As Boyatzis (2005) noted in this Handbook’s previous edition, there has been a surge of research in the past decade into religious and spiritual development. Although peer-review articles containing the key words “children” and “religion” in PsycINFO represent only 0.3% of all articles with the key word “children,” there has been an almost 30% increase in the number of articles since 2005, when the previous edition of this book was published. The goal of this chapter is to provide an overview of research to date into the social, relational, and cognitive factors related to religious and spiritual development in childhood. We do not address the period of adolescence, as that period in development is outlined in the next chapter (see Levenson, Aldwin, & Igarashi, Chapter 9, this volume), and we focus on research conducted since the last publication of this Handbook. Moreover, although experiences encountered in infancy and toddlerhood are likely important for subsequent religious and spiritual development, we largely reserve our review to studies conducted on children who have reached the ages associated with symbolic and mentalizing capacities. In our view, such capacities may be a prerequisite for children’s developing understanding of religious and spiritual concepts. Thus, the research we review is primarily with children from the preschool years through middle childhood.

We begin the chapter by defining the primary constructs of religious, spiritual, and development as they are used within the body of research we review. We then review cognitive research on children’s understanding and elaboration of central religious concepts, such as God, origins, the soul, and the afterlife. We then present research on the development of religious relationships, drawing largely on studies informed by attachment theory. We end the chapter by suggesting future directions for research and theory development.
DEFINING THE CONSTRUCTS

What Is “Religious” and “Spiritual”?  

There has been much debate regarding proper definitions of the terms “religious” and “spiritual” (see Oman, Chapter 1, this volume). In this chapter, we rely primarily on the definitions of religious and spiritual provided in the previous edition. "Religious development may be defined as the child’s growth within an organized community that has shared narratives, practices, teachings, rituals, and symbols" (Boyatzis, 2005, p. 125), the purposes of which are to bring people closer to what they deem to be sacred. "Spirituality has been defined as the search for and relationship with whatever one takes to be a holy or sacred transcendent entity" (Boyatzis, 2005, p. 125). Thus, spiritual development represents the unfolding of that search process and relationship. Within the research we review in this chapter, most researchers describe their area of study as religious development.

What Is “Development”?  

A common misconception about the study of development is that the purpose of developmental research is to examine the factors that lead to some kind of steady increase in an ability over time with the goal of achieving some idealized outcome by the end of childhood (Schaffer, 2006). However, as Schaffer noted, “The core of development is change over age—a change that is not haphazard, not temporary and not easily reversible” (p. 5). Thus, in this chapter on religious and spiritual development, we do not start with the assumption that religiousness and spirituality in childhood is merely an immature form of religiousness and spirituality in adulthood. The developmental process itself is a meaningful research pursuit.

RELIGIOUS CONCEPTS  

As Boyatzis (2005) noted, early cognitive-developmental approaches (e.g., Elkind, 1970; Goldman, 1964) were based on Piagetian assumptions of the stage-like nature of cognitive development. By the early 2000s, much of the research in cognitive developmental approaches to religious development was specifically focused on the relationship between developing social cognition (e.g., theory of mind) and understanding religious concepts. This shift in focus was largely driven by hypotheses about the fundamental nature of social cognition to the representation of supernatural agents (e.g., Barrett, 2004; Boyer & Walker, 2000).

Much of the current research into the development of religious concepts has shifted to a different, but related, focus, namely to address the debate surrounding whether religious concepts have persisted as a by-product of the evolution of human cognition or as an adaptation in and of themselves (e.g., Atran, 2002; Bering, 2006; Boyer, 2001; Granqvist, 2006; Kirkpatrick, 2004; Richert & Smith, 2010; see review in Kirkpatrick, Chapter 6, this volume). This question is particularly relevant to a cognitive approach, given the existing framework for research into the development of folk theories and concepts (see Barrett, Chapter 12, this volume). One hypothesis has been that because of certain
cognitive propensities with which we are born, the human mind may be cognitively “pre- pared” to receive religious concepts (Barrett & Richert, 2003). There have been criticisms of this hypothesis, particularly because it was originally framed as an alternative to an anthropomorphic account of the development of God concepts (e.g., Lane, Wellman, & Evans, 2010). In addition, this hypothesis has fallen victim to problems of semantics, with words like “innate,” “intuitive,” “cognitively optimal,” “cognitive predispositions,” “natural,” and most recently, “maturationally natural,” all operating for different theorists as essentially interchangeable synonyms. From a cognitive development perspective, these terms overlap conceptually with Vygotsky’s (1986) description of the relationship between spontaneous and scientific concepts. This issue is revisited in the Future Directions section.

