Scaring the Monster Away: Children’s and Parents’ Conceptions of Coping Strategies to Deal with Children’s Fear of Real and Imaginary Entities

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Scaring the Monster Away: Children’s and Parents’ Conceptions of Coping Strategies to Deal with Children’s Fear of Real and Imaginary Entities

Preschoolers often experience intense fears when encountering real animals or imagining frightening entities. Despite the pervasiveness of childhood fears, previous research has not systematically explored the development of children’s understanding of coping strategies to lessen fear or parental ideas about the best ways to manage their children’s fears. This dissertation includes three studies that lay a critical foundation for this new research enterprise.

Ninety six 4-5-, and 7-year-olds children heard a series of short stories about different characters encountering things that looked like real (a bear, a snake, an alligator, and a shark) or imaginary creatures (a witch, a monster, a ghost, and a dragon). Children predicted how a child and his or her companion (a friend, a mom, or a dad) would feel (Study 1), suggested ways to deal with the fear responses (Study 1 and 2), and evaluated the effectiveness and safeness of several coping strategies (Study 2). A consistent picture emerged from the two studies. Between the ages of 4 and 7 children shifted from relying on their imagination to control scary thoughts (positive pretense) to relying on their knowledge about the reality of the creature (reality affirmation). In addition, regardless of age, children were more cognizant about the role of the mind in changing the way one thinks and feels about imaginary creatures compared to real ones.
In a third study, 97 parents rated the likelihood they would employ several different kinds of strategies for helping their children feel less afraid, chose the best and worst strategies, and suggested alternative approaches. In real-threat situations, parents most often stated that fleeing the scene was the most appropriate strategy. In contrast, they thought that the best way to deal with imaginary-threat situations was to focus on the reality status of the entity (e.g., tell the child monsters are not real).

Together, the current studies provide an exciting new window into young children’s construal of different frightening events and the ways the mind can mediate and moderate these fears.
BACKGROUND

Part I: The Development of Emotional Understanding

*Infants’ Sensitivity to the Expression of Emotion: Antecedents for Emotional Understanding*

In the first year of life infants evince three major aspects of understanding the expression of emotion (Harris, 1994). First, at about the age of three months, infants begin to distinguish between their caregivers’ different emotions and respond to various facial and vocal expressions in an appropriate manner, such as showing positive affect in response to expressions of approval (Fernald, 1989; Fernald, 1992; Haviland & Lelwica, 1987). This differentiation likely contributes to infants’ developing understanding that a person’s external emotional expression reveals the person’s current inner emotional state.

Second, infants begin to show an expectation that their caretakers will respond aptly to their own emotional signals. For example, they smile at a caretaker who is responsive to their signals, and suppress their smile when the caretaker seems unresponsive (Murray & Trevarthen, 1985). This early emotional reciprocity directs the infant’s awareness to the fact that people are generally responsive to others’ emotional states.

Third, infants also start to detect the intentional target of a caretaker’s emotion. If the caretaker shows a specific emotion when an infant is approaching an object, the infant will react correspondingly – he or she will stop approaching the object when the caretaker shows fear and approach when the caretaker shows happiness (Sorce, Emde, Campos & Klinnert, 1985). Similar results were obtained in a habituation paradigm, where 12-month-olds understood that an actor would reach for an object she had looked at and
deemed positive (Phillips, Wellman, & Spelke, 2002). Thus, by the end of the first year, infants develop an understanding that people usually direct their emotions to an object, a person or a place in their immediate surroundings. They also comprehend that an expressed emotion of one person can affect another person’s emotional reaction to the same target. This early awareness lays the foundation for later development in emotional understanding. The next step in emotional development is children’s ability to verbally label and talk about their emotions, and to identify, label, and discuss others’ emotions.

*Recognizing and Labeling Emotions*

During the second year, toddlers show their growing emotional understanding by increasingly using words to describe their own and others’ emotions. At first they make the distinction between positive and negative emotional expressions, and then discriminate among the negative expressions (Bullock & Russell, 1986). Correspondingly, they use words that describe the behavior associated with the expressed emotion (e.g., ‘laughing’, ‘crying’), followed by using words to describe the internal emotional state (e.g., ‘happy’, ‘sad’) (Honkavaara, 1961; Smiley & Huttenlocher, 1989; Wellman, Harris, Banerjee, & Sinclair, 1995). The first emotional words typically include the four basic human emotions: ‘happy’, ‘sad’, ‘scared’, and ‘mad’. Bretherton and Beeghly (1982) documented that by the age of 28 months 66% of the children use these four words to describe their own emotional state, and 33% of the children also use these words to describe emotional states of others. In fact, by the age of 3 years, children are able to use emotional words to communicate not only current situations, but also past and future emotional states (Brown & Dunn, 1991; Lagattuta & Wellman, 2002; Wellman et al., 1995). Interestingly, between the ages of 2 and 5 there is a significant increase in the
number of negative emotion labels children spontaneously produce; however, the number of positive words remains nearly constant (Lagattuta & Wellman, 2002).

At the same time, children’s abilities to recognize emotions and label them increase. Specifically, as they get older, preschoolers are more accurate in identifying specific emotions expressed by other people or performed by puppets. They progress from accurately identifying positive emotions to accurately recognizing and labeling the specific negative emotions: sad, anger, and fear (Camras & Allison, 1985; Denham & Couchoud, 1990; Stifter & Fox, 1987).

*Comprehending Causes of Emotions*

In addition to using behavior and facial cues to identify emotions, preschoolers develop knowledge about emotion eliciting situations and are increasingly able to infer emotions of other people and produce explanations for these emotions. Using the information gathered from different situations, children begin to form more complex emotional scenarios to figure out why different emotions occur (Dunn & Hughes, 1998). They establish coherent and consistent connections between emotions and situations involving themselves, their peers, and their parents, and the causes they provide for common emotions are often similar to the ones given by adults (Strayer, 1986). Yet, 3-year-olds, but not 4- to 5-year-olds, sometimes offer idiosyncratic explanations for the causes of emotions (e.g., “I was sad because we had a snack”) (Denham & Zoller, 1991; Strayer, 1986). Nevertheless, these idiosyncratic explanations demonstrate that even at this age children have an adequate grasp of the individuality of emotion. Specifically, 3-year-olds understand that the same emotion various people express may have different
underlying causes (Dunn & Hughes, 1998). They also understand that different emotion-eliciting situations will have unique effects on different individuals.

Preschoolers also rely on the context to infer causes of distress and anger (Denham & Zoller, 1991; Dunn & Hughes, 1998). Non-social events, like playing with toys, are causes of their happiness, social events are causes of their sadness (wanting mom) and anger (being pushed), and fantasy causes their fear (‘seeing’ a ghost) (Denham & Zoller, 1991). Most studies in this area suggest that children’s understanding of the causes of negative emotions is more advanced than their understanding of the causes of positive emotions (i.e., happiness) (Dunn & Hughes, 1998; Fabes, Eisenberg, McCormick, & Wilson, 1988; Lagattuta & Wellman, 2001).

On the whole, the ability to understand the causes of emotions and to attribute emotions to others leads to a more sophisticated understanding of the subjective nature of emotions: Namely, that various people have unique mental representations, experiences, and internal states that generate different emotional reactions.

*Understanding the Subjective Nature of Emotions*

There are many instances in which the emotion of a person cannot be explained by considering situational cues per se. In complex cases in which a situation may elicit more than one emotion or the emotion experienced is atypical of the situation, inferring one’s emotion should be dependent on his or her internal state. Thus, to properly attribute emotions to others, children must know that the same situation may elicit different emotions from different people, depending on their social group of reference, their particular attributes and preferences, and their previous experiences.
First, children must recognize that emotions may vary for different groups of people such as older versus younger people or males versus females (group-specific knowledge). Traditionally, researchers argued that it is not until school years that children understand a situation can be interpreted differently depending on one’s group classification (Flavell, Botkin, Fry, Wright, & Jarvis, 1968; Zahn-Waxler, Radke-Yarrow, & Brady-Smith, 1977; Harter, 1982). However, more recently it was suggested that even children as young as 3 years of age are aware of group differences in emotional reactions to situations (Phelps, 1999; Sayfan & Lagattuta, in press), and can use information about the person’s group classification (e.g., belonging to the infants group) to modify their emotional inferences (Gnepp, Klayman, & Trabasso, 1982; Sayfan & Lagattuta, in press).

In some cases, however, one’s expressed emotion seems inappropriate, or atypical, for the situation (e.g., showing apprehension when eating ice cream). These atypical reactions may indicate that person-specific information is required for understanding the emotion expressed (i.e., what has happened to that person that caused him or her to show an atypical reaction in that situation). In several studies, researchers confronted children with story characters who expressed emotions atypical to the situation portrayed, and asked the children to predict and explain the characters’ emotional reactions. (Gnepp, 1983; Denham, 1986, Greenspan, Barenboim, & Chandler, 1976, and others). Results indicated that young children base their predictions primarily on the characters’ facial expressions, and only by age 5 years did children consider both the characters’ expressive cues and the situational cues. Additionally, it was found that 5- and 6-year-olds were able to use personal information if it was provided to them, but only
9-year-olds were able to generate relevant questions to obtain personal information (Gnepp & Gould, 1985).

Certainly, searching for person-specific information to understand someone else’s emotional reaction is a hard task for young children (see Gnepp, 1989); nevertheless it does not indicate they lack the ability to understand the subjective nature of emotions. Even preschoolers are able to explain emotions, by using either group-specific or person-specific references (e.g., ‘he is older’), when the emotion experienced by another person is explicitly indicated to them, along with giving them expressive or cognitive cues. Indeed, by using this approach, more recent studies found that even 3-year-olds can consider person-specific information when explaining a person’s current emotion. For example, Lagattuta and her colleagues (Lagattuta, Wellman, & Flavell, 1997; Lagattuta & Wellman, 2001) found that preschoolers were able to explain a person’s negative emotion, particularly anger or sadness that was atypical for a situation, as caused by thoughts or memories about a past experience, indicating that they understand how mental representations, and not merely direct experience, can cause someone to react emotionally (see also Harris & Duke, 2006 and Thompson & Lagattuta, 2006 for recent reviews).

Overall, studies of young children’s emotional understanding demonstrate the gradual pace in which children master this task. Across studies, 3-year-olds do not lack an understanding of emotions and their subjectivity, but rather they are shown to have rudimentary capabilities that get further refined as they get older. Yet, expressing emotions and understanding them is only one part of this developmental task. Children
also have to gain control over their emotions. This regulation of emotions is essential for behaving in an organized and constructive manner.

Part II: Dealing with Negative Emotions

*The Construct of Emotion Regulation*

Generally, individuals are motivated to avoid or end negative inner feelings and to maintain positive ones. This motivation results in cognitive and/or behavioral efforts to obtain the desired goals. During their development, children are increasingly able to appraise their inner reactions and to use organized and strategic ways to achieve emotional homeostasis, and to adjust to the social environment—a process termed *emotion regulation* (e.g., Campos, Mumme, Kermoian, & Campos, 1994; Gross & Thompson, 2007; Saarni, 1999; Thompson, 1990; 1994). Attaining emotion regulation skills is crucial to children’s healthy social and psychological adjustment (Cole, Zahn-Waxler, & Smith, 1994; Rubin, Coplan, Fox, & Calkins, 1995), and it is predictive of children’s later socioemotional competence (Barrett & Campos, 1987; Parke, Cassidy, Burks, Carson, & Boyum, 1992; Saarni, 1999).

Over the years theorists have offered several definitions of emotion regulation, while, at the same time, trying to tease it apart from the construct of ‘emotion’ (e.g., Cole, Martin, & Dennis, 2004). At the core of most emotion regulation definitions is an emphasis on change in one’s emotional state. Emotional regulation is viewed as an organizational construct, or more specifically, a series of biological, emotional, and behavioral reorganizations of emotional response (Sroufe, 1996). It includes systematic changes in the intensity, duration, or valence of an experienced inner state, or alterations in the psychological processes (e.g., memory, social interaction) that are activated by the
emotion experienced (Bridges & Grolnick, 1995; Cole et al., 2004; Gross & Thompson, 2007; Thompson, 1990, 1994). Although some accounts include management of emotional displays as a part of the emotion regulation skills, we prefer the view that separates regulation of the inner experience (i.e., emotion regulation) from the management of its expressive manifestations (see Cole et al., 2004).

**Development of Emotion Self-Regulation**

The process of emotion regulation might be self-initiated or can be facilitated by social interactions (Cicchetti, Ganiban, & Barnett, 1991; Gross & Thompson, 2007; Thompson, 1990; 1994). Research has shown that by the age of 3 months, infants spontaneously initiate behaviors as to minimize negative emotional reactions (e.g., Rothbart et al., 1992). A wide range of infant behaviors, such as active avoidance, disengagement of attention, and tactile self-soothing (e.g., thumb sucking), have been identified as self-regulatory. These behaviors help infants deal with emotional distress (Rothbart et al., 1992). Increasingly, infants utilize more organized motor behaviors such as reaching and orienting themselves to their mothers, and redirecting their gaze. They also demonstrate less active self-stimulation behaviors (e.g., waving arms and legs) and more reserve self-soothing ones (e.g., gaze aversion), indicating that they are gaining greater inhibitory capacities (Rothbart, Ziaie, & O’Boyle, 1992).

Between the ages of 2 and 5, young children demonstrate increasingly more sophisticated efforts to regulate their emotions. They can actively avoid or ignore instances that induce negative emotions, they can use reassuring self-talk to calm themselves, or they can change their goals and desires when their initial goals are blocked (Braungart and Stifter, 1991; Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Buss
and Goldsmith, 1998; Calkins and Johnson, 1998; Cummings, 1987; Stein and Levine, 1989, 1990). Later, as preschoolers’ emotional understanding, vocabulary, and reasoning skills grow, they become more strategic, proficient, and flexible in their efforts to regulate themselves (Kopp, 1989; Thompson, 1990, 1994).

Thus, the first years of life are a period of rapid development in emotion self-regulatory behaviors (e.g., Rothbart et al., 1992; Shonkoff & Phillips, 2000). A part of this increased progression is attributed to the maturation of neuropsychological pathways in children’s brains and to the integration of several brain areas (Case, 1992; Diamond & Taylor, 1996, Diamond, Werker, & Lalonde, 1994). Still, social interaction factors, especially parental efforts to help their children manage emotions, are considered to have a profound influence on the development of regulatory processes (Halberstadt, 1991; Parke et al., 1992; Saarni, 1989; Shonkoff & Phillips, 2000).

**Emotion Regulation Within the Social Interaction Context**

Through early social interactions with parents children gradually become skilled at regulating their emotional experiences (Malatesta & Haviland, 1982; Parke et al., 1992; Thompson, 1990, 1994; Thompson & Meyer, 2007). Parents help their infants regulate their emotional experiences by responding to their expressions and signals, comforting them at times of distress, and providing predictable routines and appropriate stimulation (Cole et al., 2004; Shonkoff & Phillips, 2000). Parents also provide meaning to infants’ experiences by reciprocating and reinforcing infants’ reactions, as well as by labeling their inner states (Cole et al., 2004; Shonkoff & Phillips, 2000). Research has shown that the mutual emotion regulatory processes that characterize parent-infant interactions, influence not only the child’s growing ability to self-regulate emotion, but
also influence later self-control (Feldman, Greenbaum, & Yirmiya, 1999) and adjustment throughout the life span (e.g. Tronick, 1989; Bronson, 2000; Kopp 1989).

Yet, different children have different needs when acquiring self-regulation. Some children are more challenging than others, and the parents’ task of teaching their child to manage his or her emotions may require more effort and time. Indeed, some of the more challenging temperamental qualities, especially those relating to negative emotionality (e.g., general mood, typical ways of reacting to novel or frustrating situations) have been shown to emerge early in infancy and to be rather stable throughout life (Shonkoff & Phillips, 2000). Therefore, parents’ attempts to teach their children to deal with negative emotions ought to be tailored to their child’s temperamental attributes.

Throughout the preschool years, parents’ active role in helping children manage their emotions steadily decreases, and the task of controlling or modifying emotional reactions is handed over to the child (Shonkoff & Phillips, 2000). Within this process of socialization of emotion regulation, parents provide their children with ways to deal with overwhelming emotions, and children internalize these strategies so as to be able to use them when needed.

Parents promote young children’s emotion regulation in several ways. They coach the children in planning ahead, teach them to modify their reaction in proportion to situational demands, and provide their children with supportive challenges (e.g., managing a child’s frustration when trying to operate a new toy by giving the child gradual directions). In addition to these overt and direct parental behaviors, parents also provide their children with a secure base that promotes the learning process of managing emotions. That is, a parent-child secure attachment ensures the child’s confidence in his
or her parent’s availability to help in time of need (Cassidy & Berlin, 1994). Thus, with the help of their parents, children gradually learn to control and monitor their responses, to modify their feelings, and to respond constructively to unpleasant experiences and powerful emotions.

As indicated above, the preschool period is a time when complex strategies to manage emotions emerge and develop. It coincides with several other milestones, such as the development of theory of mind (Bartsch & Wellman, 1995; Wellman & Lagattuta, 2000), increasing ability to internalize standards (Grusec & Goodnow, 1994), and a growing sense of self (e.g., Case, 1991), that are believed to facilitate preschoolers’ readiness to assimilate and carry out intricate self-regulation strategies (Kochanska, 1994). To become competent social partners, and to behave constructively, children need to develop independent types of regulatory strategies – relying more on themselves than on others (Kopp, 1989; Shonkoff & Phillips, 2000). These more autonomous, complex, and planful approaches to deal with negative emotions are often referred to as “coping strategies.”

Classifications of Coping Strategies

In the adult literature, coping strategies are generally divided into two categories: problem-focused coping strategies and emotion-focused coping strategies (Lazarus & Folkman, 1984). The former includes responses aimed to alter the source of the problem (e.g., information seeking and cognitive restructuring), whereas the latter consists of responses that confront the emotion experienced (e.g., ventilation of emotion, distraction, and avoidance). This distinction, however, has been recently a subject of increasing criticism (e.g., Compas, Connor, Saltzman, Thomsen, & Wadsworth, 1999). The
categories appear to be too broad and fail to reflect important differences in the functions and characteristics of the various strategies included within them. For example, in the case of coping with fears, information-seeking responses might be viewed as an emotion-focused approach rather than problem focused one (because the goal is to reduce fear). Further, each category includes both rudimentary strategies and sophisticated ones. For example, emotion-focused strategies include both emotional support seeking and thought suppression – strategies that presumably are very different in their nature, developmental course, and effects on managing emotions (for further discussion see Compas et al., 1999).

Hence, additional classifications have been offered, including distinctions between approach and avoidance coping (e.g., Ebata & Moos, 1991), engagement and disengagement coping (e.g., Tobin, Holroyd, Reynolds, & Wigal, 1989), and primary versus secondary control responses (e.g., Rudolph, Dennig, & Weisz, 1995; Weisz, Sweeny, Proffitt, & Carr, 1993). In relation to fear management we favor the approach-avoidance classification, as it refers to the basic tendency of humans either to escape a threatening scene (i.e., avoiding the threat by flight or distraction behaviors), or to deal with the frightening stimulus (i.e., approaching the threat by either fight or information seeking behaviors) (e.g., Wenar, 1990).

In determining the specific coping strategies to be employed, situational factors, such as the degree to which the event is perceived as controllable or not, are of importance (Band & Weisz, 1988; Folkman, 1984). Specifically, with regard to experiencing fear, it is possible that the degree of threat to the person’s safety plays a role in choosing the proper strategy. For example, some avoidance strategies like cognitive or
behavioral distraction, may not be appropriate to deal with fear elicited by a snake crawling towards you, but they might be suitable in cases where one feels scared as a result of imagining that a rubber-snake is a real living snake.

Taken together, the different approaches in classifying coping strategies suggest that coping strategies are dependent upon the individual’s developmental stage as well as on the emotion to be regulated and the specific situation that elicits the emotion. To date, children’s development of coping strategies to manage fear has received little attention, and the limited available research pertains exclusively to medical situations (e.g., waiting to get a shot, visiting the dentist, being admitted to hospital). Therefore, to obtain other possible coping strategies children may use or be aware of when managing fears, besides the approach-avoidance classification, we turned to the available research on preschooler’s development of coping strategies in the context of everyday stress and frustration.

The Development of Children’s Coping Strategies

Research on children coping strategies beyond the first 2 years of life is scant. The limited available studies mainly concern children’s conceptions of coping strategies (e.g., Altshuler & Ruble, 1989; Band & Weisz, 1988), that is, the development of children’s awareness and spontaneous report of strategies to manage emotions. Only recently investigators have begun to explore preschoolers’ use of coping strategies, as well as their parents’ emotion-management behaviors (Fleury, 1995 in Kalpidou, Power, Cherry, & Gottfried, 2004; Stansbury & Sigman, 2000).

Children conceptions of coping strategies. In early studies on children’s conceptions of coping strategies, researchers demonstrated that children 6 years of age
and younger have difficulties suggesting coping strategies that pertain to alterations in one’s cognitive state (Altshuler & Ruble, 1989; Band & Weisz, 1988; Harris, Olthof, & Terwogt, 1981; McCoy & Masters, 1985; Reissland, 1983). For instance, Harris and his colleagues (Harris et al., 1981; Harris & Lipian, 1989) interviewed 6-, 11- and 15-year-olds about several aspects of emotion, including the strategic control of emotion. Six-year-olds understood that to change their current inner feelings, they can change the immediate situation (e.g., by engaging in some distracting behavior), but only the 11- and 15-year-olds in these studies suggested more mentalistic techniques of redirecting their thoughts to change the emotion experienced. Based on these results, Harris (1989) proposed that young children’s main strategy to control emotion is by means of behavioral distraction – creating new and enjoyable situations. He further maintained that only older children are able to offer mental strategies in addition to behavioral ones, and to mention the cognitive process that makes the behavioral distraction techniques effective. Supporting this possibility, in a recent study on 8- to 16-year-olds’ nocturnal fears (e.g., fear of intruders), children suggested coping with these fears by means of self-control or mental distraction (Gordon et al., 2007).

Other researchers (Altshuler & Ruble, 1989; Yates, Yates, & Beasley, 1987) have also found that children younger than 6 years of age rarely suggest mental distraction strategies, but they do propose behavioral distraction techniques rather frequently as a means to cope with frustrating and stressful situations (e.g., waiting for cake, waiting for a shot). Furthermore, this tendency to suggest behavioral distraction strategies did not decrease nor increase with age. According to these studies, then, the developmental progression is from exclusively behavioral coping strategies to strategies that include
both behavioral and mental components. Finally, even though preschoolers may not spontaneously suggest mental coping strategies, they do show understanding of their effectiveness. For example, even 4-year-olds consistently predict that a person feeling sad over the loss of a pet will feel better if he or she thinks about something distracting versus thinks about the sad event (Lagattuta et al., 1997).

Nevertheless, these studies concerned stress aroused by feeling sadness or frustration. Other studies, involving fear reactions elicited by medical situations, suggest that the degree of threat to the person’s wellbeing is also a factor in determining the appropriate coping strategy. For example, Altshuler and Ruble (1989) found that highly negative situations, such as waiting to enter the dentist office, elicit suggestions to completely avoid the situation by escaping it. This strategy decreased with age, and was mainly offered by 5- to 6-year olds - the youngest group in the study. The investigators suggested that in highly arousing or threatening situations complete avoidance (i.e., escape or flight) strategy is greatly salient to young children. Conversely, in situations involving ‘positive stress’ (e.g., waiting for a cake) young children offered more advanced strategies, such as behavioral distraction, presumably because these situations are less threatening.

Children use of coping strategies. Similarly, the two existing studies on preschoolers’ use of coping strategies also indicate that young children steadily employ more complex techniques. For example, Fleury (1995 in Kalpidou et al., 2004) observed preschoolers in their classroom and found that between the ages of 2 and 4, children gradually use more problem-solving coping strategies, such as playing with a different
toy when the one they had played with is taken away, to deal with frustration, and they rely less on seeking comfort from others.

Although research on children’s conceptions of coping strategies points to the fact that young children rarely suggest mental strategies to deal with negative emotions, other studies provide evidence that preschoolers are capable of using these more complex approaches when these are first instigated by others (see Mischel & Ayduk, 2004; Stansbury & Sigman, 2000). For example, in delay of gratification studies, using mental strategies offered by the experimenter (e.g., imagining that pretzels were sticks) helped preschoolers to wait longer for rewards (e.g., Mischel & Mischel, 1983).

In a recent study, Stansbury and Sigman (2000) investigated relationships between parents’ suggestions of coping strategies and their children’s coping behaviors. Specifically, the researchers documented coping behaviors of 3- and 4-year-olds and their parents in 2 frustrating episodes: waiting for a candy and not having a chance to play with an attractive new toy. The researchers classified children’s and their parents’ coping responses into 4 types: comforting behaviors, instrumental behaviors (i.e., problem focused approach – eliminating the source of frustration), distraction behaviors, and mental reappraisals (i.e., mental reconstruction of the event to perceive it in a more positive way). The results indicated that prompting children to use more sophisticated coping strategies, such a mental reappraisals, did indeed lead even the 3-year-olds to employ them in frustrating episodes. Nevertheless, even when prompted, the use of mental reappraisals was not frequent, and the most prominent behaviors the young children demonstrated were problem-focused instrumental responses (e.g., taking the desired object). Further, similar to Fleury’s findings presented above (1995 in Kalpidou
et al., 2004), it was found that 3-year-olds no longer use comforting strategies. However, the investigator proposed that this result is probably unique to frustration episodes, and that comforting behavior would probably still be prominent in 3-year-old experiencing sadness or fear.

Taken together, it appears that from quite an early age children are using several strategies to cope with frustrating situations, and may even use, though infrequently, the most complex strategies that pertain to cognitive reconstruction of the event (i.e., mental reappraisal) if they are prompted to do so. They also understand that emotions can be changed, although they fail to spontaneously report on the more sophisticated strategies when asked to provide emotional management strategies in hypothetical scenarios. Still, we lack data concerning children’s and parents’ conceptions of coping strategies specifically focused on managing children’s everyday fears. In the next section we present evidence of the predominance of fear reactions in children’s lives, and establish the need for further investigation of how children manage their fears.

