

SEPARATION ANXIETY DISORDER IN YOUTH: PHENOMENOLOGY, ASSESSMENT, AND TREATMENT

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Abstract

Separation Anxiety Disorder (SAD) is the most commonly diagnosed and impairing childhood anxiety disorder, accounting for approximately 50% of the referrals for mental health treatment of anxiety disorders. While considered a normative phenomenon in early childhood, SAD has the potential to negatively impact a child's social and emotional functioning when it leads to avoidance of certain places, activities and experiences that are necessary for healthy development. Amongst those with severe symptoms, SAD may result in school refusal and a disruption in educational attainment. This paper provides a comprehensive review of the current literature on SAD etiology, assessment strategies, and empirically supported treatment approaches. New and innovative approaches to the treatment of SAD that also employ empirically supported techniques are highlighted. In addition, future directions and challenges in the assessment and treatment of SAD are addressed.

KEY WORDS: *separation anxiety, children, assessment, treatment.*

Resumen

El trastorno de ansiedad por separación (TAS) es el trastorno de ansiedad infantil más frecuentemente diagnosticado y el que ocasiona un mayor deterioro en el funcionamiento, constituyendo aproximadamente el 50% de las remisiones para el tratamiento en salud mental de los trastornos de ansiedad. Aunque considerado como un fenómeno normal en la niñez temprana, el TAS tiene el potencial de afectar negativamente el funcionamiento social y emocional del niño debido a las conductas de evitación de ciertos lugares, actividades y experiencias que son necesarias para su desarrollo saludable. Entre aquellos con síntomas graves, el TAS puede ocasionar un rechazo para ir escuela y constituir un impedimento para el logro educativo. Este artículo proporciona una amplia revisión de la literatura actual sobre la etiología del TAS, las estrategias de evaluación y los enfoques de

tratamiento empíricamente validados. Se resaltan los enfoques nuevos e innovadores para el tratamiento del TAS que utilizan también técnicas empíricamente validadas. Además, se abordan directrices y retos futuros para la evaluación y el tratamiento del TAS.

PALABRAS CLAVE: *ansiedad por separación, niños, evaluación, tratamiento.*

Separation Anxiety Disorder in youth: phenomenology, assessment, and treatment

Anxiety disorders are one of the most common forms of psychopathology in youth, with prevalence estimates ranging from 5% to 25% worldwide (Boyd, Kostanski, Gullone, Ollendick, & Shek, 2000; Costello, Mustillo, Erklani, Keeler, & Angold, 2003; Essau, Conradt, & Petermann, 2000; Roza, Hofstra, van der Ende, & Verhulst, 2003; Wittchen, Nelson, & Lachner, 1998). Of these, separation anxiety disorder (SAD) is the most frequently diagnosed childhood anxiety disorder, accounting for approximately 50% of the referrals for mental health treatment of anxiety disorders (Bell-Dolan, 1995; Cartwright-Hatton, McNicol, & Doubleday, 2006).

Separation Anxiety Disorder is characterized by “developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached” (American Psychiatric Association [APA], 2000). Children exhibiting SAD symptoms become significantly distressed when separated from their home or attachment figure (usually a parent) and will often take measures to avoid separation. This fear is exhibited through disproportionate and persistent worry about separation, including apprehension about harm befalling a parent or the child when they are not together, as well as fear that the parent will leave and never return. Avoidance behaviors commonly associated with SAD include clinging to parents, crying or tantruming, and refusal to participate in activities that require separation (e.g., play dates, camp, sleepovers).

Early in development, the experience of separation anxiety is a normal phenomenon that typically diminishes as the child matures. A diagnosis of SAD is only assigned when the child’s distress during separation is inappropriate given his or her age and developmental level (APA, 2000). Research suggests that 4.1% of children will exhibit a clinical level of separation anxiety, and that approximately one-third of these childhood cases (36.1%) persist into adulthood if left untreated (Shear, Jin, Ruscio, Walters, & Kessler, 2006).