God

Research into developing concepts of God has primarily focused on using traditional tests of children’s developing theory of mind. Within the theory of mind framework, researchers are interested in how children learn that human minds are fallible, that one person’s perspective is different from another’s, and that people have different knowledge about the world (Flavell, 2004). Children tend to come to this understanding between the ages of 4 and 5 (Wellman, Cross, & Watson, 2001), a finding that has been replicated in China (Sabbagh, Xu, Carlson, Moses, & Lee, 2006), as well as Canada, India, Peru, Samoa, and Thailand (Callaghan et al., 2005). In considering religious concepts specifically, researchers have examined what happens to children’s concepts of God’s knowledge, perspectives, and beliefs when children are beginning to understand the limitations of the human mind. Using these methods, researchers have found that about the age children begin to associate limited beliefs, perspectives, and knowledge to humans, they do not attribute those same limitations to God (Barrett, Richert, & Dreisenga, 2001; Barrett, Newman, & Richert, 2003; Richert & Barrett, 2005). These findings have been replicated cross-culturally with Mayan children (Knight, Sousa, Barrett, & Atran, 2004), but should be viewed in the context of potentially conflicting findings.

Makris and Pnevmatikos (2007) found that 3- and 4-year-olds indicated that both humans and God would have ignorance about the contents of a box. In addition, Lane et al. (2010) found that 4½-year-olds attributed false beliefs to God but not to a superhero. Giménez Dasi, Guerrero, and Harris (2005) found that it was not until age 5 that children differentiated between the mortality and ignorance of a friend and the immortality and omniscience of God. Five-year-olds are also more likely than adults to attribute human-like psychological, physical, and biological properties to both fantasy characters and religious beings (Shtulman, 2008).

Origins

One area of religious belief that has received increasing attention is in children’s understanding of the origin of species and the world as it relates to children’s belief in creation or evolution. When interviewed about the origins of a variety of natural things (i.e., plants, animals, the earth, the sky, large rocks), preschoolers are about seven times more likely to attribute responsibility to God than to people (Petrovich, 1997). In addition, although
5- to 7-year-olds demonstrate mixed preference for creationist or spontaneous generationist (e.g., it just appeared) origin accounts, 8- to 10-year-olds tend to prefer creation as an explanation for the origins of species and the earth than evolution or spontaneous generationist explanations (Evans, 2000), even if the children attend a secular school that endorses an evolutionary explanation (Evans, 2001). Recent research with Chinese school children, however, has suggested this tendency toward creationist accounts of origins is not universal. In fact, regardless of age, 6- to 14-year-olds in China overwhelmingly endorsed evolutionary explanations for the origins of humans and animals (Smith & Richert, 2011).

It has been proposed that a reason children prefer creationist explanations for origins is because of two cognitive frameworks within which children (and many adults) reason about the world: telological reasoning and essentialism. In a number of research studies, American and British children have preferred teleological explanations for biological properties (Kelemen, 1999, 2004). In these studies, children are presented with explanations for why a particular natural or biological property exists (e.g., rocks are pointy). In the teleological explanations, children are told the property exists for a particular purpose (e.g., rocks are pointy so animals can scratch their backs on them). In the nonteleological explanations, children are told the property exists as the result of natural physical processes (e.g., rocks are pointy because bits of stuff have piled up over a long period of time). As young as 4 years, children demonstrated a preference for the teleological explanations, and this preference persists until approximately age 10. Interestingly, even adults will revert to teleological explanations of these kinds in conditions of cognitive load (Kelemen & Rossett, 2009).

A second explanation for the preference for a creationist explanation for origins is the tendency to essentialize categories and members of categories. For example, 4- to 9-year-olds have been found to deny within-species variation (Shtulman & Schulz, 2008), and such denial has been correlated with a poorer understanding of natural selection in adults (Shtulman, 2006). Relatedly, in a study conducted in Israel, both secular and orthodox Jewish 7- to 11-year-olds were asked to indicate the stability of category membership and the shared internal features of animals in the same category (Diesendruck & Haber, 2009). In this case, children’s essentializing of social categories was related to the belief that God created those categories.

