakness of the model. If different aspects of religious thinking are affected in different ways and to differing degrees by cognitive and cultural factors, the scope for drawing any general conclusions about the developmental trajectory of religious thinking appears to be extremely limited. Moreover, the proposed division of labor between cultural and cognitive factors is unsatisfactorily vague: it tells us little about the specific mechanisms via which the influence of each factor is mediated.

These concerns are legitimate. Yet, one could argue that they reflect the limitations of existing data (including that collected in the present study) rather than limitations of the proposed model. Some generalizations about the developmental trajectory of religious thinking are possible. Like previous studies, the present study found children’s religious conceptions to become less concrete with age. Its major point of divergence from these studies was the finding that such developments are to some extent anticipated by developments in the ways in which children weigh up the evidence for and against their religious beliefs. We need to know more about how these developments are related and to what extent they are characteristic of children from cultural and religious backgrounds other than those studied here. In order to acquire such knowledge it will be necessary to conduct longitudinal and cross-cultural studies with samples from a much broader range of cultural and religious backgrounds. Similarly, the present study has provided many intriguing clues as to the mechanisms by which cultural practices and traditions shape religious discourse. We have seen, for example, that the models of theological discourse to which individuals are exposed have considerable influence on
both the content of the justifications they present for their own religious beliefs and the processes and criteria by which they evaluate the arguments of others. However, in order to examine such mechanisms of cultural transmission in detail, it will be necessary to conduct studies of a more ethnographic flavor that focus explicitly on how, when and where children and adolescents talk about religious matters with peers, family members and teachers. These are crucial directions for future research.

2. Informal reasoning

Informal reasoning is the kind of reasoning in which people engage when faced with problems for which there is neither one definitive solution nor a single best strategy by which to proceed in order to reach a solution (cf. Kuhn, 1991). In the present study, participants were presented with two such ill-structured problems: the question of whether or not to believe in God and the question of whether or not to punish children when they do something wrong. Our primary objective in including the punishment problem was to provide a rough background measure of informal reasoning that could be used to highlight distinctive features of informal reasoning in the religious domain. At the same time, however, we were aware that relatively few studies have investigated how informal reasoning develops over the course of adolescence and that the range of ill-structured problems that have been used in such studies has been fairly limited. We hoped therefore that our findings might shed light on more general questions about the nature of children’s informal reasoning in different domains and the extent to which such reasoning changes as they grow older.

Developments in informal reasoning over the course of adolescence

Previous studies have found little or no development in informal reasoning over the course of adolescence (Kuhn, 1991; Means & Voss, 1996; Perkins, 1985). Indeed, Kuhn’s (1991) findings suggest that adequate theory-evidence coordination – a key aspect of informal reasoning – remains beyond the grasp of most adults. In contrast to these findings, the present study identified significant developments in belief-evidence coordination over the course of adolescence. These included an increasing tendency to take into account lines of reasoning opposed to one’s own and to attend to the evidentiary basis for conflicting points of view.
In the religious topic, twelfth-graders generated more counterarguments and more spontaneous rebuttals than fifth-graders. This suggests that, as children get older, they not only become more proficient at considering an issue from both sides, but also attach more importance to ruling out lines of reasoning that oppose their own. Twelfth-graders also tended more than fifth-graders to decline in principle to persuade their opponents or to rebut their counterarguments. This reluctance to persuade and rebut was unique to the religious topic and was often accompanied by an acknowledgement by the participant that pertinent evidence was lacking and that adequate persuasion or rebuttal were therefore impossible. This indicates an increasing tendency with age to modify one’s argumentation in line with the availability of evidence. Similar trends were observed in the non-religious topic. Twelfth-graders tended more than fifth-graders to qualify their justifications, to cite empirical evidence in support of their beliefs, and to generate rebuttals that were integrative and spontaneous. This indicates an increasing tendency with age to weigh up the argumentation and evidence for both sides of an issue rather than considering the question exclusively from one’s own perspective.

Two important differences in research design may account for the discrepancy between the present findings and those of previous studies. First, the topics were different. It may be that the topics about which children and adolescents were asked to reason in previous studies were more complex, difficult or unfamiliar than those used in the present study. As Means and Voss (1996) have shown, a prerequisite for sophisticated informal reasoning is the possession of sufficient knowledge about the topic being discussed. This explanation of the discrepancy is fairly plausible concerning Kuhn’s studies since these have focused on reasoning about such complex and unfamiliar topics as the causes of unemployment and the effects of diet on colds. However, it is less plausible concerning Means and Voss’s study since this contained at least one topic that was very similar to the punishment topic used in the present study.

Second, the coding schemes were different. Previous studies have employed explicitly evaluative criteria in categorizing instances of informal reasoning. The failure of both older and younger interviewees to live up to these criteria is then interpreted as a lack of development. Whilst there is nothing wrong with judging some kinds of informal reasoning as better than others, the standards that previous researchers have set for
“good” reasoning may be inappropriate or simply too high (cf. Brem & Rips, 2000; Chandler, 1997; Harris, 2000). Naturally, one could criticize the coding scheme used in the present study as setting the standard too low. However, the aim of empirical studies of informal reasoning is to describe what people do, not what they ought to be doing. If a liberal coding scheme reveals development where a more conservative scheme overlooks it, then from the researcher’s perspective the liberal coding scheme is to be preferred. Moreover, even if the level of belief-evidence coordination attained by twelfth-graders does not measure up to Kuhn’s standards of scientific reasoning (cf. Kuhn, 1991; Kuhn, 1993a; Kuhn, 1996), the differences between twelfth-graders and fifth-graders in this regard are worthy of our attention since they represent an important step towards conformity to these more stringent standards.

Content-dependence in informal reasoning

Most previous studies have shown informal reasoning to be little affected by the content of the ill-structured problems to which it is applied (e.g., King & Kitchener, 1994; Kuhn, 1991; Schraw, Dunkle, & Bendixen, 1995). However, the present study found numerous differences in participants’ reasoning across the two topics.

In justifying their belief or disbelief in God, participants tended to combine several distinct lines of reasoning, the most common combination being a tripartite presentation of causal arguments, appeals to authority and personal reasons. In justifying their beliefs about punishment, however, they tended to focus exclusively on the causal grounds for their beliefs. As we have noted in previous chapters, this causal focus may be due to some extent to the way in which the punishment dilemma was presented. Even so, these differences suggest that participants considered some kinds of justification to be more appropriate to some ill-structured problems than to others. Moreover, these differences in argumentation across the two topics were observed only in relation to participants’ justifications of their own beliefs. When participants were asked to generate lines of reasoning opposed to their own, they tended in both topics to focus exclusively on the causal grounds for belief. This suggests that, even in the religious topic, participants considered their beliefs to stand or fall on the causal evidence that could be cited in their support. It appears, then, that participants may have included appeals to authority and personal reasons primarily in order to bolster their causal arguments in support of their
religious beliefs and not in order to set them up as independent justifications in their own right. Support for this interpretation was provided by qualitative analyses of participants’ rebuttals: in many cases participants acknowledged explicitly that their inclusion of “subjective” lines of argumentation in the religious topic was motivated by their recognition of the lack of conclusive evidence for their belief and the corresponding weakness of more “objective” lines of reasoning.

More generally, two perceived differences between the topics appear to have been especially salient for participants: the first was availability of evidence; the second was the degree to which the belief in question was considered to involve some form of commitment over and above intellectual assent. These differences were seen most clearly in participants’ approaches to persuasion and rebuttal. In general, participants were reluctant in the religious topic to attempt to persuade their opponents or to rebut their counterarguments. Qualitative analyses indicated that this reluctance had at least two sources: a recognition by participants that their own reasons for belief were insufficiently conclusive to convince an opponent and a perception that people are strongly committed to their religious beliefs and that therefore they either should not or will not be convinced to change their minds.

As well as contributing to a general reluctance to engage in persuasive argumentation in the religious topic, these assumptions about the differences between the two topics affected the particular strategies of persuasion that participants eventually adopted. In the non-religious topic they tended to employ strategies that focused on the supporting evidence for their belief and that emphasized points of agreement and similarity between the two opposing sides. In the religious topic, however, they often employed strategies that focused on the experiences, needs, rights and duties of their opponents and that emphasized the distance between the opposing sides.

These perceived differences between the two topics were evident also in participants’ epistemological beliefs. Though few children and adolescents expressed reservations when initially expressing and justifying their religious beliefs, most considered the question of God’s existence to be ultimately unsusceptible to rational resolution and admitted that their own belief (or disbelief) could be mistaken. However, in the non-
religious topic, people generally considered empirical support for their point of view to be plentiful and believed that they could prove conclusively that they were right.

These findings stand in stark contrast to the findings of previous studies of domain differences in informal reasoning. Rather than showing informal reasoning to be affected little by the particular content of the ill-structured problems to which it is applied, the present findings show it to vary considerably with problem content. However, when we bear in mind the apparent source of the domain differences observed in the present study, this discrepancy is not hard to understand. The key features of the religious topic that led participants to approach it differently to the way they approached the non-religious topic were the perceived paucity of evidence and the view of religious belief as involving some form of commitment over and above cognitive assent. In previous within-subjects studies of informal reasoning across ill-structured problems, neither of these features appears to have been a relevant variable. The problems across which performance was compared in these studies were not such as to cue considerations of non-cognitive commitment, nor did they vary in any obvious way with respect to the availability of evidence. The present findings indicate that, though other aspects of problem content may be relatively unimportant in shaping peoples’ informal reasoning in a given topic, these two features do make a difference.

Support for this explanation of the differences between the present and previous findings is provided by a recent study by Brem and Rips (2000), which found the degree to which their undergraduate subjects cited evidence rather than explanations in support of their points of view varied according to the perceived availability of evidence. On the basis of this finding, Brem and Rips criticized Kuhn’s pessimistic view of the average adult as a poor informal reasoner, arguing that people are likely to engage in exhaustive theory-evidence coordination only when they consider relevant evidence to be available. The present findings would appear to confirm Brem and Rips’s account. In the non-religious topic – where participants did not generally consider evidence to be in short supply – most appealed exclusively to objective evidence in their attempts to justify their beliefs and persuade their opponents. However, in the religious topic – where evidence was considered by many to be scarce – most participants sought to bolster their objective justifications with appeals to authority and personal considerations.
In addition to their findings regarding the ratios of evidence to explanations under different conditions, Brem and Rips (2000) reported a further finding relevant to the present study. Though they do not themselves pay much attention to this result, Brem and Rips report that when people were asked to imagine the strongest supporting evidence they could provide for their point of view they made significantly more appeals to authority than when they were asked simply to provide evidence. This finding is particularly intriguing, since in most previous studies of informal reasoning (e.g., Chandler, Boyes, & Ball, 1990; King & Kitchener, 1994; Kuhn, 1991), appeals to authority have been viewed as instances of naïve and immature reasoning. Why then would sophisticated adult subjects make more such appeals when asked to provide the best possible evidence for their point of view? The findings of the present study suggest that appeals to authority may often be employed more to bolster other forms of argumentation than to serve as independent forms of justification. In Brem and Rips’s (2000) study, participants would have been motivated to bolster their other arguments with appeals to authority by their desire to comply with the investigator’s explicit request that they provide maximum support for their point of view. In the present study, however, no such explicit request was made. Indeed, requests for justification where identical in both topics. Thus, the motivation for participants to work harder to justify their religious beliefs than to justify their non-religious beliefs was not extrinsic, as in the case of Brem and Rips’s best evidence condition, but intrinsic. One source of such intrinsic motivation might be peoples’ greater personal investment in their belief (or disbelief) in God than in their belief (or disbelief) in punishment. However, given participants’ beliefs about the availability of evidence in the two topics, another source is probably their dissatisfaction with the other forms of evidence and lines of argumentation that they are able to present in support of their religious belief. Taken together, Brem and Rips’s (2000) findings and those of the present study suggest that appeals to authority are not necessarily symptoms of naïve or immature reasoning: they may sometimes represent a sophisticated response to the perceived inadequacy of other lines of reasoning.

*Differences between children’s reasoning in the religious and moral domains*

Several studies have sought to investigate the extent to which children’s reasoning about moral questions is dependent on their religious and cultural beliefs (e.g., Nisan,
1987; Norman, Richards, & Bear, 1998; Nucci & Turiel, 1993). Though the present study was not designed as a comparative study of moral and religious reasoning, the non-religious topic was one that falls within the moral-social domain. It is therefore appropriate to consider the implications of the findings for research in this area.

The study that is most directly relevant to the present one is that of Nucci and Turiel (1993), which examined how subjects aged between ten and seventeen from different religious backgrounds reasoned about religious and moral questions. Nucci and Turiel found that even the youngest subjects distinguished between moral and non-moral religious rules. Moral rules such as rules about stealing and hitting were judged to apply to all people regardless of their religious group, even if not specifically commanded by God. Non-moral rules such as dietary laws or rules about Sabbath observance were judged to be relative to one’s religious group and contingent on God’s word.

The findings of the present study suggest that the tendency for children as young as ten years old to employ different forms of argumentation in the religious and moral domains is not restricted to their views about the alterability, generalizability and contingency of specific rules, but extends to the ways in which they set out to justify their basic beliefs, persuade opponents and generate and rebut counterarguments. At the same time, however, they also indicate that most of these differences are traceable to children’s differing beliefs about the nature of belief and the availability of evidence in the two topics. This suggests that the underlying principles of reasoning are quite similar across the two domains, but that the ways in which these principles are applied is dependent on the particular content being considered.

However, whilst the present findings are largely consistent with Nucci and Turiel’s account of distinct domains of social reasoning, they also suggest that, in reasoning about religious beliefs, the borders between the personal, conventional and universal may often be quite blurred. This can be seen most clearly in the tendency for people to combine impersonal causal justifications for their religious beliefs with personal reasons and appeals to authority. This indicates that, for many people, religious belief is a matter of personal preference, acceptance of certain conventions as supported by figures of authority, and impersonal rationality all rolled into one. The sharp distinctions that Nucci and Turiel found between the conventional and moral domains in children’s religious
thinking may thus be unique to thinking about behavioral norms. They do not appear to extend to thinking about the metaphysical beliefs upon which such systems of norms are based. Moreover, the fact that participants from General and Religious schools differed significantly in their epistemological beliefs in the religious topics suggests that children from different cultural backgrounds draw the lines between the personal, conventional and universal in different places: What for a pupil at a Religious school is a matter of universal truth is for a pupil at a General school often a matter of personal preference.

These latter findings appear to be consistent with Nisan’s (1984; 1987; 1988) contention that the extent to which children distinguish between the personal, conventional and universal domains is dependent to a great extent on culture-specific beliefs and values. Though Turiel has resisted this account (Turiel et al., 1988), it appears that he too recognizes that informational assumptions and metaphysical beliefs can have a decisive influence on peoples’ reasoning in different domains (Turiel & Neff, 2000; Turiel et al., 1988). The present findings suggest that assumptions and beliefs of this kind affect not only the kinds of reasoning that people employ within a given domain but their very conception of the domain (e.g., personal, conventional, metaphysical) within which they consider themselves to be reasoning.

The distinctiveness and rationality of religious faith

Since antiquity, theologians and philosophers of religion have debated the question of the distinctiveness of religious faith (cf. Forrest, 1997; Guttman, 1964; Hick, 1970; Mitchell, 1973; Peterson, Hasker, Reichenbach, & Basinger, 1991; Quinn & Talliaferro, 1997; Smith, 1979; Urbach, 1979). At one extreme have been those who view religious faith as a unique form of knowing that is different in its essence from all other forms of human cognition and perception. At the other extreme have been those who place religious faith squarely within some larger category of beliefs, such as beliefs about aesthetics, morality or nature. Between these two extremes lies a broad spectrum of views that differ from each other in the degree to which they see religious faith as similar or different to other instances of believing or knowing.

Over the centuries this debate has assumed various forms: sometimes pitting rationalists against mystics, at other times pitting positivists against existentialists, at still other times pitting fideists against evidentialists (cf. Forrest, 1997; Guttman, 1964).
Often, these debates have been grouped under the heading of controversies over the relationship of faith to reason. However, the issues of distinctiveness and rationality are not identical. It is possible to view religious faith as a unique form of knowing whilst insisting on its rationality. Similarly, it is possible to subsume faith under some larger category of belief or knowledge whilst insisting that it is inherently non-rational. Indeed, the question of the relationship between faith and reason admits of an equally diverse array of responses as the question of distinctiveness. At one extreme are those who argue that faith is an error, sickness or illusion that is antithetical to reason (e.g., Freud, 1964/1927; Russell, 1957). At the other extreme are those who argue that faith and reason are completely orthogonal, viewing faith as an experience, way-of-being, or language game that neither admits of any rational justification nor requires one (e.g., Kazepides, 1982; Kazepides, 1983; Malcom, 1977; McPherson, 1955; Wittgenstein, 1966). Between these two extremes are two major camps positing varying degrees of overlap between faith and reason. In one camp are those who consider faith to be justifiable by reason alone; in the other are those who consider faith to involve reason but to extend beyond it in some way. Those in the former camp view faith as a product of normal human faculties of reason (see, for example, the interpretations of Maimonides's theological outlook in Hartman, 1976; Leibowitz, 1987b); those in the latter camp consider faith to require, in addition to rational appreciation of the grounds for religious belief, some kind of feeling, commitment, or experience (e.g., Allport, 1950; Fowler, 1981).

Like many perennial philosophical debates, these controversies have been at least as much about values as they have been about facts. Philosophers of religion and theologians are generally more interested in the question of how people ought to think about matters of religious belief than in the question of how in fact people do think about such matters. Accordingly, the relevance of empirical studies of religious thinking to these debates is fairly limited.