Part III: Children’s Fears

Developmental Trends of Children’s Objects of Fear

Fear is one of the four basic emotions children experience, express, and identify in others from very early in life. It is a normal reaction to a perceived threat (real or imagined), and it involves three response systems: overt behavior, covert feelings and thoughts, and physiological activity (Marks, 1969; Wenar, 1990). Most normal children (between 75% and 95% of children) experience specific fears of mild to moderate intensity (3 to 5 fears per child) (Graziano, DeGiovanni, & Garcia, 1979; Gullone, 2000; Jersild & Holmes, 1935; Miller, Barrett, & Hampe, 1974; Muris, Merckelbach, Gadet, &
Moulaert, 2000). While there are no clear-cut gender differences during infancy and early childhood, from middle childhood girls become more fearful than boys (Gullone, 2000; Wenar, 1990). There is also evidence that many fears are temporary and persist only for about 3 years. Finally, it was suggested that these fears emerge as a result of everyday experiences of children and reflect the children’s growing cognitive and representational capabilities (Ollendick, King, & Muris, 2002).

By using surveys given to parents and by interviewing young children, researchers have attained a classification of common early-childhood fears. In this classification, specific types of fears are associated with developmental stages, starting in infancy and continuing through adolescence (Maurer, 1965; Bauer, 1976; Muris, Merckelbach, & Collaris, 1997; Muris & Merckelbach, 2000; see also Wenar, 1990 and Sarafino, 1986 for reviews). Accordingly, infants are found to be afraid of unexpected changes in their environment (e.g., loud noise, sudden movement, falling), of unfamiliar objects, places and people (i.e., stranger anxiety), and of their parents leaving them (i.e., separation anxiety). During the second year of life infant fears decline or undergo transformation (e.g., fear of loud noises may transform to fear of thunderstorms), and other types of fear emerge. Thus, toddlers are typically afraid of large and small animals, of bodily injuries and pain, and of natural phenomena (e.g., storms and earthquakes). For their part, preschoolers become increasingly afraid of imaginary animals and characters, of dreams (especially nightmares), and of the dark. It has been repeatedly shown that preschoolers are mostly afraid of animals and of imaginary entities (e.g., Maurer, 1965; Bauer, 1976; Muris et al., 1997; Muris & Merckelbach, 2000). During middle childhood
there is a sharp decline in imaginary fears, and other more realistic fears surface (e.g.,
fear of failing a test, fear of death).

Given that most normal developing preschool children have at least one object of
fear, and that this emotion is a part of their everyday experience, it is important to know
whether they understand the subjective nature of this specific negative emotion. In
particular, it is important to determine, whether young children understand the causes of
fear, and whether they project their own fears, real or imaginary, onto different groups of
people.

*Children Understanding of the Causes of Fear*

Only recently, have researchers begun to explore the topic of children’s
understanding of fear (Bloomquist & Lagattuta, 2004; Phelps, 1999; Sayfan & Lagattuta,
in press). To investigate children’s understanding of the link between people’s past
experiences and their current fear reactions, Bloomquist and Lagattuta (2004) asked 4- to
7-year-olds and adults to predict the intensity of fear reaction of story characters who
encountered an animal or an object that had elicited fear in them or others in the past. All
age groups demonstrated knowledge of the connection between the past fearful
experience and the characters’ current apprehensive state. Moreover, all age groups
equally expected the protagonists who directly experienced the fearful event in the past to
be the most afraid when encountering the same stimulus again, followed by characters
who just witnessed another person experiencing the fearful event, and then characters
who had been told about another person’s prior fearful event. Finally, participants in all
age groups, regardless of the past event condition, attributed higher levels of fear for
animate objects (e.g., dog, hamster, bird) versus inanimate objects (e.g., slide, bike, pool)
that were associated with the fearful events. Overall, these results demonstrate that children’s knowledge of the sources of fear is established quite early in the preschool years.

To further explore children understanding of fear reactions, Phelps (1999) asked 3-, 4- and 5- years-old children to predict and explain a puppet’s emotional reaction to either real (a flower, a spider) or pretend items (a monster). Four- to five- year-olds interpreted the puppet’s affect as being caused by the puppet’s previous experiences, whereas 3-year-olds tended to explain the puppet’s reaction as being rooted in the puppet’s preferences (e.g., “[the puppet] doesn’t like monsters”). Older children were also more capable than younger ones of predicting the puppet’s future response and in explaining its past experiences. In addition to the puppet task, the children were interviewed about their own and others’ fears. Three-year-olds thought that adults were fearful of both real and imaginary entities, whereas 4- and 5- year-olds maintained that adults generally were not afraid of things.

Delving further into children’s understanding of other people’s fears, Sayfan and Lagattuta (in press) examined young children’s attributions of fear to different people in relation to the person’s age (infant vs. child vs. adult) and the “reality” of the fear-inducing stimulus (real vs. imaginary). Three- through 7-year-olds and adults listened to 8 illustrated stories depicting two story characters of different ages (a child and an adult, or a child and a baby) encountering “real” or “imaginary” fear-inducing stimuli (e.g., a bee or a monster). Participants were asked to predict whether the story characters felt afraid or not afraid, to identify the intensity of their emotions, and explain the causes of their fears.
Contrary to Phelps’ (1999) findings, Sayfan and Lagattuta (in press) found that even 3-year-olds attributed differential reactions to two people of different age groups experiencing the same event. Particularly, 3- to 5-year-olds predicted the highest level of fear for babies and the lowest level of fear for grownups, whereas adults thought that both babies and grownups would be less afraid than children. Seven-year-olds neared adult patterns. Participants’ explanations of the causes of fear further illustrate that even the youngest children understand that people’s emotional reactions are also affected by the particular fear-inducing stimulus. Specifically, even 3-year-olds focused on the type and characteristics of the stimulus the protagonists encountered to explain that person’s fear reaction (such as the ability of the object to harm, e.g., “bees and mosquitoes bite”; “the dragon can kill him”). Older children and adults also used these stimulus-oriented explanations, but they further included mention of characters’ inner mental states, especially in situations where child characters encounter an imaginary creature (e.g. “[She’s not afraid] because she doesn’t believe in ghosts”; “[He’s afraid] because he thinks it’s a witch that cast spells on people”).

Thus, young children have a fairly sophisticated understanding of the causes of fear reactions in other people. Nevertheless, their own persistent fear of imaginary creatures has raised the question of their ability to discern real entities from imaginary ones. Parents often assume that children are afraid of imaginary creatures because they believe them to be real. However, it is not clear whether the core of children’s fear of imaginary entities is a failure to make an adequate distinction between fantasy and reality.
Children’s Ability to Distinguish Imagined from Real Entities

Research on young children’s ability to distinguish fantasy from reality indicates that by age 3, children already have a firm distinction between the two realms (Estes, Wellman, & Woolley, 1989; Flavell, Flavell, & Green, 1987; Harris, Kavanaugh, & Meredith, 1994; Wellman & Estes, 1986; Woolley & Phelps, 1994; see also Bourchier & Davis, 2002 for an extensive review). Nevertheless, there are some occasions in which certain elements from children’s imagination seep into reality (Lillard, 1994). This ‘contamination’ (see Mitchell, 2002) of reality is mostly common when entities or situations elicit heightened emotional reactions.

Specifically, researchers have found that young children clearly differentiate mental entities such as a pretend biscuit from physical entities such as a real biscuit; that children know people can see and touch real objects but cannot see or touch mental entities; and that real objects exist over time whereas mental entities have only ephemeral existence (Wellman & Estes, 1986). Additionally, young children discriminate between a real object, an imagined object, and a dream of an object (Wellman & Estes, 1986), as well as judge entities such as smoke and shadows as physically existent, although these real entities are not tangible (Estes et al., 1989). Furthermore, 3-year-olds could make a distinction between the real identity of an object and its pretend identity (i.e., using an object in a fashion different from its original purpose) (e.g., Flavell et al., 1987; Harris et al., 1994), and they treat imagined and real objects differently when requested by an experimenter to ‘hand over’ objects of the same type: either real or pretend (Woolley & Phelps, 1994). Overall, these findings attest to the fact that by the age of 3, children already have a solid grasp of the difference between real and imaginary.
Nevertheless, some doubts about this conclusion have surfaced when researchers started exploring children’s real-fantasy distinction for fear-inducing entities. In one such study, Samuels and Taylor (1994) showed 3- and 5-year-olds either emotionally neutral or emotionally charged storybook pictures. In the emotionally neutral condition, children from both age groups were able to distinguish fantasy events from real events and attested that the real-events could happen in real life more often than fantasy events. However, in the emotionally charged condition, 3-year-olds were sometimes confused between real and fantasy events. Surprisingly, 3-year-olds in this condition (fear-inducing pictures), and occasionally 5-year-olds, tended to report that both real and fantasy events, could not happen in real life. The researchers asserted that when children feel afraid of an entity they are motivated to think of it as not real with the intention of reducing the negative emotional reaction.

In their pivotal study, Harris and colleagues (Harris, Brown, Marriott, Whittall, & Harmer, 1991) conducted a series of experiments to explore children’s ability to distinguish real from imaginary. First, 4- and 6-year olds were asked to attest whether real items (cup, balloon, and scissors), their imagined counterparts, and fear arousing supernatural beings (witch, ghost, and monster) can be seen, as well as judge their realness. Children in both age groups, and especially the older children, made only a few errors in classifying which item was real or not. Given that, the researchers concluded that children as young as 4 years of age can sharply differentiate amongst entities that are real as opposed to imagined ones. In their further experiments, in addition to their verbal attestations, children’s behaviors were also recorded. Specifically, some children were requested to pretend there was a scary monster in one of two boxes whereas other
children were requested to pretend there was a friendly puppy or a friendly rabbit in one of the two boxes (in both conditions the second box was treated as ‘neutral’). Children’s behavioral reactions towards the boxes (willingness to put their finger in the box, willingness to stay alone in the room, and attempts to touch the boxes) were recorded in the presence and absence of an experimenter. Overall, children tended to approach the ‘puppy/rabbit box’ more than the ‘monster box’, and prefer using a stick and not their finger to touch the ‘monster box.’ Moreover, almost half of the children that were left alone touched or opened one or both boxes, even though they saw initially that the two boxes were empty, and they were more likely to explore the pretend box than the neutral one. Interestingly, the group of children who checked the boxes asserted later that they wanted to see whether the boxes contained a creature inside. Finally, some of the youngest children in the scary monster condition did not want to be left alone with the boxes and admitted to being scared. In subsequent studies involving modifications of Harris et al.’s paradigm, similar behavioral tendencies have been recorded (see Bourchier & Davis, 2002 for an extensive review), and perhaps surprisingly, these behaviors were also demonstrated in adults (Harris, 2000, 2006; Rozin, Millman, & Nemeroff, 1986; Ruffman, 2002; Woolley, 1997).

Several interpretations have been offered for these seemingly paradoxical reactions of children— their assertion that imaginary entities do not really exist on the one hand, but their behavior as if these entities do exist on the other hand. Initially, Harris et al. (1991) hypothesized that children might simply not know if there is a causal connection between real and fantasy and whether an imagined entity can transform to a real one (the ‘transmigration hypothesis’). Thus, they claimed that the children’s refusals
to be left alone with an imaginary monster, and their attempts to touch the boxes, do not necessarily indicate they think the pretended entity is real but rather that it could become real. Although this explanation is reasonable, some direct empirical evidence refuted this hypothesis to some degree (Bourchier, 1998; Johnson & Harris, 1994). Related to this hypothesis is the assumption that young children might not know whether the nonexistent beings are capable of harm. In other words, young children may think that monsters, witches, and other imaginary creatures, might inflict harm despite their nonexistence—similar to viruses and germs that cannot be seen and touched but can cause sickness. Thus, young children might associate thinking about supernatural scary entities with real concerns about their safety. Conversely, older children and adults possibly have a better understanding of the physical world and know which things are truly harmful.

Furthermore, it was proposed that preschoolers’ reality-imaginary contaminants stem from their inefficiency in source monitoring. Namely, preschoolers, compared to older children and adults, are less able to specify the source of their memories or knowledge (Drummey & Newcombe, 2002; Gopnik & Graf, 1988; Perner & Ruffman, 1995; Taylor, Esbensen, & Bennet, 1994; Wimmer, Hogrefe, & Perner, 1988). Consequently, they may not remember whether something really happened or was just imagined. Because they are confused as to the source of their mental representation, young children are less likely, than older children and adults, to discount their fears by reminding themselves what truly occurred. Indeed, studies of young children’s ability to distinguish real events from imaginary ones, indicate that children under the age of 6 years have difficulty judging if they truly carried out a behavior versus merely imagined it (Foley, Aman, & Gutch, 1987; Foley & Johnson, 1985; Foley, Johnson, & Raye, 1983).
Thus, preschoolers’ fears may persist due to the fact that they are less proficient in locating the contextual source of their experiences.

Still, none of these accounts explain why in some instances, adults also behave in ways that conflict with the actual reality, such as feelings scared after reading a scary book or watching a scary movie (see Harris, 2000, 2006; Rozin, et al., 1986; Ruffman, 2002; Woolley, 1997). An alternative explanation that fits well with both children’s and adults’ contaminants of reality by imagination, was offered by Harris and his colleagues (Harris et al., 1991). Based on Tversky and Kahneman’s (1973) ‘availability heuristic’, Harris et al. (1991) proposed that by imagining a possibility, one’s judgment of the subjective likelihood of this possibility to really happen increases. That is, imagining makes the pretended entity more accessible to the mind and this mental availability changes the subjective probability of it to be real. A number of studies support this hypothesis (Bourchier & Davis, 2000a, 2000b; Johnson & Harris, 1994; Woolley & Phelps, 1994; Woolley & Wellman, 1993). Recently, Bourchier and Davis (2002) have refined this hypothesis and proposed that the ‘availability hypothesis’ interacts with some other factors, such as individual differences (e.g., credulous vs. skeptical individuals), situational factors, and the heightened affect experienced during the pretense. Considering the latter possibility (that availability interacts with affect), when imagination leads to strong emotional reaction, such as fear, the emotional reaction further incites similar fearful ideas to be brought to mind. Additionally, in these instances, discounting the effects of the increased cognitive availability may be especially hard because the emotion experienced is real.
Indeed, regardless of what triggers our emotional system – be it real events or mental representations of events (such as thoughts, memories, and pretense) – the emotion experienced has similar physiological and psychological characteristics (Harris, 2000). That is, our emotional appraisals of situations appear irrespective of the situation’s reality status, and both adults and children can be equally stimulated by fictitious material they know to be unreal. What distinguishes young children and adults, in this respect, is probably not the knowledge regarding what is physically real and what is mentally induced but rather the different skills in controlling these mental representations.

*Imagination Processes and Fear Reactions*

So far, we have argued that even young children realize that fantasy and reality are two separate realms, and that fear can be aroused, in children and adults, irrespective of the realm status. Nevertheless, whereas adults are rarely besieged by these feelings and can fairly quickly regain their composure, young children’s fears are more frequent and persistent. There are at least two explanations for why young children may be more likely to exhibit fears of imaginary entities and to get caught up with these fears: (a) they are more prone to imagination, and (b) they are less skillful in controlling their fearful reactions through changing their thoughts.

*Imaginary proneness.* Compared to older children and adults, young children are more prone to be immersed in an imaginary world and typically are engaged in pretend play for long periods of time (Woolley, 1997), with some even creating imaginary friends that take on a life of their own (Taylor, Cartwright, & Carlson, 1993). By the end of the second year of life, most preschool children start pretending, and the amount of time spent in pretense steadily increases. Less frequent, but still a prominent phenomenon in
this period, is that of children’s imaginary companions. According to several studies,
between 25% and 65% of preschoolers have imaginary friends (Singer & Singer, 1990;
Taylor et al., 1993). Thus, pres envelopers’ intense engagement in pretense, combined with
their interest in supernatural beings, suggests that they are also more likely, than older
children and adults, to experience fear as a result of their imagination processes.
Conversely, older children and adults have a lesser inclination to be immersed in pretend
play. Indeed, during the school years, there is evidence for a decline in the amount of
time children are engaged in pretense and most children who have imaginary friends
abandon them (Singer & Singer, 1990; Taylor et al., 1993). Instead of pretense, older
children and adults engage in fantasy to a lesser degree and in different ways— they
daydream, read books, and watch movies (e.g., Harris, 2000, 2006; Singer & Singer,
1990; Walton, 1990). Accordingly, then, older children and adults are less likely than
preschoolers to be immersed in pretense, and therefore exhibit fears less frequently.

**Control skills.** Young children are generally less skillful in regulating their
thoughts, behaviors, and emotions (e.g. Shonkoff & Phillips, 2000), and as mentioned
earlier, are less proficient in using mental strategies to manage their emotions (Harris,
1989). Especially difficult for them is to shift their attention from the salient imaginary
scenario they are involved in and remind themselves that the imaginary creature is not
real (Harris, 2000, 2006; Woolley, 1997) — an approach we will refer to as reality
affirmation. As children get older, they get better in regulating their involvement in the
imaginary world, especially by recruiting their knowledge about the real world to
discount their fears (Bourchier & Davis, 2002; Harris, 2000, 2002, 2006; Woolley, 1997).
By the age of 6 years, children can be prompted to use this *reality affirmation* technique to regulate their fears, and increasingly use it spontaneously (see Harris, 2000).

Alternatively, we argue that to reduce their fears, younger children may be prompted to use, and may spontaneously employ, other techniques that better fit their developmental level. Specifically, instead of *reality affirmation*, they may use their tendency to be absorbed in their pretense to change the way they view the imaginary situation—an approach we will call *positive pretense*. Accordingly, they might change the attribute of the entity, and regard it as positive and harmless, they might imagine a protective instrument that shields them from the entity, or they might imagine themselves as having the powers to scare the entity away. Although no research has been explicitly designed to examine this rudimentary use of mental coping strategies, in our study of children’s understanding of fears (Sayfan & Lagattuta, in press), we found some indication that young children actually take this approach. Specifically, some of the 3-year-olds in our study explained non-fear reactions of story characters as stemming from viewing the fearful object as harmless. For example, they use explanations like: “monsters are friendly”, “it’s a nice ghost”, and “she can go fast that the monster cannot get her.” In contrast, older children and adults very rarely provided these *positive pretense* explanations, and instead explained characters’ non-fear reactions by using *reality affirmation* (e.g., “He knows monsters are not real”). Parents of young children may also use *positive pretense* as a way to help their children resolve their fears. Indeed, from anecdotal reports of several parents, we had discovered that parents do use this approach, but our knowledge was not based on careful scientific examination. Thus, the studies presented henceforth were undertaken with the aim to systematically explore
children’s spontaneous suggestions of coping strategies, as well as children’s and parents’ endorsement of coping strategies, and in particular children’s and parents’ judgments of the *reality affirmation* and the *positive pretense* approaches.

Studies Overview

Given the salience of fear in preschoolers’ every day lives, it is surprising that there is a lack of research on the approaches children might take to manage their fears, as well as the specific emotion-management plans parents use to help their children cope. The following work was carried out to address this lacuna. In three studies we explored children’s, as well as parents’, conceptions of coping strategies in two types of situations: imagined-threat and real-threat. We were particularly interested in the development of children’s spontaneous suggestions of coping strategies, children’s understanding of the effectiveness and safeness of different emotion-management techniques, and parents’ evaluations of strategies’ effectiveness. In the next sections we describe each of the studies in detail.
STUDY 1

Children Spontaneous Suggestions Of Coping Strategies

Young children often experience intense fears of real animals and of supernatural beings (e.g., Muris & Merckelbach, 2000). Prior research on children’s fears has focused extensively on describing the situations, objects, and creatures that young children fear (Gullone, 2000; Muris et al., 2000), and has generally neglected to address children’s knowledge of the causes of fear and how to regulate this intense emotion. The current study addresses this lacuna by exploring 4- to 7-year-olds’ knowledge about age and gender differences in fear reactions as well as children’s knowledge about strategies people can use to manage fear in real-threat (e.g., seeing something you think is an alligator) and imaginary-threat situations (e.g., seeing something you think is a monster). In doing so, the current study provides a window into young children’s awareness that people’s emotions and emotion-regulation strategies depend not only on objective situations, but also are strongly shaped by the person’s knowledge (e.g., knowledge about what is real versus imaginary), characteristics (e.g., age, gender), and interpretation of the situation (e.g., identifying an ambiguous figure as something threatening versus benign).

This nascent area of research has just begun to receive some attention. Sayfan and Lagattuta (in press) presented 3- to 7-year-olds and adults a series of vignettes featuring child-age protagonists, accompanied by an infant or an adult, that encounter an entity that looks like a threatening real (e.g., a snake) or imaginary creature (e.g., a ghost). Participants predicted and explained each character’s emotions, including the intensity of their fear (if afraid). Results showed significant age-related increases in knowledge that people of different age groups would experience different levels of fear in the same exact
situation: children typically have more intense fears than adults or babies. These developmental changes in emotion predictions were accompanied by increasing attention to the impact of people’s cognitive mental states on emotions (e.g., babies know very little, children know some things, and grownups know a lot), especially in the context of explaining fears of the imaginary. These data add to growing evidence that children develop important insights about mind-emotion connections during the preschool years (Lagattuta, 2007; Lagattuta & Wellman, 2001; Pons & Harris, 2005; Rieffe, Meerum Terwogt, & Cowan, 2005).

The current study builds on this previous research by exploring children’s developing awareness of the influence of both age and gender on the intensity of people’s fear reactions and on the coping strategies they use to manage their fears of real and imaginary creatures. Specifically, we look at children’s perception of how mothers, fathers, and children may differ in their fear reactions. We further examine children’s insights into what strategies children use to feel less afraid as well as actions mothers and fathers might take to help children alleviate their fears. We presented 4- to 7-year-old children with vignettes featuring a child either alone or with a companion (same-age same-gender friend, the child’s mom, or the child’s dad) that encounter an ambiguous stimulus the child believes to be a real (shark, bear, snake, alligator) or imaginary creature (witch, monster, ghost, dragon). We asked children to predict and explain the emotions of the story characters, including the intensity of each person’s fear reaction (if afraid), using a 4-point pictorial intensity scale. Children were further asked to suggest ways the child protagonist could alleviate his or her fears, as well as to describe what strategies the child’s friend, mother, or father could use to help the child feel less afraid.
Gender was selected as an intriguing factor to study in relation to children’s emerging knowledge of person-specific differences in fear and coping because females tend to express emotions more intensely and frequently than males (e.g., Kring & Gordon, 1998) and they also typically experience more intense fear, worry, and anxiety than males (Ollendick, King, & Frary, 1989; Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998). Moreover, studies have shown significant gender differences in styles of coping with negative emotions, with males tending to involve themselves more in physical activities and females tending to ruminate or talk about their emotions with others (Nolen-Hoeksema, 1987; Nolen-Hoeksema, Larson, & Grayson, 1999). Since children as young as 3 years show knowledge of many gender stereotypes (Martin & Ruble, 2004), we reasoned that young children may believe that there are male-female differences in fear reactions and emotion-management plans.

Prior research on the development of children’s ability to manage and cope with negative emotions reveals that children younger than 3 years of age largely rely on parental support to control their intense feelings (Shonkoff & Phillips, 2000). During the preschool and early elementary years, children become better skilled at regulating their emotional experiences, often by internalizing their parents’ strategies (Malatesta & Haviland, 1982; Parke et al., 1992; Thompson, 1990, 1994; Thompson & Meyer, 2007). As children’s emotion understanding, vocabulary, and reasoning skills grow, they become more strategic, proficient, and flexible in their efforts to regulate themselves (Kopp, 1989; Thompson, 1990, 1994). These more autonomous, complex, and planful approaches for dealing with negative emotions are often referred to as coping strategies.
Studies on children’s knowledge about coping strategies have focused predominantly on school-age children’s ability to manage everyday stress (e.g., missing a friend), frustration (e.g., delay of gratification), or medical fears (e.g., waiting to get a shot). Results have consistently shown that children 6 years and younger rarely spontaneously suggest *mental strategies* for coping with negative emotions such as cognitive distraction or reframing (Altshuler & Ruble, 1989; Band & Weisz, 1988; Harris et al., 1981; Harris & Lipian, 1989; McCoy & Masters, 1985; Reissland, 1983). Rather, young children typically suggest that a person can feel better by actively changing the situation itself, for example by engaging in a fun activity, avoiding the situation, or fixing the problem. As children grow older, this tendency to suggest *behavioral* coping strategies does not decline, but rather, is supplemented by a growing awareness of the benefits of using one’s mind to cope with negative emotions and situations. (Harris, 1989; Altshuler & Ruble, 1989; Yates et al., 1987).

Despite this strong base of research on children’s strategies for coping with stress and negative emotions, we lack data concerning children’s knowledge about strategies for coping with everyday fears. The management of fear is unique because it depends largely on the source of the fear; especially whether the potential threat is real versus imagined. That is, humans’ natural response when situations are perceived as dangerous or uncontrollable is to either escape the threatening scene (i.e., *avoiding* the threat by *flight* or *distraction* behaviors), or to confront the stimulus (i.e., *approaching* the threat by either *fight* or *information seeking* behaviors) (Wenar, 1990). Importantly, however, since fear can also arise from simply imagining or thinking about something scary (e.g., thinking that you see a ghost), such behavioral strategies may be completely ineffective.
That is, whereas running away from a real snake would be an appropriate plan for reducing fear and keeping oneself safe, running away from an imagined monster would not necessarily change the thought about the monster or the accompanying fear. Indeed, the more effective way to deal with fears involving imaginary creatures may be to mentally reconstruct the situation. For example, you could remind yourself that monsters do not exist or that what you saw was in fact a stuffed animal. We refer to these kinds of attempts to alleviate fears as *reality affirmation strategies*.

Reality affirmation strategies are arguably difficult for young children to employ because preschoolers are less proficient than school age children in shifting their attention away from a salient imaginary scene to the reality that supernatural beings do not exist (Harris, 2000, 2006; Woolley, 1997). Nevertheless, although unexplored in previous research, preschoolers might potentially capitalize on their tendency to be absorbed in their pretense by changing the way they view the imaginary situation. For example, young children might alter the attributes of an entity to make it positive and harmless (e.g., consider it to be a friendly monster); they might imagine protective gear that protects them from the entity (e.g., a sword and shield); or they might imagine themselves as having the powers to scare the entity away (e.g., yelling at it to scare it away). Thus, even though preschoolers might not be explicitly aware that mental strategies can change their feelings, they may be able to employ rudimentary mental strategies by relying on their expertise in pretense. We will refer to these fear-managing plans as *positive pretense strategies*.