Etiology of SAD in youth

There are several hypotheses regarding factors that contribute to the development and maintenance of SAD. Most current theories suggest that separation anxiety develops from an interaction of biological and environmental factors. Risk factors for SAD may include a genetic vulnerability to experience anxiety as well as temperamental and biological vulnerabilities (Goldsmith &

Gottesman, 1981). However, research suggests that SAD may be substantively influenced by environmental factors, more so than other childhood anxiety disorders (Eley, 2001). In the Virginia Twin Study of Adolescent Behavioral Development (VTSABD), anxiety symptoms were assessed through child- and parent-report in 1412 same-sex twin pairs aged 8-16 years. Findings revealed that variance in child-reported SAD were attributable to both shared and non-shared environmental factors with no significant genetic influence (Topolski et al., 1997). However, in a similar study including 2043 same-sex twin pairs aged 3-18, results indicated both shared-environment and genetic influences on SAD (Feigon, Waldman, Levy, & Hay, 1997). Taken together, these findings suggest that environmental factors likely play a significant role in the development of SAD (Vasey & Dadds, 2001).

One environmental factor frequently cited in the development of childhood anxiety is parenting behavior. Low parental warmth and parenting behaviors that discourage autonomy are associated with the development of anxiety and other childhood difficulties (see Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004, for a review). Research in developmental psychology and attachment theory has consistently found that insecure or anxious attachment styles also serve as risk factors for various forms of emotional disturbance and psychopathology, including depression, anxiety, and behavior problems (Foote, Eyberg, & Schuhmann, 1998; Sroufe, 2005; Westen, Nakash, Thomas, & Bradley, 2006). Additionally, research suggests that locus of control plays an etiological role, such that early childhood experiences promoting an external locus of control, or diminished sense of control over one's environment, may serve as a risk factor for the development of anxiety (Chorpita & Barlow, 1998).

Overprotective and over involved parenting behaviors are also central to the development and maintenance of childhood anxiety. Furthermore, parental intrusiveness appears to be a specific risk factor for SAD among children with anxiety disorder diagnoses (Wood, 2006). In this context, intrusive parenting is characterized by disproportionate regulation of the child's emotions and behavior as well as autocratic decision making. Parental intrusiveness is often enacted by providing excessive assistance in the child's daily activities, such as dressing or bedtime routine, thus preventing the child from engaging in and mastering age-appropriate behaviors and activities. These intrusive parental behaviors, aimed at reducing or preventing the child's distress, may instead encourage the child's dependence on parents, thus impacting the child's perceptions of mastery over his or her environment (see Wood, McLeod, Sigman, Hwang, & Chu, 2003, for a review).

Effects of SAD on the developing child and family

Although SAD is relatively common, it can be extremely impairing to a child's social and emotional development. Like most anxiety disorders, a common feature of SAD is avoidance of anxiety-provoking situations (e.g., separation from one's

attachment figure). Therefore, SAD has the potential to significantly impact one's developmental trajectory if it leads to avoidance of certain places, activities and experiences that are crucial for healthy development. Children diagnosed with SAD often fear that something catastrophic might occur when they are separated from an attachment figure, leading to refusal to participate in developmentally appropriate activities with peers. In its most severe form, SAD may result in school refusal and a disruption in educational attainment. It has been estimated that approximately 75% of children with separation anxiety exhibit some form of school refusal behavior (Last, Francis, Hersen, Kazdin, & Strauss, 1987). Longitudinal studies indicate that school refusal behavior can lead to serious short-term problems such as, academic decline, alienation from peers, and family conflict (Kearney, 2006). Research also suggests that childhood SAD may significantly limit peer interactions, serving as a risk factor for future social impairment and isolation. For instance, childhood SAD may be associated with an increased risk of remaining unmarried or experiencing marital instability later in life (Shear et al., 2006).