Nonetheless, the questions of distinctiveness and rationality are ones that it is both possible and necessary to investigate empirically. In order to understand the nature of religious thinking and its development, it is not sufficient to chart the growth and decline of particular religious concepts, beliefs and ways of thinking. It is necessary also to
examine the relationship between such processes and thinking processes more generally. Without such an examination, the resulting psychological account would be bereft of context: like a physiology of the small intestine that ignored its relation to the rest of the digestive system. In addition, it is rare indeed for discussions of the distinctiveness and rationality of religious belief to avoid empirical claims. Even philosophical debates tend to include explicit statements or implicit assumptions about how people actually engage in thinking about their religious beliefs (cf. Callan, 1985; Callan, 1988; McLaughlin, 1985). Unless empirical studies directly address these questions, such claims will continue to go unchecked. Moreover, all existing accounts of religious development make very definite claims about both the distinctiveness and the rationality of religious thinking. However, not only are many of these claims mutually contradictory, but the empirical basis for each of them is weak if not entirely non-existent (cf. Beit-Hallahmi, 1989; McCauley, 2000). For example, Goldman (1964) viewed religious thinking as not only rational but also as identical in form to logical thinking in other domains. Fowler (1981), Oser and Reich (Oser & Gmunder, 1991; Oser & Reich, 1987; Reich, 1991; Reich 1993), on the other hand have insisted that faith and religious judgment are unique ways of meaning-making that involve more than rationality and which cannot be subsumed under other modes of psychological functioning. More recently, cognitive anthropologists and psychologists such as Boyer (1994; 1997; Boyer & Walker, 2000), Harris (1997; 2000), Johnson (1997; 2000)and Wooley (1997a; 1997b; 2000) have sought once again to emphasize the continuities between religious and non-religious thinking, suggesting that the differences between religious beliefs and other kinds of belief are differences of degree rather than of kind. However, none of these researchers have conducted within-subjects empirical studies to compare explicitly how peoples’ thinking varies across religious and non-religious questions, problems and material.

Since the present investigation has compared individuals’ thinking across religious and non-religious questions, it is better placed to shed light on these issues. However, before we attempt to draw conclusions from our findings, it is important to qualify their scope.

We have already noted the limited ability of empirical studies in general to contribute to philosophical debates about the distinctiveness and rationality of religious faith.
However, in the present study, these general limitations are compounded by additional restrictions imposed by the particular design of the research. The present study has focused on how people justify their belief or disbelief in God, viewing such processes of justification as instances of informal reasoning. This focus contains an inherent “rationalistic” bias. Participants in the study were asked to do such things as provide arguments and evidence for their beliefs and to generate and rebut opposing lines of reasoning. In presenting them with such tasks, we implicitly invited one kind of approach to the question of religious belief whilst suppressing others. Specifically, our questions implied that evidence and argumentation are relevant to the justification of religious belief. Such questions are obviously less hospitable to expressions of existentialist or fideist faith than they are to expressions of rationalistic faith.

At the same time, however, it is important to recognize that this rationalist bias was one of which we were aware at the design stage and which we sought as far as possible to minimize. Thus, most of the interview questions were phrased so as to allow for both rationalistic and non-rationalistic interpretations. For example, the question was not presented as one about the existence of God, but about belief in God. Participants were not asked explicitly to provide reasons or justifications for their beliefs: they were asked simply why they believed what they did. Similarly, participants were not asked explicitly to present evidence in support of their beliefs, but rather what things they would say to someone in order to persuade them that they were right. Moreover, the fact that participants often responded to these questions with expressions of non-rationalistic faith demonstrates that this careful phrasing of the questions was largely successful.

It is also important to recognize that it was precisely the cognitive or rational aspect of religious thinking, as opposed to its emotional or existential aspects, that we set out to investigate. That is not to say that we were not interested in exploring the role of emotions and experiences in our participants’ religious thinking. Indeed, these latter aspects were the focus of many of our qualitative analyses. However, our primary interest was in how people reason about their religious beliefs. Though this may be neither the only nor even the most important aspect of religious thinking, it has the advantage of being an aspect that can be compared with thinking in other domains. Those who insist on the uniqueness of religious thinking have yet to suggest a convincing
method by which their claim can be empirically tested. By focusing on reasoning, however, we can employ methods that have been used successfully to compare informal reasoning across domains and examine explicitly the degree to which reasoning about questions of religious belief differs from or is similar to reasoning about questions of non-religious belief.

Bearing these qualifications in mind, the present findings provide a number of intriguing insights into the issues of the distinctiveness and rationality of religious thinking. In general, they suggest that religious thinking is neither as unique nor as “supra-rational” as some have proposed (e.g., Fowler, 1981; Oser & Reich, 1987; Reich, 1991; Reich 1993). Yet nor is it quite so unexceptional and rational as others have proposed (e.g., Goldman, 1964).

Most of the children and adolescents approached the question of belief in God as if it required – and could be provided with – some kind of rational justification. However, the precise form these justifications took was quite different from that of their justifications in the non-religious topic. In justifying their beliefs about punishment, participants focused exclusively on the causal grounds for their belief. However, in justifying their belief (or disbelief) in God they tended to combine causal arguments with personal reasons and appeals to authority. One possible interpretation of this difference is that people are less rigorous in their reasoning in the religious domain. Specifically, the reliance of participants on explanations, motives and appeals to authority rather than on hard empirical evidence might be interpreted as demonstrating that the basis for their religious beliefs is not strictly rational (cf. Flew, 1966). However, it is important to bear in mind that such explanations, motives and appeals to authority were generally employed to bolster causal arguments, not to replace them. In particular, people appear to have employed them in order to compensate for a perceived lack of hard evidence for their causal arguments. This suggests that participants tended to see rational justification as an ideal, but were aware of the obstacles to achieving this ideal in relation to their religious beliefs, and therefore modified their strategies of justification to compensate for the shortfall. Thus, whilst some philosophers and theologians would consider these strategies of justification to be misconceived, illegitimate or even irrational, the
participants themselves appear to have been employing them in order to achieve maximal rationality in their justifications.

If this interpretation is correct, it suggests that most of the children and adolescents who participated in the present study understood religious belief to require rational justification and, given the limitations imposed by a lack of hard evidence, more or less to admit of such justification. Whilst this does not in any way “disprove” philosophical accounts of religious belief that view it as antithetical or orthogonal to reason, it does suggest that such views are not shared by many Jewish Israeli children or adolescents.

Moreover, the nature of the differences in peoples’ approaches to the two topics suggests that religious thinking may differ from non-religious thinking more in degree than in kind. A major source of difference between participants’ reasoning in the two topics was the perceived availability of evidence. Yet it was not that participants considered there to be no evidence at all for their belief (or disbelief) in God. Rather, they appeared to consider this evidence to be less conclusive, less reliable and less plentiful than the evidence for their beliefs about punishment. Similarly, many participants considered issues other than the quantity and quality of supporting evidence (such as motives or obligations) to be relevant in deciding whether or not to believe in God. Yet these considerations were not taken into account to the exclusion of evidentiary considerations, but rather in combination with them. Taken together, these findings suggest that religious thinking is distinguished to some extent from thinking in other domains by its explicit attention to non-evidentiary concerns. At the same time however, these concerns seem rarely to eclipse the standard kinds of evidentiary concern that characterize reasoning in other domains.

**Distinctiveness and the role of evidence**

This view of the differences between religious and non-religious as deriving largely from perceived differences in the quality and quantity of relevant evidence is broadly consistent with Chinn and Brewer’s (2000) account of the differences between religious and scientific thinking. According to Chinn and Brewer, children and non-expert adults apply the same domain-general standards and strategies of reasoning in the domains of religion and science. However, because religious data are more ambiguous than are scientific data, application of these same standards yields different results in the two
domains. In contrast, religious and scientific “experts” apply widely divergent standards and strategies of reasoning in their respective domains of expertise. Specifically, religious experts tend less than scientific experts to expose theories to data or to seek rigorous consistency between theories and data. On the other hand, they tend more than scientific experts and institutions to rely on interpreting authoritative texts and to give priority to intense spiritual experiences as sources of knowledge.

Chinn and Brewer’s (2000) account is a theoretical extrapolation from studies and anecdotal evidence describing how people reason in the religious and scientific domains respectively: it is not based on direct empirical study of within-subjects or between-subjects differences in religious and scientific reasoning. However, some aspects of their account appear to be confirmed by the present findings. Chinn and Brewer’s view that differences between religious and scientific thinking stem primarily from a lack of unambiguous evidence in the religious domain is consistent with the account of these differences proposed above. So too is the idea that application of the same standards of reasoning to domains which differ with respect to the availability of unambiguous evidence can result in major differences in the actual kinds of reasoning that people apply in practice to each domain (cf. Ennis, 1992; Siegel, 1992).

Two other aspects of Chinn and Brewer’s account, however, are less well supported by the present findings. The first of these is the proposed difference between experts on one hand and non-experts, children and adolescents on the other. According to Chinn and Brewer it is only experts that apply different epistemological standards to the religious and scientific domains. The present study found such differentiation to be common even amongst preadolescents. The second is the claim that there is little difference between the standards and strategies of reasoning that children, adolescents and adults apply to the religious domain. The present study found these standards and strategies to develop in a consistent direction over the course of adolescence.

Implications of distinctiveness and rationality findings for future studies of religious development

The findings discussed in the preceding subsections have important implications for how religious thinking ought to be studied in the future. A major source of criticism of cognitive studies of religious development has been that they misconceive religious
thinking and underestimate its affective and existential aspects. Whilst such criticism has its place, and cognitive studies should indeed be as sensitive as possible to these aspects of the religious experience, the charge that cognitive studies miss the point entirely appears to be unfounded. If participants in the present study are anything to go by, processes of reasoning, argumentation and epistemological reflection are central to religious thinking. Without some basic understanding of how these cognitive aspects of religious thinking develop over the course of childhood and adolescence, our understanding of religious development will be severely limited if not completely distorted.

3. Personal epistemology

A three-dimensional model of epistemological belief

Personal epistemology refers to an individual’s beliefs about the nature of knowledge. Previous accounts of the development of personal epistemology have differed considerably in their characterizations of the causes, onset, duration and endpoint of particular forms of epistemic thinking (Hofer & Pintrich, 1997). However, they have all tended to describe such thinking as evolving through least three distinct stages. The first stage is one of “naïve realism” or “absolutism” in which a person considers every question to have a single, correct answer that can be known, at least by experts, with absolute certainty. The second stage is one of “relativism” or “multiplicity” in which all knowledge claims are considered to be entirely subjective and idiosyncratic to the tastes and preferences of the individual. The third stage is one of “evaluativism,” “postskeptical rationalism,” or “reflective thinking” in which knowledge is seen as something that is tentatively constructed by evaluating the evidence for and against competing beliefs and points of view. According to these accounts, each stage comprises a general theory of knowledge that the individual applies more or less consistently to all domains.

Recent studies have raised questions about various aspects of these accounts. Schommer (1990; 1994) has argued, on the basis of factor analytic studies, that personal epistemology comprises several distinct dimensions of epistemological belief rather than a single, unified belief system. In addition, Hofer has provided evidence of significant within-subjects variance in personal epistemology across different domains (Hofer, 2000). There is also some disagreement amongst researchers about the nature of adolescent
epistemic thinking. Most accounts characterize adolescents as naïve realists and see relativism as an achievement of the early twenties. However, Chandler has argued for an earlier onset, backing up his account with evidence of relativism amongst subjects in their early teens (Boyes & Chandler, 1992; Chandler, 1987; Chandler et al., 1990).

Our investigation of the epistemological beliefs of participants in the present study was conducted with several objectives in mind: First, to examine the relationship between personal epistemology and the ways in which individuals justify their religious beliefs (and, indeed, between personal epistemology and belief-justification more generally). Second, to examine to what extent the epistemological beliefs of children and adolescents comprise a unified belief system or distinct dimensions of epistemological thinking. Third, to examine the extent to which individuals’ epistemological beliefs vary across ill-structured problems from the religious and non-religious domains. Fourth, to examine to what extent and in what ways epistemological thinking develops over the course of adolescence. Fifth, to examine the effects of cultural background on personal epistemology.

Though each of these research objectives was formulated in response to specific gaps in our knowledge and current controversies in the field of epistemological development, they are together the product of a more general conceptual critique of existing accounts of personal epistemology. This conceptual critique, which was developed in considerable detail in Chapter 7, focuses on the tendency of all existing accounts to assume that some forms of epistemological thinking are inherently more sophisticated than others. In opposition to this hierarchical account of personal epistemology, it was argued that the character of person’s epistemological thinking may be determined at least as much by that person’s subscription to particular beliefs and values concerning the specific area of knowledge under consideration as by their level of intellectual sophistication. In support of this conceptual critique, examples were provided of respected intellectuals who have held epistemological beliefs deemed by existing accounts to be naïve and immature.

An initial attempt was made to code participants’ epistemological thinking using the categorizations of previous studies. However, this attempt was unsuccessful. Participants’ responses to the epistemological questions in the interview were remarkably varied and eclectic, often combining apparently absolutist responses to some questions
with apparently relativist or evaluativist responses to others. Moreover, this eclecticism was not attributable to any particular subset of interview questions but was a general feature of responses to all of the epistemological questions included in the interview. In order to cope with this eclecticism and diversity, coding categories were derived inductively from the interviews themselves. Three dimensions of epistemological belief were found to provide a reliable framework for describing participants’ responses. These three dimensions were: ontology, fallibility and decidability. Ontology describes a person’s belief about whether or not there is a single, correct answer to the issue under discussion. Fallibility describes a person’s belief about whether or not she could be wrong. Decidability describes a person’s belief about whether or not the question under discussion is susceptible to rational resolution. Since each of these dimensions is defined as a binary variable, there are in theory eight different ways in which these epistemological beliefs can be combined. These eight combinations were described in detail, with examples of each “epistemic type” being provided both from amongst the respected intellectuals referred to above and from amongst participants in the present study.

The dimensionality, domain-specificity, culture-dependence and sophistication of children’s epistemological thinking

Before discussing the findings pertaining to our primary research objective, let us briefly consider those findings the concern our other four research questions. The dimensions of ontology, fallibility and decidability were only moderately interrelated, suggesting that personal epistemologies consist of a loosely integrated constellation of relatively independent beliefs rather than a unified belief system. Individuals’ epistemological beliefs were found to vary significantly across the religious and non-religious topics, indicating that personal epistemologies are domain-specific and content-dependent. Epistemological beliefs were found also to vary significantly across schools, suggesting that personal epistemologies are determined to some extent by culture-specific beliefs, values and discourse practices.

Epistemological beliefs were found to change over the course of adolescence in a direction similar to that proposed by previous studies. However, these changes were found to occur earlier than previous accounts have suggested and to proceed at a different
pace in the religious and non-religious domains. Thus, not only adolescents but many pre-adolescents were found to subscribe to epistemological beliefs that would be categorized by existing accounts of epistemological development as “reflective,” “evaluativist” or “post-skeptical.” For example, 44% of fifth-graders in the present study admitted that their religious belief was fallible, whereas King and Kitchener (1994: 219) have claimed that, “the ability to understand the fallibility of knowledge typically does not emerge until the early twenties.”

An additional finding, relevant to both our developmental question and to the conceptual critique of existing accounts of epistemological development, concerned the relationship between reliance on authority and epistemological beliefs. All previous accounts of epistemological development have viewed the tendency to appeal to authority in justifying one’s beliefs as a symptom of naïve epistemological thinking. Indeed, some of the most influential accounts (King & Kitchener, 1994; Kitchener & King, 1981; Kuhn, 1991; Perry, 1970) have gone so far as to include reliance on authority in their operational definitions of the lower stages of epistemological development. However, in the present study, appeals to authority were significantly associated neither with age nor with any of the three dimensions of epistemological belief studied.

In the previous chapter tentative explanations were offered for these discrepancies. It was suggested that the topics used in the present study were more familiar and salient to children and adolescents than those used in previous studies; that few previous studies have actually examined the epistemological thinking of this age group; and that, by distinguishing between beliefs about authority and beliefs about the nature of knowledge, dimensions of variation in epistemological thinking became visible that had previously been obscured. Obviously, given the limitations of the present study and the large body of apparently contradictory data, much more research is needed to determine with any confidence if, where and how existing models of epistemic development are mistaken. Moreover, there are, despite the many differences, some important points of convergence between the present findings and those of previous studies. Tellingly, the account of epistemic development with which the present findings are most consistent is that of Chandler (1987; Chandler et al., 1990). Not only has Chandler conducted the most detailed investigations into adolescent epistemology (Chandler et al., 1990), but his
theoretical framework is informed to a much greater degree than are others by the variety of philosophical approaches to speculative epistemology (Chandler, 1987). Consistent with Chandler’s findings and contrary to those of Kuhn (1991) and King and Kitchener (1994), there does appear to be a general decline over the course of adolescence in the belief that all questions are susceptible to rational resolution. Similarly, as predicted by Chandler and his colleagues (Chandler et al., 1990), dogmatism (in our typology: “dogmatic realism”) and relativism (in our typology: “dogmatic perspectivism”) do appear to emerge in parallel during mid-to-late adolescence, not sequentially during the college years as claimed by Perry (1970) and King and Kitchener (1994). Nonetheless, even Chandler’s account is challenged to some degree by the divergent patterns of age-related change across domains and religious groups and by the apparent widespread emergence in the religious topic of “tragic realism” (i.e. the view that there is ultimately a single, correct answer, but that we could never be sure that we had found it) prior to any passage through what Chandler calls, “the relativism-dogmatism axis.”

Epistemology, argumentation and religious thinking: the role of beliefs and values

If the aim of the present study were simply to challenge existing views of epistemological development, we could leave things here. However, our primary goal in studying the epistemological beliefs of children and adolescents was first, to examine the ways in which such beliefs might be related to their religious thinking and second, to investigate the relations between epistemological beliefs and argumentation more generally. The findings of the present study indicate a number of important connections between epistemological beliefs and religious thinking and suggest that the relationship between epistemology and argumentation is not as unidirectional as has previously been supposed.