Finally, although prior research has shown that children younger than 6 years of age infrequently suggest mental strategies for alleviating negative emotions, we reasoned
that preschoolers could potentially exhibit some knowledge about how a person could use his or her mind to feel less afraid if they were specifically prompted to do so. Previous studies have verified that children as young as 3 years know that pictorial thought bubbles represent the content of a person’s mind (Flavell, Green, & Flavell, 1993; Wellman, Hollander, & Schult, 1996). Moreover, such thought bubbles have been shown to aid young children’s performance on social-cognitive tasks (Lagattuta, in press; Kerr & Durkin, 2004; Parsons & Mitchell, 1999; Wellman, Baron-Cohen, & et al., 2002).

Therefore, in the current study, for the last four trials we cued children to suggest mental coping strategies by showing the child protagonist with a blank thought bubble above his or her head, and asked participants to offer a ‘thinking’ way for helping the person feel less afraid. We reasoned that young children would provide more mental coping strategies when they were explicitly prompted about thought processes versus when they were asked to spontaneously suggest a coping strategy.

In summary, then, the current study aimed to explore developmental changes between 4 and 7 years in children’s knowledge of age and gender differences in the experience of fear as well as in children’s understanding that different people may use different strategies for managing fear. Moreover, we were interested in the development of children’s knowledge of mental and behavioral strategies for reducing fear, including their understanding that different kinds of situations may call for different kinds of fear management plans. That is, we expected that in situations involving imaginary entities, compared to real creatures, children would suggest more mental, reality affirmation, or positive pretense strategies, whereas in events involving threats from real animals, we
expected children to more frequently suggest behavioral approach-avoidance styles of coping.

Method

Participants

Forty-eight children in three age groups participated: 16 4-year-olds (M age = 4 years 4 months, range = 3;9-4;10), 16 5-year-olds (M = 5;5, range = 5;0-6;5), and 16 7-year-olds (M = 7;10, range = 7;0-8;7), with equal numbers of males and females in each age group. Three additional children participated but never completed the interview due to inability or unwillingness to respond. The children were recruited from local schools and childcare centers in an ethnically diverse middle-class university town. Sixty-three percent were Caucasian, 21% Hispanic, 13% Asian, and 4% other.

Materials

Participants listened to eight short stories accompanied by pictures illustrating each scene (see Appendix A for story scenarios). Each story involved a focal child that matched in age and gender to the participant and was referred to as the participant him or herself (i.e., ‘this is you’). The focal child was either alone or with a companion— the child’s mother, the child’s father, or the child’s same-age same-gender friend. The characters involved in each scene were engaging in an emotionally neutral behavior (e.g., sitting on a dock, standing near the stairs) when they notice an ambiguous stimulus. The focal child was depicted as thinking it was a real frightening animal (a shark, a bear, an alligator, or a snake) or an imaginary frightening creature (a ghost, a witch, a dragon, or a monster). Each stimulus was drawn so that it was unclear whether or not it actually was a scary or a benign entity (e.g., the bear could be interpreted as a puppy, or the ghost as a
hanging piece of cloth). The focal child’s thought was depicted in a thought-bubble-illustration in which the stimulus had clear characteristics of the scary entity (i.e., the bear in the thought bubble had sharp claws, the ghost had eyes). The wording of each story remained consistent across all stories with the exception of the story location, the characters involved, and the type of creature. The top of Figure 1 illustrates the bear story child-mom version and the bottom of the figure shows the ghost story child alone version. Each participant heard the eight stories in one of 16 predetermined order sets. Each order set included four stories about real entities: one story with the focal child alone, one with the child-mother pair, one with the child-father pair, and one with the child-friend pair. The other four stories, about imaginary entities, had similar character pairing presentations. To make sure children interpreted the scenarios as events that could actually happen, the first story trial always involved a real creature. Additionally, because both the shark and alligator are water creatures, we included one in the first four story trials (block 1) and one in the four last story trials (block 2). In the same way we separated the bear and snake stories (both involve land creatures). The question order (whether participants predicted the child’s versus the companion’s reaction first) was counterbalanced across story trials. In the last four stories, participants were prompted to offer a mental coping strategy to alleviate the focal-character’s fear, by attaching an empty thought bubble to the focal-child’s head. Figure 2 illustrates this part for the bear story child-mom version (top) and for the ghost story child alone version (bottom).

Procedure

Each participant was interviewed individually by a female experimenter in a quiet room in his or her school or in the laboratory. Before the interview begun, the
experimenter said, “You’re going to hear a few short stories. I’m going to ask you questions about the people in the stories. There is no ‘right’ or ‘wrong’ answer; whatever you tell me is fine. I just want to know what you think.” Then the experimenter introduced the pictures of all the protagonists depicted in the stories and, while pointing to each character, told the participants that “in all the stories you hear we will pretend that this is you, this is your mom, this is your dad, and this is one of your friends.” To make sure participants understood this instruction, the experimenter asked them to repeat which person each illustration represented. Next, participants were pretrained how to interpret and use the 4-point fear intensity scale (see top of Figure 3 for the scale illustration) and they were introduced to the ‘okay’ face (see bottom of Figure 3).

Participants then heard eight short stories involving a potentially fear-inducing stimulus. Following each story, the experimenter asked the participant to predict each of the character’s emotions (e.g. “Are you, right here in this story, afraid or not afraid?”), to specify the intensity of each of their fears (if predicted) using the 4-point scale (e.g., “How afraid are you?”), and to explain the cause of each of the characters’ emotions (e.g., “Why are you afraid/not-afraid in this story?). To help participants clarify and expand their explanations, the experimenter paraphrased their responses and encouraged them to provide additional information. If children answered “I don’t know” they were reminded that there were no right or wrong answers and encouraged to take a guess. When it was clear that the participant had no further explanations (after being asked three times), the experimenter proceeded to the next trial.

Next, participants were asked to suggest ways for the focal child to manage his or her fear reaction (“What can you do to feel better right here?”). Whenever participants
predicted a non-fear reaction to the focal child, the experimenter instructed them to imagine that the focal character starts to feel afraid in that specific situation while pointing to the ‘somewhat afraid’ illustration on the intensity scale (“Let’s imagine that you do start to feel somewhat afraid right here”). Otherwise, the experimenter repeated the participants fear prediction (e.g., “you said that you are ['afraid'] right here”). After establishing that the focal child was afraid, participants were asked to suggest a coping strategy that he or she, as the focal character, might use to alleviate his or her own fear (“What can you do to feel better, right here?”). To make sure participants understood what ‘feel better’ means, the experimenter pointed to the ‘okay’ face. Participants were also asked to indicate a possible strategy the companion (if included in that version) might use to help the focal child feel less afraid (e.g., “Look! Your mom is right there with you. What will your mom try to do to make you feel better?”). The experimenter encouraged participants to provide as many strategies as they could think of (e.g., “Is there anything else you can do to feel better?”)

During the last four story trials, after participants provided their spontaneous coping suggestions, the experimenter attached a blank thought bubble to the focal-child’s head and prompted participants to offer a mental coping strategy: “Right now, instead of doing something or going somewhere, you start to think about something and it makes you feel better. What could you be thinking about here that makes you feel better?” After answering the questions for the eighth story (see Appendix B for all interview questions), participants received a small reward. Each session was tape-recorded and transcribed verbatim.
Results

Several approaches were used to analyze developmental changes in children’s knowledge about fear and coping. First, we examined whether children’s emotion predictions about the intensity of characters’ fear varied by the age and gender of the character (child vs. same-age same-gender friend vs. female adult vs. male adult) or by entity type (real versus imaginary creature). Next, we looked at the frequency (number of trials) that children predicted that two characters’ in the same situation would differ in the intensity of their fear (i.e., one is more or less afraid than the other). These prediction analyses are then supplemented by an examination of children’s explanations for the causes of the characters’ emotions (see explanations section for the coding scheme). Final analyses examine children’s suggestions of coping strategies. Here we focus on the frequency with which children suggested mental versus behavioral strategies, approach versus avoidance strategies, and reality affirmation versus positive pretense strategies (see coping suggestions section for the coding scheme).

Except when otherwise noted, data were analyzed using repeated measures analysis of variance (MANOVA or ANOVA) with Character (4: self, friend, dad, or mom) and Entity (2: real vs. imaginary) as the within-subject factors, and Age Group (3: 4-, 5-, and 7-year-olds) and Gender (2: boys vs. girls) as the between-subjects factors. Alpha was set at .05, and thus all results reported as significant are $p < .05$ or better. Significant main effects were followed up with univariate tests (in the case of MANOVAs) and with Tukey’s honestly significant difference (HSD) tests to evaluate pairwise comparisons. Only significant pairwise comparisons among means are reported. Simple effects tests were used to examine significant interactions. Partial eta squares,
computed using SPSS, are provided as a measure of effect size for all significant main effects and interactions.

Preliminary analyses revealed no significant differences within participants’ responses to the four real threat stimuli (e.g., between shark vs. bear) or within the four imaginary threat stimuli (e.g., monster vs. ghost). Therefore, in the analyses that follow, data are combined into two categories by entity type: real versus imaginary.

*Emotion Predictions*

**Fear intensity.** Children’s predictions for each character’s initial emotional reaction were scored on a 5-point scale ranging from ‘0’ (not afraid) to ‘4’ (very, very afraid). Scores for child protagonists were averaged across the four trials of each story type (real vs. imaginary). Since the other characters (friend, dad, mom) appeared only once within each story type, their scores were based on only one trial.

A 4-way repeated measures ANOVA on the fear intensity scores with the character and entity as the within subject factors, and age group and gender as the between subjects factors, revealed a main effect for character, $F(3, 126) = 13.98$, $p < .001$, $\eta^2_p = .25$. Post-hoc Tukey pairwise comparisons revealed that all age groups attributed the highest intensity of fear to the child characters (there was no difference between predictions to oneself and predictions to the friend character). Significantly less intense reactions were attributed to the mom character, and the lowest fear reactions were attributed to the dad character, $ps < .05$ (See Table 1).

**Predicting different or same reactions for two protagonists in same situation.** We created a dichotomous difference score for stories featuring the child with a companion. That is, when children predicted that both characters would have the same level of fear
(including predicting that both characters were not afraid), they received a score of ‘0’. A score of ‘1’ was given when different fear reactions were predicted for the two protagonists. Using this score as a dependent variable, we performed a 3 (Pair: self vs. friend, self vs. dad, or self vs. mom) by 2 (Entity: real vs. imaginary) by 3 (Age Group: 4-, 5-, and 7-year-olds) by 2 (Gender: boys vs. girls) repeated measures ANOVA. This analysis revealed main effects for entity, $F(1,42) = 10.70, p < .01, \eta^2_p = .20$, and age group, $F(2,42) = 4.34, p < .05, \eta^2_p = .17$, and a Pair X Gender interaction, $F(2,84) = 5.20, p < .01, \eta^2_p = .11$.

Across age groups, participants more frequently predicted differential reactions to the two protagonists in situations involving imaginary ($M = 62\%$) versus real ($M = 44\%$) creatures. Additionally, post-hoc Tukey pairwise comparisons verified that 7-year-olds ($M = 67\%$) predicted significantly more often than 5-year-olds ($M = 54\%$), and 5-year-olds predicted significantly more often than 4-year-olds ($M = 40\%$), that the two protagonists would react differently in the same situation. Simple effect analyses revealed that girls attributed different reactions to the self-friend pair significantly less often ($M = 33\%$) than to either the self-mom ($M = 67\%$) or self-dad ($M = 65\%$) pairs, $ps < .05$. Boys, on the other hand, did not differentiate by pair type when making judgments about different people’s fears (self-child, $M = 56\%$; self-mom, $M = 48\%$; self-dad, $M = 52\%$), $ps > .05$.

**Emotion Explanations**

**Coding.** Two types of emotion explanations were of central interest: references to character’s knowledge, beliefs, or thoughts (*cognitive mental state explanations*); and explanations referring to whether the creature was imaginary versus real (*reality status*...
explanations). Explanations that did not fit either category were coded as ‘other’ and were not analyzed.

Cognitive mental state explanations included explicit references to the person’s knowledge, beliefs, or thoughts about the situation (e.g., “He thinks it’s not going to get him;” “She knows it’s not dangerous.”). Stimulus reality status explanations explained the character’s emotions as caused by whether or not the creature was real versus not real. Although reality status explanations often included explicit mental state terms (e.g., “He doesn’t believe in monsters”; “She knows that ghosts aren't real”), many times they did not (e.g., “It’s fake and there’s no such thing as ghosts” and “monsters are not real.”). Explanations that commented on both the reality status of the stimulus AND included an explicit cognitive mental state term were coded into both the cognitive mental state and reality status categories.

Reliability. Two undergraduate research assistants, supervised by the principal investigator, collaboratively coded 25% of the interview transcripts. After this training session, the research assistants independently coded the remaining 75% of the transcripts, kappa coefficients ranged between .93 and .98. All disagreements were resolved by discussion.

Scoring. Participants were given a score of ‘1’ for every trial they provided a cognitive mental state explanation or a reality status explanation for each story character. Scores for child characters were averaged across the four trials of each entity type (real or imaginary). Because the companion characters (friend, mom, and dad) appeared once within each story type, their scores were based on that trial alone. To preview, Table 2
displays the participants’ mean explanation scores by story character and the participant age group.

**Analyses.** A 4-way repeated measures MANOVA was performed on the cognitive mental state and reality status explanation scores. Age Group (3: 4-, 5-, and 7-year-olds) and gender (2: boys vs. girls) were the between-subjects factors, and character (4: child, friend, mom, and dad) and entity (2: real vs. imaginary) were the within-subject factors. The analysis resulted in main effects for character, $F(6,252) = 3.75, p < .001, \eta_p^2 = .08,$ entity, $F(2,41) = 17.74, p < .001, \eta_p^2 = .46,$ and age group, $F(4,84) = 2.55, p < .05, \eta_p^2 = .11.$ Univariate tests for cognitive mental state explanations (e.g., “[the friend] thinks monsters are real, they are scary”) confirmed the main effect for entity, $F(1,42) = 13.57, p < .001, \eta_p^2 = .24.$ Children gave explanations pertaining to the person’s cognitive mental states significantly more often in stories about imaginary ($M = .29, SE = .05$) versus real creatures ($M = .19, SE = .05$), $p < .05.$ A character main effect also emerged, $F(3,126) = 4.61, p < .01, \eta_p^2 = .10,$ with significantly fewer cognitive mental states explanations offered to the self character then to the companion characters (see Table 2), $ps < .05.$

Univariate tests for reality status explanations verified the age group, $F(2,42) = 4.86, p < .05, \eta_p^2 = .19,$ and entity, $F(1,42) = 27.97, p < .001, \eta_p^2 = .40,$ main effects. Seven-year-olds offered explanations that pertained to the stimulus reality status (e.g., “Dragons do not exist”) more often than the 4- and 5-year olds (see Table 2). Additionally, participants of all age groups provided this type of explanation significantly more often in stories about imaginary creatures ($M = .37, SE = .05$) than in stories about real animals ($M = .16, SE = .03$).
Suggestions for Coping Strategies

We now turn attention to children’s suggestions of strategies different people, including themselves, could use to alleviate fear in situations involving potential threat from real and imaginary creatures.

Coding. Participants’ suggestions for coping strategies were classified into two central categories: **mental** versus **behavioral**. Mental strategies focus on the mind as a way to manage negative emotions. This can include changing one’s belief about identity of the object (e.g., “Think it’s just a scarecrow”), reappraising the situation (e.g., “Think the bear is not going to hurt them”), using mental distraction (e.g., “Think about Barbies”), or more generally using one’s imagination (e.g., “Imagine that my mommy is there or my daddy”). Behavioral strategies are actions people might take when confronted with a threatening situation, such as running away, fighting, or seeking comfort or protection from other people. Behavioral strategies were further classified into two subcategories: **avoidance strategies** are plans to alleviate fear by disengaging from the frightening stimulus. These include leaving the area or hiding (e.g., “Go somewhere else;” “Probably go in my room and close the door”), seeking comfort from others (e.g., “Look for my mom and dad”), or doing something else (e.g., “Play with a ball”). Conversely, **approach strategies** are plans to alleviate fear by engaging with the frightening stimulus. These include attacking the entity (e.g., “Slice the alligator to pieces;” “Catch the snake in a net and then throw it up and catch it”), or seeking more information (e.g., “Go see what it really is”). Because rates of mental strategies were low
In addition to classifying strategies as mental or behavioral, we also examined children’s coping suggestions for the presence of two additional dimensions that cut across mental versus behavioral boundaries: reality affirmation or positive pretense. Reality affirmation strategies are plans to alleviate fear by focusing on real-world logic. This included answers that portrayed the character as reminding him or herself that the imaginary creature is not real (e.g., “I know monsters are not real”), questioning the identity of the stimulus (e.g., “[I’ll] go in the sand or tell the guard to go and see if it’s a shark or whale”), or acknowledging that it is not really a dangerous or frightening entity (e.g., “I know this snake is harmless”). Positive pretense strategies are plans to alleviate fear that are grounded in the imaginary world and are very unlikely or impossible according to real-world logic. This includes plans to change the attributes of the entity (regard it as positive and harmless), or imagining protection or special powers (e.g., “Monsters are friendly;” “It’s a nice ghost;” “She can go fast so the monster cannot get her;” “I will fight the bear”).

Reliability. The principle investigator and two undergraduate research assistants (not the same people who coded the fear explanations) collaboratively coded 25% of the transcripts. Following his training session, the two research assistants coded the rest of the transcripts individually. All disagreements were resolved by discussion. Kappa coefficients for the different coping suggestion explanation categories, including subcategories, were high, ranging between .94 and .99.
Scoring. As with scoring for emotion explanations, participants received a score of ‘1’ for every trial that they provided a particular type of coping strategy for each character. Scores for the focal child character were averaged across four trials; whereas scores for companion characters (mom, dad, friend) were based on one trial for each entity type (real versus imaginary creature). Participants sometimes offered several coping strategies for a single character. Therefore, their suggestions for coping strategies could be classified into one or into multiple categories.

Mental and behavioral coping strategies. A 4-way repeated measures MANOVA was performed on the mental and behavioral strategy scores. Character (4: self, friend, mom, and dad), and entity type (2: real vs. imaginary) were the within-participants variables. Participants’ gender (2: male vs. female) and age group (3: 4-, 5-, and 7-year-olds) were the between-groups variable. The analysis revealed main effects for age group, \( F(4,84) = 4.32, p < .01, \eta^2_p = .17 \), and entity, \( F(2,41) = 3.54, p < .05, \eta^2_p = .15 \).

Univariate analyses confirmed that both main effects were significant only for the mental strategies, \( F(1,42) = 6.20, p < .05, \eta^2_p = .13 \) for entity; \( F(2,42) = 8.67, p < .001, \eta^2_p = .29 \), for age group. Mental strategies were provided significantly more often in stories about imaginary creatures (\( M = .20, SE = .03 \)) compared to stories about real creatures (\( M = .12, SE = .03 \)), \( p < .05 \). Additionally, 7-year-olds provided significantly more mental coping strategies than 5-year-olds, and 5-year-olds offered this type of strategy more often than 4-year olds (see Figure 4). The rates for the behavioral strategies were consistently high for all age groups across both entity types.

Prompted vs. unprompted trials. Recall that in the last four trials an empty thought bubble was attached to the focal child character’s head to encourage children to
provide mental coping strategies (“What could you be thinking about here that makes you feel better?”). To test for the effect of this cue, we compared the strategy scores for the prompted responses to the strategy scores of the unprompted responses. An entity (2: real vs. imaginary) × age group (3: 4-, 5-, & 7-year-olds) × cue (2: prompted vs. unprompted) repeated measures MANOVA was conducted on the mental and behavioral strategy scores. In addition to the entity, and age group main effects described above, this analysis revealed a cue main effect, $F(2,41) = 25.92, p < .001, \eta^2_p = .56$. Univariate analyses confirmed that the main effect was significant for both behavioral and mental strategies, $F(1,42) = 48.27, p < .001, \eta^2_p = .54; F(1,42) = 40.71, p < .001, \eta^2_p = .49$; respectively. As shown in Figure 5, participants of all age groups offered significantly more mental coping strategies and significantly fewer behavioral strategies when they were prompted with the blank thought bubble versus unprompted, $ps < .05$.

Approach versus avoidance strategies. As mentioned above, the behavioral strategies were further classified into two subcategories: approach vs. avoidance. An entity type (2: real vs. imaginary) × character (4: self, friend, mom, & dad) × age group (3: 4-, 5-, & 7-year-olds) × gender (2: girls vs. boys) repeated measures MANOVA was conducted on the approach and avoidance strategy scores. Only a main effect for gender emerged, $F(2,41) = 5.57, p < .01, \eta^2_p = .21$. Univariate analyses confirmed the significance of the gender main effect for both the approach and the avoidance strategies, $F(1,42) = 7.74, p < .01, \eta^2_p = .21; F(1,42) = 5.04, p < .05, \eta^2_p = .13$; respectively. As shown in Figure 6, girls offered significantly more avoidance strategies and significantly fewer approach strategies than boys for coping with fear.
**Reality affirmation and positive pretense.** Two separate age group (3: 4-, 5-, & 7-year-olds) X gender (2: boys vs. girls) X entity (2: real vs. imaginary) repeated measures ANOVAs were conducted on reality affirmation and positive pretense strategy scores. Both analyses resulted in main effects for entity, $F(1,45) = 7.90, p < .01, \eta_p^2 = .15$ for reality affirmation, $F(1,45) = 9.92, p < .01, \eta_p^2 = .18$ for positive pretense, and age group, $F(2,45) = 7.09, p < .01, \eta_p^2 = .24$ for reality affirmation; $F(2,45) = 3.26, p < .05, \eta_p^2 = .13$ for positive pretense. As shown in Table 3, reality affirmation and positive pretense were offered significantly more often in stories about imaginary creatures compared to stories about real creatures, $p < .05$. Additionally, 7-year-olds compared to the other age groups offered significantly higher rates of reality affirmation strategies, and significantly lower rates of positive pretense strategies, $ps < .05$.

**Discussion**

Results of the Study 1 show that between the ages of 4 and 7 children develop knowledge that different people (adults versus children; males versus females) can have different fear responses to the same exact event. Children’s explanations and suggestions for coping strategies further demonstrate increasing age-related appreciation that fear depends upon a person’s interpretation of the event. Children demonstrated strongest knowledge about the mind as both a cause of fear and a vehicle for controlling fear in scenarios featuring imaginary beings. These data advance current knowledge about the development of children’s understanding of mind and emotion during early childhood.

**Predictions of Fear**

Children predicted whether a child alone, two children, or a child and an adult (male or female) protagonists in the same situation would feel afraid versus not afraid,
and then made judgments about the intensity of the characters’ fears (if afraid). Results revealed that all age groups attributed elevated intensity of fear to child characters, less intense fear to the mom character, and the lowest intensity of fear to the dad character. These results replicate and extend recent findings on children’s early understanding of fear. Using similar scenarios depicting real and imaginary entities, Sayfan and Lagattuta (in press) found that children, as young as 3 years, attributed the highest fear reactions to child characters and lowest fears to adult characters. The current study, however, further illustrates that children not only pay attention to the age group but also focus on the person’s gender when judging people’s feelings. These data suggest that the development of stereotyped gender beliefs during early childhood likely encompass more than just a focus on people’s characteristics and behaviors. It may further include emerging ideas about gender differences in how boys and girls feel.

Children of all ages distinguished between situations featuring real animals and situations featuring supernatural beings. Even the youngest age group predicted that in the same exact situation two protagonists would have different reactions, and they predicted this differential reaction more often in situations involving imaginary entities compared to real ones. This shows that young children are able to take into account multiple aspects of the situation, including characteristics of the person experiencing it, and not merely rely on basic emotional script knowledge (e.g., Gnepp, 1989; Gnepp et al., 1982; Harris, 1989). With age, children improve on this ability and make differential reactions more frequently: 7-year-olds predicted differential reactions most often and 4-year-olds did so the least often.
Finally, the fear prediction data revealed that females may be more vigilant to person or group differences in fear reactions than males. Specifically, girls judged the child-parent pairs to have more diverse reactions than the self-friend pairs. Boys, on the other hand, did not make this distinction. Interestingly, a recent study on children’s knowledge about the causes of worry (Lagattuta, 2007) also showed that young female children as well as adult females may have a more nuanced appreciation of emotion causes than males. There, females were more likely than males to make connections between people’s negative past events and their expectations for future negative possibilities.

*Explaining the Causes of Fear*

Participants’ explanations for the protagonists’ emotional reactions further reveal children’s growing awareness of the situational and person-specific causes of fear. Between the ages of 4 and 7 years children increasingly offered explanations that focused on the reality status of the stimulus (e.g. “There are no witches”) and all children provided this type of explanation significantly more often in stories about imaginary compared to real creatures. Additionally, regardless of age children gave more frequent mentalistic explanations (i.e., attended to the person’s beliefs, thoughts, and knowledge: “he thinks it’s just a scarecrow”) in stories about imaginary versus real creatures.

Interestingly, however, children offered significantly fewer cognitive mental state explanations to the self character than to the companion characters. This surprising result can be explained by the fact that children were asked to pretend that they were the focal character in the stories. Namely, when speaking in the first person children could say, “I’m not afraid ’cause monsters are not real” to indicate their construal of the situation
without the need for including an explicit mental state term, as in, “I’m not afraid ‘cause I
*think* monsters are not real.”

Taken together, these findings reveal that with increasing age children evidence
greater awareness of the ontological status of a stimulus (in reality or in one’s mind) as
well as more sophisticated knowledge that fear reactions are mediated by the person’s
mind. These findings confirm recent data that even young children are cognizant of
mental causes of emotions (e.g., Lagattuta, 2007; Lagattuta et al., 1997; Lagattuta &
Wellman, 2001; Pons, Harris, & de Rosnay, 2004; Sayfan & Lagattuta, in press), and
refute earlier notions that young children make simple associations between situations
and emotional reactions (e.g., Gnepp, 1989; Gnepp et al., 1982).

