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Introduction

The abundant literature in childhood anxiety in the last two decades has resulted in a more sophisticated understanding of the development and maintenance of these disorders. Anxiety disorders are among the most common disorders affecting children and adolescents (Beidel, 1991; Fergusson, Horwood, & Linskey, 1993; Last, Perrin, Hersen, & Kazdin, 1996). Although transient fears and anxiety reactions are often experienced in childhood (Bell-Dolan, Last, & Strauss, 1990; Gullone, 2000; Gullone & King, 1993; Last et al., 1996), some children reach high levels of chronic anxiety, associated with cognitive, social-emotional, and behavioral impairments (Albano, Chorpito, & Barlow, 2003; Daleiden & Vasey, 1997). Although it is widely accepted that family processes may influence or protect against anxiety (Albano et. al., 2003; Vasey & Dadds, 2001), and, consequently, a number of (refined) models of childhood anxiety have been proposed (e.g., Ollendick, 1998; Manassis & Bradley, 1994; Rapee, 2001; Vasey & Dadds, 2001), relatively little is known about the unique and combined effects of family factors as well as the potential mechanisms explaining their influence on anxiety symptoms. The purpose of the present study was to explore the role in the development of anxiety of two family factors, attachment and parenting, as well as to test one mechanism, cognitive distortions, that may explain why these factors relate to anxiety.

Attachment theory suggests that the quality of attachment between parents and children is one influence on the development of anxiety symptoms. One of the main
tenets of Bowlby’s theory (1969, 1973) is that securely attached children perceive their caregiver(s) as available and responsive to their needs, and use them as a “safe haven” from which to explore and to return to in time of distress. Insecurely attached children cannot rely on the availability and responsiveness of the attachment figures. Children’s recurring experiences with the attachment figures facilitate prediction of the availability of caregivers. When a child is confident that attachment figures are readily accessible, s/he will be less prone to develop feelings of fear and anxiety than a child who makes negative predictions regarding the caregivers’ availability (Bowlby, 1973). On the other hand, when a child is unable to forecast the availability of attachment figures, s/he is more likely to respond with fear when experiencing disturbing situations so that “the person concerned is often referred to as suffering from free-floating anxiety” (Bowlby, 1973, p. 169).

Ainsworth proposed two types of insecure relationships, anxious-ambivalent and anxious-avoidant (Ainsworth, Blehar, Waters, & Wall, 1978). Ambivalent children, called also in the literature preoccupied children (Finnegan, Hodge, & Perry, 1996), use a heightening strategy (i.e., excessive attachment behavior) to seek the attention of their inconsistently available and responsive caregiver. Their fearfulness and limited exploratory behavior (Ainsworth et al., 1978) may hinder their social adjustment (Cassidy & Berlin, 1994) and unpredictability of the attachment figure may promote anxiety. Avoidant children minimize their overt distress when the attachment figure is present and employ an excessive self-reliance strategy as a result of frequently experiencing rejection or being ignored when seeking support from attachment figures.
(Main, Kaplan, & Cassidy, 1985). Their inability to use the caregiver to cope with negative emotions may lead avoidant children to experience anxiety. Main and Solomon (1986) identified a third type of insecure relationship, disorganized attachment, comprising children who experience paradoxical feelings toward the caregiver because the caregiver is at the same time a source of fear and the secure base. As a result, children with disorganized attachments show contradictory, bizarre, and incoherent behaviors (Ijzendoorn, Schuengel, & Bakermans-Kraneburg, 1999; Lyons-Ruth & Spielman, 2004; Main & Solomon, 1986). Lacking a coherent strategy to cope with fear, disorganized children may be most at risk of developing anxiety.

Theorists have pursued two alternative hypotheses regarding the link between attachment and anxiety symptoms. One hypothesis is that absence of security is the key element in the development and maintenance of anxiety symptoms. Studies show that children who form insecure rather than secure relationships with their caregivers are at greater risk for developing internalizing symptoms (e.g., Booth, Rose-Krasnor, McKinnon, & Rubin, 1994; Buist, Dekovic, Meeus, & van Aken, 2004; Easterbrooks & Abeles, 2000; Easterbrooks, Davidson, & Chazan, 1993) and anxiety symptoms (Bohlin, Hagekull, Rydell, 2000; Bosquet & Egeland, 2006; Costa & Weems, 2005; Dallaire & Weinraub, 2005; Kochanska, 2001; Manassis, Bradley, Goldberg, Hood, & Swinson, 1994, 1995; Papinni, Rogman, & Anderson, 1991; Papinni & Rogman, 1992; Shamir-Essakow, Ungerer, & Rapee, 2005). Another hypothesis is that there are differences among the insecure attachment patterns in how strongly they relate to anxiety. Some studies show that ambivalent children are at greater risk for developing internalizing
symptoms or anxiety symptoms than are avoidantly or securely attached children (e.g., Brown & Wright, 2003; Warren, Huston, Egeland, & Sroufe, 1997). Other studies, assessing all four patterns of attachment (secure, ambivalent, avoidant, and disorganized), have found that children with disorganized attachments to their mothers show the highest levels of internalizing symptoms (Carlson, 1998; Moss, Rousseau, Parent, St.-Laurent, & Saintonge, 1998; Shaw, Keenan, Vondra, Delliquadri, & Giovanelli, 1997). Previous studies provide mixed support for a relation between avoidance and internalizing symptoms (Goldberg, Gotowiec, & Simmons, 1995; Finnegan, Hodge, & Perry, 1996; Lyons-Ruth, Easterbrooks, & Cibelli, 1997).

The first goal of our study was to test the associations between attachment patterns and anxiety symptoms in preadolescence. We hypothesized that more secure children would report fewer anxiety symptoms. Because ambivalent children experience uncertainty, tend to exaggerate negative feelings, and to worry about the caregiver’s availability (Cassidy, 1986; Cassidy & Berlin, 1994), we expected that more ambivalent children might experience more anxiety symptoms. Because disorganized children are apprehensive with respect to the attachment figure and do not master a coherent strategy to cope with their distress (Ijzendoorn et al., 1999; Lyons-Ruth & Spielman, 2004; Main & Hesse, 1990; Main & Solomon, 1986), we expected that more disorganized children would also manifest higher levels of anxiety symptoms. Due to previous mixed findings, we did not formulate a specific hypothesis regarding avoidant attachment.

A second literature has examined parental childrearing practices and its link with the onset and maintenance of childhood anxiety. Two dimensions of parenting are the focus
of research: parental acceptance and parental control. Acceptance is defined as a pattern of behavior distinguished by warmth and emotional and behavioral responsiveness in interaction with children, as opposed to rejection and criticism (e.g., Maccoby, 1992; Wood, McLeod, Sigman, Hwang, & Chu, 2003). Control refers to parental behavior that is excessively directing the emotional world and behavior of the child as opposed to granting autonomy (e.g., Rapee, 1997; Schaefer, 1965; Wood et al., 2003). In the last two decades, studies have provided evidence for the association between anxiety symptomatology and parenting, although control is more consistently associated with anxiety symptoms than acceptance is (Gerlsma, Emmelkamp, & Arrindell, 1990; Rapee, 1997; Wood et al., 2003). Some theorists made a further distinction between behavioral control, directing the child’s behavior through rule settings or power coercion, and psychological control or interfering with the child’s individuation process through manipulation and excessive control of the child’s emotions (Barber, 1996; Barber, Olsen, & Shagle, 1994, Sabatelli & Mazor, 1985; Schludermann & Schludermann, 1970). In general, evidence suggests that it is parental psychological control that is associated with childhood anxiety while low acceptance may be more a marker of depression (Rapee, 1997). The second goal of our study was to assess the relation between maternal childrearing practices and anxiety symptoms in preadolescence. Because children experiencing psychological controlling environments may lack opportunities to develop a sense of mastery and competence (Chorpita & Barlow, 1998), we hypothesized that the mothers of more anxious children would receive higher scores on psychological control. Parental acceptance may protect the child from developing feelings of inadequacy that
lead to a constant state of worry and fear, and thus, we expected that higher maternal acceptance would be related to lower levels of anxious symptomatology.

Given the established connections between family processes and childhood anxiety, the dearth of studies addressing the unique and combined effect of attachment and parenting practices on anxiety is surprising. Three published studies have examined both attachment with mothers and parenting in relation to internalizing symptoms and/or anxiety symptoms. These studies found that only attachment (Booth at al., 1994), only parenting (Roelofs, Meesters, Huurne, Bamelis, & Muris, 2006), or both attachment and parenting (Costa & Weems, 2005) were related to anxiety symptoms. The contradictory findings in the literature make it difficult to draw a firm conclusion regarding the unique and combined role of attachment and parenting practices. The third goal of our study was to investigate the relative unique and combined contribution of attachment patterns (secure, ambivalent, avoidant, disorganized) with mothers and maternal childrearing practices (acceptance and psychological control) on childhood anxiety levels. We expected that both would account for a unique proportion in the variance of anxiety symptoms.

Although family factors are related to anxiety, there is relatively little research examining what children’s characteristics might mediate or explain this link. One possible explanation for associations between family factors and anxiety is negative cognitive errors or distortions, which refer to inaccurate beliefs and predictions that individuals develop that do not have a real basis for justification (Hammen, 1981). There is consistent evidence that negative cognitive errors are generally associated with
childhood internalizing symptoms (e.g., Epkins, 2000; Leung & Wong, 1998; Messer, Kempton, Hasselt, Null, & Bukstein, 1994) and specifically with anxiety symptoms and/or depression symptoms (e.g., Leitenberg, Yost, & Carol-Wilson, 1986; Mazur, Wolchik, & Sandler, 1992; Ostrander, Nay, Anderson, & Jensen, 1995). Leitenberg et al. (1986) proposed four cognitive errors: catastrophizing (always expecting the worst to happen), personalizing (taking responsibility for negative outcomes), overgeneralization (assuming that if a negative outcome occurred in the past, it will happen again under similar circumstances), and selective abstraction (focusing on the negative aspects while ignoring positive details). In a sample of school children in grades four, six and eight, children with high evaluation anxiety and children with depression displayed higher levels of all four types of cognitions. Two other studies examined the content-specificity hypothesis, suggesting some specificity of negative cognitive errors for anxiety. Epkins (1996) examined cognitive features of social anxiety and dysphoria in a community sample of eight to twelve year olds. Both dysphoric and anxious groups reported significantly more cognitive distortions than the control group, although cognitive distortions of overgeneralizing and personalizing were specific to social anxiety and not dysphoria. Weems, Berman, Silverman, and Saavedra (2001) examined relations between anxiety and cognitive errors in a sample of children and adolescents who were diagnosed with anxiety disorders. Overgeneralization was the best predictor of trait anxiety and catastrophizing and personalizing were the strongest predictors of anxiety sensitivity and manifest anxiety. Overall, these studies suggest a link between childhood anxiety
symptoms and negative cognitive errors, with strongest support for catastrophizing, overgeneralization, and personalizing.