In the religious topic, epistemological beliefs were significantly related to several aspects of peoples’ argumentation: Fallibilists tended to present more justifications for their beliefs than infallibilists. Participants who considered the question of God’s existence to be unsusceptible to rational resolution were reluctant to persuade or rebut their opponents. Realists tended more than perspectivists to cite empirical evidence in support of their religious beliefs. These findings would appear to support Kuhn’s (1991; 1993b; 1996; 2000; 2001) contention that epistemological beliefs are an important factor
in motivating people to adopt particular approaches to argumentation. For example, people who admit they may be wrong have more of a stake in making the best case they can for their belief than do those who are convinced of their infallibility. Similarly, people who are skeptical about the possibility of ever proving which of two opposed views is correct are unlikely to see any point in arguing about it. And people who believe that only one point of view is ultimately correct are likely to be more concerned with weighing up evidentiary basis for their belief than are those who deny that any one point of view is more correct than any other.

However, whilst the above findings support Kuhn’s account of the relationship between epistemological beliefs and argumentation, other findings suggest that her account is incomplete. In a recent article, Kuhn (2001) has proposed a detailed theoretical model of how epistemological beliefs influence argumentation. According to this model, epistemological beliefs influence intellectual values (e.g. preference for examined beliefs, seeing inquiry and argumentation as worthwhile), which in turn influence the disposition to engage in intellectual activities (e.g. inquiry, analysis, inference and argument), and hence intellectual performance (e.g. theory-evidence coordination). Kuhn’s model is an important contribution to the field of epistemic development in that it brings attention to the often-neglected relationship between epistemology and values (though see Kohlberg, 1971; Perry, 1970). However, the findings of the present study suggest that, contrary to Kuhn’s unidirectional model, values may just as often influence epistemological beliefs as be influenced by them. This was shown most strikingly in examples in the previous two chapters wherein people consciously modified their epistemic beliefs to conform to their religious commitments. More generally, however, it was shown in the significant effects of religious background on beliefs about fallibility and decidability in the religious topic. These effects suggest that culture-specific values and commitments exert a powerful influence on epistemological beliefs.

The interrelatedness of religious commitments and epistemological beliefs is underscored by the findings of a number of recent studies. In one group of studies, creationists have been shown to score lower on measures of epistemological sophistication than evolutionists (Lawson & Worsnop, 1992; Sinatra, Southerland, &
In another study, commitment to orthodox religious beliefs was shown to correlate positively with naïve realism (Desimpelaere, Sulas, Duriez, & Hutsebaut, 1999). The authors of these studies appear to interpret their findings as evidence of the epistemological naiveté of creationists and orthodox believers (Desimpelaere et al., 1999: 131; Sinatra et al., 2001: 23ff). However, an alternative interpretation is that what they have actually demonstrated are the biases inherent in their measures of epistemological sophistication. Given that those who believe in creationism or other tenets of orthodoxy are also likely to believe in the existence of an omniscient God and in the absolute authority of religious texts and traditions, their commitment to “naïve realism” is unsurprising. What is surprising is that psychologists have so often failed to see such commitment for what it is: not so much a lack of scientific or epistemological sophistication as subscription to a particular metaphysics (cf. Chandler, 1997; Chinn & Brewer, 2000; Evans, 2000).

Though we may dispute their authors’ conclusions, these studies are helpful insofar as they alert us to the value-ladenness of epistemological beliefs and the consequent dangers of bias in measures of epistemological thinking. These dangers are perhaps particularly obvious in relation to religious values and commitments, but are no less present in relation to other values and commitments. For example, many of the current measures of epistemological thinking may to tap into people’s social-political values along a liberalism-conservatism axis, with conservative commitment to the authority of tradition locating individuals at the lower rungs of the developmental ladder and liberal commitment to open-mindedness locating them near the top. Indeed, this may account to some extent for the strong associations observed between epistemological development and college education (King & Kitchener, 1994; Kuhn, 1991).

**Procedural and declarative epistemologies**

Additional grounds for amending Kuhn’s (2001) account of the relationship between epistemological beliefs and argumentative reasoning are suggested by a further finding. In the present study several instances were found of people employing double epistemological standards: the certainty implicit in their argumentation was not matched by similar certainty in their explicit declarations of epistemological belief. This double standard seemed to occur when personal epistemological uncertainty was combined with
extensive exposure to forms of theological argumentation that assume the provability and
certainty of God’s existence. This finding indicates that the effects of epistemological
beliefs on argumentation may sometimes be quite limited, especially when cultural
support for particular kinds of argumentation is particularly strong. It also suggests that
epistemological beliefs may be affected by specific, culturally sponsored beliefs and
assumptions no less than by general cultural values.

That people sometimes employ double standards in their religious thinking has been
noted in previous studies. Rosenberg (1990) observed that, though adolescents often use
“high talk” when talking of prayer in the abstract (e.g. by describing prayer as fulfilling
psychological needs rather than causing God to grant wishes or withhold punishments),
the actual petitions they consider appropriate for inclusion in prayers are remarkably
personal and mundane. Similarly, Barrett and Keil (1996) found that, whilst university
students tended to describe God in “theologically correct,” non-anthropomorphic terms
when questioned directly about their concepts of God, their interpretations of stories
about God were often replete with anthropomorphic assumptions. The findings of the
present study suggest that these double standards are not mere oddities of people’s
concepts of God or concepts of prayer. Rather, they appear to reflect a fundamental
divergence between procedural and declarative epistemology in the religious domain.

This distinction between procedural and declarative epistemology was introduced in
the previous chapter primarily in order to account for these discrepancies in peoples’
religious thinking. However, it has important theoretical implications beyond the present
study. We shall attempt to explore some of these implications below.

Borrowing the procedural-declarative distinction from psychological studies of
memory, we defined declarative epistemology as the set of epistemological assumptions
to which a person subscribes in her explicit professions of epistemological belief and
procedural epistemology as the epistemological assumptions implicit in her acts of
argumentation or interpretation. We then went on to suggest that a person’s declarative
epistemology may reflect the standards to which a person believes she ought to subscribe,
whereas her procedural epistemology reflects her intuitive, unpremeditated
epistemological standards. These “oughts” of declarative epistemology may be the
“oughts” of a religious tradition or of a conception of scientific knowledge or
philosophical truth. Whatever their source, however, these “oughts” are often more like norms or values to which a person is committed than propositions to which a person grants or withholds assent. It was such considerations that led us in the previous chapter to suggest that it might be more appropriate to talk of a person’s epistemological commitments than of his or her epistemological beliefs.

If we take this distinction between procedural and declarative epistemology seriously, it raises numerous questions about how existing data concerning peoples’ personal epistemologies ought to be interpreted and about how epistemological thinking ought to be studied in the future. Previous interview-based studies of epistemological thinking have tended to diagnose peoples’ level of epistemological development on the basis of a combination of direct questions about their epistemological beliefs and observation of the argumentative reasoning that they employ in the context of ill-structured problems. In other words, they have based their diagnoses on a global score a person’s procedural and declarative epistemology considered as a whole. Questionnaire-based studies, on the other hand, have tended to base their diagnoses exclusively on measures of declarative epistemology. If procedural and declarative epistemologies represent distinct and sometimes even conflicting sets of epistemological standards, it is doubtful whether the data elicited in interview-based and questionnaire-based studies are commensurable. Indeed, since authors of interview-based studies are not always clear about the how much of their diagnosis is derived from analyses of their subjects’ explicit epistemological statements and how much from analyses of the epistemological assumptions implicit in their subjects’ argumentation, it is even unclear to what extent different interview-based studies can be compared with each other.

In addition, if (as appears to be the case with respect to religious thinking) declarative epistemologies reflect the standards or norms to which the individual believes she ought to subscribe (as opposed to the standards to which she does subscribe in her own thinking), then existing assessments of epistemological thinking may often measure a person’s interpretations of what others (such as the interviewer or the subject’s parents,

3 Our use of the term, “epistemological commitment” differs from that of Chinn and Brewer (2000). They use this term to describe the totality of standards and strategies of reasoning that people apply to a given domain, including the tendency to rely on particular kinds of evidence or sources of information and to ensure that such evidence or information is consistent with existing beliefs. Our use of the term is confined to beliefs and values pertaining to the nature of knowledge: it thus includes commitment to particular standards of knowledge justification but not to particular strategies of knowledge acquisition.
teachers or peers) expect her to believe, not what she believes herself. If this is the case, then the consistent finding of a correlation between tertiary education and higher levels of epistemological development may reflect no more that greater knowledge amongst recipients of higher education about which particular norms and values devisers of measures of personal epistemology are likely to hold dear.

These difficulties of interpretation suggest that, if we are properly to understand the nature of epistemological development and the relationship between epistemological beliefs and informal reasoning, future research designs will have to distinguish between procedural and declarative epistemologies and seek explicitly to investigate the relations between them.

4. Educational implications

The move from empirical data to educational proposals is never a simple one. How students think about a particular area of subject matter is only one among many other factors that must be taken into account in deliberating upon what to teach, how to teach it, when to teach it and to whom. These “other factors” include not only questions of fact, but also questions of value, not only questions of educational means but also questions of educational ends (cf. Kohlberg & Mayer, 1972). Clearly, a detailed analysis of the ends of education as they relate to religious thinking is beyond the scope of the present study. After all, this is a work of educational psychology rather than educational philosophy. Yet, whilst the present study cannot by itself provide answers to questions about the goals of education, neither can it ignore them. If it is to be of any practical use to educators, it must include at the very least some consideration of the educational challenges, opportunities and dangers afforded by developments in religious thinking over the course of childhood and adolescence and some attempt to evaluate the impact of different kinds of schooling on students’ religious thinking. It is to such considerations that we now turn. However, in order to narrow the scope of our discussion to manageable proportions, we shall restrict our attention to the State education system in Israel.

Religious thinking and the goals of education

It goes without saying that the General and Religious school systems in Israel are concerned neither in the same ways nor to the same degree with the cultivation of mature religious thinking. Each system (and, for that matter, each school) has its own peculiar
constellation of ideological and pragmatic considerations and priorities regarding matters of religious belief. Yet, in spite of these differences, there are some goals that are common to both systems and which bear directly on many of the issues raised in the preceding sections of this chapter. Since, intuitively, the relevance of religious thinking to the goals of Religious education is more obvious, we shall consider this system first.

If one were unfamiliar with religious education in Israel, one might be forgiven for assuming that the cultivation of mature religious thinking is the primary goal of the Religious education system. In fact, however, it is only relatively recently that educators and researchers have begun to pay much attention to how pupils in Religious schools think about religious questions (e.g., Fisherman, 1998; Kaniel, 1998). Though the Religious education system has always sought to produce graduates who are strong in their faith, this goal has generally been an implicit one, embedded within the larger context of a more general and explicit concern with producing graduates who are committed to an Orthodox way of life. For example, in a recent article on the role of the school principal in religious education (Dagan, 2000), Mattityahu Dagan, the Director of Religious Education Administration at the Ministry of Education at the time the present research was conducted, describes the aims of religious education thus:

Is this not the main task of religious teachers and principals: to influence and improve the religious worldview and behavior of their pupils? The task of the educational system is not just to “do the done thing” but also to demonstrate its contribution to changing the attitudes and ways of life of those pupils who weren’t strong in these things and to fortify those who arrived with minimal commitment to a religious way of life … Accordingly, the system’s task does not end when the pupils are no longer present in the classrooms or the school … The school’s task is to prevent secularization in [the pupil’s] way of life”

Though Dagan includes among the goals of the Religious education system the cultivation of a religious worldview and religious attitudes, these goals appear to be subordinate to the larger goal of promoting a religious way of life and, in particular, conformity to Orthodox norms of behavior. A similar organization of priorities informs Dagan’s characterization of the role of the principal in curriculum development as, “the planning of programs that will strengthen the religious behavior of the pupils and
[educate] toward the way of life of a faithful Jew with a Zionist outlook.” These priorities also inform the variables that have been used as indicators of success or failure of schools within the Religious education system (e.g., Leslau & Bar-Lev, 1993; Saar, 1999).

This focus on behavior and conformity to religious norms as the primary goal of religious education has considerable precedent within rabbinic Judaism (cf. Leibowitz, 1987a; Soloveitchik, 1994; Urbach, 1979). However, in recent years, many Religious Zionist educators in Israel have begun to wonder whether this emphasis has not led them to pay insufficient attention to other important aspects of religious life. In particular, many are concerned that graduates of the Religious education system are not being taught to think in a sophisticated manner about matters of religious faith and practice and that, as a result, they are falling prey in increasing numbers to the attractions of religious extremism on one hand and secularism on the other (Amital, 1995; Fisherman, 1998; Goodman, 2000; Kaniel, 1998; Lichtenstein, 1995). Two developments in particular have been responsible for this re-examination of educational priorities.

The first development is an increasing secularization rate. Recent studies indicate that around 40% of graduates of State-Religious schools report being less religiously observant than their parents (Leslau & Bar-Lev, 1993; Saar, 1999). And, though no precise figures exist, it is estimated that between 20%-30% neither consider themselves religious nor conform to Orthodox norms of religious observance (cf. Lev, 1998). Moreover, the sense amongst many parents and educators is that the percentage of “drop-outs” is growing yearly. Given, that Religious Zionists tend to live together in fairly homogeneous neighborhoods, this assessment is probably a fairly accurate one: when a kid “drops out,” people in the neighborhood know about it (Goodman, 2000; Tabory, 1992).

The second development relates to events surrounding the murder of Prime Minister Yitzhak Rabin by a graduate of the Religious education system. Many religious leaders and educators saw the murder as a mark of shame on the entire system and called for a drastic re-assessment of its educational philosophy and practice. In particular, they saw existing practices as fostering extremism by failing to teach pupils how to cope with
complexity in questions of religion and politics and by encouraging intolerance and contempt for other ways of life and points of view (Amital, 1995; Lichtenstein, 1995).

Not all Religious Zionist educators are concerned about these two developments to the same degree: some appear to be more concerned about secularization (e.g., Goodman, 2000) whilst others appear to be more concerned about extremism (e.g., Amital, 1995). Ultimately, these differences of emphasis reflect important differences in underlying religious and educational philosophy (cf. Rosenak, 1983; Rosenak, 1987; Rosenak, 1995). However, both developments are of at least some concern to all religious educators and both point to the need for the Religious education system to devote more attention than it has done in the past to the ways in which children and adolescents think about matters of religious faith and practice.

Indeed, these two developments may be seen as two sides of the same coin. Commitment to a religious way of life has always required confidence on the part of the individual in the plausibility of the assumptions about reality on which that way of life is based (Berger, 1967; Berger, 1969; Berger, 1979; Geertz, 1973/1957). In every culture and in every historical period, there have been some who have doubted the plausibility of such assumptions (Berger, 1979; Smith, 2001). However, the contemporary period of “post-modernity” or “high modernity” is distinguished from the periods that preceded it by technological developments that increase exponentially the number of competing sets of such assumptions to which all individuals are exposed (Berger, 1979; Gellner, 1992; Giddens, 1991; Lyotard, 1984). As a result, doubts that were once the preserve of deviants and heretics are today the common experience of ordinary individuals (Berger 1979, Giddens 1990). Religious children and adolescents in Israel are no exception. Indeed, the social reality of Religious Zionism in Israel is such that such doubts are probably even more intense and ubiquitous than they are amongst children and adolescents from other sub-cultures (Schachter, 2000). Sandwiched as they are between the “ultra-orthodox” on one hand and the “secular” on the other, they cannot but compare themselves and their assumptions to those of their peers to their right and to their left (Kaniel, 1998). Moreover, it is likely that children and adolescents, as a result of their greater use of electronic media, are even more exposed to competing belief-systems, values and ways of life than are their parents and teachers (cf., e.g., Goodman, 2000;
Levy, 2000). Unless their education can provide them with a convincing rationale for religious observance and with guidance and practice in weighing up competing claims and arguments about plausibility of Orthodox belief, many may fail to see the point in continuing to subject themselves to the strictures and demands of an Orthodox way of life (Goodman, 2000; Kaniel, 1998). Similarly, if questions of religious faith and practice are addressed by rabbis and teachers as if they have clear and absolute answers that only the stupid or wicked could fail to accept, then parents and educators ought not to be too shocked when “good” graduates (i.e. those who remain committed to a religious way of life) are often intolerant and unable to deal with ambiguity and complexity in religious matters.

As for General schools, the first thing that needs to be recognized is that, though they are often described in this way, they are not “secular” schools. Their pupils comprise an extremely broad spectrum of types and degrees of religious commitment and observance. Accordingly, parents, teachers, administrators and policy makers within the General school system are extremely diverse in their opinions, desires and fears about the role of religion in their charges’ education. A second thing that should be recognized is that issues related to religious faith already arise at many different points in the General school curriculum, such as Bible and Talmud studies, Jewish philosophy, Jewish history and social studies. Though few attempts have been made to examine in detail how religious issues are dealt with in these contexts, the ways in which these subjects are taught necessarily involve some implicit conception of the nature and role of religious thinking within the education of General school pupils. These two facts indicate that, in practice, all General schools are concerned to some degree with the cultivation of religious thinking of one kind or another, even if in some cases of a decidedly secular humanistic orientation.

Moreover, recent reform initiatives and policy shifts within the State education system as a whole have served to place the goal of cultivating reflective thinking about matters of religious faith and commitment at the center of curricular planning, teacher training and pedagogical deliberation. Since the 1990s the State education system as a whole has been investing significant effort in the teaching of matters of principle relating to the quality of Israel as a Jewish and democratic state (Zameret, 2001). Much of this
effort has been initiated in response to two public commissions. The Shenhar Commission was appointed in 1991 by the then Minister of Education, Zevulun Hammer (a Member of Knesset for the religious Zionist “National-Religious” party), to present recommendations for Jewish education within the State education system. The Kremnitzer Commission was appointed in 1995 by the then Minister of Education, Amnon Rubinstein (a Member of Knesset for the secular Zionist “Meretz” party) to present recommendations for the teaching of civics and the cultivation of democratic values. The two commissions submitted their recommendations in 1994 and 1996 respectively (State of Israel, 1994; State of Israel, 1996) and a special staff has been set up within the Ministry of Education to supervise their implementation.