*Suggestions for Coping Strategies*

Children’s suggestions for coping strategies shed further light on their construal
of emotions, and particularly on their ideas about how actions and *minds* can change the
way a person feels. First, as we hypothesized and similar to findings on children’s coping
with stress and frustration (Altshuler & Ruble, 1989; Yates et al., 1987; Harris et al.,
1981; Harris & Lipian, 1989), all age groups regularly offered high rates of behavioral
strategies for lessening fear. Further, and consistent with our predictions, significant
developmental changes were apparent in children’s suggestions of mental coping
strategies, with 7-year-olds providing mental strategies significantly more often than 4-
year olds. These data confirm Harris’ (1989) argument that mental coping strategies do
not replace behavioral ones; rather, with increasing age, children expand their repertoire
of strategies to include both behavioral and mental strategies. Nonetheless, our results
challenge previous studies showing that children 6 years of age and younger fail to
suggest mental coping strategies (Altshuler & Ruble, 1989; Band & Weisz, 1988; Harris et al., 1981; McCoy & Masters, 1985; Reissland, 1983). Indeed, as we will discuss, even some 4- and 5-year-olds could spontaneously suggest mental strategies for reducing fear—especially in situations involving imaginary creatures. Moreover, children from all age groups provided significantly more mental coping strategies and significantly fewer behavioral strategies when explicitly prompted by a thought bubble cue.

Children’s earlier precocity in reasoning about mind-fear connections in the context of imaginary threats fits well with previous research showing that preschoolers’ heightened fears often result from thinking about or imagining scary things (e.g., Muris et al., 1997; 2000). Indeed, between the ages of 2 and 7, children typically engage in pretend play that often involves supernatural beings (Harris, 2006; Woolley, 1997). Thus, their direct experience of becoming afraid after thinking about or imagining these magical creatures may contribute to their earlier recognition of how changes in one’s mental states can alleviate fears. Children’s enhanced knowledge may also stem from direct parental teachings. That is, in their attempts to calm their children’s fears, parents likely explain that even though people can imagine things like monsters in their minds, these creatures are not real. These assumptions regarding the relationship between parent-child discussions and children’s awareness of mentalistic ways to reduce the intensity of their fears need to be explored in future research before stronger conclusions can be made.

Perhaps surprisingly, children seldom (less than 10% of the trials) suggested dealing with fear by employing distraction strategies (behavioral or mental). Previous research has shown that distraction strategies commonly appear in children’s (age 7 and
older) suggestions for coping with frustration (Yates et al., 1987), sadness, and homesickness (Harris et al., 1981; Harris & Lipian, 1989). The difference between our data and the previous work fits, however, with the idea that situational factors—especially the degree to which the event is perceived as controllable versus threatening—determine the type of coping strategy to be employed (Altshuler & Ruble 1989; Band & Weisz, 1988; Folkman, 1984). More specifically, fear induced by threats from potentially dangerous creatures readily bring to mind natural self-preserving reactions to flee (avoid) or to fight (approach). In such situations, merely changing the way one thinks about the situation or engaging in a distracting activity may be entirely unsafe. Since both our real-threat and imaginary-threat scenarios included actual beings, they both could have been construed as potentially threatening situations (i.e., if it is not a witch in the tree, then what is it?), thus, discouraging the use of distraction coping strategies.

Finally, recall that in the introduction we presented an alternative developmental progression in coping strategy knowledge besides just movement from behavioral to mental strategies. That is, we hypothesized that to lessen their fears, older children would promptly offer reality affirmation strategies (e.g., reminding themselves that the creature is not real, or that the creature is a benign real entity) whereas younger children would more readily suggest more rudimentary mental approaches called positive pretense strategies (e.g., imagining the entity to be friendly, or pretending they have the powers to tackle the creature). Indeed, our findings support this hypothesis. Seven-year-olds compared to 4- and 5-year-olds offered significantly higher rates of reality affirmation strategies, and significantly lower rates of positive pretense strategies. These findings suggest that older children are better at regulating their involvement in the imaginary
world by recruiting their knowledge about the real world to discount their fears. In contrast, since younger children get more absorbed in their imagination (Harris, 2006; Singer & Singer, 1990; Taylor et al., 1993; Woolley, 1997) and are less proficient in shifting their attention between the two realms (e.g., Harris, 2000, 2006; Woolley, 1997), it may actually be a more effective for them to *stay* in the imaginary world and make it more positive (i.e., think an imagined ghost is friendly) rather than to remind themselves about what is real.

**Gender Differences in the Construal of Fear-Inducing Situations**

As discussed above, girls were more precocious than boys in predicting that adult-child pairs would differ more greatly in their fear reactions than child-child pairs. A further gender difference emerged in girls’ versus boys’ suggestions of coping strategies. That is, regardless of age and story character, girls offered significantly more avoidance strategies (e.g., run and hide) and significantly fewer approach strategies (e.g., go near it and or attack it) than boys for coping with fear. This data importantly extend the previously established literature on gender differences in emotion-management approaches in adolescence and adulthood (Nolen-Hoeksema, 1987; Nolen-Hoeksema et al., 1999; Nummer & Seiffge-Krenke, 2001; Seiffge-Krenke & Shulman, 1990) by revealing that such strategy preferences develop by age 4, if not earlier. Arguably, this difference may have a basis in socialization practices. That is, mothers may express more avoidant strategies to their children and fathers may suggest more approach plans when talking about dealing with fear. Although related research on parents’ differential emotion discourse provides initial confirmation for this claim (Reese, Haden, & Fivush, 1996), direct inspection of parents’ discussions of how to cope with fear is needed.
Still, it is important to note that we did not find a difference between the coping suggestions offered for the mom characters versus the dad characters. If children have an early precocity for reasoning about gender-typed behavior, then why was such a difference not found? The answer to this may be simply methodological. Young children generally stuck with their initial coping suggestion regardless of the type of secondary character in the scene (other child versus mom versus dad), and rarely offered different kinds of fear management plans to different characters. These findings suggest that children may develop earlier knowledge about person- or group-specific differences in intensity of fear prior to developing awareness that different people may use different kinds of strategies to manage their fears.

Conclusions

Between the ages of 4 and 7 years children gradually develop awareness that adults versus children and females versus males can respond differently in the same exact situation, with girls being more precocious than boys. With increasing age, children become more cognizant about the mind as mediating between situations and emotions—people’s fear and emotion management plans depend on thoughts, beliefs, and imagination, not merely on the event itself—with this appreciation of mental processes as inducing and reducing fear being most robust in the context of magical fears. Although young children have a hard time recruiting knowledge about what is real and what is not real to lessen their fears, they can rely on their expertise in pretense to autonomously regulate their fear by changing how they appraise the frightening situation. Future research needs to systematically examine how young children’s suggestions of coping
strategies relate to their emerging knowledge about the relative safety and effectiveness of different kinds of approaches for managing fear.
STUDY 2

Children’s Endorsement Of Coping Strategies:
Choosing The Best Emotion-Management Plan

In Study 1 children spontaneously suggested strategies that they, their parents, and their friends might use to feel less afraid in real and imaginary-threat situations. Study 2 extends this investigation further by examining development between 4 and 7 years both in children’s suggestions of coping strategies and in their evaluations of different plans for managing fears of real and imaginary creatures. In doing so, Study 2 aims to identify age-related changes in children’s ability to differentiate between different kinds of coping strategies in relation to their safeness and to their effectiveness in reducing fear. Moreover, by presenting children with different coping strategy alternatives, we gain further insight into their emerging knowledge about how to manage fear. Importantly, although children younger than age 7 typically fail to offer mental coping strategies in response to open-ended prompts, they may be able to demonstrate knowledge about the emotional benefits of mental strategies when directly asked to evaluate such plans.

Previous studies have demonstrated that young children’s task performance can be aided by having them compare the different experiences of two characters situated in the same situation (e.g., Lagattuta & Wellman, 2001; Sayfan & Lagattuta, in press). Thus, in Study 2, after asking children to suggest their own coping strategy for each scenario, we presented children with two different strategies—proposed by each of the two characters experiencing the event—and asked children to assess each plan’s effectiveness and safeness. Based on children’s spontaneous coping strategy suggestions from Study 1,
as well as on the available coping literature, we focused on four fear management themes: *action, distraction, protection, and reappraisal*. Within each of these categories, different pairs of strategies were presented: comparing two different kinds of behavioral strategies, contrasting two different kinds of mental strategies, or pitting a mental versus a behavioral strategy.

More specifically, the *action* theme contrasted two *behavioral* strategies that children offered frequently in Study 1: *avoidance* (‘flight’) versus *approach* (‘fight’). The *distraction* theme contrasted *mental* distraction with *behavioral* distraction, two coping approaches that have been found in previous research to distinguish between the emotion-management abilities of older compared to younger children (e.g., Harris, 1989). The *protection* theme contrasted the behavior of seeking help and comfort, a frequently offered strategy in Study 1 data, with the mental strategy of imagining protection, defined in Study 1 as a *positive pretense* strategy. Finally, the *reappraisal* scenarios compared *positive pretense* (i.e., using imagination or pretense to reappraise the situation) to *reality affirmation* approaches (i.e. using knowledge about the reality of the entity to reappraise the situation). Recall that in Study 1, there was an increase between 4 and 7 years in suggesting reality affirmation approaches and a decrease between 4 and 7 in offering positive pretense strategies. Study 2 thus tests whether these age-related differences also emerge in children’s endorsements of such strategies.

Study 2 further investigates development in children’s knowledge that coping strategy choice depends on features of the situation, including the degree of actual threat to a person’s well-being (e.g., Compas et al., 1999). Therefore, we made the danger level in the imagined-threat and real-threat situations more explicit in Study 2. That is, in the
imagined-threat situations we stated that the characters think the entity to be a scary supernatural being, when in actuality it was a non-threatening entity (e.g., they imagine a shadow of a small lizard to be a scary dragon). In contrast, in the real-threat situations we stated that the characters know exactly what the entity is – a real dangerous animal. Of interest, then, is whether children take into account the level of actual threat to the character when evaluating the effectiveness and safeness of each strategy. For example, when encountering a real bear, thinking positive thoughts may help a person feel less afraid, but it would be extremely unsafe. More generally, we were interested in whether children would more often endorse behavioral strategies for real-threat situations and mental strategies for imagined-threat situations.

**Research Question and Hypotheses**

In summary then, Study 2 examines developmental changes between 4 and 7 years in children’s understanding of the effectiveness and safeness of different kinds of action (approach versus avoidance), distraction (behavioral distraction versus mental distraction), protection (seek protection versus imagine protection), and reappraisal strategies for alleviating fear (positive pretense versus reality affirmation), including children’s awareness that strategy choice may depend on whether the threat is real versus imaginary. We further aimed to replicate our findings from Study 1 regarding age-related changes in children’s ability to spontaneously suggest plans to manage fear, especially developmental increases in suggesting mental strategies (especially reality affirmation), age-related decreases in suggesting positive pretense strategies, more frequent suggestion of mental strategies for imaginary versus real-threat situations, and gender differences in offering approach versus avoidance strategies.
Based on the data from Study 1 and previous research, we hypothesized that 7-year-olds would demonstrate the most sophisticated knowledge about the relative effectiveness and safeness of different strategies across situations. More specifically, we predicted that 7-year-olds would consider behavioral coping strategies as more effective and safer than mental coping strategies in real-threat situations; whereas in imagined-threat situations they would consider mental strategies to be the most effective choice (and just as safe as behavioral strategies). We expected 4-year-olds to more often endorse behavioral strategies over mental strategies across situations and to prefer positive pretense to reality affirmation. In general, we expected 4-year-olds to exhibit the most difficulty differentiating between strategy choices in their evaluations (answer more often at chance level) compared to the 5- and 7-year-olds.

Finally, gender differences were expected to emerge in children’s judgments about certain kinds of coping plans. Specifically, we predicted that female participants would prefer behavioral avoidance (‘flight’) to behavioral approach (‘fight’) strategies. Male participants, on the other hand, were predicted to show the opposite preference. We expected the same trend of gender-typed responses in the imagined-threat situations where seeking help was contrasted with imagining a protective instrument (e.g., a sword and shield). In particular, we hypothesized that females would prefer the former strategy, while males would prefer the latter one.

Method

Participants

Forty-eight children, in 3 age groups participated in this study: 16 4-year-olds (M age = 4 years 3 months, range = 3;6-4;10), 16 5-year-olds (M = 5;10, range = 5;0-6;10),
and 16 7-year-olds ($M = 7;7$, range = 7;0-8;5), with equal numbers of males and females in each age group. The children were recruited from local schools and childcare centers, and by word of mouth. Seventy one percent were Caucasian, 16% Asian, 11% were of mixed ethnicity, and 2% were Hispanic.

**Materials**

We modified the wording and illustrations of the 4 imaginary-threat and 4 real-threat scenarios used in Study 1 to accommodate the new procedures and questioning (see Appendix C for complete story scenarios).

All eight stories featured two focal characters that matched each participant in gender and age. The two characters were situated in an emotionally neutral scene (e.g., sitting on a park bench) and suddenly noticed an indistinct stimulus that was equally close to each character. The stimulus, drawn ambiguously, was described as either a harmless entity imagined by both characters to be a dangerous supernatural being (a white cloth imagined to be a ghost, some black birds imagined to be a witch, a shadow of a lizard imagined to be a dragon, or a scarecrow imagined to be a monster), or as a real dangerous animal (a shark, a bear, an alligator, or a snake) recognized by both characters as such. For example, the start of the *dragon story* read: “This is a story about two [boys/girls] – Casey and Alex. One day both friends are in the mountains. They sit together on the ground. Suddenly, they see something in the cave. It looks like a dragon, but it really is a shadow of a little lizard. Both Casey and Alex think it is a bad dragon that blows fire on people” (see top of Figure 7).

As shown in Figure 7, the characters’ thoughts (i.e., imagining a supernatural being or recognizing the dangerous animal) were depicted in thought-bubble illustrations
in which the stimulus had salient and unequivocal characteristics (e.g., the dragon had claws, teeth, and fire). The Bottom of Figure 7 shows an example of a thought bubble used for a real-threat situation. Note here, that the bear in the thought bubble has clearer, more threatening bear-like features.

The experimenter then told and showed the child that both characters felt “very, very” scared and asked the child to offer a coping strategy to help the characters feel less afraid. For example, in the dragon story, participants were told: “Well, both Casey and Alex are very very afraid because they think it’s a dragon. They think about what to do next. What can Casey and Alex do to feel less scared? Is there anything else they could do?” After the child offered a coping strategy (or strategies), the experimenter presented him or her with one of four possible pairs of coping strategies. Each pair of coping strategies concerned a specific coping-theme: reappraisal (positive pretense versus reality affirmation), protection (seeking real protection versus imagining protection), action (fight versus flight), and distraction (mental or behavioral) (See Appendix D for all story ending options). Each character’s specific coping strategy was displayed pictorially using reduced black and white pictures to indicate his or her thoughts. For example, in Figure 8 (the action theme of the dragon story), Casey suggests, “Let’s go and hide” (action plan thought appears on the left side of the figure) and Alex suggests “Let’s yell at the dragon to scare it away” (action plan thought appears on the right side of the figure).

The experimenter then asked participants to evaluate whether one of the plans was safer than the other (“Which plan is the safest to do? this (point), this (point), or, are they
both the same?”), and whether one of the plan was more effective than the other (“Which plan will make the [boys/girls] feel less scared? this (point), this (point), or both?”

Next, children were presented with a 5-point Likert type pictorial fear intensity scale, where 1 indicated “not afraid” and 5 indicated “very very afraid” (see Figure 9). This was a similar scale to the one used in Study 1 (children were pretrained at the start of the study how to interpret the scale). The experimenter asked participants to predict each character’s emotions after employing his or her assigned plan. For example, for the action theme of the dragon story (see Figure 8), children were asked, “Right now Casey decides to go on with his/her plan. So s/he goes and hides. Can you point to how afraid Casey is now? Right now, Alex decides to go on with his/her plan. So s/he starts yelling at the dragon. Can you point to how afraid Alex is now?”

Procedure. Each participant was interviewed individually by a female experimenter in a quiet room, either in his or her school or at the Mind-Emotion Development laboratory. Children’s responses to the experimenter’s questions were tape-recorded and transcribed verbatim. Participants received eight trials: one imaginary-threat and one real-threat scenario for each coping strategy theme (action, reappraisal, distraction, protection). The eight stories were presented in one of 16 predetermined orders, so that for each threat situation (real or imaginary) all four options of coping strategy pairs appeared. Questions about the safeness and the effectiveness of each strategy, as well as the assigned plans for each character, were counterbalanced across the eight story trials.

After responding to all of the stories, participants were thanked for their cooperation and received a small prize.
Results

Spontaneous Suggestions of Coping Strategies

Coding. Similar to Study 1’s coding scheme, participants’ suggestions for coping strategies were classified into several categories of interest: (1) mental (e.g. “Think of happy things. Pretend they’re playing together”) versus behavioral (e.g. “they could go in the closet”) strategies; (2) approach (e.g. “go up and look and make sure it’s not a dragon”) versus avoidance (e.g. “go somewhere else”); and (3) reality affirmation (e.g. “they can think about the fact that it is just a light”) versus positive pretense (e.g., “they can get a broom and say shoo, shoo, shoo and kick their feet on the stairs”) strategies. Because participants sometimes offered several coping strategies for a single character, their suggestions for coping strategies were classified into one or into multiple categories. Participants received a score of ‘1’ for every trial that they provided a particular type of coping strategy. Scores were averaged across the four trials about imaginary creatures, and across the four trials about real creatures.

As in Study 1, reliability of the coding was achieved after the principal investigator and two undergraduate research assistants (not the same people who coded study 1 data) collaboratively coded 25% of the transcripts. Following this initial training session, the two research assistants coded the rest of the transcripts individually. All disagreements were resolved by discussion. Kappa coefficients for the different coping suggestion categories were high, ranging between .92 and .95.

Preliminary analyses revealed that there were no differences between the coping suggestions for the first 4 trials and those offered in the last 4 trials, for example children did not offer more mental strategies in the second block of trials. This suggests that
participants were not influenced by the plans that we assigned to the characters. In fact children’s suggestions seemed to be more imaginative and detailed than the plans offered by us. To illustrate, here are randomly picked suggestions by 4-year-olds: “they can catch him in the a cage, & they can throw him in the garbage can,” “push a box on it,” “they can pretend there is just a bad dog jump in the tree,” “they can get a broom and say shoo, shoo, shoo and kick their feet on the stairs.”

*Mental versus behavioral coping strategies.* A 3-way repeated measures MANOVA was performed on the mental and behavioral scores. Entity (2: real vs. imaginary) was the within-participants variable, and participants’ gender (2: male vs. female) and age group (3: 4-, 5-, and 7-year-olds) were the between-groups variables. As shown in Figure 10, this analysis revealed only a main effect for age group, $F(4,84) = 2.97, p < .05, \eta^2_p = .12$. Univariate analyses confirmed that the main effect was significant only for the mental strategies, $F(2,42) = 5.20, p < .01, \eta^2_p = .20$. Four-year-olds, compared to 5- and 7-year-olds, suggested mental coping strategies to a lesser degree. The rates for the behavioral strategies were consistently high for all age groups across both entity types (Figure 10).

*Approach versus avoidance strategies.* An entity type (2: real vs. imaginary) X age group (3: 4-, 5-, & 7-year-olds) X gender (2: girls vs. boys) repeated measures MANOVA was conducted on the approach and avoidance strategy scores. As displayed in Figure 11, this analysis resulted in main effects for group, $F(2,42) = 3.66, p < .05, \eta^2_p = .15$, gender, $F(2,42) = 3.45, p < .05, \eta^2_p = .13$, and entity type, $F(2,41) = 3.34, p < .05, \eta^2_p = .09$, and a group X gender interaction, $F(2,42) = 4.15, p < .05, \eta^2_p = .16$. Follow up Univariate analysis for the approach strategies verified the entity main effect,
$F(1,42) = 4.11, p < .05, \eta_p^2 = .09$, as well as the group X gender interaction, $F(2,42) = 3.42, p < .05, \eta_p^2 = .14$. Specifically, participants offered approach strategies (e.g., “come close and see what it is”) significantly more often in situations involving imaginary creatures ($M = .33, SE = .05$) than in situations about real animals ($M = .25, SE = .04$). Simple effect analyses also revealed that 4-year-old males offered approach strategies significantly more often ($M = .55, SE = .10$) than 4-year-old females ($M = .14, SE = .10$); see Figure 11. Univariate analysis for the avoidance strategies (e.g., “run away and go home”) verified the group, $F(2,42) = 3.64, p < .05, \eta_p^2 = .15$, and gender, $F(2,42) = 4.05, p < .05, \eta_p^2 = .09$, main effects. Specifically, girls offered avoidance strategies ($M = .76, SE = .05$) significantly more often than boys ($M = .54, SE = .07$), and 4-year-olds offered these strategies ($M = .60, SE = .05$) significantly less often than the 5- and 7-year-olds ($M = .77, SE = .07, M = .73, SE = .07$, respectively).

**Reality affirmation versus positive pretense strategies.** Table 4 provides the mean scores of these two strategies by age group and story entity. Two age group (3: 4-, 5-, &7-year-olds) X gender (2: boys vs. girls) X entity (2: real vs. imaginary) repeated measures ANOVAs were conducted on these two mutually exclusive strategy scores. For the positive pretense, the analysis resulted in a main effect for age group, $F(1,42) = 3.67, p < .05, \eta_p^2 = .15$. Follow up Tukey’s pairwise comparisons showed that positive pretense strategies were offered significantly more often by the 4-year-olds compared to the other age groups. For the reality affirmation scores, the analysis resulted in main effects for group, $F(1,42) = 10.09, p < .001, \eta_p^2 = .33$, and entity, $F(1,42) = 36.95, p < .001, \eta_p^2 = .47$, and a group X entity interaction, $F(2,42) = 9.67, p < .001, \eta_p^2 = .32$. Seven-year-olds provided reality affirmation strategies more often 5-year-olds, and 5-year-olds provided
these kinds of explanations more often than 4-year-olds. Reality affirmation strategies were offered more often in situations involving imaginary compared to real creatures, but this finding was only true for the 5- and 7-year-olds (4-year-olds did not suggest reality affirmation strategies at all).

Evaluation of Suggested Plans

Next, we consider children’s evaluations of the coping strategies suggested by the story characters in each scenario. Recall that for every story trial, after children provided a spontaneous suggestion of a coping strategy, they heard a fear-management plan proposed by each of the two story characters. Children were asked to evaluate which of the two suggested plans was (1) the best plan (forced-choice: plan A, plan B, both the same) and (2) the safest plan (forced-choice: plan A, plan B, both the same). Answer choices were scored as ‘-1’ (plan A), ‘0’ (both the same) and ‘1’ (plan B).

A series of preliminary multinomial logistic regression analyses were performed on these categorical data for each paired strategy trial (e.g., imagine help vs. seek help) with entity (real vs. imaginary), gender (boys vs. girls), and age group (4-, 5-, & 7-year-olds) as the independent predictors. Results revealed no significant effects for entity or for gender. Thus, we collapsed data for each coping strategy across the two trials it was presented (real and imaginary) and gender was removed as a factor for primary analyses. Because the dependent variables were now scores (number of trials out of two plan A was chosen, number of trials out of two plan B was chosen, number of trials out of two both plans were chosen as equal) instead of categorical data, primary analyses presented below used multivariate analyses of variance. These MANOVAs were followed up with univariate analyses and with Tukey’s honestly significant difference (HSD) tests to
evaluate pairwise comparisons among means. To preview, Tables 5 to 8 provide the scores for the forced choice data for each strategy theme (reappraisal, protection, action, and distraction).

In addition to these forced-choice data, children were also asked to predict each character’s fear intensity after carrying out his or her proposed plan. Because these data were based on a 5-point Likert scale, not on a forced choice categorical answer, there was no need for preliminary non-parametric analysis and entity type was not collapsed for primary analyses. Fear intensity data were analyzed using repeated measures ANOVAs with the emotion rating following each plan (A or B) and the entity (real vs. imaginary) as within-subject factors, and age group and gender as the between-subjects factors. Significant interactions were followed by simple effect analyses, and main effects were followed up with Tukey’s HSD tests. For all analyses, alpha was set to .05. To preview, Table 9 shows the predicted emotion ratings following each coping strategy for both the real and imaginary entity trials.

In the next section, primary analyses are presented on children’s answers to the three questions (most effective plan, safest plan, and emotion ratings of the characters after employing the strategies). For clarity, analyses are organized separately by each strategy theme: reappraisal, protection, action, and distraction.

Reappraisal theme. As shown in Table 5, there was a shift between ages 4 and 7 years from preferring the positive pretense plan (i.e., thinking it is a friendly creature) to preferring the reality affirmation option (i.e., thinking it is a benign real creature). Two one-way MANOVAs on the most-effective plan and the safest plan choices with age group as a between-subjects factor, supported this pattern, $F (4,90) = 2.57, p < .05$, $\eta^2_p = \ldots$
.10, $F (4,90) = 2.58, p < .05, \eta^2_p = .11$, respectively. Univariate analyses confirmed the age main effect for choosing the positive pretense strategy as most effective, $F (2, 45) = 3.67, p < .05, \eta^2_p = .14$, as well as the safest, $F (2, 45) = 3.12, p < .05, \eta^2_p = .13$, and for choosing both plans as similarly safe $F (2, 45) = 3.39, p < .05, \eta^2_p = .14$. There was also a marginal main effect of age group for choosing the reality affirmation strategy as most effective, $F (2, 45) = 2.72, p = .07, \eta^2_p = .11$. Tukey’s HSD pairwise comparisons further showed that the 4-year-olds, compared to the older children, more frequently chose the positive pretense plan as the most-effective option (see Table 5). The trend for the reality affirmation, although non-significant ($p = .07$), was the opposite, with 7-year-olds choosing this option as most-effective more often than the younger children. In addition, 4- and 5-year-olds, compared to the 7-year-olds, more often chose the positive pretense strategy as the safest plan, or chose both options as similarly safe.