The Soul and the Afterlife

It is important to consider children’s afterlife beliefs in the context of their understanding of death. In recent research, 4-year-olds claim that a person who is dead, but not a person who is asleep, no longer has agency (Barrett & Behne, 2005); and 4- to 9-year-olds understand that once something is dead, it cannot come alive again (Poling & Evans, 2004). Children also tend to attribute certain psychological states (e.g., emotions, desires, knowledge) as continuing after we die (Bering & Bjorklund, 2004; Bering, Blasi, & Bjorklund, 2005; Harris & Giménez, 2005).

However, the attribution of continued functioning is related to the context in which children are thinking about death. In a related study, 5- to 12-year-old children attending Catholic and secular schools were interviewed about whether a mouse would be able to continue functioning in various domains after being eaten by an alligator (Bering et
Older children were more likely to claim processes ceased functioning after death. However, children in the Catholic school were more likely than children in the secular school to claim that processes, especially mental processes, continued after death. In research conducted with children in Madagascar, 5- to 7-year-olds claimed that most processes, including psychological processes, ceased at death. When these children did claim something continued after death, they were also most likely to attribute continued mental processes, but only within the context of a religious narrative (Astuti & Harris, 2008). Given these findings, researchers have argued that by age 11, children hold two conceptions of death in mind: one scientific and one religious (Harris & Giménez, 2005). This issue is addressed further in the Future Directions section.

Related to developing a concept of the afterlife, children are developing a concept of the soul (Richert & Harris, 2006). In research examining how children think about the soul and whether children differentiate the soul from the mind and body, 6- to 12-year-olds claimed the soul has spiritual (but not cognitive or physical) functions and remains stable over a person's life. In attributing spiritual functions, children claimed that the soul, and not the mind, was the aspect of a person that connected them to God and that went to heaven when they died. In addition, children as young as 4 years of age claimed that a religious ritual changes a person's soul but not mind or brain, a tendency also demonstrated in children as old as 12 (Richert & Harris, 2006).

**Religious Rituals**

To our knowledge, only one study has examined how children in early childhood view religious rituals. Richert (2006) interviewed 4- to 12-year-old Protestant American children about whether both familiar and unfamiliar rituals would remain effective if the person performing the rituals performed incorrect actions. By the age of 6, children claimed that it would be wrong to change the actions of a familiar ritual; however, 4- to 6-year-olds were more likely than older children to claim that the ritual would no longer be effective if mistakes were made during the ritual. Additionally, 4- to 6-year-olds were more likely to view the ritual acts as functional, whereas 7- to 12-year-olds were more likely to view ritual acts as symbolic (Richert, 2006).

**Religious Relationships: Attachment**

Research into the development of perceived relationships with religious beings has focused on the ways in which these relationships reflect attachment processes. This research has nearly exclusively focused on developing relationships with God rather than other religious or spiritual entities. As reviewed in more detail later, research along these lines suggests that religious and spiritual relationships capitalize on the attachment system and that relationships with God may often be viewed as symbolic attachment relationships (Granqvist & Kirkpatrick, 2008, 2013). Before proceeding to a discussion of the research directly related to religious relationships, we provide a brief review of and introduction to attachment theory.

Attachment is defined as "a strong disposition on the part of offspring in many mammalian species to seek proximity to and contact with a specific figure (i.e., to
display attachment behaviors), and to do so particularly in certain situations such as when he or she is frightened, ill, or tired" (Granqvist & Kirkpatrick, 2013, following Bowlby, 1969/1982). At the time of its inception, attachment theory represented a departure from traditional models of child development focused on the secondary drive hypothesis, which argued that all children’s inborn, primary drives are physiological in nature (Schaffer, 2006). According to this hypothesis, the association between the mother (e.g., her breast) and physiological drive fulfillment provides the explanation for why children come to develop selective attachments to their mothers. In contrast to this position, Bowlby (1969/1982) argued that infants are equally powerfully motivated at birth to start to form a bond with their caregivers as to obtain nourishment. According to Bowlby (1969/1982), throughout mammalian evolution, such a bond has offered protection and enhanced the chances of offspring survival to reproductive age. In this sense, attachment behaviors have been naturally selected as a part of human (and mammalian) evolution.