The Shenhar Commission proposed a number of broad educational goals regarding the cultivation of reflective thinking about core issues of Jewish-Israeli identity. These included (State of Israel, 2001b):

… to provide tools for shaping a worldview and for formulating a Jewish-Israeli identity and culture, in accord with changing circumstances … to teach the variety of embodiments of the cultures of Israel critically, comparatively and with interpretative creativity … to seek encounters and interactions between different cultures and personal and communal narratives, whilst granting respect and legitimacy to the variety of interpretations and ways of Jewish-Israeli life … to strengthen the learner’s confidence in his values and abilities … by way of integrative activities, engagement with dilemmas and comparisons of the familiar with the unfamiliar.

The Commission went on to recommend methods by which these goals might be achieved. These methods included the development of programs that promote critical thinking about issues of Jewish-Israeli identity and values that are current and relevant to everyday life. The recommendations of the Kremnitzer Commission included a similar combination of educational goals and methods. Amongst the goals were (State of Israel, 2001a):

… to provide knowledge, understanding and the ability to analyze, judge and make decisions, to learn and formulate opinions, values, and motives to act… to shape active and responsible citizens … by demonstrating the rich and varied
possibilities of the text, the importance of the point of view of the reader and the 
critical stance, and recognition of difference in time and space.
The Commission went on to recommend that, in order to achieve these objectives, 
schools should promote learning that is:

… relevant, dialogical and discursive … that deals with disagreements, tensions 
and dilemmas … [that nurtures] analysis and criticism, seeing the complexity of 
the problem, varieties of interpretations and solutions, judgment and decision-
making.

Clearly, this emphasis on promoting reflective thinking about Jewish culture and 
democratic values is intended to cover a much broader spectrum of issues than those 
related directly to questions of theology. At the same time, however, some of the most 
controversial, complex and divisive issues facing Jewish-Israeli society today revolve 
precisely around questions of religious belief and commitment. Issues such as the 
separation of church and state, land for peace, the funding of anti-Zionist institutions, the 
conscription of Yeshiva students, the recognition of non-Orthodox conversions and 
marriages all relate in clear and direct ways to disagreements over specific religious 
beliefs and values. If students are indeed to learn how to formulate sophisticated and 
nuanced opinions about such issues and to grant legitimacy and respect to alternative 
points of view, schools need to address questions of religious belief to no less an extent 
that they need to address other issues of social and political significance.

Furthermore, even if questions of religious belief were not so tightly intertwined with 
contemporary social and political issues, there would still be grounds for considering the 
cultivation of reflective thinking about them an important goal of State education. Some 
issues are relevant to the goals of education because they are current; others are relevant 
because they are perennial. Issues of this latter kind include “ultimate” questions about 
the nature, meaning and purpose of human life. It is clear from the excerpts above that 
the State education system in Israel considers the ability to reflect upon such questions in 
a sophisticated and open-minded manner to be at least part of what it means to be an 
educated person. Whether one likes it or not, religious belief-systems constitute one of 
the most common perspectives through which people approach ultimate questions. One 
way to provide students with the tools, knowledge and experience necessary for
addressing ultimate questions reflectively is therefore to provide them with opportunities
to subject religious beliefs to critical examination, comparison and debate. This is not to
say that ultimate questions do not arise in other areas of the school curriculum or that
religions offer insights into these questions that no other traditions can provide (cf. Carr,
1994; Carr, 1996; Mackenzie, 1998). It is merely to acknowledge that, for many people,
religion and ultimate questions are intimately related and that therefore to exclude issues
of religious belief from discussions of ultimate questions would be an act of arbitrary
censorship and distortion. Indeed, to exclude a detailed consideration of religious beliefs
in this context would be implicitly to endorse a secular humanist approach to questions of
ultimate meaning by suggesting that religious perspectives are irrelevant or beyond the
pale of rational debate (Laura, 1978; Leahy & Laura, 1997; Noddings, 1993).

In short, both the Shenhar and Kremnitzer Commissions emphasized the need for
State schools to model a culture of civilized debate and respect for alternative points of
view, the need to provide students with training in reflective judgment and critical
thinking about value-laden questions and controversies, and the importance of addressing
issues that currently divide Israeli society. If their proposals are seen as a “mission
statement” for the State education system with respect to the teaching of Jewish and
democratic values, then it would seem that the cultivation of reflective thinking about
questions of religious belief ought to be an important goal of all schools within the
system, both General and Religious.

The specters of heresy and indoctrination

Thus far, we have presented a number of reasons for seeing the development of
reflective thinking about questions of religious belief as a goal of both Religious and
General schools in Israel. However, there are some who would argue that any attempt to
teach such thinking in schools would constitute a challenge to the very norms and values
on which the entire education system is based. This group includes at one extreme those
who see the raising of theological questions as at best “placing a stumbling block before
the blind” by opening up the possibility of religious doubt and at worst as itself
constituting an act of disrespect and disloyalty bordering on heresy. It includes at the
other extreme those who view all religious education as indoctrination (cf. Kazepides,
1982; Kazepides, 1983).
The concerns of both groups rest on a combination of empirical and normative or conceptual assumptions. Those in the former group believe that critical thinking about fundamental questions of religious faith is discouraged if not forbidden by traditional Orthodox norms. However, they also assume that by addressing issues of religious belief in schools they would be exposing students to doubts that they would otherwise not have experienced or considered legitimate. Similarly, those in the latter group believe that there is some feature (or combination of features) of religious education that marks it out as indoctrinative. However, they also assume that this feature is present in all forms of religious education, regardless of its content, method or intent.

All these assumptions may be challenged. Though the normative assumptions of the former group certainly have some precedent within mainstream Orthodoxy, so do other approaches which not only permit but prize critical thinking about theological questions (cf. Davidson, 1974; Hartman, 1985; Rosenak, 1995). Furthermore, the findings of this and previous studies (e.g., Fisherman, 1998; Schachter, 2000) suggest that, by seeking to develop reflective thinking about questions of religious belief, Religious schools would not be introducing students to doubts that they had managed hitherto to avoid, but rather providing them with tools and opportunities to address the doubts they already have. Similarly, there is little agreement amongst philosophers of education about the criteria by which education may be distinguished from indoctrination and the extent to which religious education falls foul of these criteria (for just a few examples of this kind of debate, see Alexander, 1992; Callan, 1985; Callan, 1988; Chazan, 1978; Gardner, 1980; Gardner, 1988; Gardner, 1991; Gardner, 1993; Gardner, 1996; Hare, 1985; Hare & McLaughlin, 1998; Hare & McLaughlin, 1994; Laura & Leahy, 1989; Leahy & Laura, 1997; McLaughlin, 1984; McLaughlin, 1985; Rosenak, 1983). However, few would class as indoctrination the promotion of reflective thinking about theological questions through discussions in which the basis for one’s beliefs are subjected to critical analysis and positions opposed to one’s own are respectfully studied and evaluated. Indeed, it is precisely the absence of such opportunities for critical reflection that philosophers of education find so worrying about many existing forms of religious education (cf. Callan, 1985; Callan, 1988; Kazepides, 1982; Kazepides, 1983).
Of course, the fact that in theory the teaching of religious thinking need be neither antinomian nor indoctrinative does not guarantee that it will not be so in practice (Callan, 1985; Callan, 1988; Chazan, 1978; Rosenak, 1983). There is always a risk that such teaching will provide a catalyst for some students’ rejection of religious norms or a platform for some teachers to seek to impose their own beliefs on their students and discourage rational debate. However, there is also no guarantee that these risks will be significantly reduced by exclusion of theological questions from the curriculum. Students’ questions are likely be triggered by many other aspects of their experience inside and outside school. By ignoring or suppressing these questions, teachers risk giving students the impression that those who profess religious belief are naïve or disingenuous or that religious beliefs cannot be rationally defended. Moreover, the illusion of neutrality that such exclusion affords is likely to shield the teacher’s implicit theological assumptions from careful scrutiny, thereby leaving space for a “hidden curriculum” that is more indoctrinative than any explicit attempt to address these questions would be.

The effects of current teaching on religious thinking: Religious schools

Thus far we have considered the normative question of whether or not religious thinking ought to be taught in State schools in Israel. We turn now to the descriptive question of how existing teaching practices in Religious and General schools impact the religious thinking of children and adolescents. This question too is a difficult one to answer. It is obvious that group differences in religious thinking between pupils at Religious and General schools cannot be attributed solely to the effects of formal schooling. The two school systems serve quite distinct populations (cf. Leslau & Schwarzwald, 1985; Tabory, 1992). It is possible therefore that many of the observed differences between schools are due less to formal schooling than to informal processes of socialization within pupils’ families and communities (Schoenfeld, 1998). Moreover, the present study has investigated neither the classroom practices of Religious and General schools nor their curricula and textbooks. Rather, we have focused on the argumentation that individual pupils provide in defense of their beliefs. In building up a picture of the kinds of theological discourse that occur in each type of school, therefore, we have relied on spontaneous and unsystematic descriptions of such discourse by our
young informants and on our own attempts to identify broad themes amongst the many
group differences that we observed. Nonetheless, if we bear these limitations of our data
in mind, it is possible to derive a number of tentative conclusions about the effects of
current teaching on pupils’ religious thinking.

One of the clearest and most consistent differences between the religious thinking of
pupils at Religious and General schools concerned their underlying epistemological
assumptions about the nature of religious belief and its justification. For pupils at
Religious schools, the question of belief in God is primarily a question of what is or is not
the case. Indeed, most of them considered God’s existence to be provable not only in
theory but also in practice. Pupils at General schools, on the other hand, often
approached the question of belief in God as if it were more a question of identity or
lifestyle preference than a matter of fact. This was seen both in their tendency to embed
their justifications within a general description of their family background and in their
tendency to consider the question of God’s existence to be unsusceptible to rational
resolution. There can be little doubt that these differences reflect, at least to some degree,
general subcultural differences between the populations that are targeted by Religious and
General schools respectively. For example, within the religiously heterogeneous
population served by General schools, belief in God is a social marker, distinguishing
between the “secular” and the “traditional” (cf. Levy, Levinsohn, & Katz, 1993). Within
the more homogeneous “religious” population served by Religious schools, on the other
hand, belief in God is less a social marker than a given (though see Bar-Lev & Krausz,
1989; Dagan, 2000; Leslau & Schwarzwald, 1985). These sources of difference exist
independently of any specific practices within Religious and General schools.
Nonetheless, the findings of the present study indicate a number of ways in which such
basic differences in epistemology are supported and further intensified by particular
educational practices.

In Religious schools there appears to be a clear tendency for teachers to treat the
existence of God as something that can be demonstrated conclusively. Moreover the
preferred response of Religious teachers to counterarguments to such demonstrations
seems to be to dismiss or ridicule them. This was seen most clearly in the instances of
“pre-interview coaching” in two of the Religious elementary schools in the study. In both
schools, pupils were presented with a story in which the counterarguments of some non-believer are exposed as inconsistent and ridiculous. However, a similar tendency was noted in Religious high schools. Here too participants described their teachers, rabbis and counselors as seeking to demonstrate conclusively the question of God’s existence and as dismissing potential counterarguments as unworthy of serious consideration.

That the underlying structures of theological discourse in Religious high schools appear to differ little from those in Religious elementary schools is particularly noteworthy given the increasing tendency in recent years for high schools to organize informal seminars at which pupils are invited actively (by counselors and rabbis other than their regular teachers) to discuss theological questions. This tendency would seem to reflect an implicit acknowledgement by such schools that the normative and directive approach to such questions within the formal school curriculum is in some way inadequate. However, the findings of the present study suggest that, though they may change the location and surface format of theological discussions, these “informal” seminars tend to leave underlying discourse structures intact (cf. Billig et al., 1988; Edwards & Mercer, 1987).

The impact of these practices on pupils’ religious thinking is particularly evident in the dismissive attitude of pupils at Religious schools to scientific theories of evolution and cosmology. In contrast to their peers at General schools, they not only considered such theories to pose no significant challenge to design arguments in support of the existence of God: on the whole they did not even consider such theories to be worthy of more than cursory refutation.

From a certain perspective, these practices of theological discourse within Religious schools might be seen as not only appropriate but successful. If the primary aim of addressing theological questions in Religious schools is to provide pupils with the tools and knowledge to “answer the heretic” (cf. Schachter, 2000: 68-69), then these practices appear to fulfill that goal to an impressive degree. Around 90% of pupils from Religious and Torani schools were able to rebut counterarguments against their religious beliefs, compared with only 70% of pupils from General schools. However, these statistics tell us only that pupils at Religious schools are generally capable of responding in some way
to the external heretic. They do not tell us how successful they are at quieting the heretic within.

In fact, the very practices of theological discourse that provide pupils with a stock of ready-made rebuttals may contribute ultimately to the skepticism of many older pupils at Religious schools about the rationality of religious belief. Many adolescents at Religious schools expressed dissatisfaction or frustration with the standard arguments and rebuttals that they had heard from teachers and found their conclusiveness difficult to reconcile with the irreducibility and tenacity of their own doubts and uncertainties. Different pupils dealt with this dissonance in different ways. Some concluded that their teachers were naïve or disingenuous in their professions of certainty and were inclined to reject them as role models for mature religious thinking. Others sought to suppress their doubts by ignoring them. Adolescents in this latter group often employed a double epistemological standard, arguing for their belief in God as if it were irrefutable, whilst admitting when asked directly that they might be wrong. Though this tactic may have desirable short-term results for the individual concerned, it clearly places that person’s religious belief in a precarious position: it will not take much in the way of counterargument to expose its inconsistencies.

A sense of disillusionment with the perceived oversimplifications of teachers and rabbis was particularly noticeable amongst the few pupils at Religious schools who admitted explicitly to being atheists or agnostics. Obviously, we cannot conclude from this that such disillusionment is the cause of their atheism or agnosticism. Indeed, such expressions of “disillusionment” may be no more than an excuse or post-hoc rationalization for theological positions that these individuals would have adopted regardless of their experiences in school. However, even if this is so, religious educators should be concerned that their current teaching practices provide such an excuse. Moreover, religious educators ought not to assume that, because these high school atheists and agnostics are relatively few in number, their influence on their peers is minimal or that current teaching is for the most part effective. Despite their minority status, these pupils tend not to be viewed by their peers as mere mavericks or rebels without a cause. Especially in regular Religious high schools (as opposed to Yeshivot and Ulpanot), they are viewed as conscientious objectors whose doubts are not only
genuine but also understandable. In fact, it was not uncommon for believers in such high schools to be quite defensive in their justifications and to see themselves as being “uncool” for subscribing to beliefs and lines of reasoning that some of their classmates considered naïve. Interestingly, the agnostics and atheists themselves often expressed similar sentiments of respect and understanding towards the religious beliefs and commitments of their classmates. Rather than dismiss belief in God out of hand, they described their ultimate rejection of theism as reluctant and accompanied by a distinct sense of loss. This apparent mutual respect and understanding between believers and unbelievers in Religious high schools suggests that, in practice, few students accept the sharp dichotomies and certainties that characterize “official” theological discourse as moderated by their teachers.

Another effect of existing teaching practices in Religious high schools may be the tendency of many adolescents to put off serious consideration of questions of religious belief and commitment until after graduation or national service. Though a period of religious moratorium is not uncommon in adolescence (cf. Erikson, 1968; Fisherman, 1998; Marcia, 1966; Marcia, 1980), the tendency of Religious schools to curtail open-ended theological discourse may deprive pupils of opportunities to take responsibility for their own religious beliefs and commitments. This curtailment may have far-reaching consequences. There is evidence that the period of army service itself is for many adolescents and young adults one of extended moratorium and deferral of commitment (Dar & Kimhi, 2001). Graduates of Religious schools who go straight from school to the army may thus end up deferring decisions about religious belief and commitment for several years. Given that the army constitutes a majority secular culture in which there is considerable pressure to conform, this deferral may have the net effect of increasing the chances that graduates of Religious schools will eventually opt out of an Orthodox way of life, even if they wait until they have completed their army service to do so (cf. Fisherman, 1998; Lev, 1998).

Another effect of current teaching practices that we must consider is their influence on the open-mindedness of pupils. We have pointed out that some pupils at Religious high schools find it difficult to reconcile their own religious doubts and uncertainties with the epistemological assumptions implicit in “official” theological discourse as sponsored
and directed by their teachers. However, it is important to recognize that, regardless of grade, most pupils at Religious schools considered it impossible that their belief in God might be mistaken. Indeed, most of them considered God’s existence to have been conclusively proven. Thus, for the most part, pupils at Religious schools endorse the epistemological assumptions of official theological discourse. As we pointed out in the previous chapter, these epistemological assumptions are not necessarily antithetical to open-mindedness: an absolute conviction that one is right does not entail that one is intolerant or disrespectful of alternative points of view (Smith, 2001). At the same time, however, it cannot be denied that such a conviction limits one’s propensity to take these alternatives seriously (cf. Berlin, 1990; Sacks, 1993). It is for this reason that some philosophers of education consider religious education that fails to make students aware of the fallibility of religious beliefs to be morally unacceptable and to border on indoctrination (Hare & McLaughlin, 1998; Hare & McLaughlin, 1994; McLaughlin, 1984; McLaughlin, 1985).

Ultimately, however, one cannot answer the question of whether or not the cultivation of such certainty is a good or a bad thing without appealing to some epistemological, theological and educational principles of one’s own (cf. Rosenak, 1983; Rosenak, 1987). If one believes God’s existence indeed to have been proven beyond all doubt and sees the primary goal of religious education as the cultivation of unshakeable belief in God and obedience to His laws, then one would be failing in one’s duty if one did not educate towards such certainty. On the other hand, if one believes that God’s existence is not susceptible to conclusive proof and that the primary goal of religious education is to provide pupils with tools, knowledge and experiences that will enable them to make up their own minds about whether or not to believe in God or to commit themselves to a religious way of life, then education towards such certainty would be not only unethical but counterproductive.