As shown in Table 9, the 2 (plan: reality affirmation vs. positive pretense) by 2 (entity: real vs. imaginary) by 3 (age group: 4-, 5- and 7-year-olds) repeated measures ANOVA on the emotion rating scores resulted in a Plan X Entity interaction, $F (1,42) = 5.07, p < .05, \eta^2_p = .11$, that was qualified by a Plan X Entity X Age group interaction, $F (2,42) = 3.98, p < .05, \eta^2_p = .16$. Simple effect analyses revealed that in the situations involving real creatures, participants predicted the character would be less afraid after employing the positive pretense strategy ($M = 2.15, SE = .20$) compared to the reality affirmation strategy ($M = 2.52, SE = .18$), but this result was driven by the predictions of the youngest age group (positive pretense: $M = 2.06, SE = .34$, reality affirmation: $M = 3.38, SE = .32$).
Protection theme. Table 6 demonstrates that the 4-year-olds generally did not prefer one kind of protection plan to the other (imagine a sword versus seek adult help). In contrast, the older children (especially the 7-year-olds) preferred the option of seeking their parents to the option of imagining a sword (which is also classified as a positive pretense strategy). These tendencies were true both for alleviating fear purposes and for safety reasons. Two one-way MANOVAs on the most-effective plan and the safest plan choices with age group as a between-subjects factor, supported this pattern, $F(4, 90) = 4.74, p < .01, \eta^2_p = .17, F(4, 90) = 4.19, p < .01, \eta^2_p = .16$, respectively. Univariate analyses confirmed the age main effect for choosing the seeking parents pretense strategy as most effective, $F(2, 45) = 10.97, p < .001, \eta^2_p = .33$, as well as the safest, $F(2, 45) = 8.49, p < .01, \eta^2_p = .23$, and for choosing both plans as similarly effective, $F(2, 45) = 7.00, p < .01, \eta^2_p = .24$, and safe $F(2, 45) = 6.61, p < .01, \eta^2_p = .23$. Tukey’s HSD pairwise comparisons demonstrated that older children chose both plans as equally effective as well as equally safe less frequently than 4-year-olds (see Table 6). Older children also chose the ‘seeking parents’ option as the most effective and as the safest more often than 4-year-olds. In addition, 5-year-olds chose the seeking parent option as most-effective and as safest more frequently than 4-year-olds. Finally, 5-year-olds chose both plans as equally safe less often than 4-year-olds.

The 2 (plan: seeking parents vs. imagining a sword) by 2 (entity: real vs. imaginary) by 3 (age group: 4-, 5- and 7-year-olds) repeated measures ANOVA on the emotion rating scores resulted only in a main effect for plan, $F(1,42) = 8.14, p < .01, \eta^2_p = .16$. Across age groups, participants rated the characters as more afraid after
employing the ‘imagining a sword’ option \((M = 3.10, SE = .16)\), compared to the ‘seeking parents option’ \((M = 2.52, SE = .21)\).

**Action theme.** As shown in Table 7, children of all age groups never chose the plan to yell at the entity as the most effective, nor as the most safe to do. Additionally, there is no evidence for developmental change in endorsing the other two options (hide, or both hiding and yelling are the same). Indeed, the two one-way MANOVAs on the most-effective plan and the safest plan choices with age group as a between-subjects factor, resulted in null findings, \(F(2,45) = 2.60, p > .05, \eta_p^2 = .09\), \(F(2,45) = 1.82, p < .05, \eta_p^2 = .08\), respectively.

The repeated measures ANOVA on the emotion ratings (see Table 9) resulted in a main effect for plan, \(F(1,42) = 7.78, p < .01, \eta_p^2 = .16\), and an Age group X Plan X Gender interaction, \(F(2,42) = 5.10, p < .01, \eta_p^2 = .20\). Across age groups, participants rated the characters as more afraid after employing the approach plan \((M = 2.94, SE = .16)\) compared to the avoidance plan \((M = 2.47, SE = .17)\). Simple effect analyses further showed that while 4-year-old males rated characters as significantly more afraid after employing the approach plan as opposed to avoidance one, 4-year-old females rated both characters’ emotions similarly. Seven-year-olds followed the same trend. An opposite significant trend was found within the 5-year-old group. Specifically, whereas 5-year-old males rated both characters’ emotions similarly, 5-year-old females rated characters as significantly more afraid after employing the approach plan as opposed to avoidance plan. See Figure 12.

**Distraction theme.** Table 8 demonstrates that all age groups considered both plans—play with a ball versus think about candy—as similarly effective and safe.
Confirming this observation, the two one-way MANOVAs on the most-effective plan and the safest plan choices with age group as a between-subjects factor, resulted in null findings, $F(4,90) = 1.10, p > .05, \eta^2_p = .05$, $F(4,90) = 2.09, p > .05, \eta^2_p = .09$, respectively.

The repeated measures ANOVAs on the emotion ratings (see Table 9) resulted in main effects for entity, $F(1,42) = 4.17, p < .05, \eta^2_p = .09$, and age group, $F(2,42) = 3.12, p < .05, \eta^2_p = .13$, qualified by a significant Entity X Age group interaction, $F(2,42) = 3.37, p < .05, \eta^2_p = .14$. Specifically, compared to the older age groups, 4-year-olds rated the characters as more afraid after employing either one of the distraction strategies ($M = 3.28, M = 2.64, M = 2.44, SEs = .25; 4-, 5-, & 7-year-olds respectively). Emotion ratings were also higher (i.e., character is more afraid) in the trials about real creatures ($M = 2.99, SE = .21$) compared to the trials about imaginary creatures ($M = 2.58, SE = .14$).

Simple effects analyses revealed that the later finding was only true for 5- and 7-year-olds, and that the 4-year-olds actually rated the characters as more afraid in the situations involving imaginary compared to real creatures.

*Comprehensive Evaluation of Coping Strategies*

As a final analysis, we looked at differences in characters’ average emotion ratings across the behavioral strategies (i.e., hiding, yelling, seeking parents, and playing with a ball) and the mental strategies (i.e., imagining sword, thinking about candy, thinking it is a friendly creature, and thinking it is a benign real creature). A 3-way-repeated measures ANOVA was performed on the ratings score, with coping strategy (2: behavioral vs. mental) and entity (2: real vs. imaginary) as within-subject factors and age group as a between-subjects factor. The analysis resulted in a main effect for entity type,
$F(1,42) = 4.61, p < .05, \eta^2_p = .10$, and an Age Group by Plan interaction, $F(2,42) = 3.25, p < .05, \eta^2_p = .13$. Participants rated the characters as more afraid in the trials about real creatures ($M = 2.74, SE = .13$) compared to the trials about imaginary creatures ($M = 2.56, SE = .12$). Simple effect analyses revealed that 7-year-olds ($M = 2.31, SE = .20$) judged that mental strategies would be more effective at lessening fear than 4-year-olds did ($M = 3.16, SE = .20$), with 5-year-olds not significantly different from either group (see Figure 13).

Descriptively, as presented in Table 9, it seems that 4-year-olds think the positive pretense and the hiding strategies are the most effective in situations involving real animals, whereas seeking parents seems to work better in alleviating characters’ fear in situations involving imaginary creatures. Five-year-olds did not differentiate between the situations about real and imaginary entities, and predicted that the characters would feel the best after employing either the positive pretense or the reality affirmation strategies. Finally, 7-year-olds rated the reality affirmation strategy as the most effective in alleviating the characters’ fears in both situations, but also thought that thinking about candy would help in alleviating the characters’ fear in situations involving imaginary creatures. Regardless of age, the emotion ratings after employing each of the 8 strategies were significantly different from the initial fear reaction (i.e., very very afraid = 5), $ts(15) < -3.56, ps < .001$, as well as significantly different from not feeling afraid (i.e., not afraid = 1) $ts(15) > 2.76, ps < .05$.

Discussion

Findings from Study 2 replicated the central developmental patterns from Study 1, including (1) age-related increases in suggesting mental coping strategies; (2) a shift with
age from suggesting positive pretense to suggesting reality affirmation strategies; and (3) gender differences in suggestions of approach versus avoidance strategies. These spontaneous suggestions of coping strategies closely paralleled developmental changes in young children’s evaluations of the effectiveness and safeness of different kinds of fear management plans. Centrally, 7-year-olds judged mental strategies and reality affirmation strategies to be significantly more safe and effective in reducing fear than 4-year-olds. In contrast, 4-year-olds judged positive pretense strategies to be significantly more safe and effective than 7-year-olds. Five-year-olds were a transitional group, with performance not differing significantly from 4- or 7-year-olds. These data provide rich insight into young children’s emerging knowledge about mind-emotion connections as well as their developing ability to separate affective factors (fear) from self-preserving factors (safety) when deciding between plans to cope with fears of real and imaginary creatures.

_Mental Versus Behavioral Coping Strategies_

As in Study 1, and in line with previous work (e.g., Harris et al., 1981; Harris & Lipian, 1989), all age groups suggested behavioral coping strategies at high rates (e.g., “they can go home and hide in their room”). Seven-year-olds supplemented these behavioral strategies with mental coping strategies (e.g., “think it’s not a monster, but really a scarecrow”) significantly more often than 4-year-olds. Moreover, when evaluating the safeness and effectiveness of mental coping strategies, 7-year-olds judged the mental strategies to be more effective in alleviating fear than 4-year-olds. Five-year-olds were a transition group: performing at a rate in-between that of 4- and 7-year-olds but not significantly different from either group. Still, it is important to note that even though 4-year-olds predicted that mental strategies would reduce fear significantly less
than 7-year-olds, they still evaluated that people would feel better after employing a mental strategy. Thus, even though young preschoolers rarely spontaneously suggest mental strategies for coping with fear, they still demonstrate knowledge that using one’s mind can lessen fear in real and imaginary threat situations.

Reappraising a Threatening Situation: Reality Affirmation Versus Positive Pretense Strategies

Despite the general findings that 4-year-olds suggested mental strategies less often than 7-year-olds and evaluated strategies as less effective than older children, 4-year-olds frequently endorsed the use of mental strategies that were framed within the imaginary world (i.e., thinking the entity is a friendly one). First, as was found in Study 1, 4-year-olds provided these positive pretense strategies significantly more often than did the two older age groups. They also chose the positive pretense as the most effective plan (over the reality affirmation strategy) significantly more often than older children, and viewed it as a safe plan regardless of the situation (real or imaginary threat). Four-year-olds were also the only age group that predicted that characters would be less afraid in real-threat situations after employing positive pretense versus reality affirmation strategies.

In contrast, 7-year-olds recognized the helpfulness of reality affirmation coping strategies (i.e., thinking the entity is a benign real one) in alleviating fear, especially in situations where characters’ fears had been elicited by imaginary entities. Indeed, 7-year-olds frequently provided this type of coping strategy in imaginary-threat situations, and they evaluated reality affirmation strategies as more effective in reducing fear than the younger age groups. This strong preference for reality affirmation, however, did not
prevent 7-year-olds from recognizing that both reappraisal strategies, positive pretense and reality affirmation, can ease children’s apprehension, and that both strategies are similarly safe (or not safe). Thus, by the age of 7, children simultaneously considered both the emotional aspect of employing a coping strategy and the repercussions this approach can have on one’s well-being. This fits well with previous studies showing that by age 7 children can consider more than one dimension of a problem (see Case & Okamoto, 1996; Lagattuta, 2005; Sameroff & Haith, 1996), in this case, how both safety and effectiveness contribute to the relative usefulness of a particular fear management plan.

These findings have significant implications for parenting. Focally, they suggest that children of all ages can use mental strategies for alleviating fear, but that the kind of mental strategy depends upon the age of the child. More specifically, to help young preschoolers change the way they feel about a real or imaginary event, parents should engage in their child’s make-believe world. For example, if a preschooler is afraid because she imagines a monster under the bed, the best way to help her feel better is to change the scary image into a benign or a positive image, such as imagining the monster to be a cute little baby monster. Indeed, trying to remind the child that this monster is not real would not necessarily change the way she feels about the situation, not because she thinks that monsters exist (Bourchier & Davis, 2002; Harris et al., 1991), but rather because it is difficult for the child to reallocate her attention to other settings or events (Harris, 2000, 2006; Woolley, 1997); in this case shifting her focus back to reality. Indeed, young children’s ability to shift attention, focus on reality, and inhibit thoughts about the imaginary are cognitively challenging for children under age 7 due to
limitations in executive control (see Zelazo, Müller, Frye, & Marcovitch, 2003; Zelazo & Müller, 2002). When children reach the age of 6 to 7 years, they are better able to benefit from reality affirmation coping strategies because they have better skills at shifting attention to the reality, inhibiting frightening thoughts, and reminding themselves about what is real versus not real.

**Approach Versus Avoidance Strategies**

Replicating the findings from Study 1, males offered approach strategies significantly more often than females, whereas females offered avoidance strategies significantly more often than males when asked to spontaneously suggest a coping strategy. Unlike Study 1, however, these gender differences were only significant for the 4-year-olds, with data from 5- and 7-year-olds revealing the same trends. These findings corroborate findings on adolescent and adult emotional regulation showing that females regulate negative emotions by talking to others or withdrawing from activities whereas males tend to act aggressively or turn to physical activity (Frydenberg & Lewis, 1993; Nolen-Hoeksema, 1997; Nummer & Seiffge-Krenke, 2001; Seiffge-Krenke & Shulman, 1990).

Interestingly, while children frequently suggested approach strategies, they *never* chose the plan to yell at the entity as the most effective, nor as the safest to do when it was pitted against the avoidance strategy of hiding. A closer look at the approach strategies children offered, however, revealed that four-year-olds did sometimes suggest tackling or screaming at the entity, but older children overwhelmingly suggested more sophisticated (or more conservative, safer) approach strategies such as checking what the entity really was. Thus, the older group did not view ‘yelling’ at the entity as an
appropriate choice, but they deemed other approach strategies as suitable. Future research is needed to further elucidate developmental changes in children’s evaluations of a broader range of approach versus avoidance strategies.

*Protecting Oneself: Thinking You Have Powers or Looking for Help*

Four-year-olds did not prefer one kind of protection plan to the other (imagining a sword versus seeking parents’ help) and did not rate these plans as differing in safety. Nevertheless, 4-year-olds did rate the seeking parental help as better at reducing fear than the imagining a sword plan. In contrast, older children, and especially 7-year-olds preferred the option of seeking their parents to the option of imagining a sword (a positive pretense strategy) and rated seeking parents as significantly safer and more effective than imagining protection.

The fact that older compared to younger children more often chose seeking parents as a better strategy than imagining protection may seem peculiar at first, especially in the context of studies on emotion regulation showing a steady decline in the preschool years in comfort seeking behaviors (Fleury, 1995 in Kalpidou et al., 2004) and an increase in relying on self assuring approaches (see Shonkoff & Phillips, 2000). A possible reason for our findings is that the two strategies we asked children to evaluate – seeking parents and positive pretense – are approaches 7-year-olds infrequently take when dealing with fear. In fact, when they were asked to offer coping strategies, 7-year-olds rarely provided positive pretense strategies or comfort seeking behaviors (< 10% of the trials). Thus, when asked to choose between the two strategies they opted for the behavioral plan of seeking parents, because this type of coping strategy seemed more reasonable (more safe and effective) than the positive pretense plan. Four-year-olds, on
the other hand, although able to appreciate the fear-reducing benefits of seeking parents, could not yet discriminate these strategies by effectiveness and more often chose both plans as equivalent.

**Distraction Strategies: Doing or Thinking about Something Else**

Replicating Study 1 findings, regardless of the threat situation, children of all age groups seldom suggested distraction strategies (<10% of the trials). In addition, no age group differentiated between mental distraction (thinking about candy) and behavioral distraction (playing with a ball). They regarded both distraction plans as equally effective and safe. Still, 7-year-olds judged that characters would feel significantly less afraid after employing distraction strategies than 4-year-olds. Thus, by age 7, children appear to develop stronger awareness that taking one’s attention off of a scary situation may be effective in reducing fear. It is important to note, as we did in the discussion of Study 1, that distraction strategies may not be appropriate for dealing with fears when there is an actual entity or creature present. That is, to cope with situations that impose some threat to wellbeing, people typically revert to the more instinctive strategies of flight or fight (see also Band & Weisz, 1988; Folkman, 1984). Similar results were obtained in a study investigating children’s ways to deal with fear of medical procedures. There, children often offered avoidance strategies (e.g., going home) and rarely suggested distraction strategies (Altshuler & Ruble 1989). Future research involving situations where characters imagine frightening beings when there is absolutely nothing there (versus Study 1 and 2 scenarios where some kind of creature was actually present) may better reveal young children’s appreciation of the benefits of distraction approaches for coping with fear.
Distinguishing Real-Threat From Imaginary-Threat Scenarios

Although children distinguished between real- and imaginary-threat situations when they spontaneously offered coping strategies, few distinctions were made when they evaluated the characters’ feelings after employing the strategies or the safety of each of the plans. Generally, the main differences found between the two threat situations were that participants rated the characters as more afraid in real-threat scenarios compared to the imaginary-threat situations. One exception to this is that 4-year-olds considered positive pretense and hiding strategies as the best plans in situations involving real animals, whereas seeking parents was considered better at alleviating characters’ fear in situations involving imaginary creatures. Although previous research has not documented 4-year-olds’ beliefs about the minds and powers of the imaginary figures included in our scenarios (monsters, witches, dragons, and ghosts), 4-year-olds do understand that some extra-human figures—notably God—have abilities that exceed human minds (e.g., see Barrett, Richert, & Driesenga, 2001). Thus, 4-year-olds may believe that hiding may be less effective in imaginary versus real threat conditions due to the potential extrasensory abilities of these creatures.

This still leaves the question as to why children most often failed to differentiate between the two threatening situations when evaluating which plans were most effective and safe. One explanation might be that the non-parametric tests we used to analyze the forced-choice categorical data did not have enough power to detect potential differences, especially since we had 16 children in each age group. Nevertheless, even when we analyzed the emotion ratings using parametric tests, which have more power than non-
parametric tests, children generally neglected to evaluate the two plans in the context of the specific threat situation.

A more likely reason for this result is that children might have recognized both situations to be potentially dangerous. In the real-threat situations there is an actual dangerous animal, whereas in the imaginary-threat situation there is still an actual being there (some birds, a lizard, a dressed up kid, or a farmer), that although benign, might still be potentially dangerous or frightening because it is unfamiliar or unusual in that context (e.g., the birds can attack them, the lizard can creep on them, the farmer can chase or yell at them).

Another possibility is that when experiencing fear, elements from the imaginary world seep into reality, thus making both the real-threat and the imaginary-threat scenarios in Study 2 plausible. This interpretation is supported by studies showing that children, who understood the difference between what is real and what is imagined, still sometimes treat imaginary entities as real ones (Harris et al., 1991). Adults also show this tendency when reading scary stories or watching scary movies (Harris, 2000, 2006; Rozin et al., 1986). Indeed, although children predicted that the characters would feel better after employing all eight proposed strategies, they never predicted characters to feel completely relieved from fear, even in the imaginary-threat situation.

Conclusion

In summary, results from Study 2 provide further insight into children’s emerging knowledge about the use of mental processes to change people’s emotional responses. Children’s judgments about the effectiveness of coping strategies were consistent with their spontaneous suggestions. That is, 4-year-olds not only suggested mental coping
strategies significantly less often than 7-year-olds, but they also evaluated them as less
effective in reducing fear. Moreover, whereas 4-year-olds frequently preferred positive
pretenses approaches, older children more often chose reality affirmation approaches as
the best way to manage fears of imaginary creatures. To cope with fears of real animals,
children frequently chose behavioral strategies such as avoidance or comfort seeking.
Thus, children demonstrated their developing awareness that there are two aspects of
dealing with frightening situations—controlling the negative emotion and maintaining
safety. Further, this study reveals an interesting progression in children’s abilities to
manage fear that thus far has been ignored—while children of all ages can benefit from
mental coping strategies to alleviate magical fears, the kinds of mental strategies that are
effective depend on the child’s age. Thus, the next natural step for future research is to
discover whether parents are aware of the kinds of copings strategies that are effective in
alleviating their children's fears of real and imaginary creatures.
STUDY 3

Parents’ Views of Coping Strategies and Their Effectiveness in Helping Children Cope with Fears of Real and Imaginary Entities

The final study was designed to explore the different approaches parents take when helping their children cope with fears, as well as parents’ views of the effectiveness of different kinds of strategies for calming their child. Research on young children’s objects of fear indicates that most normal developing preschool and early school-age children exhibit moderate to high fears of several real animals and imaginary creatures (e.g., Gullone, 2000; Jersild & Holmes, 1935). Thus, most parents are regularly confronted with situations where their child is experiencing fear and they must decide whether and how to intervene. Although many parenting magazines and website articles are dedicated to this ‘hot topic’, to date, no systematic study has been conducted on what techniques parents typically use to help their children feel less afraid, what strategies parents find most versus least effective, and whether parental approaches vary depending upon the age of the child or the type of situation (real versus imaginary threat). Given the absence of empirical research about this topic, this study was exploratory in nature.

Research questions

Central research questions for Study 3 included identifying: (1) the strategies parents use to help their children cope with fears; (2) parents’ views of relative effectiveness of different kind of strategies; and (3) whether parental coping strategy choice depends upon the type of fear situation (real versus imaginary) or the age of the child. Lastly, we examined whether individual differences in parent-reported child temperament predicted the number and intensity of children’s fears.
Several sources of information were used to compile the types of coping strategy options presented to parents and to inform our hypotheses. These included: children’s spontaneous strategy suggestions provided in Studies 1 and 2, polls and articles appearing in parenting magazines and websites, and conversations with several parents of young children. Strategies were classified into six categories: (1) reality affirmation (helping one’s child cope by telling him or her that the imaginary entity, such as a ghost, does not exist; or by having your child believe that a threatening animal is something more harmless, such as identifying a snake as a worm); (2) positive pretense (helping one’s child cope by having him or her imagine the real or imaginary creature is nice or by having the child imagine he or she has special powers to scare it away); (3) emotional support (helping one’s child cope by talking about his or her feelings or by showing physical affection); (4) distraction (helping one’s child cope by having him or her engage in a distracting activity or think about something positive); (5) avoidance (helping one’s child cope by having him or her leave the scene); and (6) approach (helping one’s child cope by helping him or her get more information about the identity of the creature or by showing him or her that nothing is really there).

We expected parents to endorse the approach-avoidance behavioral strategies as the most effective strategies in potentially real-threat situations (e.g., seeing something that looks like a bear), regardless of the child’s age. Conversely, we expected parents to accept the reappraisal coping strategies as more appropriate in imagined-threat situations (e.g., encountering something that the child believes to be a monster). With regard to age-related changes in strategy use, we predicted that parents of older children (7-year-olds) would endorse greater use of mental strategies (especially reappraisal and reality
affirmation) for helping children cope with fear, and that parents of preschoolers would choose more basic comforting (emotional support) strategies. Number and intensity of fears was expected to decrease with age, and children rated higher in fearfulness were expected to have more current and previous fears.

Parents of children between the ages of 3 and 7 were targeted for this study to match the general age range of children participating in Studies 1 and 2.

Method

Participants

Ninety-seven parents of children between the ages of 2 to 8 years \((M = 4;10, SD = 21.3, \text{ range } = 2;1-8;9)\) participated in this study. Parents were contacted through preschools in the Davis, California area and through word of mouth. Of the parents filling out the questionnaires, the vast majority were the mothers (95%). Mothers’ age ranged between 21 and 51 years \((M = 36, SD = 4.5)\), and fathers’ age ranged between 26 to 53 years \((M = 38.5, SD = 5.4)\). The distribution of mothers’ and fathers’ ethnicity and education level, as well as the household income distribution is presented in Table 9. As shown in Table 9, the majority of the parents was Caucasian, well educated (more than half of the parents had Master’s degree or higher), and had medium to high income. Of the children, 44 were females and 53 were males. Thirty-five of the children were 3-year-olds \((M = 3;2, SD = 6.4, \text{ range } = 2;1-3;11)\), 21 were 4-year-olds \((M = 4;5, SD = 3.6, \text{ range } = 4;0-4;10)\), 23 were 5-year-olds \((M = 5;8, SD = 7.7, \text{ range } = 5;0-6;11)\), and 18 were 7-year-olds \((M = 7;9, SD = 6.9, \text{ range } = 7;0-8;9)\).
Materials

The Fear and Coping Questionnaire: ‘What is your child afraid of and what do you do to help?’ This questionnaire was developed for the purpose of this study. It was comprised of 4 scenarios, each accompanied by a picture, that were similar to the stories we used with children in Study 1 and Study 2. Each scenario depicted a hypothetical, yet possible, event involving the parent and his or her child. Both the parent and the child were situated in a neutral location when suddenly they see something the child believes to be a fear-inducing entity (a bear, a snake, a monster, or a witch), and subsequently feels scared. Two of the stories were about real creatures (real-threat scenarios) and two were about imaginary creatures (imaginary-threat scenarios). We created four versions of the questionnaire with different orders of the stories interchanging between real- and imaginary-threat scenarios. See Appendix E for the questionnaire.

After each scenario’s description, the questionnaire asked the parent to report whether he or she wanted the child to feel scared in that particular situation and why or why not. Thereafter, a list of possible coping strategies was presented, and the parent was required to indicate how likely he or she was to use each strategy. The likelihood scale ranged between 1 (‘not likely at all’) to 4 (‘very likely’). As described in the introduction, strategy choices included: (1) reality affirmation (no reason to be afraid because it’s not really a bear/snake/witch/monster; or think that it’s really a puppy/worm/birds/scarecrow), (2) positive pretense (think it is a nice bear/snake/witch/monster; scare the entity away), (3) emotional support (talk about feelings, hug the child), (4) distraction (play a game or talk about something else), (5) avoidance (leave and go somewhere else), and (6) approach (show that nothing harmful is there; get more information about what it
really is). The last category (i.e., approach) only appeared in the imaginary-threat situation because pilot testing of the questionnaire revealed that parents viewed this strategy as “peculiar” and inappropriate in real threat situations and made parents react negatively towards the questionnaire as a whole. As a result, the real-threat scenarios included a list of 8 coping strategies, and the imaginary-threat scenarios featured a list of ten different strategies.

After evaluating the likelihood of using each of the strategies listed, the parent was given the opportunity to suggest a different strategy that he or she might have used in that kind of situation. In addition, the parent was asked to designate the strategy that he or she believed to be the most effective and one he or she believed to be the least effective in dealing with the child’s fear in that particular situation. At the end of the questionnaire, parents filled out a checklist regarding their child’s current and previous objects of fear, including fear intensity for each item (again, see Appendix E for the full questionnaire). Fear intensity was rated on a scale from 1 (‘not afraid at all’) to 4 (‘very afraid’).