Cognitive distortions and biases may be shaped through early relationships and interactions (e.g., Barrett, Rapee, Dadds, & Ryan, 1996; Chorpita, Albano, & Barlow, 1996; Dadds, Barrett, Rapee, & Ryan, 1996; Prins, 2001). According to attachment theory, children develop “workings models” which provide them with a set of cognitions, expectations or mental representations of how attachment figures, the self, and others behave (Bowlby, 1973; Main et al., 1985). A securely attached child perceives her caregiver(s) as available and trustworthy, develops a corresponding view of the self as valuable and lovable, and views the world as a safe and predictable place. Deeply ingrained and automatic, the working models serve the function of appraising situations and guiding child’s behavior. Studies indicated that secure children make fewer negative attributions in ambiguous situations than their insecure counterparts (Bretherton, Ridgeway, & Cassidy, 1990; Cassidy, 1988; Suess, Grossman, & Sroufe, 1992; for a review see Cassidy, 1995). Therefore, we expected that more secure children would express fewer cognitive distortions of catastrophizing, overgeneralization, and personalizing. By contrast, insecure attachments may predispose to cognitive distortions. Cassidy (1995) proposed that childhood insecurity is one factor promoting adult generalized anxiety disorder. According to Cassidy, ambivalent children vigilantly monitor their environment, searching for cues of threat. Their doubts about the caregiver’s availability, combined with their dependency and self-blame, may result in negative expectations. We therefore expected that more ambivalent children would report
higher cognitive errors of catastrophizing, overgeneralization, and personalizing. Disorganized children, who experience caregivers as the source of both safety and fright, and therefore lack a reliable secure base, may come to perceive the world as a scary, chaotic, and unpredictable place (Main & Hesse, 1990; Main & Solomon, 1986), and consequently they may express higher catastrophizing (i.e., expect the worst possible outcomes). Although avoidantly attached children make negative attributions about others’ behavior (Suess et al., 1992), they may also attempt to minimize affect by suppressing emotional thoughts. Thus, we did not have a specific hypothesis regarding the relation between avoidance and negative errors.

Parenting practices, especially psychological control, also may influence the development of faulty thinking. Chorpita and Barlow (1998) proposed that lack of or diminished control in early environment predispose children to develop a cognitive style characterized by interpreting future events as out of one’s control. This external locus of control further predisposes children to develop anxiety symptoms. A follow-up study provided support for Chorpita and Barlow’s model, showing that low levels of children’s perceived control mediate the relation between controlling rearing behaviors and anxiety symptoms (Chorpita, Brown, & Barlow, 1998). Although not specifically investigating negative errors, Chorpita et al.’s (1998) study suggests that psychological control influences children’s cognitions. Psychological control may increase the chances of perceiving the world as a dangerous place where only negative outcomes occur (catastrophizing) and where past negative experiences will happen again in similar situations (overgeneralization). In addition, children experiencing higher levels of
psychological control may think that they are responsible for negative outcomes (personalizing). On the contrary, children experiencing higher parental acceptance may be protected from developing such cognitive errors because they learn to tolerate negative outcomes. The fourth goal of our study was to test whether negative errors mediate the relations between family factors (attachments and parenting) and anxiety symptoms. More specifically, we expected that associations of security, ambivalence, acceptance, and psychological control with anxiety symptoms would be mediated by catastrophizing, overgeneralization, and personalization. Further, we expected that catastrophizing would explain the relation between disorganization and anxiety symptoms. Because of limited or contradictory findings regarding the relations of avoidance with anxiety, and respectively, cognitive errors, we did not have an a priori hypothesis about negative errors as potential mediator.
Method

Participants

Children and their mothers were invited to participate in our study through letters distributed to the parents through local schools and clinics. Of 114 families expressing interest, 88 agreed to participate. One child was later excluded because she was outside the target age range. The families who expressed interest but did not participate could not be reached or had scheduling difficulties. The final sample was comprised of 87 children (39 boys and 48 girls) and their mothers. Approximately 95.3% of participants were recruited from schools and 4.7% from mental health clinics, with 57.5% attending 5th grade and 42.5% attending 6th grade. Approximately 13.8% of children had a mental health problem, with 4 mothers identifying their children with an anxiety disorder and 8 mothers indicating another type of problem, such as attention-deficit disorder, affecting their children. The mean age was 11.32 (SD = .68, range = 10.17 to 12.83 years). Approximately 66.7% of the children were Caucasian, 17.2% were African-American, 5.7% were American-Indian, 1.1% were Hispanic, and 9.2% were biracial. Most of mothers reported intact-family status (59.8%), 33.3% indicated single-parent status, and 6.9% reported step-family status. The Hollingshead’s Four Factor Index of Social Status was used to determine the families’ SES (Gottfried, 1985). The potential range of computed scores is 8-66. In the current sample, the mean SES level was 41.17 (SD = 12.40), with scores ranging from 12 to 66. Families’ SES fell in the following categories:
16.09% major business and professionals, 36.78% medium business and professionals, 26.83% skilled workers, 12.64% semiskilled workers, and 3.45% unskilled laborers. Approximately 4.21% of the sample did not provide SES data.

Procedure

As part of a larger project, children and their mothers attended a 2 hour laboratory session. At the beginning of the session mothers signed a consent form indicating their willingness to participate and to have their children participate, and children signed a written assent form. The consent and assent forms stated that the purpose of the study was to understand how family factors and child characteristics are related to children’s anxiety. During this session mothers and children also separately completed a series of questionnaires. In addition, children were separately videotaped while telling two attachment related stories. Mothers provided demographic data. The order of questionnaires and videotaping was standardized across participants.

Children were compensated $20 and mothers $10 for their participation.

Measures

Mother-child attachment. In order to assess attachment patterns the current study included two measurement approaches: children’s perceptions of attachment quality, measured with questionnaires completed by children, and children’s representations of attachment, measured with a semi-projective interview administered individually to them.

Children completed the Security Scale (Kerns, Aspelmeier, Gentzler, & Grabill, 2001), a 15-item measure designed to assess children’s perception of security in parent-
child relationships in middle childhood and early adolescence (Appendix A). In the current study, children’s perception of their attachments with mothers was assessed. The items were administered using Harter’s (1982) “Some kids….other kids….” format. Children read statements about two types of kids such as “some kids go to their mom when they are upset, but other kids do not go to their mom when they are upset”, decided which one is most like them, and then indicated whether the statement was really true for them or sort of true for them. Each item was scored on 4-point scale, with a higher score indicating greater security. Scores were averaged across the items, so that children’s scores were placed on a single, continuous dimension of security. Previous research has shown that the Security Scale has sound validity and reliability (Granot & Mayseless, 2001; Kerns et al., 2001; Lieberman, Doyle, Markiewicz, 1999; Kerns, Klepac, & Cole, 1996). For example, Kerns et al. (1996) reported an alpha of .84 and a test-retest correlation of .75 in a sample of mid-school children (mean age = 11.8). Internal consistency for the present study was .80.

Further, children’s perceptions of preoccupied and avoidant coping, as dimensions of insecurity in relation to their mothers, were measured using the Coping Strategies Questionnaire (Finnegan et. al., 1996). This measure is composed of two subscales which address questions about the coping strategies adopted by, respectively, ambivalent and avoidant children (Appendix A). The items on the preoccupied scale capture the child’s excessive need for the mother and difficulties separating from her, while the items on the avoidant scale depict the child failing to rely on the mother when distressed. For example, one of the items assessing ambivalence has the hypothetical
situation of the child going to the movies with her mother. The child has to go out to the bathroom. When returning, the theatre is so dark that the child cannot find her mother. The child has to choose between “some kids would calmly look for their mother and not be too worried” and “other kids would look for their mother and be very upset until they found her”, and then has to decide if she is really like or sort of like that type of kid. An example of items assessing avoidance presents the child with the hypothetical situation of a teacher who says something mean to her at school one day. The child has to decide between two response options, “some kids would let their mother know they were upset and would talk to her about it, but other kids wouldn't let their mother know they were upset and would not talk to her about it” and then has to decide if she is really like or sort of like that type of kid. Similar with the Security Scale, the “some kids…other kids” format was used, but items were scored following the procedure of Finnegan et al. (1996), by assigning values of 0, 0, 1, 2 to children’s responses as follows: a score of 0 was given to nonpreoccupied response options, a score of 1 was assigned to a lesser preoccupied response, and a score of 2 was assigned to a greater endorsement of preoccupied response. Items on the avoidant scale were scored in the same way. Item scores were averaged, so that children received scores on continuous dimensions of ambivalence and avoidance. This measure was used with the author’s permission.

Previous studies have demonstrated good psychometric properties of this measure (e.g., Kerns, Schlegelmich, Morgan, & Abraham, 2005; Yunger, Corby, & Perry, 2005). Finnegan et al. (1996) reported alphas of .86 for the preoccupied scale and .84 for the avoidant scale, and test-retest correlations, respectively, of .83 and .76. In this study, the
newer 20-item version of the Coping Strategies Questionnaire (10 items for each scale) was used. Alphas for the current study were .76 for the preoccupied scale and .75 for the avoidant scale. Some of the correlations among self-reported attachment patterns were significant, with avoidance significantly correlated with security and ambivalence, respectively $r_s = -0.57$ and $-0.23$, $p < .001$ and $p < .05$.