One cannot ignore the fact that there are many frameworks of religious education that are founded on principles of the former kind. To ask of such frameworks that they educate towards religious fallibilism is to ask them to transgress these principles. However, one may also not ignore the fact that, if the rhetoric of the Shenhar and Kremnitzer proposals is an accurate reflection of official Ministry of Education policy,
the State-Religious education system in Israel is committed officially to principles of the latter kind. From the perspective of such principles, existing teaching practices in Religious schools provide cause for concern.

**The effects of current teaching on religious thinking: General schools**

We know relatively little about the teaching practices at General schools with respect to religious thinking. Though theological questions are apt to arise in many areas of the General school curriculum, such as Bible studies, Jewish thought and social studies, it is unclear to what extent and in what ways teachers seek systematically to address them. However, it is noteworthy that, when pupils at General schools referred to previous occasions on which they had discussed theological questions, they invariably referred to open-ended, informal discussions with peers rather than “official” discussions moderated by teachers. This suggests that such questions are avoided or brushed over by teachers, or perhaps explicitly consigned to the private domain and excluded from public discourse.

These teaching practices imply a particular religious epistemology no less than do those of Religious schools. Specifically, by confining theological questions to the private domain, they suggest that questions of religious belief are matters of personal preference that are not an appropriate object of rational debate. Though the nature of the present findings makes it difficult to draw any causal conclusions, it is noteworthy that pupils at General schools tended to share these epistemological assumptions. In stark contrast to their peers at Religious schools, most pupils at General schools consider the question of God’s existence to be rationally undecidable and admit that their own belief (or disbelief) in God might be mistaken. Moreover, these epistemological assumptions were reflected in various aspects of their argumentation. Not only were their expressions of belief more qualified than those of their peers at Religious schools but so were their justifications. A similar tendency towards qualification was noticeable in their approach to scientific theories of cosmology and evolution. Whereas believers at Religious schools tended to be dismiss these theories out of hand, those at General schools more often sought to relativize them and qualify their validity.

These findings indicate that, on the whole, pupils at General schools are less certain of their religious beliefs and more ready to consider alternative lines of reasoning and points of view than are their peers at Religious schools. To a certain extent, then, by
doing “nothing.” General schools seem to be better at cultivating open-minded religious thinking than are Religious schools. However, this achievement is not without cost. Around a third of the participants from General schools were unable to rebut counterarguments to their religious beliefs. Indeed, many of them simply accepted the counterargument without modifying their original justification, thereby subscribing at one and the same time to mutually contradictory lines of reasoning. Such inconsistencies suggest that, by effectively ignoring theological questions, General schools may be failing to educate pupils to think reflectively about their religious beliefs. Given the principles of the Shenhar and Kremnitzer proposals discussed above and the centrality of questions of religious belief to contemporary social and political issues in Israel, this failing is one about which General schools ought to be concerned.

Can religious thinking be taught?

In the preceding sections we considered the effects of existing teaching practices on pupils’ religious thinking and found aspects of these practices to be problematic. In a moment we shall propose a number of ways in which such problems might be addressed. However, before doing so, we must first consider the objection that any such proposals will be ineffective, since religious thinking cannot be taught.

Some might object that children’s ways of thinking about theological questions are fully determined by their family’s religious background. Accordingly, attempts to teach religious thinking in school are pointless. However, this objection is contradicted by available empirical data. Previous studies have shown that schools have a decisive influence on the religious beliefs and behavior of their pupils over and above that of parents (Leslau & Bar-Lev, 1993; Leslau & Bar-Lev, 1994). Moreover, the present findings indicate that religious thinking is shaped by cognitive-developmental factors in addition to cultural ones. Indeed, our findings provide good grounds for seeing the period of early to middle adolescence as one during which programs designed to foster reflective religious thinking are likely to be particularly effective.

According to Vygotsky, the only teaching that can effectively stimulate cognitive development is that which focuses on those cognitive functions that are located within the individual’s “zone of proximal development.” This zone is defined (1978: 86) as
the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.

In the present study we found that, in justifying their religious beliefs, twelfth-graders tended spontaneously to weigh up the evidence for and against their beliefs and to consider the implications of lines of reasoning and points of view opposed to their own. However, whilst fifth-graders tended not to do any of these things spontaneously, they did do them when prompted to do so by the interviewer. This suggests that the ability to think reflectively about the evidence and argumentation that can be brought in support of one’s religious beliefs is one that is located within the fifth-grader’s zone of proximal development. Accordingly, the period between fifth and twelfth grade is likely to be one during which the development of reflective religious thinking can effectively be stimulated.

Other objections that might be raised against the possibility of teaching religious thinking are that schoolchildren are either incapable of or uninterested in grappling with the complexities of theological questions. However, these objections too are contradicted by the findings of the present study. Even fifth-graders were found to employ sophisticated strategies of reasoning in support of their religious beliefs and to adapt their argumentation in accord with their epistemological assumptions about the subject matter under discussion. Moreover, most participants in the study considered the question of God’s existence to be important not only to them personally but also to society as a whole. Indeed, some participants even went so far as to thank the interviewer at the end of the interview for the opportunity to discuss these questions. A similar interest of in theological questions has been noted in previous studies with children and adolescents (e.g., Coles, 1990; Heller, 1986; Matthews & Deitcher, 1993).

How should religious thinking be taught?

In our earlier discussion of the educational goals of the General and Religious education systems with respect to religious thinking, we argued that both systems value, or at least claim to value, the cultivation of religious thinking that is reflective and open-minded. However, in spite of these shared goals, each system has its own order of
priorities and particular challenges. For example, the major priority of Religious schools seems to be to promote conformity to Orthodox norms of belief and behavior and their chief challenge to steer their pupils between the Scylla of secularism and the Charybdis of religious extremism. The major priority of General schools, on the other hand, seems to be to promote understanding and appreciation of alternative religious perspectives in contemporary Israel and their chief challenge to ensure that each such perspective is awarded the attention and legitimacy it deserves within the school curriculum. Obviously, we need to bear these differences in mind. However, in practice, the kinds of educational intervention that are most likely to help each system meet its particular challenges are quite similar.

We shall consider first the challenges facing Religious schools. Far from being the inevitable result of an Orthodox upbringing, commitment to an Orthodox way of life is today something that must be chosen from amongst a bewildering array of alternative lifestyles and belief-systems (Karniel, 1998; Streib, 1999). Indeed, such commitment involves not just one choice but constant choosing, as the individual is forced to grapple with situations in which religious beliefs and values conflict with other cherished beliefs and values, and priorities must be continually redefined (Berger, 1979). If Religious schools are to produce graduates who are committed to an Orthodox way of life, they need to provide their pupils not only with knowledge and experiences from which they can construct some rationale for initial religious commitment, but with the skills of informal reasoning and judgment that will help them to choose wisely from among competing commitments in the future. Like other skills, these cannot be taught in the abstract, but must be learned through practice and experience (cf. Baron & Sternberg, 1987; Hart, 1993; Kuhn, 1986; Nisbett, Fong, Lehman, & Cheng, 1987; Voss, Wiley, & Carretero, 1995). Accordingly, Religious schools need to provide their pupils with opportunities to reflect upon the grounds for their own religious beliefs and commitments and to compare them with those of others.

Religious schools appear to be aware of this need and in recent years have developed curricular and extra-curricular activities the explicit aim of which are to engage pupils in informal discussions of questions of religious belief. However, our findings suggest that such discussions may not “informal” enough. Rather than providing pupils with...
opportunities to say what they think and to practice figuring things out for themselves, these discussions seem often to be little more than lectures in which some teacher, counselor or rabbi sets out to argue in favor of a particular belief or tenet and to rebut any counterarguments that the pupils might raise. Such forms of discourse leave pupils relatively passive and do not require them to take responsibility for their own religious beliefs and commitments. Accordingly they fail to provide pupils with opportunities to practice the kinds of informal reasoning and judgment that are they will need to employ if they are to maintain a commitment to Orthodox norms in their adult lives.

It is not just the structures of existing practices of theological discourse in Religious schools that are problematic, but also their contents. The tendency of teachers to approach questions of religious belief as if they may be answered conclusively in the affirmative and to dismiss counterarguments as implausible or ridiculous is likely to contribute both to religious intolerance on one hand and to disillusionment and “drop-out” on the other. One is hardly likely to learn tolerance and respect for the opinions of those whose beliefs differ from one’s own, if one is taught always to dismiss these opinions as incoherent or half-baked. On the other hand, if one should come later to believe that such opinions are neither as implausible nor as ridiculous as one’s teachers had implied, one is apt to become disillusioned with one’s teachers and to question the validity of many other things that one had learned from them.

Together, these considerations lead to the conclusion that Religious schools must attempt to create opportunities for discussions that are much more open-ended and less teacher-directed than those that currently exist. There are several ways in which this might be done, some more ambitious than others. One of the more ambitious options, for example, would be to make religious thinking a school sub-discipline in its own right. This would require the development of a systematic program of discussion topics to be covered over the course of pupils’ school career. Such discussions would need to differ from those that currently take place in Religious schools in that, whilst teachers would determine the basic topic to be covered and would serve as moderators, they would refrain from enforcing closure on any issue or predetermining the direction of debate. An advantage of this option is that it would force Religious schools to place the cultivation of reflective religious thinking higher up on their list of educational priorities and to plan
relevant interventions more systematically. However, such drastic measures are probably unnecessary. More important than the number of independent curriculum units that are devoted to the discussion of theological questions is the overall quality and tenor of theological discussions that arise in existing areas of the religious studies curriculum. If teachers were to see pupils’ theological questions as opportunities to help them to develop as independent religious thinkers rather than as awkward problems that must be quickly forestalled or brushed over, this in itself would have an enormous impact on pupils’ experiences and training in religious thinking (cf. Fisherman, 1998; Kaniel, 1998).

Of course, even a proposal as modest as this one has its problems. Teachers in Religious schools will naturally be wary of relinquishing control over the direction of theological discussions. Not only will they be concerned about pupils reaching potentially heretical conclusions or causing their classmates to experience doubts that they would not have experienced otherwise. They will also be concerned that pupils might abuse the privilege of free discussion to raise questions or express opinions that are merely provocative rather than genuine expressions of their own beliefs and doubts. Given these concerns, it is unsurprising that existing frameworks for “informal” discussions of theological questions within Religious schools turn out to be less informal and open-ended in practice than their designers and implementers might like to think. The perceived risks of open-endedness and informality are so great as to cause teachers, rabbis and counselors to hedge, relinquishing just enough control to give pupils the impression of open-endedness but not enough to allow for discussions that are genuinely open-ended.

One way to avoid some of these problems is to conduct informal discussions of theological questions within the framework of peer interactions between pupils from Religious and General schools. Apart from the fact that such discussions are freer by definition of adult control and direction, they remove the incentive for pupils to express beliefs and opinions that are designed merely to provoke or outsmart the teacher. Moreover, this approach has additional advantages of its own. First, it allows pupils to encounter points of view and lines of reasoning opposed to their own first hand from people who subscribe to them, rather than second hand from their teachers. These points of view and lines of reasoning will probably be less susceptible to easy dismissal and
ridicule than the caricatured versions that their teachers describe. As a result, pupils will
be required to construct a more nuanced understanding of the views of their opponents.
Second, peer interactions of this kind have been shown to be a very effective means of
improving argumentative reasoning amongst children and adolescents (Kuhn, Shaw, &
Felton, 1997; Schwarz & Glassner, in press; Schwarz, Neuman, & Biezuner, 2000;
Schwarz, Neuman, Gil, & Ilya, in press). The effects of such interactions might include
therefore not only a more nuanced understanding of the particular issue under discussion
but increased skill and experience in argumentative reasoning more generally. Third, if
they were well designed and organized, such interactions would provide pupils with
much-needed models of civilized debate.

Such an approach is hardly likely to assuage the fears of religious educators. No only
does it hand even more control to pupils, but it grants heretical beliefs, opinions and lines
of reasoning an equal hearing. However, if our arguments above are accepted, it is
precisely these features of such discussions that are likely to make them of lasting value
to pupils.

Though the particular challenges facing General schools with respect to the
cultivation of reflective religious thinking differ from those facing Religious schools,
these too could be met by a systematic program of peer interactions of the kind described
above. The effective exclusion of theological discourse from General schools means that
pupils at General schools are rarely prompted to examine their religious beliefs in any
detail. This would appear to explain why so many of the General school pupils in the
present study were unable to rebut counterarguments against their religious beliefs. As
some of them admitted explicitly: they just had not really thought about it before. Peer
interactions with pupils from Religious schools that focused explicitly on the examination
of questions of religious belief would force them to think more clearly and carefully
about such questions. Such interactions would also address another important challenge
faced by General schools: that of promoting understanding of alternative religious
perspectives in contemporary Israel. Moreover, it would so in such a way as to avoid
concerns about the unequal promotion of any one religious perspective. For rather than
the direction of the discussion being determined by a single teacher, it would be
determined by the participants themselves. Since these participants would be drawn from diverse religious backgrounds, no one religious perspective would predominate.

Age constraints on the teaching of religious thinking

Unlike some previous studies of religious thinking, we have not looked directly at how children of different ages understand particular texts or concepts. However, we have found the period between fifth and twelfth grade to be one during which a number of important developments take place in people’s religious thinking. Fifth-graders tended to be extremely confident that their belief (or disbelief) in God was capable of conclusive demonstration. Yet, unlike older participants, they paid little attention to the evidentiary basis for their beliefs or to the rival claims of other points of view unless they were prompted explicitly to do so by the interviewer. Such tendencies suggest that preadolescents are less likely to be troubled by theological doubts or uncertainties than are adolescents. This does not mean, however, that there is no point in attempting to engage fifth-graders in theological speculation. On the contrary, these findings suggest that the ability to think reflectively about one’s own religious beliefs is located within fifth-graders’ zone of proximal development. Accordingly, by providing fifth-graders with opportunities to discuss questions of religious belief with others, schools should be able to help them become more reflective in their religious thinking.

In general, the findings of the present study do not indicate any strong cognitive constraints on the abilities of pupils in fifth, eighth or twelfth grade to engage in theological reflection. However, cognitive constraints are not the only age-related constraints that need to be taken into account in planning educational interventions. We need also to consider motivational and emotional constraints. The present findings suggest that, over the course of adolescence, people become increasingly concerned with evaluating the evidence and argumentation for and against their beliefs and with asserting their autonomy in deciding what to believe. Accordingly, we would expect twelfth-graders to be more motivated than fifth-graders to engage in discussions with others about the grounds for their religious beliefs. Similarly, the readiness to have one’s deeply cherished beliefs challenged requires a degree of emotional maturity. It is likely that, below a certain age, children would find such challenges distressing. Indeed, in the present study we found that even some twelfth graders preferred to avoid theological
discussions than to bear the emotional consequences of admitting doubts and uncertainties into their religious lives. We know very little at present about what the emotional consequences of peer interactions of the kind described above might be for children and adolescents of different ages. It is possible, for example, that early exposure of children to multiple points of view and to lines of reasoning that oppose their own may overwhelm them or make them cynical about all points of view and distrustful of their own “home” belief system (i.e. that passed down to them from their parents and primary community) even before they have had a chance properly to evaluate it.

One way to learn more about these other possible age constraints is to conduct intervention studies that set out explicitly to examine the emotional and motivational effects of programs such as those proposed above. However, in the meantime, given our relative ignorance about these aspects of religious thinking, it is essential that any such programs are implemented with a great deal of caution and sensitivity. Indeed, if there is one thing that the present study teaches us, it is that, unless we attend carefully to the nuances of children’s talk about religious subject matter, we are liable underestimate the complexity of their religious thinking. If this is true of the cognitive aspects of religious thinking, then it is likely to be true of its emotional and motivational aspects too.
APPENDIX A: INTERVIEW SCHEDULE

The interview schedule present below is that used in interviews with male participants. Interviews with female participants were identical, but the names of the characters in the story were changed from Danny and Yossi to Haya and Ifat. Presentation of the religious and non-religious topics was counterbalanced to control for any sequence effect. The names associated with each point of view in the two stories were also counterbalanced.

The interview schedule below is based on an initial statement by the participant in support of Danny’s point of view. Obviously, if the participant agreed with Yossi or if he expressed reservations about both points of view, the questions were adapted accordingly.

An English translation of the interview schedule is also presented.
חסק את: חישיבה לא-דתית

1. עַֽעַֽכְלַֽה: אַלּוֹשִׁיבֶּה - דָּתִית וּהְעֵנִישָּה. יֵֽנִּי אֲמַרְתִּיךָ לָלֵֽךְ לִֽאֵכְלָל תַּֽלְעַנֵּנֶת צַֽאַרְלִּוְתַּני.

2. שְׁפִּירִךְ לְהַעֲנִישָּה!

3. הָאָם בַּתְּכֵפֵּקַת מְסִיּוֹת הַתְּחוּנֵהוּ אֵצְלֵךְ אַמָּוַטְנֵה שְׁפִּירִךְ לְהַעֲנִישָּה: מַחְיֵֽנֵי הָאָם אֲתַהְוַתָּו מֵחַרְמֵךְ!

4. בָּאָהִי מִידֵה אֲתַהְוַת בֵּכְוָה בָּאמוֹטִנָה שְׁפִּירִךְ לְהַעֲנִישָּה: הָאָם יִנִּתְלֵעַת אֲתַהְוָה בַּזָּה בָּדָאָהִו!

5. הָאָם שֵׁי בְּאָמִמְאָה אַנֶּשֶׁה שְׁמַמוֹנִי שֶׁמַּרְלִי-לְהַעֲנִישָּה: הָאָם בָּהוּלִי לְהַוָלָד פְּדוֹקֵמָה!