In addition to avoidance and clinging behaviors, children with SAD often display oppositional behaviors that can cause significant interference in family functioning and social development (Tonge, 1994). When confronted with situations that require separation, such as bedtime or school attendance, a child with SAD may tantrum or refuse to comply with parents' instructions. Oppositional behavior in the course of SAD often arises from the inadvertent reinforcement of the child's avoidance behaviors and misconduct. For instance, when a child tantrums or "causes a scene," parents may remove the child from the anxiety-provoking situation. As a result, these actions may reinforce the disruptive, inappropriate behavior.

Somatic symptoms, such as stomachaches, headaches and nausea, are another common feature of SAD. Children with SAD are also more likely to report somatic complaints of this nature than children diagnosed with phobic disorders (Last, 1991). Somatic complaints often occur in the context of separation situations, reflecting either an avoidance strategy or genuine physical distress (Albano, Chorpita, & Barlow, 1996; Tonge, 1994). In addition to more generalized somatic symptoms, children with SAD often experience sleep difficulties when a parent is not present and may refuse to sleep alone (Black, 1995). Children with SAD may also experience nightmares about separation, potentially further disrupting sleep (Francis, Last, & Strauss, 1987).

SAD may be significantly interfering not only for the child, but also for the attachment figure and other family members. Separation anxiety in one child affects overall family life and parental stress when the child's anxiety limits the activities of siblings and parents (Fischer, Himle, & Thyer, 1999). In the face of separation situations, children may have tantrums, cling to parents, or refuse to be left alone (Tonge, 1994). Parents often make several accommodations (e.g., sleeping in the child's bed, not leaving the child with other caregivers, forgoing quality time with a spouse) in order to alleviate the child's distress. These accommodations can lead to distress among all family members. Parents may become frustrated that they are unable to spend time alone, while siblings may dislike that more attention is being paid to the symptomatic child. Additionally, it is not uncommon for a close bond to

develop between the SAD child and one primary caregiver (most often the mother). This can lead to family dysfunction if that close relationship results in exclusionary behavior toward the father (Bernstein & Borchardt, 1996).

Childhood SAD may also be associated with a heightened risk for the development of other anxiety and depressive disorders in adolescence and adulthood, such as panic disorder and agoraphobia (PDA; Biederman et al., 2005; Silove & Manicavasagar, 1993), though research findings are conflicting. Individuals with current PDA frequently report childhood histories of SAD. Furthermore, biological studies have found similar respiratory physiology among patients with SAD and PDA (Battaglia, Bertella, Politi, & Bernardeschi, 1995; Silove, Harris, Morgan, & Boyce, 1995). However, Aschenbrand, Kendall, and Webb (2003) found that children diagnosed with SAD do not display a greater risk for developing PDA in adolescence and adulthood than those with other childhood anxiety diagnoses. Furthermore, subjects with a childhood diagnosis of SAD were not significantly more likely to meet diagnostic criteria for generalized anxiety disorder (GAD), social phobia, or major depressive disorder (MDD) in adulthood than subjects with childhood diagnoses of GAD or social phobia (Aschenbrand et al., 2003). Due to these inconsistent findings, further research is warranted to determine whether childhood SAD serves as a distinctive risk factor for the development of particular anxiety and depressive disorders.

Assessment

Diagnostic Interviews

Semi-structured and respondent-based interview measures are commonly utilized to determine whether a child meets diagnostic criteria for SAD, giving the clinician a framework for gathering important information about symptoms, including severity and frequency of presenting problems, and an opportunity to begin a functional analysis of such difficulties with the family. A commonly used diagnostic interview for the assessment of SAD is the *Anxiety Disorders Interview Schedule for the DSM-IV, Child and Parent Version* (ADIS-IV-C/P; Silverman & Albano, 1996). The ADIS-IV-C/P is a semi-structured interview that has proven useful in diagnosing children with a range of anxiety disorders including SAD, social phobia, specific phobias, GAD, and obsessive-compulsive disorder (OCD), in addition to mood disorders. The ADIS-IV-C/P has excellent psychometric properties, including good to excellent test-retest reliability for the diagnosis of anxiety disorders (Silverman, Saavedra, & Pina, 2001) and evidence supporting its convergent validity (Wood, Piacentini, Bergman, McCracken, & Barrios, 2002). This interview has been used extensively in the assessment of children with anxiety disorders (Silverman et al., 2001; Westenberg, Siebelink, Warmenhoven, & Treffers, 1999). Children and their parents are interviewed separately and diagnoses are based on composite information from both reports (Silverman & Nelles, 1988). This assessment procedure enables the

clinician to gain precise knowledge of the child's presenting symptoms, including the frequency, intensity, and duration, both from the perspective of the child and the parents.