In addition, to assess children’s representations of attachment, children completed a doll story interview task, in which an experimenter begins a story with an attachment theme, using dolls to act out events, and the child continues the story. Using the dolls, the child tells what she thinks happens in the story. Following the pioneering work of Bretherton et al. (1990), Granot and Mayseless (2001) adapted the story-stem technique for children in preadolescence and presented validity data using an Israeli sample. Their interview included one warm-up story and five stories with a parent-child theme (e.g., the child falls off the rock and gets hurt). Because some stories were not very diagnostic in U.S. samples or less sensitive as markers of a particular attachment pattern (Kerns et al., 2005; Kerns, Abraham, Schlegelmilch, & Morgan, 2007), we used two new stories with an attachment evoking theme (homework problems and fight with a friend). The target child and the mother are represented in the stories. The first story has the theme of the child working on a homework that is due tomorrow and having difficulty finishing it before bed time. The child is then prompted to show what happens next in the story. The second story presents the child with the situation of playing with a friend at the friend’s house. The child and her friend get into a big fight and the friend asks the child to leave. The child gets home and slams the door. Her mother, who does not see who enters the
house, calls the child’s name and asks if the person slamming the door is the child. At this point, the experimenter prompted the child to show what happens next. The interview stories are presented in Appendix A.

The videotaped interview was later scored by independent raters using an adapted version of the manual for coding the Attachment Doll Story Completion Task (Granot & Mayseless, 1999). The second story (fight with a friend) was weighted more heavily than the first story (homework problems) because it was more informative of children’s representations of their mothers and elicited more attachment relevant responses. The first story (homework problems) was weighted in the ratings of the second story only if a particularly salient cognitive and affective response was presented by children and a clear pattern of attachment was identified. The stories were rated secure or insecure (ambivalent, avoidant, or disorganized) based on four criteria. The first criterion is the coordination of actions. In a more secure relationship there is synchronization between parent and child in solving problems. In a more ambivalent relationship there is high level of involvement by the parent. In a more avoidant relationship there is a lack of coordination between parent and child in solving problems. In a more disorganized relationship there is inconsistent coordination between parent and child. The second criterion refers to the expression and regulation of emotions. In a more secure relationship the child is able to express openly both positive and negative emotions. In a more ambivalent relationship there is open and intense expression of negative emotions and dysregulation. In a more avoidant relationship negative emotions are not explicitly expressed, and neutrality and behavioral avoidance characterize the interaction. In a more
disorganized relationship there is an inconsistent display of emotions. The third criterion is the coherence of the narrative. In a more secure relationship the narrative is logical and believable, with appropriate level of details, while in more insecure relationships, the stories are superficial and impersonal (more avoidant relationship), overloaded (more ambivalent relationship), or illogical, incoherent, and inconsistent (more disorganized relationship). The fourth criterion refers to the constructive resolutions to the problems. In a more secure relationship problems that arise are successfully addressed and the caregiver’s intervention allows a return to normal activities. In a more ambivalent relationship the problems escalate and new problems arise. In a more avoidant relationship one person implements quickly a solution of her own. In a more disorganized relationship, problems cannot be solved because odd and unrealistic turns of events take place. The child was assigned a 5-point rating for each of the four attachment patterns (security, avoidance, ambivalence, and disorganization), taking in consideration the 4 criteria. In this way children received scores on continuous dimensions of security, ambivalence, avoidance, and disorganization. Two trained raters scored the interviews. After the raters reached agreement, the inter-rater agreement (gamma) was computed based on 50 participants. The inter-rater agreement ranged between .70 and .96. When the differences in scores were higher than 1.5 points, the interviews were discussed and an agreement was reached. As expected, security ratings were negatively correlated with ambivalence ratings, $r = -.37, p < .001$, avoidance ratings, $r = -.57, p < .001$, and disorganization ratings from the interview, $r = -.52, p < .001$. In addition, ambivalence ratings were negatively correlated with avoidance ratings, $r = -.35, p < .01$. 
Children’s perceptions of parental childrearing practices. The 10-item acceptance subscale from the Revised Children’s Report of Parental Behavior Inventory (Schaefer, 1965; Schludermann & Schludermann, 1970) was used to assess children’s perception of maternal acceptance (Appendix A). An example of item tapping maternal acceptance is “my mother smiles at me very often.” Children rated their mothers’ acceptance behavior on a 3-point scale, with a higher score indicating more maternal acceptances and items were averaged so that a continuous variable was obtained. Adequate internal consistency for the acceptance subscale was found in this sample (.83) consistent with previous studies (e.g., Siqueland et al., 1996; Teleki, Powell, & Dodder, 1982).

Psychological control was measured with a 17-item scale consisting of 8 items from the psychological control subscale from the Revised Children’s Report of Parental Behavior Inventory (Barber, 1996; Schaefer, 1965; Schludermann & Schludermann, 1970), and 9 items proposed by Barber (1996) as capturing specific aspects of psychological control (e.g., constraining verbal expression, personal attack on child) and supplementing Schaefer’s items (Appendix A). An example of an item assessing psychological control is “my mother is a person who changes the subject, whenever I have something to say”. Children rated their mothers’ behavior on a 3-point scale, with a higher score indicating more psychological control. Means across items were computed, so that psychological control represented a continuous variable. Internal consistency of psychological control subscale was .78. Previous studies have demonstrated good validity of both original measures (Barber, 1996; Schludermann & Schludermann, 1970;
Children’s anxiety symptoms were measured with The Screen for Child Anxiety Related Emotional Disorders (Birmaher, Khetarpal, Brent, Cully, Balach et al., 1996), a 38-item multidimensional questionnaire (Appendix A). The questionnaire consists of five subscales, four of which represent anxiety disorders that correspond with the Diagnostic and Statistical Manual of Mental Disorders (APA, 2000) categories (panic disorder, generalized anxiety disorder, social phobia, and separation anxiety disorder) and one subscale that taps school phobia. The measure also provides a total score of the anxiety symptoms, by averaging the responses across items. Children rated the severity of symptoms for the past three months using a 3-point rating scale, with 0 meaning not true or hardly true, 1 meaning sometimes true, and 2 meaning true or often true. For example, children rated whether they worry about others liking them. The total score was used for the analyses in the present study. Mothers also rated the severity of children’s anxiety symptoms. The correlation between children’s and mothers’ report was .39. Because previous studies have indicated that children this age are reliable informants of their internalizing symptoms and that parent-child agreement is generally low, regardless of the child’s age (Schniering, Hudson, & Rapee, 2000), we used children’s reports only in the current study.

Previous studies have demonstrated very good validity and reliability of this measure (Birmaher et al., 1996; Monga, Birmaher, Chiappetta, Brent, Kaufman et al., 2000; Schniering et al., 2000). We found an internal consistency of .90.
Cognitive errors. Children’s cognitive distortions were evaluated using the Children’s Negative Cognitive Error Questionnaire (Leitenberg et al., 1986). This 24-item questionnaire is designed to assess four types of cognitive errors originated in Beck’s (1976) cognitive theory: catastrophizing, overgeneralization, personalizing, and selective abstraction (Appendix A). The selective abstraction subscale was not used in the current analysis because it is related more strongly to depression than to anxiety (e.g., Epkins, 1996). Each item presents the child with a hypothetical situation, followed by a statement illustrating children’s inaccurate beliefs in different situations. A child rates to what extent s/he would interpret the situation in a similar way. For example, one of the items assessing catastrophizing has the hypothetical situation of the child being invited on a bike ride. The child thought: “I probably won’t be able to keep up and people will make fun of me”. Children rate on a 5-point scale how similar is this thought to their own thought when they imagined experiencing the described situation, with a higher score indicating more distortion in cognition. The items assess cognitions in three contexts: social, academic, and athletic. Each subscale corresponding to each cognitive distortion comprises two social vignettes, two academic vignettes, and two athletic vignettes. The measure has acceptable psychometric properties (e.g., Leitenberg, 1986; Weems et al., 2001). Alphas for the current study were .76 for catastrophizing, .75 for overgeneralization, and .76 for personalization. Consistent with previous studies (e.g., Leitenberg et al., 1986; Mazur et al., 1992), correlations among the negative cognitive errors (catastrophizing, overgeneralization, and personalizing) were relatively high and
ranged between .66 and .75, all \( ps < .001 \). This measure was used with the author’s permission.

*Behavioral inhibition.* Because models of childhood anxiety emphasize the role played by temperamental aspects in exacerbating the anxiety feelings (e.g., Oosterlan, 2001; Rapee, 2002), we included a measure of behavioral inhibition. The 9-item approach/withdrawal subscale of the School-Age Temperament Inventory (McClowry, 1995) captures the child’s behavior in new situations or when interacting with new people (Appendix A). Mothers rated their children’s behavior on a scale from 1 to 5, with a higher score specifying higher behavioral inhibition. The mean of responses across items was computed. Similar to previous studies (McClowry, 1995; McClowry, Halverson, & Sanson, 2003), we found very good internal consistency (.86). This measure was used with the author’s permission.
Results

Preliminary analyses

Means and standard deviations, computed for the main study variables, are presented in Table 1. Child gender, mental health status, and behavioral inhibition were included in the study because they might be related to anxiety. In addition, we included child age and family’s socioeconomic status (SES). To test for the effect of gender, we used t-test analyses. For all the tests, Cohen’s (1988) conventions for effect sizes, thus, $d = .2$ was considered a small effect, $d = .5$ was a medium effect and $d = .8$ was a large effect. Preliminary t-test analyses by child gender indicated that girls reported more ambivalence than did boys, $t (85) = 3.71, p < .001, d = .8$ respectively $Ms = .75$ and $.42$. In addition, girls were rated more ambivalent than boys on the attachment interview, $t (51.50) = 4.53, p < .001, d = 1.26, Ms = 1.84$ and $1.06$. Boys received higher avoidance ratings than did girls on the attachment interview, $t (85) = -2.41, p < .05, d = .5$ $Ms = 2.21$ and $1.65$. Further, girls reported higher levels of overgeneralization, $t (85) = 2.50, p < .05, d = .54, Ms = 2.03$ and $1.67$, and higher anxiety symptoms than did boys, $t (85) = 4.15, p < .001, d = .9, Ms = .91$ and $1.64$. T-test analyses by mental health status indicated that children with a psychological diagnosis were rated more avoidant on the attachment interview, $t (85) = -2.19, p < .05, d = .47, Ms = 2.54$ and $1.80$. Bivariate correlations of anxiety symptoms with children’s age, behavioral inhibition, and families’ SES did not yield significant results, and thus we did not control for these variables in the subsequent
analyses. Because of the large number of gender effects, partial correlations controlling for gender are reported for all main hypotheses.