*Children's Behavior Questionnaire* (the CBQ, Rothbart, Ahadi, Hershey, & Fisher, 2001). In addition to filling out the Fear and Coping Questionnaire, parents also completed a shortened version of the Children’s Behavior Questionnaire (10 out of the 15 subscales). This widely used questionnaire assesses 3- to 7-year-olds’ temperament by having parents rate how much they agree with several statements about their child (e.g., “seems to be at ease with almost any person”) on a seven-point Likert scale (1 = ‘extremely untrue,’ 7 = ’extremely true’). The ten subscales (135 items) targeted included: (1) *Approach* (the amount of excitement and anticipation of expected pleasurable activities); (2) *Attentional focusing* (the capacity to maintain attentional focus
on a task); (3) *Discomfort* (negative affectivity related to sensory intensity, rate, and complexity); (4) *Soothability* (the rate of recovery from peak distress, excitement or general arousal); (5) *Fearfulness* (negative affectivity including unease, worry or nervousness, which is related to anticipated pain or distress and/or potentially threatening situations); (6) *High pleasure* (enjoyment related to situations involving high stimulus intensity, rate, complexity, novelty, and incongruity); (7) *Inhibitory control* (the capacity to suppress inappropriate approach responses); (8) *Sadness* (negative affectivity and lowered mood and energy related to exposure to suffering, disappointment and object loss); (9) *Shyness* (refers to slow or inhibited speed of approach and discomfort in social situations); and (10) *Attentional Shifting* (tendency to shift attention from one task to another). Previous studies have reported good test-retest and alpha reliabilities for the CBQ, as well as good convergent validity and consistency of results across different cultures (Rothbart, et al., 2001). In the current study, the Cronbach alphas for the subscales ranged from .71 to .95, except for the approach subscale (.29).

*Procedure*

Parents filled out the questionnaires at home or in the laboratory. They were given a $10 gift certificate for participation.

*Results*

*Evaluating The Value of Fear in Real-Threat And Imaginary-Threat Situations*

The first question concerned whether parents would like their child to be afraid in real threat versus imaginary threat situations. Seventy-six percent of the parents wanted their children to experience fear in real threat situations, but only 3% of the parents wanted their children to be afraid in imaginary threat situations. This interaction between
the type of threat and desire for child fear was confirmed in a 2 (threat type: real versus imaginary) X 2 (want child to be afraid: yes vs. no) X 2 (gender: boys vs. girls) repeated measures ANCOVA (controlling for age), $F(1,94) = 50.48, p < .001, \eta_p^2 = .35$. The other main effects and interactions were not significant, $F(1,94) < 3.00, p > .10, \eta_p^2 < .03$.

Parents also provided explanations for their fear reaction choices. Two raters jointly classified 10% of these explanations into several categories of interest. After this training period, the raters independently coded the rest of the explanations. Inter-rater reliability measures (Kappa) ranged between .89 and .94. Table 11 provides a description of the categories with matching examples of parents’ explanations (note that parents could have provided more than one type of explanation).

The majority of parents (67%) explained that they wanted their child to be afraid in real-threat situations because the entity is dangerous and potentially harmful (see Figure 14). For the imaginary-threat situations, the small number of parents who wanted their children to experience fear mainly explained this in terms of a normal fear reaction (50% of the parents who chose “yes” justified their preference this way). The explanations for choosing ‘not afraid’ varied more (see Figure 15), with the majority (74%) of the explanations for imaginary-threat situation revolving around the actual identity of the creature (e.g., “it’s not a monster, it’s a scarecrow”), the existence of the creature (e.g., “there are no real witches in the world”), or the fact that the creature is not capable for harm (e.g., “it’s not dangerous”). Other explanations (20%) were stating again that fear is not appropriate in that situation. The majority of explanations for why they did not want their child to experience fear in real-threat situations (about 70% of the explanations) centered on the idea that fear is not an appropriate reaction in that situation.
(e.g., “there is no reason to be afraid in that situation”) and that it is preferable for the child to be a little bit wary and cautious instead (e.g., “I would want him to be cautious”) or feel positively about the situation (e.g., “I want him to enjoy that rare event and appreciate the luck we had to see it [the bear]”)

*Evaluating the Likelihood of Engaging in Each Strategy Choice*

In the next section of the questionnaire, parents evaluated the likelihood that they would utilize several different coping strategies. Recall that there were 6 different categories of strategies: reality affirmation, positive pretense, emotional support, distraction, avoidance, and approach. Preliminary analyses revealed no differences between the two real-threat situations (snake and bear scenarios) in the likelihood ratings for each of the plan. Similarly, no differences were found between the two imaginary-threat situations (monster and witch scenarios). Therefore, data were averaged across the real-threat scenarios and across the imaginary threat scenarios. Preliminary analyses further revealed no differences in endorsing the likelihood of different strategies *within* categories (e.g., no difference between the ratings for ‘hug the child’ versus ‘talk about feelings’ in the emotional support category). Thus data for the subcategories of each strategy type were combined. Table 12 provides the mean likelihood ratings ranked within the real-threat and within the imaginary-threat scenarios.

A series of separate repeated measures ANCOVAs on the average ratings for the reality affirmation, positive pretense, distraction, emotional support, and avoidance strategies were performed with entity type as the within-subject factor, child gender as a between-subjects factor, and age as a covariate. Since the approach category only appeared in the imaginary-threat scenarios, an ANCOVA was performed with Gender as
the between-subjects factor and Age as the covariate. Entity emerged as main effect in the analyses on the reality affirmation, $F(1, 94) = 60.66, p < .001, \eta^2_p = .39$, emotional support, $F(1, 94) = 7.05, p < .01, \eta^2_p = .07$, and avoidance strategies, $F(1, 94) = 60.06, p < .001, \eta^2_p = .39$. Specifically, parents thought they would more likely abide by the reality affirmation and the emotional support strategies in the imaginary-threat situations ($M = 3.02, SE = .07; M = 2.42, SE = .07$; respectively) compared to the real-threat ones ($M = 1.02, SE = .02; M = 2.10, SE = .08$; respectively). The opposite was true for the avoidance strategy; it was endorsed as more likely in the real- ($M = 3.40, SE = .07$) than the imaginary-threat situations ($M = 1.52, SE = .06$).

Age was only significant in the analysis on the avoidance strategy, $F(1, 94) = 8.23, p < .01, \eta^2_p = .08$. Follow up repeated measures ANOVA and Tukey’s HSD pairwise comparisons, with age transformed to a categorical variable (3-, 4-, 5-, & 7-year-olds), revealed that parents of younger children rated this strategy as significantly more likely (3-year-olds: $M = 2.61, SE = .08$; 4-year-olds: $M = 2.56, SE = .11$) than parents of older children (5-year-olds: $M = 2.37, SE = .10$; 7-year-olds: $M = 2.22, SE = .12$).

The analysis on the distraction strategy resulted in a significant Entity X Child Gender interaction, $F(1, 94) = 7.57, p < .01, \eta^2_p = .08$. Parents of both boys and girls chose this strategy as the more probable approach to manage their child’s fear in the imaginary-(girls: $M = 1.88, SE = .12$; boys: $M = 2.11, SE = .11$) compared to the real-threat situations (girls: $M = 1.47, SE = .09$; boys: $M = 1.26, SE = .08$); however in the real-threat situations parents were less likely to endorse the distraction strategy with boys ($M = 1.26, SE = .08$) than with girls ($M = 1.47, SE = .09$). Finally, analyses for the
positive pretense as well as the approach category were null, $F (1,94) < 2.73, p > .15, \eta^2_p < .03$.

Offering Alternative Strategies

Next, parents were requested to offer a new coping strategy (not included on our list) that they believed would help their child feel less scared. Two independent coders classified these suggestions into several categories of interest, Kappa reliability coefficient ranged between .90 and .93. Figure 16 provides the distribution of parents’ suggestions for real-threat and imaginary-threat scenarios. Thirty percent of the strategies that were offered in the imaginary-threat situations, and 20% of the strategies offered in the real-threat situations, fit into our original classification and included reality affirmation strategies (e.g., “I'll describe to him how scarecrows are built and why people use them”), positive pretense strategies (e.g., “invent a story together that connects between the birds and a good witch”), approach strategies (e.g., “try to catch the snake, study it and release it outside”), and a combination of previously presented strategies (e.g., “I would probably use several of these behaviors together,” “After he calms down, I would go over to the scarecrow and then have him come over to touch it and check it out, while I am explaining, reassuring and touching him”). Almost all of the new suggestions were focused on taking preventative measures to ensure the safety of the child (e.g., “try to hide if possible or call for help if there is someone nearby”), and were offered mainly in the real-threat situations (36%) compared to the imaginary-threat ones (4%). One parent also suggested praying to God as a coping strategy to alleviate fear in imaginary-threat situations. The rest of the parents (44% in the imaginary-threat situations and 63% in the real-threat situations) did not offer additional strategies.
Choosing the Best and the Worst Strategies

In the two final questions in each scenario, parents were requested to select the best emotion-management approach, as well as the worst one. Figure 17 portrays the distribution of parents’ choices for the best and worst plans for the real- and the imaginary-threat situations. Within the real-threat situations, the majority of the parents chose the avoidance strategy (leave and go somewhere else) as the most effective (65% of the parents), and the reality affirmation strategies (think it is not a bear but a puppy, or think it is not really a bear) as the worst way to alleviate fear (71% of the parents).

Within the imaginary-threat situations, parents preferred the approach strategies (44% of parents), the reality affirmation strategies (33%), or the emotional support strategies (18%). Parents also thought that employing the positive pretense strategies (45% of the parents) or the avoidance strategy (29%) would be a bad idea to alleviate their child fear in the imaginary-threat situations.

Children’s Objects of Fear

In the final section of the questionnaire parents reported on their children’s current and past fears of different real (e.g., spiders, lions, bees) and imaginary entities (e.g., werewolves, aliens, dragons) on a scale that ranged from 1: ‘not afraid at all’ to 4: ‘very afraid.’ We calculated the average score for children’s current fear intensity of real entities and their current fear intensity of imaginary entities. Additionally, we tallied the number of items that received ratings of 2 or more on the scale (i.e., the child was at least a little afraid of the entity) within each category (real or imaginary) to create measures of children’s number of fears. Table 13 provides the means and standard deviations of these measures separated into 4 age groups: 3-, 4-, 5-, & 7-year-olds.

1 The distributions of parents’ choices for best and worst plans did not change with children’s age.
Ninety percent of the children were afraid of at least one real object, and 78% of the children were afraid of at least one imaginary entity.

Preliminary examination of the scatter plots between children’s age and the measures of current and past fears revealed that 7 cases were outliers (the reported fear intensities for these children were outside 2 standard deviations from the mean). Thus, these cases were excluded and analyses were performed on the remaining 90 cases. Additionally, inspection of the bivariate correlations among the current fear ratings, the past fear ratings, and the number of current and past fears revealed high correlations for imaginary creatures and for real creatures, ranging from $r = .60$ to $r = .68$, $ps < .001$.\(^2\) There were also very high correlations between the intensity measures and the measures of number of fears (real: $r = .89$, $p < .001$, imaginary: $r = .92$, $p < .001$). Hence, in the subsequent regression models, only the 2 measures of children’s current intensity of fears were used: fears of real and fears of imaginary entities.

To investigate possible predictors of children’s fear intensity of real and imaginary entities we created a correlation matrix between the 10 subscales of the CBQ temperament measure (i.e., approach, attentional focus, attentional shift, soothability, shyness, sadness, fearfulness, high pleasure, discomfort, and inhibition), gender, age, and the two fear intensity measures. Children’s gender, and three of the CBQ subscales: approach, attentional shift, and soothability were not correlated with the other variables, thus these factors were not entered into the subsequent regression models. Table 14 displays the zero order correlations among the 7 remaining CBQ subscales, age, and the 2 fear intensity measures. As presented in the table, fear intensity of real entities was

\(^2\) Fear ratings for dogs, clowns, and robots were excluded from analyses because these items did not significantly correlate with the other real creature items.
positively correlated with the child’s age, the fear intensity of imaginary entities, and
with three temperament dimensions: fearfulness, inhibition, and attentional focus. Fear
intensity of imaginary entities was positively correlated with the child’s age, fear
intensity of real entities, and three temperament dimensions: fearfulness, sadness, and
discomfort.

Next, two exploratory stepwise multiple regressions were performed where age
and the seven temperament dimensions were regressed on fear intensity of real entities
and on fear intensity of imaginary entities. Table 15 provides the regression coefficient
for each of the predictors, and the proportion of variance explained by each of them (the
$R^2$ change). As shown in Table 15, the final predictors that entered the model for the fear
intensity of real entities included: age, fearfulness, attentional focus, shyness, and
sadness; these five predictors accounted for 34% of the variance in fear intensity of real
entities. The final model for the fear intensity of imaginary entities included only the
fearfulness temperament dimension and accounted for 20% of the variance in fear
intensity of imaginary entities. Descriptively, children who were less shy and less sad but
more focused and more fearful had more intense fears of real entities. Parents also
reported that older children had more intense fears of real entities than younger children.
Lastly, parents who described their child as temperamentally more fearful reported that
their child experienced more intense fears of imaginary entities.

Finally, we looked at the relationship between child fearfulness (CBQ), child
intensity of fears, and parental choice of strategies (likelihood ratings) for helping their
children cope with fear. For real entities, we found no correlations between fearfulness
and parental likelihood ratings for the six coping strategies. As well, the fear intensity of
real entities was not correlated with the parental likelihood ratings. For the imaginary entities, only one zero order correlation emerged: The fear intensity of imaginary entities was negatively correlated with the likelihood of following with the positive pretense plan in imaginary-threat situations ($r = -.22, p < .05$). That is, parents who reported their children to have more intense fears also chose the positive pretense strategies as less likely. This correlation remained the same when controlling for age (partial $r = -.21, p < .05$).

Discussion

This study surveyed parental perceptions of ways to deal with children’s typical fears of real and imaginary entities. To gather data on this unexplored topic, we designed a new questionnaire that asked parents to evaluate several categories of coping strategies: avoidance, approach, reality affirmation, positive pretense, emotional support, and distraction. Parents endorsed different kinds of strategies in real- versus imaginary-threat situations, and they were more consistent in their decisions about how they would respond to their child’s fear in situations involving real, dangerous animals versus fears of supernatural beings. Parents’ preferences for these strategies were mostly unrelated to their children’s characteristics: age, gender, temperament, and intensity of fears. Children’s fear intensity of real living things and fear intensity of imaginary beings were associated with some temperamental facets and with the child’s age. This exploratory study lays initial groundwork for further investigations of parental coping strategies and their exact effect on children’s reactions to various threat situations.
Coping Strategies in Real- Threat Situations

When asking parents whether they would want their child to be afraid in real-threat scenarios, the majority of them (67%) responded that they would. They explained this choice by the fact that the entity is dangerous and could potentially harm the child. Even parents who stated they did not want their child to be afraid in real-threat situations focused in their explanations on alternative self-preserving reactions (e.g., “I think caution can cause him to know there is a problem but yet not too much because panic can be very dangerous;” “So she can think of the next step to protect herself instead of being consumed by fear”). Thus, in real-threat situations most parents acknowledged that fear, or controlled wariness, are natural responses when encountering a dangerous animal. This concurs with professionals’ view of fear as a survival mechanism (e.g., Campos et al., 1994; Ekman, Sorenson, & Friesen, 1969; Wenar, 1990).

Parents’ preferences for coping strategies also centered on self-preserving measures rather than on the curbing of the fear reaction itself. First, they endorsed the avoidance strategy as more appropriate in real-threat situations compared to imaginary-threat ones, and thought that the avoidance strategy is the best approach in real-threat situations. Indeed, avoidance (‘flight’) is an instinctual reaction when people perceive threat and experience fear (e.g., Campos, et al., 1994). Further, parents of younger children (3- to 4-year-olds) rated the avoidance strategy as more likely compared to parents of older children (5- to 7-year-olds), acknowledging that young children are more helpless in these situations and need to be taken care of and that older children know better what to do. This interpretation is consistent with studies showing an increase in child autonomy and independence between the ages of 3 and 7 (see Shonkoff & Phillips,
Lastly, because in real-threat situations the reality affirmation strategy stands for rethinking the identity of the creature to be a benign real animal (e.g., the bear is just a puppy), parents dismissed this approach as unfitting.

In summary, then, a coherent picture emerges from examining parental choices for coping strategies in real-threat situations. Children’s safety was regarded as the main motivation for parents’ choices rather than the regulation of fear; as one parent asserted: “I would first make sure she’s okay. I will deal with her fear later, after I know she’s safe.”

_Coping Strategies in Imaginary-Threat Situations_

Parents’ opinions about dealing with their children’s fear of imaginary entities were very different from their views regarding handling fear of dangerous animals. First, only a marginal number of parents (3%) acknowledged that experiencing fear in imaginary situations is a normal reaction, even though research shows that fear of supernatural beings is very common in children between the ages of 3 to 7 (e.g., Gullone, 2000; Muris, et al., 2000). Most of the parents thought that experiencing fear of imaginary creatures is inappropriate because the creature does not exist (e.g., “there are no monsters”), because it is not harmful (e.g., “it cannot do anything”) or because the actual identity of the creature was benign (e.g., “it’s not a witch, there are birds in the tree”).

It appears, then, that addressing the reality status of the creature is more paramount to parents than focusing on the emotion it elicits. This tendency was also evident in the likelihood ratings for each strategy. Specifically, parents rated the reality affirmation strategies (e.g., “I would repeatedly tell my child: “There is nothing to be
afraid of. It's not a witch. Witches are not real”), as well as the approach strategies (e.g., “going up close to see what it really is”) as more likely in the imaginary-threat compared to the real-threat scenarios. They also chose these two types of strategies, reality affirmation and approach, as the best coping plans.

Consistent with this position, parents also thought that the positive pretense strategies (the contrary of reality affirmation: engaging in, rather than dismissing, the imaginary world) and the avoidance strategies (the opposite of approach) are the worst ways to deal with fantastical fears. It appears as if parents thought that by not attending to the reality of the creature (i.e., leaving the scene), and by behaving as if the creature exists (i.e., positively reframing the image of the entity), they would confuse their child that the creature is real. Indeed, we found that parents were less likely to endorse the positive pretense strategy as children experienced more intense imaginary fears. Yet, research informs us that by the age of 3, children are not confused about what is real and what is not, and they have a firm real-fantasy distinction (e.g., Wellman & Estes, 1986; Woolley & Phelps, 1994).

Thus, parents of young children should be educated that children’s fantastical fears are not a result of their beliefs in the reality of the creatures, but rather a result of entertaining scary thoughts in their mind (Bourchier & Davis, 2002, Harris et al., 1991). As well, parents need to be aware that young children are not capable of using the knowledge about what is real and what is not to reduce their fear (Harris, 2000, 2006; Woolley, 1997). This information, and the fact that older children are probably better in shifting attention back to reality to discount fear of the imagined (e.g., Harris, 2002),
would likely influence parents’ choices for appropriate ways to deal with imaginary fears of children of different ages. This possibility needs to be explored in subsequent studies.

**Correlates of Parental Strategies**

Describing possible ways parents can help their children cope with fears was our main aim. Nevertheless, we were also curious about possible attributes that could predict which strategies parents were more likely to use. Surprisingly, children’s characteristics (age, gender, fear intensity, and temperament) were for the most part unrelated to the likelihood ratings of the coping strategies. It is possible that parents’ preferences for ways to deal with their children’s fears are more related to their own characteristics (e.g., their own temperament, their general parenting style), or perhaps to the quality of the parent-child relationship (e.g., attachment security). Indeed, a number of studies have demonstrated links between parental characteristics such as sensitivity, temperament, and responsiveness and parental attitudes and behaviors (e.g., Chibucos, Leite, & Weis, 2005). As well, relationships were found between the security of the parent-child attachment and parents’ beliefs about parenting (e.g., Rubin & Chung, 2006). Further studies need to explicitly consider parental attributes as predictors of their choices for coping strategies.

**Children’s Fears**

Recall that parents also reported on their children’s fears and their temperament. In accordance with the extensive work on children’s objects of fear (e.g., Gullone, 2000) we found that most children in our sample were afraid of at least one real creature (90% of the children) and of at least one imaginary entity (78% of the children). Expanding on
the available research, we also found that the fear intensity of real entities increases
between the ages of 3 and 7.

Age and several dimensions of children’s temperament including fearfulness
predicted children’s fear intensity of real entities. On the other hand, fearfulness was the
only predictor of fear intensity of imaginary entities, suggesting that this type of fear is
more associated with children’s biological predispositions rather than their
developmental level. This supports Bourchier’s and Davis’ (2002) idea that fear of the
imaginary is in part dependent upon individual differences (such as credulous versus
skeptical people). Still, it is important to note that some items on the fearfulness subscale
directly asked the parent to report whether the child was afraid of things like the “boogey
man.” Thus, what may differentiate children who score higher versus lower on this
measure may be the degree to which they are fearful of imaginary beings.

The associations between children’s temperament and children’s fear intensity
should be regarded with caution. First, the relations could be attributed to shared-variance
since the parents reported both measures. Further, recent studies have noted that parental
reports of nighttime fears (that include imaginary fear) substantially deviated from
children’s reports (Gordon et al., 2007; Muris, Merckelbach, Ollendick, King, & Bogie,
2001; Muris, Merckelbach, Gadet, & Moulaert, 2000). Thus, future studies should
include parents’ as well as children’s reports to clarify the degree to which there are the
links between children’s temperament and their fear intensity.

Conclusion

This exploratory study revealed new insight into approaches parents take to help
their young children manage their fears of real and imaginary creatures. Particularly
noteworthy was that parents have a unified, consistent, and clear approach for helping their children in situations involving real danger—leave the scene. For imaginary fears, parents were torn between wanting to help their children feel less afraid, but also wanting their children to know that the creature did not exist (e.g., leaving the scene could help the fear but could confuse the child about the reality status of the creature; reality affirmation lessens confusion but may do nothing for fear level). Since nearly all young children experience fears of imaginary creatures, future research exploring the effectiveness of different kind of parenting techniques for managing children’s fears—especially positive pretense strategies for young preschoolers—would be very revealing.
GENERAL DISCUSSION

With the knowledge that children between the ages of 3 and 7 experience extensive fears of real and imaginary creatures (Graziano et al., 1979; Gullone, 2000; Jersild & Holmes, 1935; Miller et al., 1974; Muris et al., 2000), we sought to explore what children know about coping strategies, and what parents view as appropriate ways to deal with their children’s fears. In other words, how do children and parents scare the monster away?

People’s Fears Can be Different

First, Study 1 replicated and extended the findings of recent work on children’s reasoning about their own and others’ fear reactions (see Sayfan & Lagattuta, in press). Here we showed that between the ages of 4 and 7 children gradually develop knowledge that female adults, male adults, and children can have different emotional responses to the same event, providing further evidence supporting recent claims that young children are not merely ‘situationists’ (Lagattuta, 2007; Lagattuta et al., 1997; Lagattuta & Wellman, 2001; Pons et al., 2004). In particular, results showed that children judged that parents would feel less intense fear than children and that fathers would be less afraid than mothers in the same situation. There was also an interesting gender effect, with girls exhibiting greater knowledge about person-specific differences in fear responses than boys.

Suggestions of Coping Strategies for Managing Fear

Study 1 also revealed new and thought-provoking data regarding children’s ideas of ways to deal with childhood fears. Although previous studies on children coping with everyday stress and frustration (Altshuler & Ruble, 1989; Band & Weisz, 1988; Harris et
al., 1981; Harris, 1989; Harris & Lipian, 1989; Yates et al., 1987) have suggested that children younger than 6 have a hard time drawing on their mind to alleviate fears (e.g., by thinking about something else), we demonstrated that even 4-year-olds are able to rely on mental representations, and especially on their imagination, to reduce their fears by employing what we named positive pretense strategies (i.e., changing aspects in the perceived situation to make it more positive or neutral). This was especially true in situations involving scary supernatural entities (e.g., monsters and ghosts) compared to situations involving real living animals (e.g., sharks and bears), supplementing others’ findings that young children undoubtedly distinguish between real and imagined entities (Bourchier & Davis, 2002; Estes et al., 1989; Flavell et al., 1987; Harris, et al., 1991; Harris et al., 1994; Wellman & Estes, 1986; Woolley & Phelps, 1994).

Study 2 expanded on the work of Study 1 by focusing on how children evaluate the effectiveness and safeness of several mental and behavioral coping strategies in addition to their suggestions for coping strategies. In doing so we showed that young children are not only able to suggest coping strategies to deal with different threat situations, but they can also make perceptive judgments about them. Children’s patterns of coping strategy suggestions replicated the data from Study 1. In particular, while all age groups frequently suggested behavioral strategies, 7-year-olds also suggested mental coping strategies, especially reality affirmation ones (e.g., “thinking it’s not really a witch”), to cope with fantastical fears. Younger children, on the other hand, suggested more positive pretense strategies (e.g., “throw a stick at it and make the monster fall down”), and also evaluated these strategies as more effective and safe, neglecting to separate between the emotional experience and the motivation to protect oneself.
Conversely, older children clearly distinguished between the emotional aspect and the self-preserving aspect of the situation and evaluated the reality affirmation strategies as more effective (yet regarded both reappraisal strategies as similarly safe or unsafe).

Importantly, the two studies challenge the traditional classification of coping strategies to mental versus behavioral approaches (Harris, 1989), suggesting that this view has overlooked early childhood advances in utilizing the mind to regulate emotional reactions. Our new classification of coping strategies to include reality affirmation (i.e., using knowledge about reality) and positive pretense (i.e., using imagination processes) approaches has turned out to be informative of such developmental changes.

Accordingly, we found that whereas older children recruit their knowledge about reality (i.e., what is real and what is not) to discount their fears of magical beings (e.g., “dragons are just pretend”), 4-year-olds rely mostly on their pretense expertise (Harris, 2000, 2006; Woolley, 1997) to reduce their fears by changing, rather than inhibiting, aspects of the imaginary realm (e.g., “put the witch in jail and throw away the key”). This fits with studies on the development of children’s executive function abilities showing that children younger than 7 or 6 struggle with inhibiting thoughts and switching attention (Zelazo & Müller, 2002; Zelazo et al., 2003)

Further, across the two studies, we have demonstrated early differences in gender-typed behavior to cope with fears, with girls focusing on avoidance strategies (e.g., “run away”) and boys centering on approach strategies (e.g., “kill the snake”). Thus, these studies reveal that gender differences in emotion-management approaches emerge early in life, and are not only manifested in adolescence and adulthood (e.g., Nolen-Hoeksema et al., 1999; Nummer & Seiffge-Krenke, 2001).
We also demonstrated that children of all ages, and especially 7-year-olds, are cognizant about the kinds of strategies that would work best in real threat situations. Thus, in situations that pose a tangible threat to one’s safety, children suggested to avoid dealing with the entity by leaving the scene. Such findings lend support to the idea that the degree to which the situation is perceived as controllable versus threatening determines the type of coping strategy to be employed (Altshuler & Ruble 1989; Band & Weisz, 1988; Folkman, 1984).