It is important to the study of religious relationships to understand the role that different patterns of attachment play in the development of other relationships than the child–caregiver bond itself. Dyadic differences in attachment relationships, identifiable from late infancy onward, have been classified into four basic categories: secure, avoidant, resistant, and disorganized (Ainsworth, Blehar, Waters, & Wall, 1978; Main & Solomon, 1990). Based on repeated experiences from interacting with their caregivers (or “attachment figures”), children develop internal working models, defined as “a hypothetical internal structure whereby the child mentally represents the attachment relationship and the partners involved in it, self as well as other” (Schaffer, 2006, p. 164). According to this model, and presuming stability in important contextual factors (e.g., caregiver sensitivity to the child’s needs and signals), early attachment relationships are internalized as attachment models, which become increasingly generalizing with maturation and come to guide the individual’s expectations, interpretations, and behavioral inclinations in future relationships.

Most of the research on the connections between attachment and relationships with God has been conducted with adults (for recent reviews, see Granqvist & Kirkpatrick, 2008, 2013; Granqvist, Mikulincer, & Shaver, 2010). Here we review attachment-related research conducted with children, starting with normative aspects of attachment, followed by considerations of individual differences in attachment security.

**Attachment Normative Considerations on the Development of Religious Relationships**

Although Bowlby’s theorizing about attachment focused largely on the evolutionary origins of the attachment system and its manifestation in infant–mother relationships, he believed that the processes and dynamics of attachment have broad implications for social development and psychological functioning across the life span. One purpose of this section is to demonstrate that, with increased cognitive maturation, people may even start to develop symbolic attachments to unseen figures (e.g., God). We argue here that the relationship with God develops in temporal conjunction with the maturation of the attachment system and the cognitive developments associated with this maturation. We also illustrate that, already in childhood, heightened attachment activation is associated
with increased significance of the individual's relationship with God (see Granqvist & Dickie, 2006, for a more detailed developmental overview).

As noted previously, the biological function of the attachment system is to maintain proximity between an infant and a protective attachment figure. To accomplish this proximity, the infant's behavioral repertoire initially consists of a series of more or less reflexive behaviors (known as relatively fixed action patterns) that are necessary to obtain proximity/protection (in addition to nourishment). With increasing cognitive abilities, older children are often satisfied by visual or verbal contact with the attachment figure or even by just knowing the attachment figure's whereabouts (Bretherton, 1987). Similar observations led early attachment theorists Sroufe and Waters (1977) to suggest that "felt security" should be viewed as the set goal of the attachment system in older individuals. Similarly, a consideration of cognitive abilities was an important part of the so-called move to the level of representation (Main, Kaplan, & Cassidy, 1985) that has been influential in attachment research for a quarter of a century. In our view, this move also opened the door to the possibility of imagined attachments to unseen others.

As attachment to caregivers increasingly moves toward goal-corrected partnerships in the preschool period, and children increasingly acquire skills at symbolic thinking (Bowlby, 1969/1982; Piaget, 1952/1963), they typically tolerate longer separations, presumably because of an ability to represent their attachment figures symbolically. Already at this age, children develop a rudimentary concept of God that they typically describe or draw as a person (Heller, 1986). Additional common themes in Heller's (1986) study included a view of God as, on the one hand, omnipresent, a nurturant therapist-type figure, and an intimate and close companion. On the other hand, God was also described as inconsistent and distant by some children. As noted in the prior sections on religious concepts, preschool children also increasingly acquire social cognitive or "mentalizing" abilities; that is, they gain an increased appreciation of the fact that other people have intentions and goals that motivate their behavior (Wellman et al., 2001).

These two aspects of cognitive development—symbolic thought and mentalization—undoubtedly contribute to children's emerging elaboration of unseen others as relational partners; ultimately, even invisible agents may be viewed as having intentions and goals. Moreover, whereas toddlers would use a concrete object such as a teddybear or blanket as "attachment surrogates" (Ainsworth, 1985) or "transitional objects" (Winnicott, 1953), preschool children may now also start to direct their attachment-related thoughts and behaviors to abstract, symbolic others, which is, of course, particularly likely when their primary attachment figures are unavailable for one reason or the other. As an illustration, starting at these ages, children are prone to elaborate with imaginary companions, especially when experiencing low levels of psychological well-being (Hoff, 2005).