Table 1
Means and standard deviations as well as associations of anxiety symptoms with the attachment patterns, parenting rearing behaviors, behavioral inhibition, and cognitive errors (N=87).

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
<th>r</th>
<th>partial r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment (questionnaires)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>3.33</td>
<td>.45</td>
<td>1.60</td>
<td>4</td>
<td>-.28*</td>
<td>-.23*</td>
</tr>
<tr>
<td>Ambivalence</td>
<td>.60</td>
<td>.44</td>
<td>0</td>
<td>1.90</td>
<td>.54***</td>
<td>.46***</td>
</tr>
<tr>
<td>Avoidance</td>
<td>.17</td>
<td>.26</td>
<td>0</td>
<td>1.40</td>
<td>.03</td>
<td>.08</td>
</tr>
<tr>
<td>Attachment (interview)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>2.74</td>
<td>1.27</td>
<td>1</td>
<td>5</td>
<td>-.27*</td>
<td>-.24*</td>
</tr>
<tr>
<td>Ambivalence</td>
<td>1.49</td>
<td>.97</td>
<td>1</td>
<td>4.50</td>
<td>.25*</td>
<td>.10</td>
</tr>
<tr>
<td>Avoidance</td>
<td>1.90</td>
<td>1.12</td>
<td>1</td>
<td>5</td>
<td>-.07</td>
<td>-.03</td>
</tr>
<tr>
<td>Disorganization</td>
<td>1.41</td>
<td>.81</td>
<td>1</td>
<td>4.50</td>
<td>.30**</td>
<td>.30**</td>
</tr>
<tr>
<td>Parenting variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance</td>
<td>2.71</td>
<td>.34</td>
<td>1.40</td>
<td>3</td>
<td>-.06</td>
<td>-.03</td>
</tr>
<tr>
<td>Psychological control</td>
<td>1.43</td>
<td>.31</td>
<td>1</td>
<td>2.60</td>
<td>.38***</td>
<td>.41***</td>
</tr>
<tr>
<td>Cognitive errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catastrophizing</td>
<td>2.02</td>
<td>.78</td>
<td>1</td>
<td>4</td>
<td>.60***</td>
<td>.57***</td>
</tr>
<tr>
<td>Overgeneralizing</td>
<td>1.87</td>
<td>.69</td>
<td>1</td>
<td>3.83</td>
<td>.49***</td>
<td>.43***</td>
</tr>
<tr>
<td>Personalizing</td>
<td>2.06</td>
<td>.77</td>
<td>1</td>
<td>4.50</td>
<td>.44***</td>
<td>.40***</td>
</tr>
<tr>
<td>Behavioral inhibition</td>
<td>2.63</td>
<td>.65</td>
<td>1.11</td>
<td>4.11</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>Anxiety symptoms</td>
<td>.79</td>
<td>.33</td>
<td>.05</td>
<td>1.53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .05. ** p < .01. *** p < .001.

r = zero order correlations; partial r = partial correlations controlling for the effect of gender.

Then, we examined the associations between self-reported attachment patterns and interview based attachment variables (Table 2). Self-reported security correlated positively with security ratings, and negatively with ambivalence and disorganization ratings. In addition, self-reported ambivalence was associated positively with disorganization ratings. When examining the associations between parenting variables, maternal acceptance correlated negatively with maternal psychological control, r = -.29, p
Table 2
**Associations between attachment based measures (N=87).**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Security interview</td>
<td>.28***</td>
<td>-.10</td>
<td>-.12</td>
</tr>
<tr>
<td>Ambivalence interview</td>
<td>-.28**</td>
<td>.14</td>
<td>.16</td>
</tr>
<tr>
<td>Avoidance interview</td>
<td>.02</td>
<td>-.17</td>
<td>.08</td>
</tr>
<tr>
<td>Disorganization interview</td>
<td>-.25*</td>
<td>.24*</td>
<td>.05</td>
</tr>
</tbody>
</table>

*Note. * p < .05. ** p < .01.*

**Associations of attachment and parenting variables with the anxiety symptoms**

To test our hypotheses, we first calculated correlations of anxiety symptoms with attachment and parenting practices variables (Table 1). Because gender had a significant effect on some variables, we also computed partial correlations, controlling for this variable. As hypothesized, children who reported higher levels of security and were rated more secure on the interview also reported lower levels of anxiety symptoms, respectively. Our hypothesis that more ambivalent children would report higher levels of anxiety symptoms received mixed support. Children who reported greater ambivalence and were rated more ambivalent on the interview reported higher levels of anxiety symptoms. However, after controlling for the effect of gender, children who were more ambivalent on the interview did not report higher levels of anxiety symptoms. As predicted, children rated more disorganized on the interview manifested higher levels of anxiety symptoms. Although we did not formulate a specific hypothesis regarding avoidance, self-reported avoidance and avoidance ratings from the interview were not related to children’s anxious feelings.
As expected, children who disclosed higher maternal psychological control also reported higher levels of anxiety symptoms. Contrary to our hypothesis, maternal acceptance did not relate to children’s anxiety symptoms.

**Multivariate prediction of children’s anxiety symptoms**

Regression analyses were performed to assess how the attachment patterns and maternal childrearing practices uniquely and collectively predict anxiety symptoms. The associations between children’s perceptions of attachment and children’s attachment representations were low, suggesting that the attachment measures tap different aspects of mother-child attachment. Thus, we conducted the following analyses separately for children’s perceptions of attachment and children’s attachment representations. Because *t*-test analyses showed that gender has a significant effect on some of the attachment variables and on the anxiety symptoms, we controlled for gender at Step 1, entered attachment variables (assessed either with questionnaires or interviews) at Step 2, and entered the maternal childrearing practices at Step 3. Thus, Step 2 summarizes the amount of variance accounted for by the attachment patterns, separately for questionnaires and interviews, and Step 3 provides the amount of variance accounted for the maternal childrearing practices. The order of Steps 2 and 3 was then reversed. All $R^2$ values reflect adjusted $R^2$ change (Table 3).
Table 3
Regression analyses predicting anxiety symptoms from attachment (self-report or interview) and maternal rearing practices, after controlling for the effect of gender (N = 87).

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>gender</td>
<td>attachment self-report</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.16</td>
<td>.37</td>
</tr>
<tr>
<td>F Change</td>
<td>17.19***</td>
<td>10.19***</td>
</tr>
<tr>
<td>Variables</td>
<td>maternal rearing practices</td>
<td>attachment self-report</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.29</td>
<td>.44</td>
</tr>
<tr>
<td>F Change</td>
<td>8.90***</td>
<td>8.20***</td>
</tr>
<tr>
<td>Variables</td>
<td>attachment interview</td>
<td>maternal rearing practices</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.21</td>
<td>.31</td>
</tr>
<tr>
<td>F Change</td>
<td>2.36+</td>
<td>6.61**</td>
</tr>
<tr>
<td>Variables</td>
<td>maternal rearing practices</td>
<td>attachment interview</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.29</td>
<td>.31</td>
</tr>
<tr>
<td>F Change</td>
<td>8.90***</td>
<td>1.44</td>
</tr>
</tbody>
</table>

Note. $p^+ = .06$. * $p < .05$. ** $p < .01$. *** $p < .001$. Adjusted $R^2$ = the variance explained by the step.

The test for change in $R^2$ was significant at Step 1, with gender explaining 16% of the variance in children’s levels of anxiety symptoms. The test for change in $R^2$ was significant at Step 2, with self-reported attachment variables explaining an additional 21% of the variance in anxiety symptoms, and maternal childrearing practices, entered at Step 3, explained an additional 7% of the variance anxiety symptoms. The total variance accounted for by the combined effect of self-reported attachment and maternal childrearing practices reached 28%. When Steps 2 and 3 were reversed, maternal childrearing practices (Step 2) explained an additional 13% of the variance in children’s anxiety symptoms, whereas self-reported attachment variables (Step 3) accounted for an additional 15% of the variance in the outcome.

When predicting anxiety symptoms from interview attachment ratings and maternal childrearing practices after controlling for the effects of gender, Step 2

---

Note: $p^+ = .06$. * $p < .05$. ** $p < .01$. *** $p < .001$. Adjusted $R^2$ = the variance explained by the step.
(attachment) was marginally significant, with attachment variables explaining an additional 5% of the variance in children’s anxiety symptoms. Step 3 (parenting) was significant, with maternal childrearing practices explaining an additional 10% of the variance in anxiety symptoms. When the order of entry was reversed, Step 2 (parenting) was significant, but Step 3 (attachment) did not reach significance.

Associations of negative errors with anxiety, attachment, and parenting

We examined associations of cognitive distortions with anxiety symptoms, attachment, and parenting variables. As shown in Table 1, all negative cognitive errors were associated with anxiety symptoms. We computed both zero-order correlations and partial correlations, controlling for the effect of gender to examine how cognitive distortions were related to attachment and parenting (Table 4).

Table 4
Associations between the independent variables and mediators (N = 87)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Catastrophizing</th>
<th>Overgeneralizing</th>
<th>Personalizing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>partial r</td>
<td>r</td>
</tr>
<tr>
<td>Security self-report</td>
<td>-.18</td>
<td>-.15</td>
<td>-.20</td>
</tr>
<tr>
<td>Ambivalence self-report</td>
<td>.29**</td>
<td>.24*</td>
<td>.28**</td>
</tr>
<tr>
<td>Avoidance self-report</td>
<td>.13</td>
<td>.16</td>
<td>.06</td>
</tr>
<tr>
<td>Security interview</td>
<td>-.18</td>
<td>-.17</td>
<td>-.15</td>
</tr>
<tr>
<td>Ambivalence interview</td>
<td>.09</td>
<td>.01</td>
<td>.13</td>
</tr>
<tr>
<td>Avoidance interview</td>
<td>-.04</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Disorganization</td>
<td>.30**</td>
<td>.29**</td>
<td>.19</td>
</tr>
<tr>
<td>Acceptance</td>
<td>-.05</td>
<td>-.04</td>
<td>-.06</td>
</tr>
<tr>
<td>Psychological control</td>
<td>.30**</td>
<td>.30**</td>
<td>.23*</td>
</tr>
</tbody>
</table>

Note. * p < .05. ** p < .01.