Still, the fact that children infrequently suggested dealing with fear by employing distraction strategies (behavioral or mental), both in the real- and the imaginary-threat scenarios does not fit with past research on children coping with stress and frustration (Harris et al., 1981; Harris & Lipian, 1989; Yates et al., 1987). These earlier reports have shown that distraction strategies are ubiquitous in grade-school children’s suggestions. It is possible that only children older than 7 years truly understand the advantage of behavioral and mental distraction on controlling negative emotions, and therefore offer them more to cope with negative feelings. This possibility can be tested in future studies by comparing grade-school children’s coping suggestions to those offered by preschoolers, using similar real-threat and imaginary-threat situations.

Yet a more possible explanation is that coping strategies for dealing with negative emotions are specific to the type of negative emotion. That is, although mental and behavioral distraction may work well for sadness, it may not be appropriate or effective for coping with fear—especially in situations involving threat to personal safety. In Study 2, children may have construed both the real-threat and the imaginary-threat situations as potentially threatening because both situations included physical entities (i.e., in all
scenarios *something is there*). Indeed, we did not find differences in evaluating the effectiveness and safeness of the two distraction strategies in real-threat versus imaginary-threat situations. Moreover, not only did children judge that distraction strategies were inappropriate in these kinds of situations, but parents in Study 3 also seldom chose distraction plans as a likely possibility in real or imaginary-threat situations. Future studies are needed to explore whether young children (and parents) may understand the benefit of distraction approaches in situations where fear has clearly arisen from a figment of a person’s *imagination* (e.g., fear of the dark when no physical entity is present; imagining a monster when nothing is present).

**Parenting Approaches to Managing Child Fears**

Data from Study 1 and Study 2 paint a consistent and robust picture of young children’s developing knowledge about ways to deal with fears of real and imaginary origins. Study 3 extended this investigation further to assess parents’ ideas about the best way to manage children’s fears. Importantly, although during the preschool years children become increasingly autonomous in controlling their own emotions, parents play a major role in socializing these coping behaviors (Halberstadt, 1991; Parke et al., 1992; Saarni, 1989; Shonkoff & Phillips, 2000). The role of parents is especially vital in threatening situations when children’s safety is at stake, or when children are too overwhelmed by their imagination to be able to regulate the emotion themselves.

In situations involving real, dangerous animals, parents’ perspectives of coping strategies were in line with children’s ideas. More specifically, similar to the children in both studies, parents viewed the avoidance strategy as the most effective and safe, and regarded the distraction and reappraisal strategies as less appropriate (because they are
not safe). Thus, in these kinds of situations, parents and children focused on the instinctive human response to flee the scene (Campos et al., 1994) as a means of protecting oneself from impending danger.

Surprisingly, however, parents’ views of coping strategies to deal with fears induced by imaginary beings, did not match those of children. Parents neglected to acknowledge that children of various ages might have different ways to cope with fantastical fears. Accordingly, all parents, regardless of their child’s age, focused on the reality status of the entity when evaluating coping strategies and picked the reality affirmation strategies and the approach strategies (e.g., checking what the entity really is) as the best plans to lessen fear and the positive pretense and avoidance strategies as the worst plans. Conversely, only the older children in both studies viewed the reality affirmation as effective. Younger children persistently favored the positive pretense plans.

It is interesting that despite the large number of children’s books dealing with magical fears in a playful and positive way– portraying a witch as good or a monster as scared of human beings (e.g., “Where the Wild Things are” by Maurice Sendak)– when it comes to helping their children ease their fears, parents are hesitant to play along with children’s imagination. It is very likely that parents worry that by acting as if the imagined creature is real they would confuse young children about the actual state of affairs and instigate more fears. Thus, for parents, focusing on the reality status of the entity is paramount, perhaps because they believe that this is how children learn to distinguish real from fantasy and the only way for making children’s unrealistic fears fade away.
Yet, parents need to be informed that children as young as 3 can already
distinguish real from imagined entities (Estes et al., 1989; Flavell et al., 1987; Wellman
& Estes, 1986; Woolley & Phelps, 1994), although they are still not skilled in recruiting
this knowledge to lessen their fear (Harris, 2000, 2006; Woolley, 1997). Thus, it is not
the belief in the reality of supernatural beings that causes and reinforces young children’s
fear, but the scary and uncontrollable thoughts that these entities bring to mind
(Bourchier & Davis, 2002; see also Zelazo et al., 2003 for a discussion of the
development of executive function). In fact, if parents are concerned about their child’s
ability to distinguish reality from fantasy, they can talk about what is real and what is not
real when the child is not afraid. We believe that when parents are aware of their
children’s abilities and limitations, they would be able to meet their children’s needs
more appropriately.

Future Research and Conclusions

Throughout this discussion we have highlighted several possible future studies. In
fact, there are many future directions for this pioneering work. First children’s and
parents’ conceptions about coping strategies can be investigated further, varying the
degree of the situational threat. As mentioned earlier, the degree of threat and the sense of
power over the situation are important determinants of coping strategies (e.g., Altshuler
& Ruble, 1989). Indeed, fear-inducing situations can be regarded on a continuum
between realistic threat and unrealistic threat. Realistic threat situations are those where
there is an actual danger to the child’s safety, such as encountering a real, dangerous
animal (in the current work we called these events real-threat situations). Unrealistic
threat situations are those where there is no physical stimulus that triggers the fear, rather,
the fear is completely induced by mental representations (e.g., imagining a scary monster). In between these two extremes there are different kinds of perceived threat situations. One such event can be seeing an ambiguous stimulus and thinking that this stimulus is a supernatural being (here we called this event an imagined –threat situation). Other unrealistic threat situations could be seeing a real dangerous animal that is not capable of harm (e.g., seeing a cobra snake that we know to have its venom extracted or seeing a lion in a cage). These, as well as other potential threat situations can induce fear in children, and it is of interest to explore the range of coping strategies children view as effective in each situation.

Further, because previous research had reported that children older than 7 years frequently suggest distraction strategies (e.g., Harris, 1989), it is important to explore whether it is the situation, the emotion of fear, or the child’s developmental level that influence the strategies offered. Thus, we can compare preschool age children’s coping suggestions to those of grade-school children’s suggestions, in several fear inducing situations (especially situations where the fearful entity is just a figment of the person’s imagination and no creature is actually present), as well as other stressful events (e.g., worrying about starting school or about moving to a new neighborhood).

In a different line of research, it would be informative to investigate parent-child discourse about fear and ways to cope with it. Specifically, it is of interest to find out how parents discuss different types of realistic and unrealistic fears with their children. This can be done in several ways: recording natural occurring conversations, asking parents to reminisce about previous situations where the child experienced fear, or requesting parent and child dyads to enact a frightening scenario using dolls. Within this line of research
we can study how mothers and fathers talk to their sons and daughters about managing their realistic and unrealistic fears. Such discourse analyses may also yield insight into whether parents differentially socialize their daughters versus sons to deal with fear using approach versus avoidance strategies.

It is also imperative to study the actual effectiveness of different coping strategies, especially the ones we found to be prevalent in younger and older children’s suggestions— the reality affirmation and the positive pretense strategies. Thus, following Harris et al.’s paradigm (1991) we could ask children to imagine a scary entity, and measure children’s behavioral and physiological responses (such as changes in vagal tone) before and after parents help their child use a particular coping strategy to reduce their fear. The parents could spontaneously suggest these strategies, or the experimenter could instruct the parents which strategy to use. A diary study involving having parents try different approaches and report on their effectiveness may also be revealing about the kinds of strategies that work in more naturalistic, everyday life events.

Finally, across the studies suggested above, it is important to look at individual differences in temperamental tendencies as well as the parent-child relationship quality (e.g., attachment) and how they might influence conversations about fear, conceptions of coping strategies, and the effectiveness of various kinds of coping strategies. To avoid the problem of shared variance we experienced in Study 3 (parent reporting both on the child’s fears and the child’s temperament), data should be obtained from several sources (e.g., self-reports, parental-reports, reports by other caregivers).

Other limitations to our findings concern the population tested. Our samples were representative of a very homogenous population: parents were educated, the household
income was moderate to high, and most participants were Caucasian. Hence, it is not plausible to generalize from these findings to other populations at this point. Children from disadvantaged areas may not have such insights about ways to deal with fear, and in fact might experience other more existential fears (such as being afraid of witnessing violence at home or on the street). Less educated parents, or parents from different cultural backgrounds, may have different views about the value of being afraid and how to cope with specific fears, especially of supernatural creatures. Thus, further research is also needed to verify the extent to which our findings would stand in other socioeconomic groups and with children and parents from different cultural backgrounds.

In conclusion, then, the innovative work presented here reveals an early emerging ability in recruiting the mind to manage fears— with young children using their imagination to change the source of the fear, and older children drawing on their knowledge of reality. These findings not only have practical implications for parents, clinicians, and educators, but they also pave the way for exciting new research. This future research will further advance our knowledge of children’s cognitive and emotional development: especially, young children’s awareness of the relationship between mind and emotion, including the social experiences and relationships that help shape this emerging understanding.
REFERENCES


Table 1

*Study 1: Protagonists’ Fear Intensity Predictions*

<table>
<thead>
<tr>
<th>Protagonist</th>
<th>Age group</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>1.08 (.23)</td>
<td>1.41 (.23)</td>
<td>1.55 (.23)</td>
<td>1.34 (.13)</td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td>1.13 (.32)</td>
<td>1.63 (.32)</td>
<td>1.97 (.32)</td>
<td>1.57 (.19)</td>
<td></td>
</tr>
<tr>
<td>Mom</td>
<td>.75 (.30)</td>
<td>.84 (.30)</td>
<td>1.25 (.30)</td>
<td>.95 (.18)</td>
<td></td>
</tr>
<tr>
<td>Dad</td>
<td>.50 (.25)</td>
<td>.63 (.25)</td>
<td>.66 (.25)</td>
<td>.59 (.15)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* All numbers are average scores on the 0 to 4 fear intensity scale. SEs are presented in parentheses.
Table 2

Study 1: Explanations for the Different Characters’ Emotional Reactions by Age Group

<table>
<thead>
<tr>
<th>Explanation type</th>
<th>Character</th>
<th>4</th>
<th>5</th>
<th>7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulus reality status</td>
<td>Self</td>
<td>.19</td>
<td>.20</td>
<td>.42</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>Friend</td>
<td>.22</td>
<td>.19</td>
<td>.38</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td>Dad</td>
<td>.06</td>
<td>.16</td>
<td>.47</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>Mom</td>
<td>.19</td>
<td>.22</td>
<td>.34</td>
<td>.25</td>
</tr>
<tr>
<td>Cognitive mental state</td>
<td>Self</td>
<td>.15</td>
<td>.23</td>
<td>.31</td>
<td>.23</td>
</tr>
<tr>
<td></td>
<td>Friend</td>
<td>.19</td>
<td>.34</td>
<td>.38</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>Dad</td>
<td>.13</td>
<td>.19</td>
<td>.44</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td>Mom</td>
<td>.16</td>
<td>.28</td>
<td>.28</td>
<td>.24</td>
</tr>
</tbody>
</table>

Note. All numbers are proportion of trials participants offered a specific explanation. For the self character this proportion is out of 8 trials. For the companion the proportion is out of 2 trials.
Table 3

Study 1: Reality Affirmation and Positive Pretense Coping Strategies by Age Group and Story Entity

<table>
<thead>
<tr>
<th>Coping type</th>
<th>Entity type</th>
<th>4</th>
<th>5</th>
<th>7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reality Affirmation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real</td>
<td>.02 (.04)</td>
<td>.03 (.04)</td>
<td>.22 (.04)</td>
<td>.09 (.02)</td>
<td></td>
</tr>
<tr>
<td>Imaginary</td>
<td>.11 (.07)</td>
<td>.13 (.07)</td>
<td>.34 (.07)</td>
<td>.19 (.04)</td>
<td></td>
</tr>
<tr>
<td>Positive Pretense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real</td>
<td>.29 (.08)</td>
<td>.34 (.08)</td>
<td>.05 (.08)</td>
<td>.22 (.04)</td>
<td></td>
</tr>
<tr>
<td>Imaginary</td>
<td>.31 (.08)</td>
<td>.45 (.08)</td>
<td>.19 (.08)</td>
<td>.31 (.05)</td>
<td></td>
</tr>
</tbody>
</table>

Note. All numbers are percentage of trials participants offered a specific explanation. SEs are presented in parentheses.
Table 4

Study 2: Reality Affirmation and Positive Pretense Coping Strategies by Age Group and Story Entity

<table>
<thead>
<tr>
<th>Coping type</th>
<th>Entity</th>
<th>4</th>
<th>5</th>
<th>7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reality affirmation</td>
<td>Real</td>
<td>0</td>
<td>.11</td>
<td>.17</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>Imaginary</td>
<td>0</td>
<td>.22</td>
<td>.31</td>
<td>.18</td>
</tr>
<tr>
<td>Positive pretense</td>
<td>Real</td>
<td>.30</td>
<td>.16</td>
<td>.09</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>Imaginary</td>
<td>.30</td>
<td>.14</td>
<td>.09</td>
<td>.17</td>
</tr>
</tbody>
</table>

*Note.* All numbers are proportion of trials participants offered a specific explanation.
Table 5

*Study 2: Participants’ Choices for the Best Plan Within the Reappraisal Theme Trials*\(^a\)

<table>
<thead>
<tr>
<th>Plan</th>
<th>Age group</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-year-olds</td>
<td>5-year-olds</td>
<td>7-year-olds</td>
<td></td>
</tr>
<tr>
<td>Which plan is more effective?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive pretense: Thinking it is a nice creature</td>
<td>.94 (.68)</td>
<td>.44 (.63)</td>
<td>.38 (.62)</td>
<td></td>
</tr>
<tr>
<td>Reality affirmation: Thinking it is a benign real entity</td>
<td>.50 (.73)</td>
<td>.69 (.70)</td>
<td>1.13 (.89)</td>
<td></td>
</tr>
<tr>
<td>Both are the same</td>
<td>.56 (.63)</td>
<td>.88 (.62)</td>
<td>.50 (.73)</td>
<td></td>
</tr>
<tr>
<td>Which plan is safer?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive pretense: Thinking it is a nice creature</td>
<td>.44 (.73)</td>
<td>.44 (.63)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>Reality affirmation: Thinking it is a benign real entity</td>
<td>.63 (.72)</td>
<td>1.06 (.77)</td>
<td>.81 (.83)</td>
<td></td>
</tr>
<tr>
<td>Both are the same</td>
<td>.94 (.95)</td>
<td>.50 (.73)</td>
<td>.63 (.71)</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are presented in parentheses

\(^a\) All numbers are scores for choosing each plan (out of 2 trials: real and imaginary)
Table 6

*Study 2: Participants’ Choices for the Best Plan Within the Protection Theme Trials*\(^a\)

<table>
<thead>
<tr>
<th>Plan</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-year-olds</td>
</tr>
<tr>
<td>Which plan is more effective?</td>
<td></td>
</tr>
<tr>
<td>Mental: Imagine a sword</td>
<td>.50 (.63)</td>
</tr>
<tr>
<td>Behavioral: Seeking parents</td>
<td>.63 (.81)</td>
</tr>
<tr>
<td>Both are the same</td>
<td>.88 (.81)</td>
</tr>
<tr>
<td>Which plan is safer?</td>
<td></td>
</tr>
<tr>
<td>Mental: Imagine a sword</td>
<td>.56 (.81)</td>
</tr>
<tr>
<td>Behavioral: Seeking parents</td>
<td>.63 (.89)</td>
</tr>
<tr>
<td>Both are the same</td>
<td>.81 (.83)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are presented in parentheses

\(^a\) All numbers are scores for choosing each plan (out of 2 trials: real and imaginary)
Table 7

Study 2: Participants’ Choices for the Best Plan Within the Action Theme Trials

<table>
<thead>
<tr>
<th>Plan</th>
<th>Age group</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-year-olds</td>
<td>5-year-olds</td>
<td>7-year-olds</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which plan is more effective?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach: Yell</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>Avoidance: Hide</td>
<td>1.44 (.81)</td>
<td>1.06 (.68)</td>
<td>1.63 (.62)</td>
<td></td>
</tr>
<tr>
<td>Both are the same</td>
<td>.56 (.81)</td>
<td>.93 (.68)</td>
<td>.38 (.62)</td>
<td></td>
</tr>
<tr>
<td>Which plan is safer?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approach: Yell</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>Avoidance: Hide</td>
<td>1.44 (.81)</td>
<td>1.38 (.81)</td>
<td>1.81 (.40)</td>
<td></td>
</tr>
<tr>
<td>Both are the same</td>
<td>.56 (.81)</td>
<td>.63 (.81)</td>
<td>.19 (.40)</td>
<td></td>
</tr>
</tbody>
</table>

Note. Standard deviations are presented in parentheses.

*All numbers are scores for choosing each plan (out of 2 trials: real and imaginary)
Table 8

*Study 2: Participants’ Choices for the Best Plan Within the Distraction Theme Trials* 

<table>
<thead>
<tr>
<th>Plan</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-year-olds</td>
</tr>
<tr>
<td>Which plan is more effective?</td>
<td></td>
</tr>
<tr>
<td>Mental: Imagine candy</td>
<td>.75 (.68)</td>
</tr>
<tr>
<td>Behavioral: Play with ball</td>
<td>.69 (.70)</td>
</tr>
<tr>
<td>Both are the same</td>
<td>.56 (.73)</td>
</tr>
<tr>
<td>Which plan is safer?</td>
<td></td>
</tr>
<tr>
<td>Mental: Imagine candy</td>
<td>.50 (.73)</td>
</tr>
<tr>
<td>Behavioral: Play with ball</td>
<td>.81 (.75)</td>
</tr>
<tr>
<td>Both are the same</td>
<td>.69 (.70)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are presented in parentheses

*a* All numbers are scores for choosing each plan (out of 2 trials: real and imaginary)
### Table 9

**Study 2: Characters’ Emotion Ratings By Age Group and Entity Type**

<table>
<thead>
<tr>
<th>Age group</th>
<th>Coping strategy</th>
<th>Mean fear intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Real entities</td>
</tr>
<tr>
<td>4-year-olds</td>
<td>Reality affirmation</td>
<td>3.38 (1.50)</td>
</tr>
<tr>
<td></td>
<td>Positive pretense</td>
<td><strong>2.06 (1.48)</strong></td>
</tr>
<tr>
<td></td>
<td>Imagining sword</td>
<td>3.50 (1.51)</td>
</tr>
<tr>
<td></td>
<td>Seeking parents</td>
<td>2.94 (1.81)</td>
</tr>
<tr>
<td></td>
<td>Yell</td>
<td>3.19 (1.60)</td>
</tr>
<tr>
<td></td>
<td>Hide</td>
<td><strong>2.19 (1.28)</strong></td>
</tr>
<tr>
<td></td>
<td>Thinking about candy</td>
<td>3.44 (1.59)</td>
</tr>
<tr>
<td></td>
<td>Playing with a ball</td>
<td>2.81 (1.80)</td>
</tr>
<tr>
<td>5-year-olds</td>
<td>Reality affirmation</td>
<td><strong>2.31 (1.35)</strong></td>
</tr>
<tr>
<td></td>
<td>Positive pretense</td>
<td><strong>2.25 (1.57)</strong></td>
</tr>
<tr>
<td></td>
<td>Imagining sword</td>
<td>2.88 (1.31)</td>
</tr>
<tr>
<td></td>
<td>Seeking parents</td>
<td>2.94 (1.57)</td>
</tr>
<tr>
<td></td>
<td>Yell</td>
<td>3.13 (1.54)</td>
</tr>
<tr>
<td></td>
<td>Hide</td>
<td>2.56 (1.55)</td>
</tr>
<tr>
<td></td>
<td>Thinking about candy</td>
<td>3.06 (1.77)</td>
</tr>
<tr>
<td></td>
<td>Playing with a ball</td>
<td>2.88 (1.67)</td>
</tr>
<tr>
<td>7-year-olds</td>
<td>Reality affirmation</td>
<td><strong>1.88 (.096)</strong></td>
</tr>
<tr>
<td></td>
<td>Positive pretense</td>
<td>2.13 (1.09)</td>
</tr>
<tr>
<td></td>
<td>Imagining sword</td>
<td>2.88 (1.31)</td>
</tr>
<tr>
<td></td>
<td>Seeking parents</td>
<td>2.38 (1.46)</td>
</tr>
<tr>
<td></td>
<td>Yell</td>
<td>2.81 (1.11)</td>
</tr>
<tr>
<td></td>
<td>Hide</td>
<td>2.44 (1.50)</td>
</tr>
<tr>
<td></td>
<td>Thinking about candy</td>
<td>3.06 (1.24)</td>
</tr>
<tr>
<td></td>
<td>Playing with a ball</td>
<td>2.69 (1.30)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are presented in parentheses. The means for the most effective plan(s) within each age group and entity are bolded.
Table 10

*Study 3: Parents’ Demographic Information*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>80%</td>
<td>84%</td>
</tr>
<tr>
<td>Asian</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some high school</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>High school</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Some college</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Graduated from</td>
<td>44%</td>
<td>34%</td>
</tr>
<tr>
<td>Masters’ degree</td>
<td>30%</td>
<td>29%</td>
</tr>
<tr>
<td>PhD degree</td>
<td>22%</td>
<td>29%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household income</th>
<th>Mother</th>
<th>Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below $30,000</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>$30,001-$50,000</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>$50,001-$70,000</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>$70,001-$90,000</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>$90,001-$110,000</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Above $110,000</td>
<td>28%</td>
<td></td>
</tr>
</tbody>
</table>
Table 11

*Study 3: Parents’ Explanations for Why They Want their Child to be Afraid or not Afraid in Real-Threat and Imaginary-Threat Situations*

<table>
<thead>
<tr>
<th>Explanation</th>
<th>Examples</th>
<th>Percentage of parents’ explanations by situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity</td>
<td>“Birds are not witches,” “I want her to understand they are birds”</td>
<td>0.5% 25.5%</td>
</tr>
<tr>
<td>Existence</td>
<td>“It's real [the bear] and we would need to deal with it.” “Witches aren't real.”</td>
<td>1.5% 31%</td>
</tr>
<tr>
<td>Potential to harm</td>
<td>“Bears are dangerous, and fear is a useful trait in this situation.” “The scarecrow is not a threat to her.”</td>
<td>71% 29%</td>
</tr>
<tr>
<td>Dismiss fear</td>
<td>“It's irrational.” “He is easily scared from real situations as it is, and does not like this feeling, so why add to it unhelpful and unreal fears?” “I do not want him to be afraid of his imagination.”</td>
<td>9.5% 23%</td>
</tr>
</tbody>
</table>
Table 11 (Cont’d)

*Study 3: Parents’ Explanations for Why They Want their Child to be Afraid or not Afraid in Real-Threat and Imaginary-Threat Situations*

<table>
<thead>
<tr>
<th>Explanation</th>
<th>Examples</th>
<th>Percentage of parents’ explanations by situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent can help</td>
<td>“I would expect him not to be afraid anymore after explanation”</td>
<td>1% 1.5%</td>
</tr>
<tr>
<td>Encourage positive feelings</td>
<td>“I want him to enjoy that rare event.”</td>
<td>5% 8%</td>
</tr>
<tr>
<td></td>
<td>“Because I would want her to see the fun in this image.”</td>
<td></td>
</tr>
<tr>
<td>Normal reaction</td>
<td>“Bears are wild animals. Fear is normal reaction”</td>
<td>5% 3%</td>
</tr>
<tr>
<td></td>
<td>“I believe it is normal for his age to be afraid”</td>
<td></td>
</tr>
<tr>
<td>Need to be cautious, wary</td>
<td>“She needs to be careful.”</td>
<td>30% 1%</td>
</tr>
<tr>
<td></td>
<td>“Fear but not panic or terror”</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Percentage of trials out of 2 real-threat and 2 imaginary threat situations.
Table 12

*Study 3: Mean Likelihood Scores for Real-Threat versus Imaginary-Threat Situations*

<table>
<thead>
<tr>
<th>Situation</th>
<th>Coping strategy category</th>
<th>Mean rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real-threat</td>
<td>Reality affirmation: think it is not really a bear/snake, think it is a puppy/worm</td>
<td>1.02 (.16)</td>
</tr>
<tr>
<td></td>
<td>Distraction: play a game or talk about something else</td>
<td>1.35 (.57)</td>
</tr>
<tr>
<td></td>
<td>Positive pretense: scare the bear/snake, think it is a nice bear/snake</td>
<td>1.67 (.57)</td>
</tr>
<tr>
<td></td>
<td>Emotional support: hug the child, talk about feelings</td>
<td>2.10 (.76)</td>
</tr>
<tr>
<td></td>
<td>Avoidance: leave and go somewhere else</td>
<td>3.39 (.70)</td>
</tr>
<tr>
<td>Imaginary-threat</td>
<td>Positive pretense: scare the witch/monster, think it is a nice witch/monster</td>
<td>1.45 (.55)</td>
</tr>
<tr>
<td></td>
<td>Avoidance: leave and go somewhere else</td>
<td>1.51 (.62)</td>
</tr>
<tr>
<td></td>
<td>Distraction: play a game or talk about something else</td>
<td>2.02 (.82)</td>
</tr>
<tr>
<td></td>
<td>Emotional support: hug the child, talk about feelings</td>
<td>2.43 (.67)</td>
</tr>
<tr>
<td></td>
<td>Reality affirmation: think it is not really a witch/monster, think it is a bunch of birds/scarecrow</td>
<td>3.03 (.70)</td>
</tr>
<tr>
<td></td>
<td>Approach: information gathering, show nothing is there</td>
<td>3.38 (.53)</td>
</tr>
</tbody>
</table>

*Note.* Mean likelihood scores out of 4, with 4 = highly likely. Standard deviations are presented in parentheses.
### Table 13