6. يִזָּי, כֶּפֶנָּ שְׁמַמוֹנָה, מַמְאָה שְׁמַמְי-לָעֲנִישָּה. מַה דְּלַעֲדֵךְ יִזָּי אֲמוֹר בָּיְלֵרְוָה לְר כָּלַפְרָאָה שְׁמַמֵּת שָׁוָא שֵׁתַּוָּה! הָאָם וְכָלַיְו-יוֹסִי לְהַוָלִי שָׁוָא שְׁמַמְי!

7. שְׁיוֹסִי-שָׁוָא!

8. בָּמֲה-אֲתַהְוַת שָׁוָא לְעַד-יִזְוֵה הָוָלִי בָּשָׁוָא הָוָלִי בָּשָׁוָא לְעַדְּ-פוֹדָאָה-לְעַדְּ-פְּדוֹאָה!

9. בָּעַוְי מִידֵה יִזְוֵהוּ הָוָלִי לְעַדְּ-פְּדוֹאָה-לְעַדְּ-פְּדוֹאָה-לְעַדְּ-פְּדוֹאָה-לְעַדְּ-פְּדוֹאָה-לְעַדְּ-פְּדוֹאָה-לְעַדְּ-פְּדוֹאָה!
חלק ב: השיבתו

לעבשי ענבר לונれます אתור. המדרב בין גור וחוזה אתור. הנה דינ ויוסי משוחחים על האמונה באלולית. דינ אמר לו השואם באול副秘书长 ויוסי אמר לו השואם על מספר משים.

1. על איזו מסות אתה מסכים? מודע?

2. המ היה אמר לו יוסי כיلاحראות ולא שואת פורק והשאלאלה! האמ נוכל להזכות לו יוסי שיש.

את האמ ביא להוות והאמונה באוללות. מה! האמ אשה והוך מה בא.

3. את האמ ביא להוות והאמונה באוללות. מה! האמ אשה והוך מה בא.

4. באיזו מידה אתה בטוח שיש אלולית? אתה נチンikut את זה והברואת?

5. אתה יש באמה אתנעם iyinim באוללות? אתה והוכזל להוות כך?

6. וייס, כי שאמות, לא באוללות. המ לאندות: אתה וייס אומר כיلاحראות לא שואתה כתעה. והאך באמה ביאלהים! אתה והן כלים להזכות ותקעה.

7. את האמ ביא להוות והאמונה באוללות. מה! האמ נוכל להזכות.

8. ישויʨ! 

9. באיזו מידה הנשה אתה וייסabile? להברית ביאלהים!
English Translation of the Interview Schedule

Danny and Yossi are two friends your age. They both live in the same neighborhood, go to the same school and they have been friends for many years. They like to do the regular things that other kids their age like to do, but what they like most of all is to argue – not to squabble or fight – but to take a topic about which they have different opinions and for each to try and persuade the other that he is right.

Today, I’m going to ask you to take part in two such arguments. I’ll describe the topic of the argument and Danny and Yossis’ views and then I’ll ask you which of the views you agree with. After that, I’ll ask you to describe and explain how you’d try and persuade Danny or Yossi that you’re right and how you’d react to their attempts to persuade you.

Many of the questions that I’ll ask you don’t have right or wrong answers. The aim of the interview is not to see who is better or worse at persuading people or defending their opinions but to examine the different ways in which people think about certain topics. All your responses will remain anonymous and you can decline at any time to answer a particular question if it makes you feel uncomfortable in any way.
Section A: Non-Religious Thinking

Today, Danny and Yossi are discussing education and punishment. Danny says that, in order to teach children how to behave, it is necessary to punish them when they do something wrong. Yossi says that you shouldn’t punish.

1. Who do you agree with? Why?

2. What would you say to Yossi in order to show him that you’re right and it is necessary to punish? Could you prove to Yossi that it is necessary to punish?

3. Has your belief that it is necessary to punish become stronger at any time? When? Do you remember what led to your belief becoming stronger?

4. How sure are you in your belief that it is necessary to punish? Is it possible to know it for certain?

5. Are there really people who believe that you shouldn’t punish? Could they be right?

6. As we said, Yossi believes that you shouldn’t punish. What do you think that Yossi would say in order to show you that you’re wrong and that you shouldn’t punish? How would that show that you’re wrong? Could Yossi prove that you’re wrong and that you shouldn’t punish?

7. What would you say or do in order to show Yossi that he’s wrong and that it is necessary to punish? Could you prove that Yossi is wrong?

8. How much do you think you know about this topic compared with the average young person?

9. How important is this topic for you personally? How important is it to society as a whole?
Section B: Religious Thinking

Now we’re going to move on to another topic. It’s a different day, a different argument. Today, Danny and Yossi are discussing belief in God. Danny says that he believes in God. Yossi says that he doesn’t believe.

1. Who do you agree with? Why?

2. What would you say to Yossi in order to show him that you’re right and that there is a God? Could you prove to Yossi that there’s a God?

3. Has your belief in God become stronger at any time? When? Do you remember what led to your belief becoming stronger?

4. How sure are you that there’s a God? Is it possible to know for certain?

5. Are there really people who don’t believe in God? Could they be right?

6. As we said, Yossi doesn’t believe in God. What do you think that Yossi would say in order to show you that you’re wrong and that there isn’t really a God? How would that show that you’re wrong? Could Yossi prove that you’re wrong and that there isn’t really a God?

7. What would you say or do in order to show Yossi that he’s wrong and that there really is a God? Could you prove that Yossi is wrong?

8. How much do you think you know about this topic compared with the average young person?

9. How important is this topic to you personally? How important is it to society as a whole?
APPENDIX B. QUESTIONNAIRE

Four versions of the questionnaire were used so as to ensure that the questions were appropriate for different demographic groups. However, the differences between these four questionnaires are restricted to only a few items. Unless specifically indicated, items were included in all four versions of the questionnaire.

The questionnaire presented below combines all four versions, showing the variations between them. However, the original questionnaires included only those items appropriate to the participant’s demographic group.

An English translation of the questionnaire is also presented.

ח深渊

1. מין: זכר/נקבה

2. תאריך לידה: __________________

3. גיל: ______ שנות_______שנים

חಡ

4. האם את/ה מגדיר/ת כיום עצמי/ית

[ ] דתי/דתית

[ ] עד דתי/דהות

[ ] לא כל דתי/דהות

[ ] לא דתי/דהות

[ ] מואר לא דתי/דהות

***** תמלודות בחינוך ממי'די לתלמוד *****

5-9. האם את/ה 우שה את הדיביר הטייס תמי'די, לפיו/מי ואף מoomla:

| תמי'ד | תמלודות |عدد
|-------|---------|---|
| [ ] | [ ] | 5. נסיעת באוטו בשבת
| [ ] | [ ] | 6. לבושה מכתסהים
| [ ] | [ ] | 7. אוכלת בשר לא ישר
| [ ] | [ ] | 8. צופה בטלוויזיה בשבת
| [ ] | [ ] | 9. מתפללת בפתח חכמת חכמיה שחרית שבתב

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**תלמודיב הביהון ממד"ב Cabr**

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<td>יש שדים ואנושי כולל ענניوخ</td>
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<td>20</td>
<td>בוחי האנשים</td>
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</tr>
</tbody>
</table>

386
### תלמידי תanuts" חינוך מומ''ד לכלב

<table>
<thead>
<tr>
<th>מספר</th>
<th>תומר</th>
<th>פעמים</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>זופת בטלויית שבת</td>
<td>[ ]</td>
</tr>
<tr>
<td>32</td>
<td>מניח תפילין כל יום</td>
<td>[ ]</td>
</tr>
<tr>
<td>33</td>
<td>מותפל בליב התנ cong ושבת</td>
<td>[ ]</td>
</tr>
<tr>
<td>34</td>
<td>וחוש כרפט</td>
<td>[ ]</td>
</tr>
<tr>
<td>35</td>
<td>זמ בויס כפרא</td>
<td>[ ]</td>
</tr>
<tr>
<td>36</td>
<td>מותפל בליגוי חינה עלbelief</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

### תלמידי תanuts" חינוך כליל לכלב

<table>
<thead>
<tr>
<th>מספר</th>
<th>תומר</th>
<th>פעמים</th>
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</thead>
<tbody>
<tr>
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<td>[ ]</td>
</tr>
<tr>
<td>32</td>
<td>מניח תפילין כל יום</td>
<td>[ ]</td>
</tr>
<tr>
<td>33</td>
<td>מותפל בליב התנ cong ושבת</td>
<td>[ ]</td>
</tr>
<tr>
<td>34</td>
<td>וחוש כרפט</td>
<td>[ ]</td>
</tr>
<tr>
<td>35</td>
<td>זמ בויס כפרא</td>
<td>[ ]</td>
</tr>
<tr>
<td>36</td>
<td>מותפל בליגוי חינה עלbelief</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>[#]</th>
<th>[#]</th>
<th>[#]</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>ذתיית מואד</td>
<td>[ ]</td>
</tr>
<tr>
<td>38</td>
<td>ذתיית</td>
<td>[ ]</td>
</tr>
<tr>
<td>39</td>
<td>די ذתיית</td>
<td>[ ]</td>
</tr>
<tr>
<td>40</td>
<td>אל כל 그리ית</td>
<td>[ ]</td>
</tr>
<tr>
<td>41</td>
<td>אל דתיה</td>
<td>[ ]</td>
</tr>
<tr>
<td>42</td>
<td>מואר אל דתיה</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

המא ארת/תה מגדירה/ה את ב...
38. האם אתה מגדיר/ת עצם כ... 

אשכנזי
ספרדי
אר
(לפרטים)

ארץ המוצא
ישראל
ארץ המוצא
(אוסטרליה, דרום אפריקה)
ארץ המוצא
(צפון אמריקה, אירופה)
ארץ המוצא
(אפריקה,中间, אמריקה)

נולדת איפה?

נולד אביך?

נולד אמור?

נולד אמא?

חבר פעם היית האם/ה靝וע בלהט/ה/tovement?

南极, באיה או אנטארקטיקה

אם הינו עבר/ה בניווע תנועה?

לא
כן, ענייני עבר/ה בניווע מוניל עד גיל ____________________________
**English Translation of Questionnaire**

**Section A**

1. Sex: Male/Female  
2. Date of birth: _____________  
3. Age: _______ years, ________ months

**Section B**

Please answer the questions below by writing an X next to the most appropriate response

4. Would you define yourself today as …

   - [ ] Very religious
   - [ ] Religious
   - [ ] Fairly religious
   - [ ] Not all that religious
   - [ ] Not religious

**** Female participants at Religious and Torani schools only ****

5-9. Do you do the following things always, sometimes or never?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Ride in a car on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>6.</td>
<td>Wear trousers</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7.</td>
<td>Eat non-kosher meat</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8.</td>
<td>Watch TV on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>9.</td>
<td>Attend morning prayers in the synagogue on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

**** Male participants at Religious and Torani schools only ****

5-9. Do you do the following things always, sometimes or never?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.</td>
<td>Switch on electricity on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>6.</td>
<td>Bathe in a mixed-sex swimming pool</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>7.</td>
<td>Eat non-kosher meat</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>8.</td>
<td>Say evening prayers on weekdays</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>9.</td>
<td>Attend daily morning prayers at the synagogue on weekdays</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
***** Male and Female participants at General schools only *****

5-9. Do you do the following things always, sometimes or never?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ride in a car on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Light candles in Hannukah</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Eat non-kosher meat</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Eat bread on Passover</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>Attend prayers in the synagogue on the High Holydays</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

10-19. To what extent do you believe in the following things?

<table>
<thead>
<tr>
<th>Belief</th>
<th>Don’t believe at all</th>
<th>Generally don’t believe, but sometimes unsure</th>
<th>Believe, but sometimes unsure</th>
<th>Believe whole-heartedly</th>
</tr>
</thead>
<tbody>
<tr>
<td>there’s a God</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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</tr>
<tr>
<td>the Torah was given to Moses at Sinai</td>
<td>[ ]</td>
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<tr>
<td>Jews are a chosen people</td>
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<tr>
<td>there is divine providence over every person</td>
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<tr>
<td>God directs the history of the Jewish people</td>
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<tr>
<td>in the coming of the Messiah</td>
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<tr>
<td>in the resurrection of the dead</td>
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<tr>
<td>there is a Supreme Power directing the world</td>
<td>[ ]</td>
<td>[ ]</td>
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<tr>
<td>amulets can bring about good luck or prevent evil</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
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<tr>
<td>spirits exist and intervene in people’s lives</td>
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<td>[ ]</td>
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</tbody>
</table>
20-29. How important to you are the following things?

<table>
<thead>
<tr>
<th></th>
<th>Not important at all</th>
<th>Not all that important</th>
<th>Important</th>
<th>Veryry important</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. to live in Israel</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>21. to marry a Jew</td>
<td></td>
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<tr>
<td>22. to feel part of the</td>
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<tr>
<td>Jewish people</td>
<td></td>
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<tr>
<td>23. to fast on Yom Kippur</td>
<td></td>
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<tr>
<td>24. to mark the Sabbath in</td>
<td></td>
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<tr>
<td>some way</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. to believe in God</td>
<td></td>
<td></td>
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<tr>
<td>26. to study the Bible</td>
<td></td>
<td></td>
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<tr>
<td>27. to remember the Shoah</td>
<td></td>
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<tr>
<td>28. To serve in the Israel</td>
<td></td>
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<tr>
<td>Defense Forces or National</td>
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</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
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<tr>
<td>29. to help the needy</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

30. Would you define your father as …

[ ] Very religious
[ ] Religious
[ ] Fairly religious
[ ] Not all that religious
[ ] Not religious

***** Participants at Religious and Torani schools only *****

31-36. Does your father do the following things always, sometimes or never?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Ride in a car on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>32. Put on tefillin every day</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>33. Pray in the Synagogue in Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>34. Wear a kippah</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>35. Fast on Yom Kippur</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>36. Attend morning prayers on weekdays</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
***** Participants at General schools only *****

31-35. Does your father do the following things always, sometimes or never?

<table>
<thead>
<tr>
<th>Never</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Watch TV on Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>32. Put on tefillin every day</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>33. Pray in the Synagogue in Sabbath</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>35. Eat non-kosher meat</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>36. Eat bread on Passover</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

37. Would you define your mother as …

[ ] Very religious
[ ] Religious
[ ] Fairly religious
[ ] Not all that religious
[ ] Not religious

38. Would you define yourself as …

[ ] Ashkenazi
[ ] Sephardi
[ ] Other (please give details ____________________)

Orient (North Africa, Middle East) Occident (Europe, America, Australia, South Africa) Israel

<table>
<thead>
<tr>
<th>Orient (Europe, America Australia, South Africa)</th>
<th>Occident (North Africa, Middle East)</th>
<th>Israel</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

39. Where were you born? [ ] [ ] [ ]

40. Where was your father born? [ ] [ ] [ ]

41. Where was your father’s father born? [ ] [ ] [ ]

42. Where was your mother born? [ ] [ ] [ ]

43. Where was your mother’s father born? [ ] [ ] [ ]

44. Have you ever been a member of a youth movement?

[ ] No
[ ] Yes, I was a member of ____________________ from age _____ to age _____.

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APPENDIX C. CODING FORM

 חלק A: חישבה דתית: טיעונים
משטחים: במגוון ב-57石材

 משטחה המגוי: דעה והאמונה בעד או נגד הותרות

 הטיעון 57
באלוה
האמונה
נגד או בעד
המרואיין
כמה עד)
וכל

 הטיעון 58
הסתייגות
בלי
נגד

 הטיעון 59
הסתייגות
עם
נגד

 הטיעון 60
ניטרלי

 הטיעון 61
הסתייגות
עם
בעד

 הטיעון 62
הסתייגות
בלי
בעד

 הטיעון 63
באלוה
האמונה
בעד
הם

 הטיעון 64
באלוה
האמונה
נגד
הם

 הטיעון 65
הפתיחה
טיעוני
את
מציג
המרואיין
כאשר כלפי
אנטגוניזם של ביטויים
בם
הוא
האם
השני
הצד
cן
לא

 הטיעון 66
המאוחרים
הטיעונים
את
מציג
המרואיין
אנטגוניזם של ביטויים
בם
הוא
האם
השני
הצד
cן
לא
<table>
<thead>
<tr>
<th>מספר</th>
<th>סוג התוענית</th>
<th>קלאלה קבעה</th>
<th>מתנה</th>
</tr>
</thead>
<tbody>
<tr>
<td>67</td>
<td>נימוק סבטי</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>נימוק סבטי</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>נימוק סמך</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>נימוק סמך</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>נימוק סמך</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>נימוק חווי</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>נימוק אפיסטמולוגי</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>74</td>
<td>טסברי</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>טסברי סבטי</td>
<td>()</td>
<td></td>
</tr>
<tr>
<td>76</td>
<td>נמי</td>
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ל拴א תילק: "המשפטים אל חותיק: אספרטנוגות מכריעה"

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"המשפטים אל חותיק: אספרטנוגות מכריעה" הצהירו את הניטור שלהם. הד授權יים השתנו באספרטנוגות וציטוטים בתוכן של ההוכחה, והתחנונות של התוכן מתווכות. התוכן של ההוכחה בاصر, וה ['$ז'מ]" f'צית" (£י"ז) על תכונות התוכן החופשית וה מן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשית והמן התוכן החופשות והמן התוכן החופשות והמן תכונתי

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### תקן: שיסוף אל דתית: טיעוני-נגד

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**האם מביא המוראיيون טיעוני-נגד מוסכמות הביאים:**

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Willard (Eds.), *Argumentation: Perspectives and Approaches* (pp. 198-204). Dordrecht, Holland: Foris Publications.