*r* = zero order correlations; partial *r* = partial correlations controlling for the effect of gender.

Security was not associated with negative errors. Self-reported ambivalence was positively related with catastrophizing. Only zero-order correlations indicated that
ambivalence was related to overgeneralizing. Avoidance was related to personalizing only after controlling for gender. Disorganization was positively associated with catastrophizing, and maternal psychological control was positively associated with all three negative cognitive errors.

Testing mediation

Baron and Kenny (1986) proposed three conditions to be met in order for a variable to function as a mediator: 1) there is a significant relation between the independent variable and the mediator; 2) there is a significant relation between the mediator and the dependent variable; 3) when controlling for the relations between the independent variable and the mediator, a previously significant relation between the independent and dependent variables is decreased. Full mediation occurs when this relation is reduced to zero.

Preliminary analyses showed that security and ambivalence measured both with the questionnaire and interview, disorganization based on the interview ratings, and maternal psychological control were related to anxiety (Table 1). Because security was not related to cognitive errors, we could not test for mediation. After controlling for the effects of gender, self-reported ambivalence was only related to catastrophizing (Table 4). In addition, disorganization was related to catastrophizing, and psychological control was related to all three cognitive errors. Thus, we investigated whether catastrophizing mediates the relations of self-reported ambivalence and disorganization ratings with anxiety symptoms, and whether catastrophizing, overgeneralization, and personalization mediate the relation between maternal psychological control and anxiety symptoms.
Baron and Kenny (1986) recommended that, to test for mediation, one regress the dependent variable on the independent variable (Regression 1), regress the mediator on the independent variable (Regression 2), and then regress the dependent variable on both the independent variable and on the mediators (Regression 3). The key element indicating mediation is the drop in the standardized regression coefficient for the independent variable (Regression 1) when the mediator is also included in the regression analysis (Regression 3). To further evaluate whether the change in the standardized regression coefficient for the independent variable from Regression 1 to Regression 3 is significant, we used the Sobel test (MacKinnon, Lockwood, Hofmann, West, & Sheets, 2002). A significant Sobel test suggests that the level of mediation is meaningful. In addition, we controlled for gender at Step 1 in all subsequent regression analyses. The results of mediations are presented in Table 5.

*Catastrophizing as a mediator between self-reported ambivalence and anxiety symptoms.* First, we tested the potential role of catastrophizing as a mediator between self-reported ambivalence and anxiety symptoms (Table 5, Row M1). When entered together in the regression analyses, self-reported ambivalence and catastrophizing predicted the anxiety symptoms. There was a drop in the standardized regression coefficient for self-reported ambivalence, with the Sobel test indicating that the change in the standardized regression coefficient is significant, $z = 2.34, p = .02$. Thus, catastrophizing partially mediates the association between self-reported ambivalence and anxiety symptoms.
<table>
<thead>
<tr>
<th>Regression 1</th>
<th>Regression 2</th>
<th>Regression 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IV-DV</strong></td>
<td><strong>IV-mediator</strong></td>
<td><strong>IV-DV</strong></td>
</tr>
<tr>
<td>B(SE)</td>
<td>β</td>
<td>B(SE)</td>
</tr>
<tr>
<td>aM 1</td>
<td>.35(.07)</td>
<td>.45***</td>
</tr>
<tr>
<td>bM 2</td>
<td>.11(.04)</td>
<td>.27**</td>
</tr>
<tr>
<td>cM 3</td>
<td>.40(.10)</td>
<td>.38***</td>
</tr>
<tr>
<td>dM 4</td>
<td>.40(.10)</td>
<td>.38***</td>
</tr>
<tr>
<td>eM 5</td>
<td>.40(.10)</td>
<td>.38***</td>
</tr>
</tbody>
</table>

Note. * p < .05. ** p < .01. *** p < .001.

aM 1: catastrophizing as a mediator between self-reported ambivalence (IV) and anxiety symptoms (DV).
bM 2: catastrophizing as a mediator between disorganization ratings (IV) and anxiety symptoms (DV).
cM 3: catastrophizing as a mediator between psychological control (IV) and anxiety symptoms (DV).
dM 4: overgeneralizing as a mediator between psychological control (IV) and anxiety symptoms (DV).
eM 5: personalizing as a mediator between psychological control (IV) and anxiety symptoms (DV).
Catastrophizing as a mediator between disorganization and anxiety symptoms. When entering disorganization ratings and catastrophizing together in the regression analyses, disorganization no longer predicted anxiety symptoms, but catastrophizing was a significant predictor, indicating mediation (Table 5, Row M2). The Sobel test indicated that the change in the standardized regression coefficient for disorganization is significant, \( z = 2.40, p = .02 \), suggesting that catastrophizing partially mediates the relation between disorganization and anxiety symptoms.

Negative errors as mediators between maternal psychological control and anxiety symptoms. We evaluated whether catastrophizing mediates the relation between maternal psychological control and anxiety symptoms (Table 5, Row M3). When entered together in the regression analysis both maternal psychological control and catastrophizing predicted the anxiety symptoms. The Sobel test, indicating that the drop in the standardized regression coefficient for maternal psychological control is significant, provided further evidence that catastrophizing partially mediates the relationship between psychological control and anxiety symptoms, \( z = 2.52, p = .01 \).

Next, we evaluated whether overgeneralizing mediates the relation between maternal psychological control and anxiety symptoms (Table 5, Row M4). Both maternal psychological control and overgeneralizing predicted anxiety symptoms when entered together in the regression analysis. However, the Sobel test indicated that the change of the standardized regression coefficient for psychological control is marginally significant (\( z = 1.88, p = .06 \)).
Finally, we tested the hypothesis that personalizing also mediates the relation between maternal psychological control and anxiety symptoms (Table 5, Row M5). When entered together in the regression analysis, maternal psychological control and personalizing predicted the anxiety symptoms. As further shown by the Sobel test ($z = 2.16, p = .03$), the change of standardized regression coefficient for maternal psychological control was significant. Thus, personalizing partially mediated the relation between maternal psychological control and anxiety symptoms.
Discussion

One purpose of the current study was to assess how attachment patterns relate to anxiety symptoms in preadolescence. Although a small literature investigating associations of attachment patterns with anxiety symptoms has emerged (e.g., Bosquet & Egeland, 2006; Manassis et al., 1995; Warren et al., 1997), our study is among the first to assess the relations of anxiety with both children’s perceptions of attachment and their representations of attachment with their mothers, and to include an assessment of the disorganized pattern of attachment. While we did not have specific expectations for avoidance, we hypothesized that higher security would be related to lower levels of anxiety symptoms, and higher ambivalence or disorganization would be associated with higher levels of anxiety symptoms. In agreement with previous studies (e.g., Bosquet & Egeland, 2006), security measured either way was associated with lower levels of anxiety, suggesting that children who perceive a more secure attachment relationship or those who have a more secure representation of attachment with their mother are protected from developing anxiety symptoms.

The results regarding our hypothesis about ambivalent attachment were mixed. Consistent with previous studies (e.g., Warren et al., 1997), higher ambivalence was related to higher levels of anxiety, although, when controlling for the effect of gender,
ambivalent attachment perceptions but not ambivalent attachment representations were related to anxiety. Thus, the pattern of results was somewhat different depending on how attachment was measured. In addition, zero-order correlations between the attachment measures indicated that children’s perceptions of ambivalent attachment related positively to children’s representations of disorganized attachment but not with ambivalent representations. These findings along with other research (Kerns et al., 2000), raise questions about the validity of children’s self-reports of ambivalence. Consequently, when disorganization is not measured, findings for the self-report measures need to be interpreted with caution, as they may actually reflect disorganization. The ambivalence perception measure may capture some of the variance in the anxiety symptoms that otherwise may be explained by disorganization.

Consistent with this suggestion, we found that disorganized attachment representations related positively to anxiety symptoms. Although previous studies showed an association between disorganization and internalizing problems (Carlson, 1998; Moss, Parent, Gosselin, Rousseau, St. Laurent, 1996; Moss et al., 1998), only one other study examined the associations with anxiety. Shamir-Essakow et al. (2005) found in a preschoolers sample that the mean number of anxiety symptoms was highest in the disorganized and avoidantly attached children, although due to small cases in each category, the authors could not test the differences among insecure attachment patterns. Our study found a clear association between a higher level of disorganization and anxiety symptoms, suggesting that the lack of a coherent strategy combined with apprehensive feelings toward the mother may lead to anxious symptomatology.
Our results indicated that avoidance, measured both ways, did not relate to anxiety symptoms. While this finding parallels previous studies investigating specifically anxiety symptoms (e.g., Brown et al., 2003; Warren et al., 1997), or internalizing symptoms (e.g., Moss et al., 1996), it also contradicts other studies that found a link between avoidance and internalizing symptoms (Goldberg et al., 1995; Lyons-Ruth et al., 1996; Moss et al., 1998). Several explanations are possible for the inconsistent results in the literature. One explanation is that avoidance may not be distinctive for anxiety; children with higher avoidant attachment with their mother may be prone to experiencing internalizing symptoms other than anxiety (e.g., depression), or their distress may only be heightened in the presence of other risk factors, such as chronic illnesses (Goldberg et al., 1995). The role of attachment in the children’s level of symptomatology may also differ with age. For example, Moss et al. (1998) found that avoidant boys are more likely than secure children to show internalizing symptoms between 5 and 7 years old, but this relation was not found when the children were retested at 7 to 9 years of age. Alternatively, because of their tendency to minimize their affect, more avoidant children may have difficulties expressing their distress and therefore may not report anxiety symptomatology on questionnaires.