However, unlike other transitional objects, God has a very special developmental standing in that the idea of God is almost universally taken seriously also by adults, who may well encourage the child's emerging God-related thoughts while (however subtly) discouraging "relationships" with other unseen transitional objects (see also Rizzuto, 1979). Consequently, although most other transitional objects have passed their due dates by middle childhood, the representation of and perceived relationship with God often continues to flourish throughout life.

Although young children's God representations can be viewed as abstractions, they tend to be comparatively concrete and anthropomorphic by adult standards (cf. Piaget's,
punishing, and powerful (De Roos, Iedema, & Miedema, 2004). Additionally, when parents emphasize the children’s autonomy, children are less likely to view God as powerful (De Roos et al., 2004).

However, across two studies, children’s attachment representations failed to predict their concepts of God as punishing (De Roos, Miedema, & Iedema, 2001) and as positive versus negative (De Roos, 2006). It should be noted in this context, though, that the Swedish study described previously (Granqvist et al., 2007) also failed to find an association between attachment representations and the children’s explicit responses to some of the same God concept questionnaires that were developed and used by De Roos and her colleagues. It may be that more implicit assessments (e.g., semiprojective tests of God’s closeness across theoretically relevant situations) are required in order to obtain support for the idea of internal working model (IWM) correspondence in relation to representational measures of attachment. We return to this issue in the Future Directions next.

FUTURE DIRECTIONS

We suggest four directions for future research. The first two recommendations are related to the need to determine the relationship between implicit and explicit processes in both cognitive and social approaches to religious and spiritual development. Although related, we discuss these future directions separately as each approach has unique potential for future research. The third future direction is related to one of the overarching themes of this volume: the need for research into the development of religion as a meaning-making system. The fourth future direction is a call for longitudinal research into the developmental processes underlying religious and spiritual development in early childhood.

Determining the Relationship between Intuitive and Explicit Religious Cognitions

A general assumption of the current cognitive approaches has been that we have natural cognitive predispositions (e.g., agency attribution, assumptions of causality) that allow for the relatively easy transmission of supernatural and religious concepts, both across ontogeny and phylogeny (Bering, 2006). Recent approaches to outlining the relationship between intuitive and explicit concepts have focused how early, intuitive concepts of agency provide the foundation for naïve metaphysical and theological cognitions, such as concepts of the soul (Bloom, 2004) and God and death (Wellman & Johnson, 2008). In this account, culture “fills in” those cognitions with specific religious content (Kelemen, 2004).

For scholars interested in the cultural influences on cognitive development more generally, this account is dissatisfying and reflects one of the themes of this volume: the need to conduct research within a multilevel interdisciplinary paradigm (Paloutzian & Park, Chapter 1, this volume). Within this paradigm, there would be no need to separate which aspects of religious and spiritual development are a part of behavior in general (e.g., intuitive) from the aspects that are unique (e.g., explicit) (i.e., Dittes, 1969, as cited in Paloutzian & Park, 2005). From a developmental perspective, social interaction plays a fundamental role in shaping not only the content but also the structure of children’s
1954, concepts of preoperational egocentrism and animism). For example, 4-year-olds are somewhat more likely to say that God is like their parents than 5- or 6-year-olds (De Roos, Iedema, & Miedema, 2003). Such a human-like representation of God naturally aids developmentally in making God viable as a symbolic attachment figure. In a related discussion, Rizzuto (1979) suggested that at the end of the preschool period/early school period, children develop a “living” God representation. In middle childhood, as children enter school and move even farther from their parents' immediate care, their God representations continue to become decreasingly anthropomorphic, although at the same time God is typically viewed as personally closer than in early childhood (Eshleman, Dickie, Merasco, Shepard, & Johnson, 1999; Tamminen, 1994).