**Study 3: Current and Past Childhood Fears: Number of Fears and Fear Intensity by Age and Entity Type**

<table>
<thead>
<tr>
<th>Time of fears</th>
<th>Age group</th>
<th>N</th>
<th>Intensity</th>
<th>Number</th>
<th>Intensity</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>3-year-olds</td>
<td>35</td>
<td>1.62 (.53)</td>
<td>2.86 (1.94)</td>
<td>1.33 (.40)</td>
<td>1.63 (1.73)</td>
</tr>
<tr>
<td></td>
<td>4-year-olds</td>
<td>21</td>
<td>2.02 (.62)</td>
<td>4.76 (2.12)</td>
<td>1.77 (.51)</td>
<td>3.76 (2.26)</td>
</tr>
<tr>
<td></td>
<td>5-year-olds</td>
<td>23</td>
<td>1.80 (.64)</td>
<td>3.70 (2.58)</td>
<td>1.52 (.50)</td>
<td>2.48 (2.21)</td>
</tr>
<tr>
<td></td>
<td>7-year-olds</td>
<td>18</td>
<td>2.16 (.73)</td>
<td>4.72 (2.27)</td>
<td>1.65 (.57)</td>
<td>3.44 (2.01)</td>
</tr>
<tr>
<td>Past</td>
<td>3-year-olds</td>
<td>35</td>
<td>1.02 (.38)</td>
<td>1.91 (1.87)</td>
<td>1.28 (.47)</td>
<td>1.31 (1.81)</td>
</tr>
<tr>
<td></td>
<td>4-year-olds</td>
<td>21</td>
<td>1.18 (.49)</td>
<td>3.05 (2.36)</td>
<td>1.69 (.67)</td>
<td>2.67 (2.13)</td>
</tr>
<tr>
<td></td>
<td>5-year-olds</td>
<td>23</td>
<td>1.12 (.37)</td>
<td>3.13 (2.26)</td>
<td>1.50 (.43)</td>
<td>2.48 (2.09)</td>
</tr>
<tr>
<td></td>
<td>7-year-olds</td>
<td>18</td>
<td>1.44 (.45)</td>
<td>4.5 (2.33)</td>
<td>1.89 (.54)</td>
<td>4.06 (2.13)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are presented in parentheses. Intensity scores out of 4, where 4 = very afraid.
### Table 14

**Study 3: Zero Order Correlations Between Temperament and Children’s Fears**

<table>
<thead>
<tr>
<th></th>
<th>Fear intensity of imaginary entities</th>
<th>Attentional focus</th>
<th>Discomfort</th>
<th>Fearfulness</th>
<th>High pleasure</th>
<th>Inhibition</th>
<th>Sadness</th>
<th>Shyness</th>
<th>Child’s age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear intensity of real entities</td>
<td>0.34**</td>
<td>0.28**</td>
<td>0.06</td>
<td>0.39**</td>
<td>-0.06</td>
<td>0.30**</td>
<td>0.09</td>
<td>-0.15</td>
<td>0.34**</td>
</tr>
<tr>
<td>Fear intensity of imaginary entities</td>
<td>1</td>
<td>0.07</td>
<td>0.23*</td>
<td>0.46**</td>
<td>-0.14</td>
<td>0.01</td>
<td>0.24*</td>
<td>0.05</td>
<td>0.22*</td>
</tr>
<tr>
<td>Attentional focus</td>
<td>--</td>
<td>1</td>
<td>-0.02</td>
<td>0.11</td>
<td>-0.19</td>
<td>0.56**</td>
<td>0.07</td>
<td>0.08</td>
<td>0.04</td>
</tr>
<tr>
<td>Discomfort</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>0.56**</td>
<td>-0.26**</td>
<td>0.06</td>
<td>0.51**</td>
<td>0.17</td>
<td>-0.04</td>
</tr>
<tr>
<td>Fearfulness</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>-0.45**</td>
<td>0.09</td>
<td>0.55**</td>
<td>0.23*</td>
<td>0.16</td>
</tr>
<tr>
<td>High pleasure</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>-0.23*</td>
<td>-0.37**</td>
<td>-0.56**</td>
<td>0.02</td>
</tr>
<tr>
<td>Inhibition</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>0.16</td>
<td>0.09</td>
<td>0.31**</td>
</tr>
<tr>
<td>Sadness</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>0.10</td>
<td>0.24*</td>
</tr>
<tr>
<td>Shyness</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1</td>
<td>-0.16</td>
</tr>
</tbody>
</table>

Note: N=90; *p < .05  **p < .01
### Table 15

**Study 3: Regression Models Predicting Current Fear Intensity Of Real and Imaginary Entities (N=90)**

<table>
<thead>
<tr>
<th>Predictor and Step</th>
<th>Predicting fear intensity of real entities&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Predicting fear intensity of imaginary entities&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$b$</td>
<td>SEB</td>
</tr>
<tr>
<td>1. Age</td>
<td>.01</td>
<td>.002</td>
</tr>
<tr>
<td>2. Fearfulness</td>
<td>.31</td>
<td>.06</td>
</tr>
<tr>
<td>3. Shyness</td>
<td>-.09</td>
<td>.04</td>
</tr>
<tr>
<td>4. Sadness</td>
<td>-.17</td>
<td>.08</td>
</tr>
<tr>
<td>5. Inhibition</td>
<td>.09</td>
<td>.06</td>
</tr>
<tr>
<td>6. Discomfort</td>
<td>-.06</td>
<td>.07</td>
</tr>
<tr>
<td>7. Attentional Focus</td>
<td>.17</td>
<td>.08</td>
</tr>
<tr>
<td>8. High Pleasure</td>
<td>.02</td>
<td>.07</td>
</tr>
</tbody>
</table>

Note. The unstandardized partial regression coefficients are designated by $b$, the standardized ones by $\beta$.

<sup>a</sup> $p < .05$, <sup>b</sup> $p < .01$, <sup>**</sup> $p < .001$

<sup>a</sup> Model was significant with $F (5,84) = 10.16, p < .001$

<sup>b</sup> Model was significant with $F (1,88) = 23.15, p < .001$
Figure 1

*Study 1: Illustrations for the Bear Story ‘Girl-Mom’ Version (Top) and for the Ghost Story ‘Child Alone’ Version (Bottom)*

**Bear story, Female-Mom Version:**
“Here is a [another] story about you. Let’s imagine that one day you and your mom are at a camp-site. You sit together on a picnic blanket…”

**Ghost story, Male alone Version:**
“…Suddenly, you see something near the ceiling. You think it is a ghost…”
Figure 2

Study 1: Examples of Thought Bubble Endings for the Bear Story ‘Girl-Mom’ Version
(Top) and for the Ghost Story ‘Child Alone’ Version (Bottom)

**Bear story, Female-Mom Version:**
“…..Right now, instead of doing something or going somewhere, you start to think about something and it makes you feel better…”

**Ghost story, Male alone Version:**
“…..Right now, instead of doing something or going somewhere, you start to think about something and it makes you feel better…”
Figure 3

*Study 1: Illustrations of the Fear Scale (Top) and ‘Okay’ Face (Bottom)*

“little bit afraid”    “Somewhat afraid”    “very afraid”    “very, very afraid”

“feeling better”
Figure 4

*Study 1: Proportion of Trials Participants Offered Behavioral and Mental Coping Strategies by Age Group*
Figure 5

*Study 1: Proportion of Trials Participants Offered Behavioral and Mental Coping Strategies by Cue and Age Group*
Figure 6

*Study 1: Proportion of Trials Participants Offered Approach and Avoidance Coping Strategies by Gender and Age Group*
Figure 7

Study 2: Illustrations of Thought Bubbles for the Dragon Story (Top) and for the Bear Story (Bottom)
Figure 8

*Study 2: Illustrations of Coping Strategies Thoughts for the Dragon Story Action Theme*
Figure 9

Study 2: Fear Intensity Pictorial Scale
Figure 10

Study 2: Proportion of Trials Participants Offered Behavioral and Mental Coping Strategies by Age Group
Figure 11

Study 2: Proportion of Trials Participants Offered Approach and Avoidance Coping Strategies by Gender and Age Group

![Bar chart showing the proportion of trials participants offered approach and avoidance coping strategies by gender and age group.](chart.png)
Figure 12

*Study 2: Characters’ Emotion Ratings for Action Strategies by Age Group, Plan and Gender*

![Graph showing mean scores for emotion ratings by age group and gender for avoidance and approach strategies.]

*Note.* On the 1 to 5 scale, ‘5’ represents ‘very-very afraid’ whereas ‘1’ represents ‘feeling okay.’
Figure 13

*Study 2: Characters’ Emotion Ratings for Behavioral versus Mental Strategies by Age Group*

*Note.* On the 1 to 5 scale, ‘5’ represents ‘very-very afraid’ whereas ‘1’ represents ‘feeling okay’
Figure 14

Study 3: Parents’ Explanations for Why They Want Their Child to Experience Fear in Real-Threat and Imaginary Threat Situations
Figure 15

Study 3: Parents’ Explanations for Why They Want Their Child to not to be Afraid in Real-Threat and Imaginary Threat Situations
Figure 16

Study 3: Parents’ Suggestions for Other Possible Strategies
Figure 17

Study 3: Parents’ Choices for The Best and Worst Coping Strategies in Real-Threat and Imaginary-Threat Situations
APPENDIX A

Study 1: Story Scenarios

*Real living things*

*Shark Story.* “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are at the beach. You sit [together] on a dock. Suddenly, you see something in the water. You think it is a shark.”

*Bear Story.* “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are at a camp-site. You sit [together] on a picnic blanket. Suddenly, you see something behind the tree. You think it is a bear.”

*Alligator Story.* “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are at the river. You sit [together] on the sand. Suddenly, you see something in the water. You think it is an alligator.”

*Snake Story.* “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are in your room. You sit on the carpet and watch TV [together]. Suddenly, you see something on the floor. You think it is a snake.”

*Imaginary Creatures*

*Dragon Story.* “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are in the mountains. You sit [together] on the ground. Suddenly, you see something in the cave. You think it is a dragon.”
**Ghost Story.** “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are at your house. You stand by the stairs. Suddenly, you see something near the ceiling. You think it is a ghost.”

**Witch Story.** “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are at the park. You sit [together] on a bench. Suddenly, you see something in the tree. You think it is a witch.”

**Monster Story.** “This is a story about you [or here is another story about you]. Let’s imagine that one day you [and your mom/dad/friend] are at the cornfield. You walk together picking corn. Suddenly, you see something in the cornfield. You think it is a monster.”
APPENDIX B

Study 1: Interview Questions

Control question

1. So right now in this story, what do you, as this boy/girl [point to child in picture], believe this is?

Attributing fears questions

2. Are you, right here in this story, afraid or not afraid right now [point to child in picture]? Y / N

3. (if afraid) How afraid are you [show intensity scale]? 1 / 2 / 3 / 4

4. (if afraid) Why are you afraid in this story [point to child in picture]?

5. Look at your mom/dad/friend [point to protagonist in picture]. Do you think your mom/dad/friend is afraid or not afraid right now? Y / N

6. (if afraid) How afraid is your mom/dad/friend? 1 / 2 / 3 / 4

7. (if afraid) Why is your mom/dad/friend afraid?

Coping strategies questions

[If participant said that s/he is afraid, say]: “You said you are (this) afraid right here [point to the intensity the child picked, then point to child in picture]

[If participant said that s/he is not afraid, say]: “Let’s imagine that you do start to feel somewhat afraid right here” [point to intensity #2 then point to child in picture]

8. What can you do to feel better [show “OK” face] right here?

9. Look! your mom/dad/friend is right there with you. What will your mom/dad/friend try to do to make you feel better?

10. Will (that) [replace by child’s suggestion] help you feel better? Y / N
If participant said “no”, then ask – why not?

Thought content question (for the last 4 stories)

“Right now, instead of doing something or going somewhere, you start to think about something and it makes you feel better”

11. What could you be thinking about here that makes you feel better? [place empty thought bubble, show “OK” face]
APPENDIX C

Study 2: Story Scenarios

Real threat situations

Shark Story. “This is a story about two boys/girls – Sam and Lee. One day both friends are at the beach. They sit together on a dock. Suddenly, they see something in the water. It looks like a shark and it really is a shark. Both Sam and Lee know it is dangerous. They are very-very afraid right now.”

Bear Story. “This is a story about two boys/girls – Chris and Erin/Aaron. One day both friends are at a campsite. They sit together on a picnic blanket. Suddenly, they see something behind the tree. It looks like a bear and it really is a bear. Both Chris and Erin know it is dangerous. They are very-very afraid right now.”

Alligator Story. “This is a story about two boys/girls – Ronny and Colby. One day both friends are at the river. They sit together on the sand. Suddenly, they see something in the water. It looks like an alligator, and it really is an alligator. Both Ronny and Colby know it is dangerous. They are very-very afraid right now.”

Snake Story. “This is a story about two boys/girls – Donny and Robin. One day both friends are in Donny’s room. They sit on the carpet and watch TV together. Suddenly, they see something on the floor. It looks like a snake, and it really is a snake. Both Donny and Robin know it is dangerous. They are very-very afraid right now.”

Imagined-threat situations

Dragon Story “This is a story about two boys/girls – Casey and Alex. One day both friends are in the mountains. They sit together on the ground. Suddenly, they see something in the cave. It looks like a dragon, but it really is a shadow of a little lizard.
Both Casey and Alex think it is a bad dragon that blows fire on people. They are very-very afraid right now.”

*Ghost Story.* “This is a story about two boys/girls – Dylan and Jess. One day both friends are at Dylan’s house. They stand by the stairs. Suddenly, they see something near the ceiling. It looks like a ghost, but it really is just a light shining. Both Dylan and Jess think it is a nasty ghost that chases people around. They are very-very afraid right now.”

*Witch Story.* “This is a story about two boys/girls - Danny and Nick/Nicky. One day both friends are at the park. They sit together on a bench. Suddenly, they see something in the tree. It looks like a witch, but it really is just a bunch of birds. Both Danny and Nick think that it is a bad witch that puts spells on people. They are very-very afraid right now.”

*Monster Story.* “This is a story about two boys/girls - Kerry and Devin. One day both friends are at the cornfield. They walk together picking corn. Suddenly, they see something in the cornfield. It looks like a monster, but it really is just a scarecrow. Both Kerry and Devin think it is a mean monster that wants to put people in cages. They are very-very afraid right now.”
APPENDIX D

Study 2: Story Ending Options

_Distraction theme (Mental distraction vs. Behavioral distraction)_

“Well, both A and B are very very afraid because they [see a real X]/[think it’s a X]. They think about what to do next. A says: ‘Let’s play with a ball.’ B says: ‘Let’s think about eating candy.’”

_Reappraisal theme (‘positive pretence’ vs. ‘reality affirmation’)_

“Well, both A and B are very very afraid because they [see a real X]/[think it’s a X]. They think about what to do next. A says: ‘[Let’s think it is not a real X but actually a Y.’]/ ‘Let’s think that Xs are not real and it is actually a Y.’] B says: [‘Let’s think it is a X, but a friendly X that wants to play with us.’]/[‘Let’s think it is a friendly X that wants to play with us.’]”

_Action theme (‘Flight’ vs. ‘Fight’)_

“Well, both A and B are very very afraid because they [see a real X]/[think it’s a X]. They think about what to do next. A says: ‘Let’s go and hide’. B says: ‘Let’s yell at the X to scare it away.’”

_Protection theme (Seek protection vs. Imagine protection)_

“Well, both A and B are very very afraid because they [see a real X]/[think it’s a X]. They think about what to do next. A says: ‘Let’s look for our parents to help us.’ B looks: ‘Let’s imagine we have swords and shields that protect us from the X.’”
APPENDIX E

Study 3: Fear and Coping Questionnaire

Demographic Information

1. What is your child’s date of birth? ___ / ___ / ___

2. What is your child’s gender? M / F

3. Who is filling out this questionnaire? (relationship to child) _____________

4. What is your age? _____________________

5. What is your spouse/partner’s age? ________

6. How many children do you have? __________

   What are their birth dates? ___ / ___ / ___ ; ___ / ___ / ___ ; ___ / ___ / ___ ; ___ / ___ / ___

7. What is your ethnicity? __________________

8. What is your spouse/partner’s ethnicity? __________________

9. What is your highest education level?
   - Some high school, didn’t finish
   - High school diploma
   - Some college, didn’t finish
   - Graduated from college
   - Master’s degree
   - PhD degree

10. What is your spouse/partner’s highest education level?
    - Some high school, didn’t finish
    - High school diploma
    - Some college, didn’t finish
    - Graduated from college
    - Master’s degree
    - PhD degree
11. What was your household income level last year?

- [ ] below $30,000
- [ ] $30,001-$50,000
- [ ] $50,001-$70,000
- [ ] $70,001-$90,000
- [ ] $90,001-$110,000
- [ ] above $110,000

**Part I: Coping Strategies**

The following are scenarios pertaining to fear provoking situations. Please read the scenarios and imagine that you and your child are involved in similar situations. After each scenario, you’ll be asked to answer several questions regarding your behavior in this situation. (NOTE: If you have more than one child between the ages of 2 and 8, please focus on the child who exhibits more fears.)

**The Witch**

Suppose that you and your child are at a park. You suddenly see a bunch birds up in a tree. Your child imagines them to be a witch and is very afraid.

A) Do you want your child to feel afraid in this situation?  Yes [ ]  No [ ]

Why or why not? ____________________________________________________

______________________________________________________________.

B) Below are several things that you might do in this kind of situation. Please refer to each of the following behaviors, and check how likely you are to behave in that manner.
<table>
<thead>
<tr>
<th>What will I do?</th>
<th>How likely am I to do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not likely at all</td>
</tr>
<tr>
<td>1. We would leave and go somewhere else</td>
<td>☐</td>
</tr>
<tr>
<td>2. I would physically show him/her nothing harmful is there</td>
<td>☐</td>
</tr>
<tr>
<td>3. I would repeatedly tell my child:</td>
<td>☐</td>
</tr>
<tr>
<td>“There is nothing to be afraid of. It’s not a witch. Witches are not real”</td>
<td></td>
</tr>
<tr>
<td>4. I would distract my child by playing a game or by talking about something else</td>
<td>☐</td>
</tr>
<tr>
<td>5. I would encourage my child to pretend it’s a nice witch that wants to play with him/her</td>
<td>☐</td>
</tr>
<tr>
<td>6. I would try to get more information about what it really is (e.g. walk up close to the tree)</td>
<td>☐</td>
</tr>
<tr>
<td>7. I would tell my child: “You are really scared because you think there is a witch in the tree,” and then I’d encourage my child to talk about his/her feelings</td>
<td></td>
</tr>
<tr>
<td>8. I would pretend to scare the ‘witch’ away</td>
<td>☐</td>
</tr>
<tr>
<td>9. I would encourage my child to think it is not a witch, but that it really is a bunch of birds</td>
<td></td>
</tr>
<tr>
<td>10. I would just hug my child and “be there for him/her” until s/he feels better</td>
<td></td>
</tr>
</tbody>
</table>

C) Is there anything else you would do in this situation?____________________
_________________________________________________________________________
_________________________________________________________________________.
D) Please circle the BEST (most effective) way to deal with this situation (out of numbers 1-10)

E) Please cross out the WORST (least effective) way to deal with this situation (out of numbers 1-10)

The Bear

Suppose that you and your child are at a campsite. You suddenly see a bear behind a nearby tree. Your child is very afraid.

A) Do you want your child to feel afraid in this situation?  Yes ☐  No ☐

Why or why not? _________________________________________
______________________________________________________.

B) Below are several things that you might do in this kind of situation. Please refer to each of the following behaviors, and check how likely you are to behave in that manner.

<table>
<thead>
<tr>
<th>What will I do?</th>
<th>How likely am I to do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not likely at all</td>
</tr>
<tr>
<td>1. We would leave and go somewhere else</td>
<td>☐</td>
</tr>
<tr>
<td>2. I would try to scare the bear away</td>
<td>☐</td>
</tr>
<tr>
<td>3. I would repeatedly tell my child: “There is nothing to be afraid of. It’s not really a bear”</td>
<td>☐</td>
</tr>
<tr>
<td>4. I would distract my child by playing a game or by talking about something else</td>
<td>☐</td>
</tr>
<tr>
<td>5. I would tell my child: “You are really scared because there is a bear near the tree,” and then I’d encourage my child to talk about his/her feelings</td>
<td>☐</td>
</tr>
</tbody>
</table>
Suppose that you and your child are walking in a cornfield. You suddenly see a scarecrow nearby. You child imagines it to be a monster and is very afraid.

A) Do you want your child to feel afraid in this situation?  Yes ☐  No ☐

Why or why not? ________________________________
______________________________________________

C) Is there anything else you would do in this situation?____________________
___________________________________________________________
___________________________________________________________.

D) Please circle the BEST (most effective) way to deal with this situation (out of numbers 1-8)

E) Please cross out the WORST (least effective) way to deal with this situation (out of numbers 1-8)

The Monster

Suppose that you and your child are walking in a cornfield. You suddenly see a scarecrow nearby. You child imagines it to be a monster and is very afraid.

A) Do you want your child to feel afraid in this situation?  Yes ☐  No ☐

Why or why not? ________________________________
______________________________________________. 
B) Below are several things that you might do in this kind of situation. Please refer to each of the following behaviors, and check how likely you are to behave in that manner.

<table>
<thead>
<tr>
<th>What will I do?</th>
<th>How likely am I to do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not likely at all</td>
</tr>
<tr>
<td>1. We would leave and go somewhere else</td>
<td>☐</td>
</tr>
<tr>
<td>2. I would physically show him/her nothing harmful is there</td>
<td>☐</td>
</tr>
<tr>
<td>3. I would repeatedly tell my child: “There is nothing to be afraid of. It’s not a monster. Monsters are not real”</td>
<td>☐</td>
</tr>
<tr>
<td>4. I would distract my child by playing a game or by talking about something else</td>
<td>☐</td>
</tr>
<tr>
<td>5. I would encourage my child to pretend it’s a nice monster that wants to play with him/her</td>
<td>☐</td>
</tr>
<tr>
<td>6. I would try to get more information about what it really is (e.g. walk up close to the tree)</td>
<td>☐</td>
</tr>
<tr>
<td>7. I would tell my child: “You are really scared because you think there is a monster in the field,” and then I’d encourage my child to talk about his/her feelings</td>
<td>☐</td>
</tr>
<tr>
<td>8. I would pretend to scare the ‘monster’ away</td>
<td>☐</td>
</tr>
<tr>
<td>9. I would encourage my child to think it is not a monster, but that it really is a scarecrow</td>
<td>☐</td>
</tr>
<tr>
<td>10. I would just hug my child and “be there for him/her” until s/he feels better</td>
<td>☐</td>
</tr>
</tbody>
</table>

C) Is there anything else you would do in this situation?________________________
D) Please circle the BEST (most effective) way to deal with this situation (out of numbers 1-10)

E) Please cross out the WORST (least effective) way to deal with this situation (out of numbers 1-10)

**The Snake**

Suppose you and your child are sitting on your living room floor. You suddenly see a snake in the corner of the room. Your child is very afraid.

A) Do you want your child to feel afraid in this situation? Yes No

Why or why not? ____________________________________________
__________________________________________

B) Below are several things that you might do in this kind of situation. Please refer to each of the following behaviors, and check how likely you are to behave in that manner.

<table>
<thead>
<tr>
<th>What will I do?</th>
<th>How likely am I to do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not likely at all</td>
</tr>
<tr>
<td>1. We would leave and go somewhere else</td>
<td>☐</td>
</tr>
<tr>
<td>2. I would try to scare the snake away</td>
<td>☐</td>
</tr>
<tr>
<td>3. I would repeatedly tell my child: “There is nothing to be afraid of. It’s not really a snake”</td>
<td>☐</td>
</tr>
<tr>
<td>4. I would distract my child by playing a game or by talking about something else</td>
<td>☐</td>
</tr>
</tbody>
</table>
### What will I do?

<table>
<thead>
<tr>
<th>What will I do?</th>
<th>How likely am I to do this?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not likely at all</td>
</tr>
<tr>
<td>5. I would tell my child: “You are really scared because there is a snake on the floor,” and then I’d encourage my child to talk about his/her feelings</td>
<td>☐</td>
</tr>
<tr>
<td>6. I would just hug my child and “be there for him/her” until s/he feels better</td>
<td>☐</td>
</tr>
<tr>
<td>7. I would encourage my child to think it’s a nice snake that won’t hurt him/her</td>
<td>☐</td>
</tr>
<tr>
<td>8. I would encourage my child to think it is not a snake, but that it really is a worm</td>
<td>☐</td>
</tr>
</tbody>
</table>

C) Is there anything else you would do in this situation?

______________________________________________

______________________________________________


D) Please circle the BEST (most effective) way to deal with this situation (out of numbers 1-8)

E) Please cross out the WORST (least effective) way to deal with this situation (out of numbers 1-8)

**Part II: Objects of Fears**

Many young children, between the ages of 2 to 5 have some fears. Here are several things children can be afraid of at these ages. Please rate your child’s current and past fears of these things. If your child has or had other fears (of objects or situations) please write them at the space provided.
<table>
<thead>
<tr>
<th>Object</th>
<th>Not afraid at all</th>
<th>A little afraid</th>
<th>Moderately afraid</th>
<th>Very afraid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Monsters</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>a. Currently</td>
<td>□</td>
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<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b. When he/she was younger</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>2. Spiders</td>
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<tr>
<td>a. Currently</td>
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<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>b. When he/she was younger</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>3. Snakes</td>
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<td></td>
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<tr>
<td>a. Currently</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>b. When he/she was younger</td>
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<td>4. Witches</td>
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<tr>
<td>b. When he/she was younger</td>
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<tr>
<td>5. Bees</td>
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<tr>
<td>a. Currently</td>
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<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>b. When he/she was younger</td>
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<td>□</td>
<td>□</td>
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<tr>
<td>6. Dragons</td>
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<td>□</td>
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<tr>
<td>b. When he/she was younger</td>
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<td>7. Aliens</td>
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<td>□</td>
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<tr>
<td>b. When he/she was younger</td>
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<tr>
<td>Object</td>
<td>Not afraid at all</td>
<td>A little afraid</td>
<td>Moderately afraid</td>
<td>Very afraid</td>
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<td>7. Sharks</td>
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<td>b. When he/she was younger</td>
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<td>b. When he/she was younger</td>
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<tr>
<td>9. Lions/Tigers</td>
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<td>b. When he/she was younger</td>
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<tr>
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<tr>
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<td>11. Bears</td>
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<tr>
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<td>13. Dogs</td>
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<td>b. When he/she was younger</td>
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<tr>
<td>Object</td>
<td>Not afraid at all</td>
<td>A little afraid</td>
<td>Moderately afraid</td>
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<td>15. Robots</td>
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<tr>
<td>16. Clowns</td>
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<td>d. When he/she was younger</td>
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<tr>
<td>17. Other ________________</td>
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<td>18. Other ________________</td>
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<td>19. Other ________________</td>
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<td>b. When he/she was younger</td>
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</tbody>
</table>