The second purpose of our study was to investigate the relation between maternal childrearing practices (acceptance and psychological control) and anxiety symptoms. We expected that higher acceptance would be related to lower levels of anxiety symptoms and higher psychological control would relate to higher levels of anxiety symptoms. Contrary to some previous self-report studies, but in agreement with most parent-report
studies (Wood et al., 2003), our hypothesis regarding the role of maternal acceptance was not supported. Generally, in prior research, a stronger link between maternal acceptance and anxiety symptoms has been found for observational assessments of parenting. Our finding may also indicate that acceptance may play a more prominent role in other internalizing problems, such as depression (Rapee, 1997). Future studies should address this issue by assessing the role of acceptance in the context of different internalizing symptoms and using different informants. Consistent with previous findings (Gerlsma et al., 1992; Rapee, 1997; Wood et al., 2003), we found that children’s perceptions of maternal psychological control are associated with anxiety symptoms. That is, children perceiving higher maternal psychological control in the form of manipulation of their emotions and high level of guilt induction are at risk for developing anxiety symptoms.

The third goal of our study was to test whether attachment with mothers and maternal childrearing practices each uniquely explains variance in anxiety symptoms. A handful of studies addressed these questions, mainly using self-report measures of attachment (e.g., Booth et al., 1994; Costa & Weems, 2005; Roelofs et al., 2006) and not consistently identifying significant unique contributions of both family factors. We found some evidence that attachment and parenting practices explain unique variance in anxiety symptoms, although findings were weaker for children’s attachment representations assessed with the interview than for self-reports of attachment. The stronger results for self-report measures of attachment and parenting might occur because this approach capitalizes on shared method variance. Overall, attachment with mothers and maternal
childrearing practices each contributed to explaining anxiety symptoms, suggesting that family based models of anxiety symptoms need to include both constructs.

The fourth goal was to assess whether children’s cognitive distortions mediate the relations of attachment and perceived parenting with anxiety symptoms. As expected, catastrophizing partially mediated the relation between children’s perception of ambivalent attachment and anxiety symptoms, indicating that more ambivalent children have a tendency to predict negative outcomes for events, which in turn influences their level of anxiety. Further, catastrophic cognitions mediated the relation between disorganization and anxiety. This latter finding is consistent with the hypothesis that more disorganized children, who experience a frightening relationship with their mother (Ijzendoorn, Schuengel, & Bakermans-Kraneburg, 1999; Lyons-Ruth & Spielman, 2004; Main, & Solomon, 1986), may exaggerate potential negative consequences, which in turn affects their anxiety level.

Contrary to our expectations, none of the cognitive errors were related to security, thus, we concluded that children’s cognitive distortions are not responsible for the link between security and anxiety symptoms. Other mechanisms may be responsible for the relation between security and anxiety. For example, children with more secure attachments have greater perceived competence and are able to regulate better their emotions, using more constructive coping strategies such as problem solving and seeking support from others, than are less secure children (Cassidy, 1994; Kerns, in press; Thomson, 2001). Anxiety symptoms have also been linked to children’s low self-perceived competence and poor ability to identify and regulate their emotions (e.g.,
Chansky & Kendall, 1997; Cole, Martin, Peeke, Seroczynski, & Fier, 1999; Suveg and Zeman, 2004; Zeman, Shipman, & Suveg, 2002; for reviews, see Southam-Gerow & Kendall, 2002; Daleiden & Vasey, 1997). Despite these connections, only one study assessed the role of emotion regulation in linking attachment security with anxiety (Bosquet & Egeland, 2006), showing that insecure attachment measured in infancy was associated with emotion regulation in the preschool years, which in turn was related to anxiety symptoms in childhood. In addition, insecure attachment was associated with developmental competence, which in turn was related to preadolescence anxiety. Future studies of the relations between attachment, self-competence, emotion regulation, and anxiety may be relevant for understanding pathways from security to anxiety.

Finally, we hypothesized that all three negative errors (catastrophizing, overgeneralizing, and personalizing) would mediate the relations of maternal acceptance and psychological control with anxiety symptoms. Although maternal acceptance was not related to children’s biased interpretations of events or to anxiety, we found strong evidence consistent with the hypothesis that children who perceive higher controlling environments form cognitive distortions which in turn lead to higher levels of anxiety symptoms. Maternal psychological control was the only parent-child predictor associated with all three cognitive distortions, with two cognitive distortions (catastrophizing and personalizing) partially mediating its relation with anxiety symptoms. Although the findings are limited by the self-report nature of the investigation, these results are similar to those reported in previous studies examining children’s perception of lack of internal control as a mechanism explaining the link between parental control and anxiety.
(Chorpita & Barlow, 1998; Chorpita, et al., 1998). Thus, maternal psychological control may predispose children to a general cognitive style characterized by interpreting future events as catastrophic and taking excessive responsibility for negative outcomes.

Although the findings for gender and behavioral inhibition are not the focus of the study, they deserve comment. In agreement with previous research with community samples of similar ages, gender explained a significant amount of the variance in children’s levels of anxiety, with girls reporting higher levels of anxiety than boys (Schniering et al., 2000; Weiss, & Last, 2001; Zahn-Waxler, Klimes-Dougan, & Slattery 2000). Contrary to previous studies (e.g., Mansassis et al., 1995), we did not find a relation between behavioral inhibition and anxiety. However, studies showing a relation between behavioral inhibition and anxiety typically used a categorical approach and relied on direct observations of infants or preschoolers in laboratory situations or on parents’ self-report of children’s temperament in early years (Biederman, Rosenbaum, Chakoff, & Kagan, 1995; Lonigan & Phillips, 2001; Oosterlaan, 2001; Rapee, 2002; Turner, Beidel, Wolff, 1996; see Muris & Meesters, 2002 and van Brakel, Muris, Bogels, & Thomassen, 2006 for exceptions). We used a dimensional approach to assess temperament which may dilute the effect of high inhibition (Oosterlaan, 2001). Finally, as most children become less inhibited over time (Manassis, Hudson, Webb, & Albano, 2004; Rapee, 2002), it is also possible that this temperamental aspect may not be a relevant predictor of anxiety symptoms at later ages.

Some limitations of the current study should be noted. First, although we used a story-stem task to assess the attachment patterns, we relied solely on children’s report to
assess maternal childrearing practices, cognitive distortions, and anxiety symptoms, which may introduce shared method variance. While literature reviews suggest that children are reliable informants of their internalizing symptoms (e.g., Schniering et al., 2000), employing observational measures to assess the parenting practices may increase the reliability of results. Second, we examined the attachment and parenting practices of mothers only, but fathers also play a role in children’s healthy development (Connell & Goodman, 2002; Phares, & Compas, 1992; Verschueren, & Marcoen, 2005). Future studies should address this issue by investigating the influence of attachment with fathers and paternal childrearing practices on anxiety symptoms. Finally, we assessed family factors, cognitive distortions, and anxiety symptoms at a single time point, thus, our mediation analyses are correlational in nature. Although one can speculate that attachment bonds and parental childrearing practices are temporally prior to the onset of anxious symptomatology, and that cognitive distortions precede the onset of anxiety, studies assessing these constructs at multiple time points are necessary in order to disentangle possible bidirectional effects of family factors with cognitive distortions and anxiety symptoms.

The results of the current study have implications for case conceptualization, prevention programs, or treatment processes when working with children at risk for developing anxiety symptoms. Generally, the cognitive-behavioral approach, focusing on modifying children’s negative cognitions and teaching parents to reward their children’s non-anxious behavior while modeling desirable behaviors and coping strategies (e.g., Kendall, 1994; Barrett & Shortt, 2003; for reviews, see Weisz, 1994; Silverman, &
Berman, 2001), is the treatment of choice for children. Indeed, our results support the importance of changing anxious cognitions as well as educating the parents in regard with the effects of their own behavior. However, because more disorganized or ambivalent children are at risk for developing anxiety symptoms, early interventions or prevention programs may also focus on evaluating the attachment relationship between the caregiver and the child. Enhancing the quality of the attachment relationship, while minimizing the tension or fear of the child, may foster compliance with the cognitive behavioral regimen and assure that the gains of treatment are long lasting (Weems, & Carrion, 2003). In the end, after undergoing any type of program, children’s progress is largely dependent on their parents’ behavior. Because security is a protective factor, prevention programs may highlight the positive effects of availability and consistency in the parent-child dyad. Overall, supplementing a cognitive-behavioral perspective with a focus on attachment and parenting may be helpful when targeting children at risk for developing anxiety symptoms.

In summary, this study emphasized that both attachment patterns and parenting may play a role in the development of anxiety symptoms. In addition, our findings highlighted the unique and combined contribution of attachment and parenting practices. Further, we identified specific cognitive distortions that explain some relations of attachment and parenting with children’s anxiety symptoms. We suggest three directions for future studies. First, it is important to assess all four attachment patterns and parental childrearing practices of both mothers and fathers in order to investigate thoroughly the relation of each of them with anxiety symptoms. Second, using multiple measurement
approaches, at different time points, may also improve our understanding of how family relationships contribute to the development and maintenance of childhood anxiety. Third, an important follow-up would be to consider other mechanisms explaining the relations of attachment patterns and parenting with anxiety. Future studies should investigate whether children’s perceived competence and their ability to regulate their emotions also help explain the associations of security and parenting with anxiety.
References


Main, M., & Hesse, E. (1990). Parents’ unresolved traumatic experiences are related to infant disorganized attachment status: is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti, & E.M. Cummings (Eds), *Attachment in the preschool years: Theory, research and intervention* (pp. 121-161). Chicago: University of Chicago Press.


APPENDIX A

SCALES
Children’s perceptions of attachment

This questionnaire asks about what you are like with your mother – like how you act and feel around her. Let’s try a practice question. Each question talks about two kinds of kids, and we want to know which kids are most like you. Decide first whether you are more like the kids on the left side or more like the kids on the right side, then decide whether that is sort of true for you, or really true for you and circle that box. For each sentence you will only circle one box.

Practice question

One day at school you get your test back from your teacher and you see that you scored a low grade on the test. When you get home, your mother can tell that you feel bad and she asks if you want to talk about it.