From the late preschool period onward, empirical data indicate that God is perceived as an available safe haven in times of stress. For example, although not explicitly informed by attachment theory, according to Tamminen (1994), 40% of Finnish 7- to 12-year-olds reported that they felt close to God particularly during loneliness and emergencies (e.g., escaping or avoiding danger, dealing with death or sorrow). In addition, in a quasi-experimental and semiprojective setup, Eshleman et al. (1999) showed that American preschool and elementary school children placed a God symbol closer to a fictional child when the fictional child was in attachment-activating situations than when the fictional child was in situations that would be less clear-cut as activators of the attachment system. These findings have now been conceptually replicated across three additional studies: one conducted in Sweden with 5-to-7-year-old children from religious and nonreligious homes (Granqvist, Ljungdahl, & Dickie, 2007); one conducted in the United States with children of the same ages, most of whose parents were highly religious (Dickie, Charland, & Poll, 2005); and one conducted in Italy with 6- to 8-year-olds from lay Catholic homes (Cassibba, Granqvist, & Costantini, 2013).

**Religious Relationships and Individual Differences in Attachment**

In the adult literature, two general hypotheses have been suggested regarding links between religious relationships and individual differences in attachment security (Granqvist & Kirkpatrick, 2008). Each hypothesis describes a distinct developmental pathway to religion and to different modes of being religious and spiritual. One of these paths goes via a largely controlled (or effortful) regulation of distress following experiences with insensitive caregivers and insecure attachment (the compensation hypothesis). God and other religious figures are held to function here as surrogate attachment figures to whom these individuals direct their frustrated attachment systems when their particular insecure and fragile strategy for managing distress is crumbling under intense levels of stress (Granqvist & Kirkpatrick, 2013).

The other path goes via experiences with sensitive, religious caregivers and secure attachment (the correspondence hypothesis). Insofar as these caregivers have been observably religious during the offspring’s years of immaturity, the offspring is thus likely to become similarly religious (i.e., social correspondence; cf. “socialization”). Moreover, the perceived relationship with God is likely to mirror that of a secure attachment (i.e., internal working model correspondence).

The empirical literature has suggested that it is not entirely straightforward to apply these ideas to young children’s religious and spiritual development. Two caveats
are worthy of special attention. First, it may take many years of development until the individual gains the capacity to employ a compensation strategy, as this is a controlled/effortful strategy that runs counter to how the insecurely attached individual habitually and automatically deals with stress (e.g., to deny stress and avoid attachment figures or to maximize distress and remain preoccupied with the principal attachment figure). Consequently, direct support for the compensation hypothesis is virtually absent in the few extant child studies. However, Dickie, Eshleman, Merasco, VanderWilt, and Johnson (1997) have found that children whose fathers were absent from home imagined a more loving and powerful God than did children from intact homes. Relatedly, Eshleman et al. (1999) found that when parents spent less quality time with their children and had less identity in the parenting role, children viewed God as closer (even when controlling for the age of children). It appears that these children may start to direct some attachment-related bids to God, but whether they were actually insecurely attached cannot be determined from those studies.

Second, while still largely under the influence of parents and unaware of other possibilities, it may take additional years of autonomy development until secure and insecure children show differential susceptibility to adopt parental religious values and standards. Thus, support for the social aspect of the correspondence hypothesis is also virtually absent in the childhood studies (see Granqvist et al., 2007; De Roos, 2006).

Empirical research on children’s religious and spiritual development has, though, yielded both inferential and direct support for the internal working model aspect of the correspondence hypothesis across some studies. A study with 4- to 11-year-old American Protestant children showed that those who perceived their parents as nurturing (d. sensitive, a predictor of security) also perceived God as nurturing (Dickie et al., 1997). In an additional study, 5- to 7-year-old Swedish children indicated how similar God was to a fictional child by placing a God symbol at a chosen distance from a fictional child. Compared with insecure children, secure children placed the God symbol closer to the fictional child when the fictional child was in attachment-activating situations (e.g., sick and in hospital) and further from the fictional child when the fictional child was in attachment-neutral situations (e.g., bored, in bad mood; Granqvist et al., 2007). The authors suggested that secure, but not insecure, children’s attention shifted to God when the attachment system was activated.

Moreover, Cassibba et al. (2011) have recently extended parts of these findings in an Italian sample. Their findings showed that just as attachment security tends to be transmitted from mother to child (van IJzendoorn, 1995), the mothers’ security (assessed with the Adult Attachment Interview; Main, Goldwyn, & Hesse, 2003) predicted a higher degree of proximity in their children’s placements of a God symbol vis-à-vis the fictional child. These findings are theoretically important because they suggest, possibly for the first time, that experiences with secure versus insecure mothers generalize to the offspring’s sense of the availability of another (symbolic) figure than the mother herself.