.presentation

מהKRובארד בפתח אymphי את החשיבות הדתית על ידידים המתחברים. המחבר
ועסק בخلق שאלות מרובעות: איזה, כמה דרכים מציירים ילדי מתחברים
את אמונותיהם הדתית:KEN, בטוח שנות רצון אולא שללא batching לא דוד.
אמונותיה של-דית: יהודית, בטוחショップ入り רצון הרוב והצקה של חכמה, לכל
לונגר לשלומי депутатים של הפרטים

פברק 1

ואו מציגים סקירה לכל על continuar והיראות המחבר, וכל החליטות
למקחים קדומים בתורתן של תושבי הדת, טיבו את פריטים ואופטסמטולוגיה
אישית, ב.WriteString תליוריס של התפחתונן של דעות שישיג 야 בנות הרב
והנתיותרות.

למרות שעינו תהיה הדתית, לאconnexion השתייב הדתית להשקה לקחיה
כנתון פסיקולגיים. פסיקולגיים יומיים לבן קורור אולא, ואלה שש חרק מתוח
להתקדד בתוכנית של אמונות חוסר הדתות בקבוק החל תאריך הדתות בח
אנש expansions הערוך עם הכלים של כל. כתובים ממכ. ראו עד כי חבר אודיט
ה.Contract ילדי מתחבר גלגל נגון ונגונו בחומס הדת, אבל מתעמד מארדיאי
ה CONTRACT ילדי גלגל נגונו. בע磁场 חוסר מתוכחת Моונע על שאלת היי, ע"י די
ה.Contract הדתות בouve ציוד רול נו-מקחיים ואית הדתות אזוד נו-מקחי
בוחור הדתיה, יהודית, האמונות באולכיים.

בסקיר מחקרים קדומים בוחנים את השיבת הדתית על ידידי המתחברים
לוזים שלושה ליימונ דוריאגיט: גניא-פיאיגטיאית שבועتش ידועה ויתרון עלΗ当他ת
הקדמות, גניא-קובלרוניאי בועות השמותי בועות החפשית המconde, ולה פסיט-קוסטיקרוליסי שלח תלשוס בתות אובנש שנות החפשית. מהԿי
פאייגטיאיתי, עם אלא שלגלנד עתיקינ. בקושי לים את תיירות החלבון או
שיוות המ CHKים של גניא פיאיגטיאית התשובה הדתית הדתית.
.6161; Elkind, 1962; Elkind, 1963; Elkind et al., 1968; Goldman, 1964; Long et al., 1967)
מקחים אלה בתם את הפיסחסות על ילדי מתחברים גלגל ספירה התיini, הדית
וזה תופלה. מעצא ש彳ONGLONG.functionות אלו מתת-חון על גודל בדיד והיראות בתפיסות
"אינטואיטיבית" (intuitive conceptions), (concrete conceptions) דוע לתפיסות" ת לפענוחן" (abstract conceptions), מקחים ניואר
(Elkind, 1974; Fowler, 1980, Fowler, 1981; קולברוגייאטי, בינ אלה של פאולוי,}
The development of moral reasoning has been a central focus in the fields of psychology and sociology. Kohlberg (1968; 1969; 1971; 1976; 1981) proposed a theory of moral development that distinguishes between six stages, each characterized by a different perspective on justice. These stages range from an egocentric perspective based on personal relationships to a post-conventional perspective that values principles of justice over personal interests.

Kohlberg’s theory is based on his work with moral judgments of children and adolescents, and it has been widely studied and applied in various cultures and contexts. The theory has been influential in fields such as education, psychology, and social work.

In recent years, there has been a growing interest in the study of moral development in adults, with researchers examining the relationship between moral reasoning and other cognitive and emotional processes. This has led to the development of new models and frameworks for understanding moral development in adulthood.

The study of moral development is an active area of research, with ongoing debates about the universality of Kohlberg’s stages, the role of culture and context in moral reasoning, and the relationship between moral reasoning and other aspects of personality and social behavior.


The study of children's religious thinking has been conducted from different methodologies and epistemological perspectives. Researchers have examined the religious thinking of children formally and informally (formal versus informal reasoning). People who think about religious matters are often influenced by religious doctrines, beliefs, and traditions, and this influence can significantly affect their religious thinking. However, the religious thinking of children is also shaped by their cognitive development and the societal influences that they face. Therefore, the religious thinking of children is not only a product of their religious education but also of their social environment and cultural context. This study attempts to shed light on the religious thinking of children and its various dimensions.
על השפעת ההבאת הדתית לא ספרさせ בהצדקות הסכימה ותוארו גורם קון אלה יותר קודמים. האלוהים יתוכננו בפיי"ה ו"י"ה הגנום הדתים ב данном הספר. בהницы א軟 תוארו בברח מוסיף והם לא נאסר. קולם הלועש לדים האיש מתəווע הוא או ראי. תלחא חוסנהนอนו והחותウォאוד.=json

הوحدות המדוגמות של התורה, ישלא הנבוק ינני ואית מידי ההיברים או שתים,_columns=1.

המידות האמונות לאפסנטולוגיות לכל הנושאים, הם במשלים. אשר בין торг וחיבה, ברובו הוא חכם וגדות הנה ילובנו זהות שאו מאריע או מתפיך את טוות-זוגות של הבסס. חסמה שאלו בכדי זה נשאר על עניני虛-נגים שלד. חחור בהtoInt נוכל לשניב את זה בלוב נטוש, המ

וכל וחיה קורס והאור תוארו בברח מקרא, חוסנה טמיד פל הים, הולוקן של בני יהודים, אנפל הסדר וי"ז החברים על מתכ לו הזכות את השפותה. השאלות לכל טריטוס מול מחקרה ושפתה בברח שימוש במקוהים קדומים על

האמונים והעמיות מצור בברח היהודים בישראלי. פסאנא השאלות נושאים-כאמון-מדיד שدرك עדת הדיעה של הנבבדים.

3. במדמם לכל 200 תכלותים היהודים פוכחות היה, "וי, יב" מתך 13 בפתחスペר המכללהים והמכללותים- الدنيا חברה-ברא, מרוב שונים פל ממד, מותאם דועתי, וגון. בית הספר. להאר שהוא הוקלט בבלול ואת השכבות בברח של התוכנה קליקודית וכמותפיים של הארגונים והתוכנה בית-תקנייה על ידי להכלית איסטריפריבי

האנידקנטיבית (an iterative, inductive procedure) שוד القوم של האmouseup והשתמש הק"ח

במחקרים על החשיבות הארגונומטיות (Kuhn, 1991). לכאריא הוקלט בלול ואת השכבות בברח של התוכנה קליקודית וכמותפיים של הארגונים והתוכנה בית-תקנייה על ידי להכלית איסטריפריבי

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האמונה נרכשה ידם של עמלים לאומית하실 העד גרסה האמנות. התקדמה לעディ מניון האמונת שלכלת שאהיה מושרתה האמונת כל אתת משולשת הקטנועיות ההלחט להתקף-总产值חר. המחלGetMethod יניק חבר כלים לאומית, מדיניותיות ועניציות Başה פנה הפרט לארח ואיתו הלחט להתקף, צעדים קריפס עובדיה ואל הצלחת מעשית להלביא טעמים בעז אמוניותה.CKERIXUDKCU שערודא תקנות עצרה עב האמנויותה. המחלGetMethod תכוניות בהתחמם.

נתהל הבולים נכירי יין סוג האמוניות ת삷גנוגעות ובעזרת אומניות ובעזרת בשערודא הדתית בליג אלה וصراعי בעז אמוניותה של-תחיית. התקדיסח את אמונות (וא-אמונותיה) עלאטש, טוارة הנכונות הליגן בין ס위원ים ויישים ממברכרות וממברכרות וגו שיעכים אימפרסיוניסיסーズ עם יניקות סיבתיה. בר,צח cowork נק אמונות (וא-אמונותיה) ענייני טוارة הנכונות בין עז контакטי סיבתיה. הבולו והצבייע על טויהו של ליג מהמצבי המنقص לא ממנטיה באצורים ולהאמונה באצורים בשתיות שאותה לרחטה הדתית והחל-לעך קר נכלשה של עבדות. טעניות שיש שושות, וזרואת ואת האמונות הדתית והחל-לעך קר נכלשה של עבדות, הבולו והצבייע דחיית 굴שונות סינות של צבעה, בלי ייחות על הנכונות שבאוメリ הסוחט דחיית עבענו שעובד, טוارة הנכונות המבין סписать מהתיivamente הדתית בשתיות. ירא של שינוי אלה תובל על השיבה של האמונה הדתית נקשורות להבלילואים אobjPHPExcelים שיש דגמים האנציקלופידים המדקדק בביתו.

האורתודוקסים מדח ניש התברר החוליות והמהוותית חCrudג ניס

הلزمיה בבח סпи מחמצית-תודייה החורגת בלראיה לדייניות האנציקלופידי שבחם

הזכות קיום של הלא באמור ספי מוחלט של ידי دائמת סמכותיהם אחת ואתה, כמ

מוריה, בר וא-מנדריך. ירי על שני, שדואות וטיונות שמתים נוחותיהם בהבכרחות של עליירה

לעיתים קרובות של ידי путешествות הסمشاهות בליגיرامי הלחיית והתנין. התلزمיה בבח סпи מחמצית, בלימה, ולא ליכולת את מחקת התפשטותם עביני קימי. ששב אולח ב🎌ים יירו חלחול לקוות את עзоים מבוגרים התבית. לרבים, מספק

האמונה (וא-אמונותיה) בללאטי לויתת פשיט חלחול בכלי מחוסם הוכל

למגנוני ודרכייו התודמון. הנסחיים לרחוא את האמונות הדתית כשניי של סימון חים. שונות עליה קרובות בכנח אשה ענינו של שפרוש את אמונותיהם על הנדין

 europé נشخصيات לизации גביע אמוניות הדתית הצלחתו והנבדקים של הנבディ.
הלא בנושא - טיעונים להציג יותר。

ה成年人 הנבדקים נטו דתיים (אמונים).

טיעונים וобще מסויגים (אמוניהם להצדק יותר). רבים.

ממחרים ממצאים מעתקים זה ממצא אחרים בתחומים ומתחברים ילדים.

ברם, הדתי כאלה בנושא גיל הדרכים לא נמצאו. תלמידים דיים על מה הוצגו הטיעונים רוב ב-"כיתה" שהוצגו להאלה.

ICATIONを作ること אמה, העבירה שלטונות ו bandeau של חינוך של בתי ספר וሌאathon美术 הקדימה את התוכן הספרותי של טיעונים דתיים בין בתי ספרי ממלכת ישראל שתריעו את ידיעותם וחברותם.

כמובן, דמיון שבשטחים בחוקים ב-"כיתה" של התוכן הספרותי של טיעונים דתיים בין בתי ספרי ממלכת ישראל שתריעו את ידיעותם וחברותם.

ראוי להעניק ב-"כיתה" של התוכן הספרותי של טיעונים דתיים בין בתי ספרי ממלכת ישראל שתריעו את ידיעותם וחברותם.
המבנים של מגמה הדתית היו מוגברת משמעותיים את של הדתית לאמונותיהם ובאי "י. במקרה דוקומנטריים לראות מכיתה. הם נימוקים בתמונות או-שם הדתית והבדלים מציגים את הדתיתית יותר שילדים דומות בפיתוח והטיעונים כאי. ברם הבדלים בשאלות בッション של חלום. התנってきた דתיתיות משגעות מאמונות אחרים. בת, בר, אלה-דה.}

היית שחייתו, או-שחייתו טכנישים היה פותח שוב התופעה אază התמורות מפולית ב. מתמשכים אלה מראים טכנישים שלבחים, בר gamm. מינומאותḜ הסעדה על העמדת התהליכים התمشا︀יתם עבון התמורות וננעש את הצדח ריווק בך בל︀יתם שיבא בעיות גם התמורות בר gamm. ממקומם את, כל שידורי מתבגרים הם מעדיפים שלום prosecutions את ריווק בך בל︀יתם ממקומם את ממאמצי אלה מסוותבסיס מעבדות התמורות שלום של לישות שלכנינו בתחומי הדתית אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, נ hakk ראיות התמורות החבילה העבד עבון-שמי ריווק בך בל︀יתם ממקומם את ממאמצי אלה מסוותבסיס מעבדות התמורות שלום של לישות שלכנינו בתחומי הדתית אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גלי המובע, גלי החוסר החנויות מראים התמורות מובוגים מפעלים הגלי זה התמורות וננעש את האמאנות אל-דה. בר, אלא ניק בחסבון את החבילה המקומית, גלי שמי השווה, גלי היא התאמות האלה בשני התודדות של גל
תקניי בונים הדורות ארבעים סיבות שונות לתיעוזים מתון רטרציים, בכל מקוםanje דבורה חיות, עם ובר חיות משותפות בין שניים.

ש atol של שǺחיי מתון רטרציים, בmentו כשיאוסים בין שניים.

הנבדקים במחטים חיים שונים בין שניים, בין שניים, במעון שיאוסים בין שניים.

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טיעוני להפריך ההדעת - מקורות

כנגד ידידי

נראה יותר קשה הדתישהיהبنושא מתאימות הפרDisposed עלتفكير דקים. עליה יכול עלמאשר הדתיות אמונותיהםנגד טיעוניםעלפחותחושביםכללבדרךשאנשיםאחריהםבתחומיםאמונותיהםנגדטיעונים.

שהיתן, גם הסתייגויותבטאו נבדקיםאמונו אתלשנותאחרמישהולשכנעניסיונותלגביפרגמטיותוגםהדתיותמוסריותתיו. ומויביואמונותיושבהדתיתאמונהשלתפיסהמשקפות אלה הסתייגויותועמדיהמאמונותיולשינוינתונותופחותאישיותליותרנחשבותהאדםשלהדתיותאחריםבתחומישלישית,שהוצגו מהטיעוניםכמהראומבוגריםנבדקיםבמיוחדנכנבל웍הכנגדודתיותאמונותיהםלהפרכהכנגדיתניםהדתיים באשר להערכהשהיכולתםראיםשתומךמישלמבטומנקודתוטיעוניםשקולההתבגרותשנהצבמשךשמתפתחתיכולתהיאמנוגדתבעמהדהכללאולםתחומים.משקפתהדתיתبنושאכזוהслушיתת догמתיתשלמהמאמריםיהשמפנייריב,כלגיטימייההללוהפרספקטיותאתלראותיותרמוכניםשהוושייתאםפני不一样יםעכםמיימתבלוקהלשם챔ינוןשегоועידתתפיסתןשלמדתיתאמונהשל microtimeقيلיהשלחלקיוןו. עם."םפרתחםמה𝕥יס

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evolve, and the concept of God is seen as the ultimate and unchangeable authority, whether in terms of scientific or theological perspectives. The modern natural sciences and the humanities provide a distinctive viewpoint.

The subject matter of the research is the relationship between the religious and scientific perspectives on the question of God's existence and role. The research examines the differences in the religious and scientific approaches to the question of God's existence, and the ways in which these differences are manifested in the opinions of the respondents.

The study was conducted in a sample of adult respondents, who were divided into two groups: religious and non-religious. The religious group included members of the orthodox and conservative Jewish communities, and the non-religious group included members of the secular Jewish community.

The research findings showed that there were significant differences in the religious and scientific perspectives on the question of God's existence. The religious group demonstrated a stronger belief in the existence of God, and a more holistic perspective on the relationship between science and religion. The non-religious group, on the other hand, demonstrated a more skeptical view of the existence of God, and a more critical perspective on the relationship between science and religion.

The study concludes that the differences in the religious and scientific perspectives on the question of God's existence are manifest in the opinions of the respondents, and that these differences are rooted in the historical and cultural contexts in which the respondents live.
 produto, מוחרי עלה. לעמעת, החלמות בין ספר ממלכתיים רגילים וArgb וצרה
דינוג על מעגלים בהל_demand-פורמלי לשיחות מספר תבניות בגרсть ההפרי,
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הConnell ולchers סל להדית של הדיות והם הגדולים במפלנות
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נוכי על מוטган לעעם הדיתות הדלות במפגש ובﺢותיות שורר.

תייאוריYG שלונות המשותבות

ובו הנבדקים האמנים שחיוניים שטרו האזמר בardashיה הדלות בו פגויות
הל퍼اهر, כי הנבדקים שחי פרח במחים. עבセットים וחלקיים שלוח להצזת
הבקצוע את הוא האל שיבוש על腦מס אˠח התבחרות בשילוח-趼דים על די זה
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יוויל אפיסטימומ על זכרות זכר והשכבה ביחודית למחלק של השיחה האזרחי
בממס שבו אלו לשליש את האמונות וה椆בים המוכרים של הנביד. עבセットים
השניה והנבדקים השיחות חלקיים בשמשותת שחי-יונד-יהודיות והщения
ה_Selected "יליפות" שמבקשים לעצמה את הקשישים לשuşדית טעוי-יונד-ዘני

מהואים

ראיה שניהט שלום הלכה המדויקות עם בועת התיאוריות משקפת המסירות
שון על טעבה של האמנים והחובבים דחיים. לבددיק בישוב הקראות, האמה
דחייה היא דר חטאת הובג לעצמה כי עצמי. לביקצע בישוב הקראות השניהם האמא דחייה
היא דר מפי שולחנוابل זה עירובו שלגית או ול.