Some kids would want to talk to their mother about it     Other kids would want to be left alone

Really true     Sort of true     Sort of true     Really true
for me          for me          for me          for me

Security scale (Kerns et al., 2001)

1. Some kids find it easy to trust their mom BUT other kids are not sure if they can trust their mom
2. Some kids feel like their mom butts in a lot when they are trying to do things BUT other kids are feel like their mom lets them do things on their own.
3. Some kids find it easy to count on their mom for help BUT other kids think it’s hard to count on their mom.
4. Some kids think their mom spends enough time with them BUT other kids think their mom does not spend enough time with them.
5. Some kids do not really like telling their mom what they are thinking or feeling BUT other kids do like telling their mom what they are thinking or feeling.
6. Some kids do not really need their mom for much BUT other kids need their mom for a lot of things.
7. Some kids wish they were closer to their mom, BUT other kids are happy with how close they are to their mom.
8. Some kids worry that their mom does not really love them BUT other kids are really sure that their mom loves them.
9. Some kids feel like their mom really understands them BUT other kids feel like their mom does not really understand them.
10. Some kids are really sure their mom would not leave them BUT other kids feel like their mom does not really understand them.
11. Some kids worry that their mom might not be there when they need her BUT other kids are sure their mom will be there when they need her.
12. Some kids think their mom does not listen to them BUT other kids do think their mom listens to them.
13. Some kids go to their mom when they are upset BUT other kids do not go to their mom when they are upset.
14. Some kids wish their mom would help them more with their problems BUT other kids think their mom helps them enough.
15. Some kids feel better when their mom is around BUT other kids do not feel better when their mom is around.

Ambivalence scale (Finnegan et al., 1996)

1. One day something happens that upsets you. After talking with your mother about it for a while, your mother says that she needs to stop talking with you because she has to go do something else.
   Some kids would calm down after talking with their mother BUT Other kids would still be upset and would try to get their mother to talk some more with them.
2. Your mother has been busy and hasn’t been able to show you much attention lately.
   Some kids would not be very upset that their mother has been busy BUT Other kids would be very upset and would try to get their mother to pay them more attention.
3. Your mother says she is thinking about going to visit a relative for a week or two.
   Some kids would be upset that she is going away for so long and would try to talk her out of going BUT Other kids wouldn't be upset and wouldn’t try to talk her out of going.
4. You are at the movies with your mother and you have to go out to the bathroom. When you come back in, the theatre is so dark that you can't find your mother.
   Some kids would calmly look for their mother and not be too worried BUT Other kids would look for their mother and be very upset until they found her.
5. Your mother comes home after being away for a few days.
   Some kids would not be upset with her for having gone away BUT Other kids would be upset with her for having gone away.
6. On the way home from school a bully stops you and threatens you. This makes you upset and afraid. When you get home you talk to your mother about it.
   Some kids would stay close to their mother and talk about it for a long time BUT Other kids would talk to her for a short time and then get over it.
7. You have to go to the doctor for a check up and you are in the waiting room with your mother. Your mother wants to leave you at the doctor's office while she does some shopping.
   Some kids would be upset and would try to make their mother stay BUT Other kids wouldn't be so upset and wouldn't try to make their mother stay.
8. There is an after school sports team that you really want to join, but you realize that you don't know anyone on the team. You ask your mother to go to the tryouts with you. She says she can drive you there but can't stay there with you.
   Some kids would go only if their mother could stay during the tryouts BUT Other kids would go even if she couldn't stay.
9. You and your mother are at a busy shopping mall, and suddenly you can't find your mother. You are upset, but a little later you find each other. Some kids would soon get over being upset BUT Other kids would stay worried that they might get separated again.

10. One day at school the teacher misunderstands something you did and scolds you for it. You become upset. When you get home, you try to talk to your mother about it, but she is busy and says she’ll talk with you about it later. Some kids would try to get her to talk about it right away BUT Other kids would wait until their mother was ready to talk about it.

Avoidance scale (Finnegan et al., 1996)

1. Your mother has been away for a few days but is coming home later in the day. Some kids wouldn't care that she is coming home BUT Other kids would look forward to seeing her.

2. One of your teachers says something mean to you at school one day. Some kids would let their mother know they were upset and would talk to her about it BUT Other kids wouldn't let their mother know they were upset and would not talk to her about it.

3. Your mother takes you to the doctor’s office for a check-up. While you are sitting in the waiting room, she says she is going to run an errand and will be back to pick you up later. Some kids would be glad that their mother left them alone to wait BUT Other kids would prefer that their mother wait with them.

4. Let’s say that you have a favorite pet, a cat or a dog, that suddenly gets very sick. You are sad about it. Some kids would let their mother know they were feeling sad BUT Other kids would not let their mother know they were feeling sad.

5. You and your mother are visiting a new shopping center to see what it is like. Your mother suggests that the two of you explore the center together. Some kids would only want to explore it on their own BUT Other kids wouldn’t mind exploring it with their mother.

6. You and your mother go to the movies together. When you go into the theater, you see that it is crowded and you can't find two seats together. Some kids would be sorry they can't sit with their mother BUT Other kids would rather sit away from her anyway.

7. One day you and your mother go to the zoo. Your mother says that because she has not seen you much lately, she would like the two of you to look at the animals together. Some kids would rather look at the animals alone and meet up with their mother later BUT Other kids would be willing to look at the animals with their mother.

8. One day you have a problem with a friend at school. When you get home, your mother can tell that you are upset and starts talking to you about it. Some kids would feel comfortable talking to their mother about their feelings and problems BUT Other kids would just want their mother to leave them alone.
9. Your mother comes home after being away for a week or two. Some kids would stop what they are doing and run to greet her with a hug or a kiss BUT Other kids wouldn't stop what they are doing to greet her.

10. One day you come home from school upset about something. Your mother asks you what the problem is. Some kids wouldn't want to talk to her about it BUT Other kids would want to talk her about it.

Children’s attachment representations

Two dolls matching the ethnicity and physical characteristics of the mother and child are introduced: “Today we are going to tell some stories about your family. We will have your mom and you in this stories (at this point, the dolls are introduced). I will begin the stories and you will finish them”.

1. Homework problem
Set-up: The target child only is at kitchen table. The mother is in the living room watching TV.
Story: You are working on a homework project that is due tomorrow. At first, things were going really well, but now you’re having a lot of trouble, and it is getting late. You’re worried that you might not be able to finish it before bedtime. Show me what happens next.

2. Fight with a Friend
Set-up: The mother only is in the living room on the couch. There is grass on the table to show outside, because child will just be coming home.
Story: You were over at a friend’s house playing. You and your friend got into a big fight, and your friend tells you to leave. You go inside the house and slam the door. Your mom says (in a neutral tone of voice), “Is that you, X?” Show me what happens next.

Acceptance scale (Schaefer, 1965)

Please rate how much each item is like your mother.
1 = Not like her 2 = Somewhat like her 3 = A lot like her
My mother is a person who:
1. makes me feel better after talking. 1 2 3
2. understands my problem. 1 2 3
3. smiles at me very often. 1 2 3
4. makes me feel better if I am upset. 1 2 3
5. enjoys doing things with me. 1 2 3
6. enjoys working with me in house or yard. 1 2 3
7. comforts me when I am afraid. 1 2 3
8. cheers me up when I am sad. 1 2 3
9. has a good time at home with me. 1 2 3
10. seems proud of the things I do. 1 2 3

Psychological control scale (Barber, 1996)

Please rate how much each item is like your mother.
1 = Not like her  2 = Somewhat like her  3 = A lot like her
My mother is a person who:
1. changes the subject, whenever I have something to say. 1 2 3
2. finishes my sentences whenever I talk. 1 2 3
3. often interrupts me. 1 2 3
4. acts like she knows what I am thinking or feeling. 1 2 3
5. would like to be able to tell me how to feel or think about things all the time 1 2 3
6. is always trying to change how I feel or think about things. 1 2 3
7. blames me for other family members’ problems. 1 2 3
8. brings up my past mistakes when she criticizes me. 1 2 3
9. tells me that I am not a loyal or good member of the family. 1 2 3
10. tells me of all the things she had done for me. 1 2 3
11. says, if I really care for her, I would not do things that cause her to worry 1 2 3
12. is less friendly with me, if I do not see things her way. 1 2 3
13. will avoid looking at me when I have disappointed her. 1 2 3
14. if I have hurt her feelings, stops talking with me until I please her again. 1 2 3
15. wants to control whatever I do. 1 2 3
16. would like to be able to tell me what to do all the time. 1 2 3
17. is always trying to change me. 1 2 3

Anxiety symptoms- the child version (Birmaher et al., 1997)

Below is a list of items that describe how children may think or feel in some situations. For each item listed, please think about what you thought or did in the last three months, and then rate how true the statement is for you, using the following scale:
0----------------------------------------------1----------------------------------------------2
not true or hardly ever true  sometimes true  true or often true

1. When frightened, it is hard to breathe. 0 1 2
2. I get headaches when I am at school. 0 1 2
3. I don’t like to be with people I don’t know. 0 1 2
4. I get scared if I sleep away from home. 0 1 2
5. I worry about others liking me. 0 1 2
Anxiety symptoms- the parent version (Birmaher et al., 1997)

Below is a list of items that describe how children may think or feel in some situations. For each item listed, rate how true the statement was for your child, on the last three months, on the following scale:

0----------------------------------------------1----------------------------------------------2
not true or hardly ever true  sometimes true  true or often true