Furthermore, a series of studies by De Roos and colleagues have examined connections between Dutch kindergarteen-age children’s representations of attachment and experiences with parental discipline on the one hand and their concepts of God (as assessed by questionnaires) on the other. These studies have revealed that different factors predict children’s loving and punishing concepts of God. When parents use strict and power-assertive childrearing practices, children are more likely to perceive of God as angry,
cognition (Bruner, 1990; Gauvain, 2001; Vygotsky, 1978). According to a Vygotskian (1978) perspective of cognitive development, cognitions first happen between a child and a more advanced member of society before becoming internalized as cognitions. One area related to religious and spiritual development in early childhood that is ripe for future research is in the nature of the relationship between engaging in shared religious activities (e.g., rituals, prayer, conversations) and the development of intuitive and explicit religious cognitions.

Related to the development of religious cognitions, one example of this process is through observation of and participation in religious rituals. In the observation of religious rituals, children may be internalizing the intentions of the ritual actors (e.g., Tomasello, Kruger, & Ratner, 1993), which often include communication with an unseen, supernatural agent and assumptions of supernatural causality. As noted previously, by age 6, children distinguish ritual actions from other kinds of actions in terms of how rigidly a ritual actor must perform the ritual actions (Richert, 2006). Additionally, younger children tend to assume the ritual actions are functional in some way (Richert, 2006), even if the outcome of the actions is not externally apparent (Richert & Harris, 2006). Future research should consider how these assumptions about and understandings of rituals reflect the internalization of religious cognitions.

From an evolutionary perspective, given that religious concepts evolved within the social context of cultural evolution, the concepts themselves should not be considered outside of the social context in which they have evolved or in which they develop (Richert & Smith, 2010). Future research should consider the implications of the fact that cognitive development, as well as the evolution of human cognition, occurs in cultural environments that contain and transmit religious and spiritual concepts. This means that the study of religious cognitions can provide an interesting forum for scholars taking a cultural approach to understanding cognitive development and the relationship between domain-specific and domain-general adaptations.

**Distinguishing between Implicit and Controlled/Effortful Processes**

An aspect of correspondence and compensation processes that warrants future research is the distinction, noted previously, between implicit and controlled (or effortful) uses of religion. Our expectation, based on the conclusions drawn both from the larger adult literature on the attachment-religion connection and the childhood studies reviewed here, is that when attachment activation is implicit or subliminal and God is the only attachment figure available in the situation, activation of internal working models and associated neural networks leads individuals with secure attachment experiences to experience God as psychologically accessible. Thus, the internal working model aspect of correspondence may apply especially at an implicit level because of a coherent/singular representation (Bowlby, 1973; Main, 1991) of God. In contrast, when activation of the attachment system is supraliminal and causes such high levels of subjective distress that the habitual insecure strategy breaks down, individuals with insecure attachment experiences will, with increasing maturation, be inclined to regulate distress by turning to God. In other words, the compensation hypothesis refers to an effortful strategy of distress regulation through an attachment surrogate that actually runs counter to how the self and attachment figures are unconsciously/implicitly represented by the individual. Another way to
phrase this is to say that the relationship with God is not functional at the implicit level because of an incoherent/multiple representation (Bowlby, 1973; Main, 1991) of God.

As to when the capacity for such a compensatory use of God matures is presently a matter of speculation, but our best guess is that adolescence is a key period (see Granqvist, 2012). With adolescence comes more autonomy vis-à-vis parents and the amplification of attachment transfer from parents to others, most often romantic partners and close friends. Insecure adolescents often have difficulties not only with their parents but also in establishing security-enhancing relationships with others. Partly for these reasons, insecure adolescents are prone to experience emotional turmoil (e.g., serious loneliness and emotional isolation) at levels not previously encountered.

**Religion as a Meaning System (RMS)**

Related to another of the themes of this edited volume (see Palourtian & Park, Chapter 1, this volume), one direction in which research into children's religious and spiritual development could expand is related to how religion and spirituality become a meaning system through which children interpret their lives (see Park, Chapter 18, this volume). Much of the research into religious and spiritual development has yet to incorporate the emotional and personal nature of spiritual and religious experiences. In some of the earliest research into children's spiritual development, Cole (1990) took a psychoanalytic approach to describing children's spiritual experiences. Through interviews and children's drawings, Cole provided a compelling ethnography of the spiritual lives of children and noted "how young we are when we start wondering about it all, the nature of the journey and of the final destination" (p. 335).