7 פרק

מודמי ומגוון האופיסטים הגזרה שהנבדקים
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אמרון(ontology),晰רכיפה
לטעייה נתון себе החושב的人 בה.
קודדו טועים שהם אפשרות שיש�能וonus נבדקים כפליבליסטים (fallibilists), כאינפליבליסטים קודדו כזו אפשרות שישהווכוישו ושכחישו ואלה (infallibilists).
שישהווכוישו והאדם מאמין בה המידה את מתאר להחלטה הממד להאמין המנוגדות העמדות מן באיזה להחליט רציונלית דרך.
שישהווכוישו כשחשבו נבדקים ככמאמינים קודדו להאמין המנוגדות מן באיזה להחליט רציונלית דרךlix
ניתנת שאלה להחלטה (decidable), העמדות בין להחליט רציונלית דרךxi
שישהווכוישו ככמאמינים קודדו להאמין המנוגדות-منحאixo alarming MX
הכללת האפיקולוגית המגמה את لتאר מנת על הללו הממדים בתשלושת השימושנו הקדימה השחישו בתחום קודמים קרים דרך큐, בשתי הממדים של כמהוות האפיקולוגיות היראрактиים שלבים. כן על יתר, אפיקולוגיות אמכונות ايضا שאפשרו בין האפיקולוגיות האמכונות בין- imprimirx}
התרבותי ברקע מאד תלויות נמצאו הנבדקים של האפיקולוגיות האמכונות מסוימת חיים בדרך ונצחם ובמחויבותם של האפיקולוגיות הדתי-בוגר, הבנה זו נמצאה כאלו 44% מתלמודי כי כל יששתמות ממקסר הנוכחי לברק.
שלאת קיימתップ לא.
אきっוח האפיקולוגיות של הנבוכדemin אמונות דרכ חיות מסותנט. בגווש הדתי, הנבוכדים באFileNotFoundException
אפיקולוגיות-בככ-הסף והمسئولיםixed ממקשור הנוכחי לדיק. נסף על, כי合い
לפתוח אמותיכים מחニューוטאמונות הדרכ חיות מסותנט. בגווש הדתי, הנבוכדים באFileNotFoundException
אפיקולוגיות של הנבוכדemin אמונות דרכ חיות מסותנט. בגווש הדתי, הנבוכדים בא Finch
אפיקולוגיות-בככ-הסף וה莫斯טטס-xix
במקוון לא.
יש להתחשב שלוש סיבותأمنותו של החוקר במאמר זה באפיון התחומים הממנים את הנבדקים שינו בפעילותם ב橫אם שונים.

לשמועות של ילדם מתבגרים נושאים של האיפורים הנחיתים והמרוחים את ילדם. שלוש תשיטות, המ⋯⋯ת ואמונת החוקר ויוצרת את האמנו⋯⋯[].

לסתירות אפשרויות סיבות של⋯⋯שו意大利 מספקת את המחקרים⋯⋯ ساعة ה…and the children of the age-

כדי להלכץ בין הדרכים⋯⋯עור⋯⋯💩י של מי⋯⋯💩יnels-

יש להתחשב שלוש סיבותأمنותו של החוקר במאמר זה באפיון התחומים הממנים את הנבדקים שינו בפעילותם ב횡אם שונים.

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הקיימים ומוחיבויותיהם לערכיהם בתאם, האפיסטמולוגיות הנחות בין ונווט ההצדקה בצורות המובלעות "הMosquyly" האפיסטמולוגיות ואמונותיהם. אפיסטמולוגי אמונות בין קשרים נמצאו הדתי בנושא של רבים היבטים לבין וとのこと הארגומנטציה. מאשר הדתות אמונותיהם בעד טיעונים יותר להציג פיכליים אינפליבליסטים של ניסיונות העובדים השמאליים ישלמים את הריבים ול퍼לץ את תיאור הדוגנים שחוזרים בתשומת. אפיסטמולוגי אמונות ביןMeaning in the occurrence of the absence of evidences (appeals to authority) של סמכות אפיסטמטיים של מספר אמונות אפיסטמטיים בין סמכות אפיסטמטיים (creation arguments) של טיעון של קושי新产品 צויר למדע האמונות אפיסטמטיים בין סמכות אפיסטמטיים של מקורות של קושי חדש של הדתות אמונותיהם בעד תיאור הדוגנים שחוזרים בתשומת. אפיסטמולוגי אמונות ביןMeaning in the occurrence of the absence of evidences (appeals to authority) של סמכות אפיסטמטיים של מספר אמונות אפיסטמטיים בין סמכות אפיסטמטיים (creation arguments) של טיעון של קושי新产品 צויר למדע האמונות אפיסטמטיים בין סמכות אפיסטמטיים של מקורות של קושי חדש של הדתות אמונותיהם בעד תיאור הדוגנים שחозרים בתשומת. אפיסטמולוגי אמונות ביןMeaning in the occurrence of the absence of evidences (appeals to authority) של סמכות אפיסטמטיים של מספר אמונות אפיסטמטיים בין סמכות אפיסטמטיים (creation arguments) של טיעון של קושי därן של הדתות אמונותיהם בעד תיאור הדוגנים שחוזרים בתשומת. אפיסטמולוגי אמונות ביןMeaning in the occurrence of the absence of evidences (appeals to authority) של סמכות אפיסטמטיים של מספר אמונות אפיסטמטיים בין סמכות אפיסטמטיים (creation arguments) של טיעון של קושי därן של הדתות אמונותם בעד תיאור הדוגנים שחוזרים בתשומת. אפיסטמולוגי אמונות ביןMeaning in the occurrence of the absence of evidences (appeals to authority) של סמכות אפיסטמטיים של מספר אמונות אפיסטמטיים בין סמכות אפיסטמטיים (creation arguments) של טיעון של קושי därן של הדתות אמונותם בעד תיאור הדוגנים שחוזרים בתשומת. אפיסטמولوجي ...
לטעות ילדים לנקודת תיאולוגי במכורים במלכותם של אחרים ההעדים traditionally נמצאים במדעי וממלכתיים רבים ששלטו בנושאים שונים בכנסיהם.
‫והאקזיסטנציאליים‪ .‬למרות שיש לביקורת כזו מקום‪ ,‬ומחקרים קוגניטיביים צריכים‬
‫אמנם להיות רגישים ככל האפשר להיבטים הללו של החוויה הדתית‪ ,‬נראה שהטיעון‬
‫שמחקרים כאלה מחמיצים את העיקר הוא נטול יסוד‪ .‬לפחות אצל הנבדקים במחקר‬
‫הנוכחי‪ ,‬תהליכי הנמקה‪ ,‬ארגומנטציה‪ ,‬וחשיבה אפיסטמולוגית היו מרכזיים לחשיבה‬
‫הדתית‪ .‬עד שלא נחקור את הצדדים הקוגניטיביים של החשיבה הדתית והתפתחותם‬
‫במשך שנות ההתבגרות‪ ,‬ידיעתנו לגבי אופייה של החשיבה דתית תהיה מוגבלת מאוד‬
‫אם לא מעוותת לחלוטין‪.‬‬
‫חשיבה בלתי פורמלית‪ .‬במחקרים קודמים לא נמצאו התפתחויות משמעותיות‬
‫בחשיבה בלתי פורמלית במשך שנות ההתבגרות‪ .‬אכן‪ ,‬לפי ממצאי קון )‪,(Kuhn, 1991‬‬
‫היכולת להתאים אמונות לראיות )‪ (belief-evidence coordination‬היא מיומנות‬
‫שנותרת מעבר ליכולתם של רוב המבוגרים‪ .‬בניגוד לממצאים אלה‪ ,‬זוהו במחקר‬
‫הנוכחי כמה התפתחויות חשובות ביכולת זו במשך שנות ההתבגרות‪ .‬אלה כללו נטייה‬
‫ההולכת וגוברת עם הגיל לקחת בחשבון קווי ארגומנטציה מנוגדים ולשים לב לבסיס‬
‫האמפירי של העמדות המנוגדות‪ .‬ייתכן שמחקרים קודמים העלימו עין מהתפתחויות‬
‫אלו מפני שקני‪-‬המידה שלהם להתאמה בין ראיות לאמונות היו קפדניים מדי‪.‬‬
‫מחקרים קודמים הראו שהחשיבה הבלתי פורמלית אינה מושפעת בצורה‬
‫משמעותית מתוכנה של הבעיה חסרת‪-‬המבנה אליה היא מופנית‪ .‬לעומת זאת‪ ,‬נמצאו‬
‫במחקר הנוכחי הבדלים רבים בחשיבה הבלתי פורמלית של הנבדקים בשני הנושאים‪.‬‬
‫נראה ששני הבדלים בין הנושאים בלטו במיוחד בעיני הנבדקים‪ :‬זמינותן של ראיות‬
‫אמפיריות ומידת כריכתה של האמונה במחויבות מעבר להסכמה שכלית‪ .‬הבדלים אלה‬
‫בלטו במיוחד בגישותיהם של הנבדקים לשכנוע ולהפרכה‪ .‬באופן כללי‪ ,‬לא התלהבו‬
‫הנבדקים לשכנע את יריביהם או להפריך את טיעוניהם בנושא הדתי‪.‬‬

‫ניתוחים‬

‫איכותניים הראו שהיו לפחות שני מקורות לחוסר‪-‬התלהבות זו‪ :‬הכרה מחד גיסא‬
‫שטיעוניהם לא היו משכנעים מספיק כדי להביא ליריב לשנות את עמדתו‪ ,‬ומאידך גיסא‬
‫שאנשים מחויבים מאוד לאמונותיהם הדתיות ומפני זה לא ניתן או לא רצוי לשכנע‬
‫אותם לשנות את עמדתם‪.‬‬
‫נראה ששני המקורות הללו להבדלים בחשיבה בלתי פורמלית בשני הנושאים‬
‫מסבירים מדוע נמצאו הבדלי תחום )‪ (domain differences‬במחקר הנוכחי אבל לא‬
‫במחקרים קודמים שביקשו להשוות בין מקרי חשיבה בלתי פורמלית בתחומים שונים‪.‬‬
‫במחקרים קודמים‪ ,‬אף אחד מהאפיונים הללו לא היה משתנה רלבנטי‪ .‬הבעיות‬
‫שלגביהן הושוותה החשיבה הבלתי פורמלית לא היו כאלה שבהן היה צורך לקחת‬
‫כב‬


לא מחויבות בחשבון - לשכליות. הה יכו ולא גם הן זמינותן מהשניה אחת נונות אמוניות אמפיריותראיות של אחריםשהיבטים שלמרות מראים הנוכחי המחקר ממציא פורמלית, ושני אפונים אלא כ

משפעים.

אמוניות אמפיסטיולוגיות. המנוצאים מחקר הנוכחי מתרומם שלמרות יהודים אמפיסטיולוגית, הקשורים ב לביןividadם של מעברים המחקר, החצו, בקרות להלצות בין הצלה. השמתה מ丰满 שאמונים

האמפיסטולוגית המחושה בקונסיסטנציה רופף של המחקרים אמפיסטיולוגית מהאמורים על מחקרים אלו ש־

אמונים מולדת. המנוצאים מבדליים הגLocalStorageים בין אמוניות אמפיסטיולוגית חלב-dden מتفاعل

הנבidente בدان חדי הלך אמוניות אמפיסטיולוגית חלשה חלב-dden מتفاعل

萋ך שאמונים אמפיסטיולוגית של חלב ליבת ויוכדו בדרושים. המנוצאים מבדליים הגlocalStorageים בין אמוניות אמפיסטיולוגית משמח בין מאמונים לדרושים ברוחבם.

שנויים באמוניות אמפיסטיולוגית בכול בני ברוחבם של הנשים והpaniedים בתרעועה

בἱך חלקמהירۥ קalmö במדתו, לא מתייחסים אמוניות אמפיסטיולוגית בתקופה חלב-dden מتفاعل

браו, לא ха שקבצים לשמתו מ�件 והחלים וחזרו

ב歩חתברם קalmö במדתו, אל אמוניות אמפיסטיולוגית בתקופה חלב-dden מتفاعل

אל גם ליבר ריכיแนว י膽י אמוניות אמפיסטיולוגית "פלקטיביה"ו "יעטס.

סקטיפטיוו' תובוס הדיח.

כן ובבחמדים קalmö במדתו, נצאות קטרים בין אמוניות אמפיסטיולוגית לבלון חכמה

שונים של האמרנשטניצה. המנוצאים מבדרליים סמכם במקהל של שן שהאמונים

אמוניות אמפיסטיולוגית מ asshו מושפים של מהויגת אמוניות אמפיסטיולוגית לע די כחלק

נימאיות נגשו שנה궁 מוסמנים של חקור הלמאפיה-다는יה מוסמנים

(חנLifecycle, 1991; קינLifecycle, 2000; קינLifecycle, 2001) לחזור אמונות מותרות לחד לרצים שן, לעיך עסיוניות של השפעה על אמוניות אמפיסטיולוגית אמפיסטיולוגית אל תחת מוארת יהויה עסיוניות של השפעהモン. השפעהveal בלתי

במיהו הדמויים שבטה ברוך בו מועד על אמוניות אמפיסטיולוגית

מנת לחائز מעמיקויות התדיחות.

קיש התדיחות בין אמוניות אמפיסטיולוגית הערכות הברחים והزواجhood או יידי

מקורי בם קוטק נבזכת בקויי-מדוי אמפיסטיולוגית חלקים של שחזוראת המובילת

באורנמנטייצות שלושה אל היהת מעורפת להדד אמפיסטיולוגית האמסטיולוגית המณะ.

מקורי מכלה מודיוויש את הפרידה לבהרת בין אמוניות אמפיסטיולוגית במובעה.
(declarative epistemology) ממנה מתארת (procedural epistemology)عشוחתה אפידוטולוגית המובילה sprechetון את קני-מיתיה האינטואטיביים ול-فقدיבים,אמונות אפידוטולוגית מздравות המשקפות את קני-מיתיה בחש האדום וחוש שראים ולא תלמידים. החושה "הראוי" הווה הכל הלבוע ממסורות דתית מוסיפות ואחת המשקפות מהדורים של יד מיי ואת אכיפת הימנו, והתשובה כל דרóm ויתר תמרון ותערifié את מחוזות האתרים מואש של העולה אהבה המסכים ואל מסכים. המידה של מגוון תלמידי ייחור טוב את ההסיס הדתים בין אמונות אפידוטולוגיה של מילים פעמים והאמוניםتروתמי, גורכים ואמונות בין הדתים בין הלבדים בין אפידוטולוגיה מבולעת

לוב אפידוטולוגיה מיצור החלוקה על הקרור את הקושר בין נינה.

השלכות חינוכיות.

ילדים של הדתית חשיבתם אודות אמורייםализ א网讯 דותו וב겠ות:'/אשת הדתית פלואדיאון

ומתבגרים אדםsold לבד הל повышен מה אויל הל النو.

לע מת הכתוב מסקוט ענישות כאלה, צוור ידיק דלד בשאלת מגורים אש החינו, vn פיתח את 들ונב השכבות היהוניך של המחק האדריך קרמר בראשות הכנרתות והשיבור הדתית

ומלאתינו ומלאתינו-דיתים יישאר בין ייזה לאחתות ויהוב הדתית

סוגים שלגורים הבידול ברכי בחזרות ובסדייר עדיפות יש לשון הפיכורתה היהוניך עניין ביצועים שונים המוסכילים לרשוע באפשרותי על אמונותינו הדתית הדתית

והורכים ברוב אמונותינו של אחראים..setRequest ואת ניצים בחזון מתחים של הדתית לש הטרים בביי סופר מתוקנחיים ומלאתינו-דיתים. בנזון האפשרים של של בחזרות רכישת הדתית ובשל הטרים מתוקנחיים

למשל את תיאולוגיות או מקדמים, ובבידת מוסיפותJAVA פירימיטו, להתקפות בחינה הדתית הרקופטיטו. לטפח, ולמטעטט כל הדירכים שכרן יכל בטפיר מתוקנחיים

ומלאתינו-דיתים לקדים חנונים הדתית הרקופטיטו בתועדו.
פרק 1. מבוא וקוגניציה

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מדוע תלונות על החשיבות הדתית!?

מדוע תלונות על השינויים הדתית באכליים ממבהים?

מדוע תלונות על החשיבות הדתית אצלו ילדי מתבגרים יהודים יישראליים?..

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מתקיימים קודמים בהschütz הדתית açלו ילדי מתבגרים

מתקיימים ניאו פאגנטיים: אלכימיה גולדמן

מתקיימים פוסט-פלוסמניס: העתקה, הרחבת ביקור

מתקיימים ניאו-קולברניאים: פאולו ואור

מתקיימים פוסט-טרקטרבליסטים

מקוריים קודמנים ואחרונים אופטסיוגנים

شبצות פורתולח, שבחיבת בצליל-פורמלית ואחרumnos

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מקוריים קודמנים באחרונים אופטסיוגנים הדתית

מקוריים קודמנים

סאכלות המקור

פרק 2. מתודולוגיה

כלי המקור

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השאול

המגודל

בוח סרב

קובצי נל

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תהליך להתמכה

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יעבדרים סטטיסטיים

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ינויזים אקולוגיים
פרק 3. האנקדוטה

ב. הגישות

שלאחר תכנון יקרום של ה אלק

למנה.

א. אמונות

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משתונות.

כ. האנקדוטה

השים לקטגוריה לחודש.

ף. הממצאים כלכליים

א. האנקדוטה

סמיוניות והרכחת לקומון של_rank

ל. הנשים לקטגוריה האוכלצית: חילוד

ב. אמונות חיתת מגע בשימש

ג. הביל גייג בשיטות ה אלק

ד. הסברות שביתות והאנקדוטה.

ה. מראות וסיביות והאנקדוטה

ו. הסוכס

ז. הבילים לכלים ב- ה אלקטרות

ח. הבילים לחרותינו ב- אמונות הדתות

ט. הביל גייג ב- אמונות הדתות והאל-דותות


פרק 4. שכנוע

ב. הנשים לשכוניות

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השיבו דתית את ילדיהם וてしまいます:

אなるטטיטיך וה(rad) מצוקת האמונת הדתית

היבות לשימ كبצל תואר דוקטור פילוסופיה

מאת

איל גוטליב

הוג לסיטט האוניברסיטט העברית בשנת 2001
尼斯
מרדכי
פרופסור
של
בהדרכתו
נעשתה זו עבודה
עבודה זוنعשתה בהדרכתו של פרופסור מרדכי尼斯