6. When frightened, I feel like passing out. 0 1 2
7. I am nervous. 0 1 2
8. I follow my parents wherever they go. 0 1 2
9. People tell me I look nervous. 0 1 2
10. I feel nervous with people I don’t know well. 0 1 2
11. I get stomachaches at school. 0 1 2
12. When frightened, feel like going crazy. 0 1 2
13. I worry about sleeping alone. 0 1 2
14. I worry about being good as other kids. 0 1 2
15. When frightened, feel things aren’t real. 0 1 2
16. I have nightmares about parents. 0 1 2
17. I worry about going to school. 0 1 2
18. When frightened, my heart beats fast. 0 1 2
19. I get shaky. 0 1 2
20. I have nightmares about bad things happening to me. 0 1 2
21. I worry about things working out for me. 0 1 2
22. When frightened, I sweat a lot. 0 1 2
23. I am a worrier. 0 1 2
24. I get really frightened for no reason. 0 1 2
25. I’m afraid to be alone at home. 0 1 2
26. I find it hard to talk with people I don’t know. 0 1 2
27. When frightened, I feel like I am choking. 0 1 2
28. People tell me that I worry too much. 0 1 2
29. I don’t like being away from family. 0 1 2
30. I am afraid of having anxiety (panic) attacks. 0 1 2
31. I worry that bad things will happen to my parents. 0 1 2
32. I am shy with people I don’t know well. 0 1 2
33. I worry about the future. 0 1 2
34. When frightened, feel like throwing up. 0 1 2
35. I worry about how well I do things. 0 1 2
36. I am scared to go to school. 0 1 2
37. I worry about things in the past. 0 1 2
38. When frightened, I feel dizzy. 0 1 2
<table>
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<th></th>
<th>When frightened, it is hard to breathe.</th>
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<td>2.</td>
<td>Gets headaches when s/he is at school.</td>
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<td>3.</td>
<td>Doesn’t like to be with people s/he doesn’t know.</td>
<td>0</td>
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<td>4.</td>
<td>Gets scared if s/he sleeps away from home.</td>
<td>0</td>
<td>1</td>
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<td>5.</td>
<td>Worry about others liking her/him.</td>
<td>0</td>
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<td>2</td>
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<tr>
<td>6.</td>
<td>When frightened, s/he feels like passing out.</td>
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<tr>
<td>7.</td>
<td>My child is nervous.</td>
<td>0</td>
<td>1</td>
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<tr>
<td>8.</td>
<td>Follows me wherever I go.</td>
<td>0</td>
<td>1</td>
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<tr>
<td>9.</td>
<td>People tell her/him she/he looks nervous.</td>
<td>0</td>
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<tr>
<td>10.</td>
<td>Feels nervous with people s/he doesn’t know well.</td>
<td>0</td>
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<tr>
<td>11.</td>
<td>Gets stomachaches at school.</td>
<td>0</td>
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<tr>
<td>12.</td>
<td>When frightened, feels like going crazy.</td>
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<td>13.</td>
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<td>14.</td>
<td>Worries about being good as other kids.</td>
<td>0</td>
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<td>15.</td>
<td>When frightened, feels things aren’t real.</td>
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<tr>
<td>16.</td>
<td>Has nightmares about parents.</td>
<td>0</td>
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<tr>
<td>17.</td>
<td>Worries about going to school.</td>
<td>0</td>
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<td>2</td>
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<tr>
<td>18.</td>
<td>When frightened, her/his heart beats fast.</td>
<td>0</td>
<td>1</td>
<td>2</td>
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<tr>
<td>19.</td>
<td>Gets shaky.</td>
<td>0</td>
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<tr>
<td>20.</td>
<td>Has nightmares about bad things happening to her/him.</td>
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<tr>
<td>21.</td>
<td>Worries about things working out for me.</td>
<td>0</td>
<td>1</td>
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<tr>
<td>22.</td>
<td>When frightened, s/he sweats a lot.</td>
<td>0</td>
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<tr>
<td>23.</td>
<td>s/he is a worrier.</td>
<td>0</td>
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<tr>
<td>24.</td>
<td>Gets really frightened for no reason.</td>
<td>0</td>
<td>1</td>
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<tr>
<td>25.</td>
<td>Is afraid to be alone at home.</td>
<td>0</td>
<td>1</td>
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</tr>
<tr>
<td>26.</td>
<td>Finds it hard to talk with people s/he doesn’t know.</td>
<td>0</td>
<td>1</td>
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<tr>
<td>27.</td>
<td>When frightened, feel s/he is choking.</td>
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<td>28.</td>
<td>People her/him s/he worries too much.</td>
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<tr>
<td>29.</td>
<td>Doesn’t like being away from family.</td>
<td>0</td>
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<tr>
<td>30.</td>
<td>Is afraid of having anxiety (panic) attacks.</td>
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<tr>
<td>31.</td>
<td>Worries that bad things will happen to parents.</td>
<td>0</td>
<td>1</td>
<td>2</td>
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<tr>
<td>32.</td>
<td>Is shy with people with people s/he doesn’t know well.</td>
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<td>33.</td>
<td>Worries about the future.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>34.</td>
<td>When frightened, feels like throwing up.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>35.</td>
<td>Worries about how well s/he does things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
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<tr>
<td>36.</td>
<td>Is scared to go to school.</td>
<td>0</td>
<td>1</td>
<td>2</td>
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<tr>
<td>37.</td>
<td>Worries about things in the past.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>38.</td>
<td>When frightened, s/he feels dizzy.</td>
<td>0</td>
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Negative cognitive errors (Leitenberg, 1996)

This questionnaire describes a number of situations that might happen to kids. Each situation is followed by a thought that a kid in that situation might have. This thought is in “quotation marks”. We want to know how similar that thought is to what you might think in that situation. Please read each situation and imagine that it is happening to you, even if it never has in the past. Then read the thought which is in “quotations.” Circle the statement underneath each thought that best describes how similar that thought is to how you would think in that situation.

As an example let’s read this:

A. You are the goalie for your soccer team. The game ends in a 1-1 tie. After the game you hear one of your teammates say that your team should have won today. You think, “He/She thinks it’s my fault we didn’t win.” This thought is:

<table>
<thead>
<tr>
<th>almost exactly</th>
<th>a lot</th>
<th>somewhat</th>
<th>only a little</th>
<th>not at all</th>
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<tr>
<td>like I would think</td>
<td>like I would think</td>
<td>like I would think</td>
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</table>

B. You see two of your friends talking together at recess. As you walk towards them, they go over to the softball field and start playing catch. You think, “Maybe they’re mad at me about something.” This thought is:

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<thead>
<tr>
<th>almost exactly</th>
<th>a lot</th>
<th>somewhat</th>
<th>only a little</th>
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Catastrophizing subscale:

1) You invite one of your friends to stay overnight at your house. Another one of your friends finds out about it. You think, “He/She will be real mad at me for not asking them and never want to be friends again.”

2) Your softball team is having practice. The coach tells you he would like to talk to you after practice. You think, “He’s not happy with how I’m doing and doesn’t want me on the team anymore.”

3) You forgot to do your spelling homework. Your teacher tells the class to hand them in. You think, “The teacher is going to think I don’t care and I won’t pass.”

4) You just started a part-time job helping one of your neighbors. Twice this week you were not able to go skating with your friends because of having to work. As you see your friends leaving to go skating, you think, “Pretty soon they won’t ever want to do anything with me.”

5) Your cousin calls you to ask if you’d like to go on a long bike ride. You think, “I probably won’t be able to keep up and people will make fun of me.”

6) You did an extra credit assignment. Your teacher tells you that he would like to talk to you about it. You think, “He thinks I did a lousy job on my assignment and is going to give me a bad grade.”
Overgeneralizing subscale
7) Some of your friends have asked you if you’re going to try out for the school soccer team. You tried out last year but did not make it. You think, “What’s the use of trying out, I couldn’t make it last year.”
8) Whenever it is someone’s birthday in your class, the teacher lets that student have a half hour of free time to play a game with another student. Last week it was one of your friend’s birthday and they picked someone else. Now another of your friends is going to get to choose someone. You think, “They probably won’t pick me either.”
9) Last week you had a history test and forgot some of the things you had read. Today you are having a math test and the teacher is passing out the test. You think, “I’ll probably forget what I studied just like last week.”
10) Your class is starting a new unit in math. The last one was really hard. When it’s time for math class you think, “That last stuff was so hard I just know I’m going to have trouble with this too.”
11) Last week one of the kids in your class had a party and you weren’t invited. This past week you heard another student in your class telling someone he was thinking of getting some kids together to go to a movie. You think, “It’ll be just like last week, I won’t be asked to go.”
12) Last week you played softball and struck out twice. Today some kids from your class ask you to play soccer. You think, “There’s no sense playing, I’m no good at sports.”

Personalizing subscale
13) Your class is having 4-person relay races in gym class. Your team loses. You think, “If I had just been faster we would not have lost.” This thought is:
14) Your team loses a spelling contest. The other team won easily. You think, “If I were smarter, we wouldn’t have lost.”
15) You call one of the kids in your class to talk about your math homework. He/She says, “I can’t talk to you now, my father needs to use the phone.” You think, “They didn’t want to talk to me.”
16) You and three other students completed a group science project. Your teacher did not think it was very good and gave your group a poor grade. You think, “If I hadn’t done such a lousy job, we would have gotten a good grade.”
17) You are taking skiing lessons. The instructor tells the class that he does not think people are ready for the steep trails yet. You think, “If I could only learn to ski faster, I wouldn’t be holding everyone up.”
18) You’re with two of your friends. You ask if they would like to go to a movie this weekend. They both say they can’t. You think, “They probably just don’t want to go with me.”
Behavioral inhibition scale (McClowry, 1995)

Using the scale below, please circle the number that tells you how often your child’s behavior is like the behavior described in each item.

<table>
<thead>
<tr>
<th></th>
<th>NEVER</th>
<th>RARELY</th>
<th>HALF OF THE TIME</th>
<th>FREQUENTLY</th>
<th>ALWAYS</th>
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<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

1. Approaches children his/her age even when he/she doesn't know them. 1 2 3 4 5
2. Smiles or laughs with new adult visitors at home. 1 2 3 4 5
3. Is shy with adults he/she doesn't know. 1 2 3 4 5
4. Seems nervous or anxious in new situations (visiting relatives new playmates). 1 2 3 4 5
5. When meeting new children, acts bashful. 1 2 3 4 5
6. Moves right into a new place (store, theater, playground). 1 2 3 4 5
7. Prefers to play with someone he/she already knows rather than meeting someone new. 1 2 3 4 5
8. Avoids (stay away from, doesn't talk to) new guests or visitors in the home. 1 2 3 4 5
9. Seems uncomfortable when at someone’s house for the first time. 1 2 3 4 5