Johnson (2008) outlined spiritual development as "a distinct human capacity to become aware of what is truly vital in life" (p. 26). Johnson argued that in understanding spiritual development as the development of the spirit, we can follow a developmental trajectory from an intuitive understanding of a vitalized world and people in infancy to the ability to reflect on this vitalization in childhood. Related to this reflection, Harris (2000) analyzed the kinds of metaphysical questions children ask during the childhood years. On the basis of these questions, Harris suggested that by the time children are 3 or 4 they are capable of navigating among various mental spaces (e.g., real, imaginary, religious) and noting and seeking to resolve puzzles they encounter within these mental spaces.

Recent approaches have also considered the implications of the fact that children's concepts of God not only involve understanding God's mental states but also the utility of attributing intentionality to God (Bering & Parker, 2006). In particular, it may not be until approximately age 7 that children can be primed to attribute communicative intent to an invisible agent. In addition, children's belief in the efficacy of prayer increases from ages 3 to 8, and has an inverse relationship with children's belief in the efficacy of wishing (Woolley, 2000). However, the implications for the increased belief in prayer for children's use of prayer as a means of connecting with God are not at all understood. The implications of these studies are that during early and middle childhood children develop appropriately mature cognition for using religious and spiritual beliefs and experiences in the construct of a personal meaning system.

Recent reviews of the development of reasoning about various religious topics are also
relevant to moving in the direction of how religion and spirituality develop as a meaning-making system (Evans & Lane, 2011; Evans, Legare, & Rosengren, 2011; Legare, Evans, Rosengren, & Harris, 2012). In a review of research into using creation and evolution as an explanation of origins, Evans and Lane (2011) built from dual-process models of cognition, which suggest that individuals process information at two levels: an intuitive/implicit/automatic level and an abstract/rational/hypothetical level. Related to the coexistence of both creationist and evolutionary accounts for origins, Evans and Lane note that both origin accounts incorporate both types of reasoning, and that people combine these types of reasoning in diverse ways to satisfy needs for meaning and systematicity. Further evidence for this dual-processing approach can be derived from research into reasoning about illness and death (Legare et al., 2012). In relation to children’s religious and spiritual development, future research should examine when and under what circumstances children begin to question and reflect on their religious beliefs and the ways in which this reflection contributes to the development of religion as a meaning system.

The Need for Prospective Longitudinal Studies

In order to truly understand the development of any phenomenon, and especially the development of individual differences in that phenomenon, it is necessary to study processes and their directions. This requires longitudinal research designs. Cross-sectional studies can be a rich source for developmental hypotheses, but are in principle always fragile to cohort effects as well as unable to disentangle processes. Short-term experimental designs are very useful for establishing causal relations and in ruling out alternative interpretations to lab-triggered variation in a phenomenon of interest to development, but are in principle always fragile to external validity concerns and naturally fail to capture real-life maturation over extended periods of time. With true disappointment, we note that long-term prospective longitudinal studies are, to the best of our knowledge, virtually absent in the literature on religious and spiritual development in childhood (see Tamminen, 1994, for a rare exception). Developmental psychology as a general field has gained tremendously by not putting a blind eye to this time-consuming and (quite frankly) often frustrating design requirement. For example, how else would we know about stability and change in developmental constructs such as temperament and attachment, and how would we know of their implications for later socioemotional development? We strongly encourage developmental psychologists of religion and spirituality to open their eyes to the possibility of similar gains from studying religious and spiritual development longitudinally.

CONCLUDING REMARKS

Since the previous publication of this Handbook, there has been a marked increase in research into religious and spiritual development in childhood. The current research has largely been split in focus between the development of religious cognitions and attachment bonds with God. Although we noted a number of future directions for researchers interested in early religious and spiritual development, we are hopeful that this favorable trend will continue, especially because the study of the developmental processes involved
in religiousness and spirituality can be informative both to scholars interested in the psychology of religion as well as scholars interested more generally in developmental psychology.

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