Other commonly used diagnostic interviews that measure SAD symptoms as well as other forms of childhood psychopathology more broadly include the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version (K-SADS-PL; Kaufman et al., 1999) and the Diagnostic Interview Schedule for Children, Version IV (DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). The K-SADS-PL is a semi-structured diagnostic interview assessing current and past episodes of psychopathology in children and adolescents according to DSM-III-R and DSM-IV criteria. Similarly, the DISC-IV and its computerized counterpart, the C-DISC, are highly structured, respondent-based interviews designed to be administered by lay interviewers to assess commonly occurring psychological disorders of children and adolescents.

Assessment of preschool aged children

The majority of childhood anxiety assessment measures are developed for and validated with school-aged children, leaving disorders of early childhood relatively unexplored (Angold & Egger, 2004). The paucity of diagnostic tools suitable for younger children has hindered our understanding of the etiology and developmental trajectory of early psychopathology, as well as the impact of early clinical intervention (see Egger & Angold, 2006). Given that SAD symptoms frequently have an onset prior to age six and that such symptoms in early childhood have been linked to later psychopathology, early identification and treatment of SAD is critical. In recent years, researchers have attempted to develop diagnostic criteria and assessment materials for preschool-aged children (Task Force on Research Diagnostic Criteria, 2003). A small number of clinical interviews have also been developed in line with efforts to better understand the presentation of psychopathology in early childhood. For instance, the *Preschool Age Psychiatric Assessment* (PAPA; Egger, Ascher, & Angold, 1999) is a structured parent interview used to diagnose psychiatric disorders in children aged two to five. The PAPA is based on the Child and Adolescent Psychiatric Assessment (CAPA), but is adapted in form and content to be suitable for very young children. The PAPA is the first developmentally appropriate structured psychiatric interview to assess psychopathology, family and community risk factors, as well as resiliency and protective factors, in both community and clinical samples of preschool children as young as age two. It is hoped that the PAPA will contribute to the development of a reliable psychiatric classification system for early childhood. Research has found the PAPA to be a reasonably reliable measure of DSM-IV disorders in early childhood. Specifically, diagnostic reliability (kappa) ranged from .36 to .79, while test-retest intraclass correlations for DSM-IV syndrome scale scores ranged from .56 to .89. For the SAD subscale of the PAPA, diagnostic reliability was .60 and the test-retest intraclass correlation was .63. No significant differences in reliability were found by age, sex or race (Egger et al., 2006).

Self-Report measures

While diagnostic interview measures are generally considered the “gold standard” for accurate and thorough assessment of DSM-IV criteria for SAD, these interviews are often lengthy, costly, and require some level of specialized training. When time and resources are more limited, self-report measures may also be collected from parents and children in the assessment of SAD, provided the child has the reading and/or writing skills to effectively respond to such questionnaires. The following measures have proven useful in the assessment and subsequent treatment of children presenting with separation anxiety and worries, although they should not be used in isolation for the diagnostic assessment of SAD.

Self-report measures with both parent and child versions

The *Multidimensional Anxiety Scale for Children* (MASC; March, Parker, Sullivan, Stallings, & Cibbers, 1997) is a 39-item, empirically derived, multi-domain self-report measure designed to assess a broad range of anxiety symptoms. Subscales on the MASC include Tense/Restless, Somatic/Autonomic, Total Physical Symptoms, Perfectionism, Anxious Coping, Total Harm Avoidance, Humiliation/Rejection, Performance Fears, Total Social Anxiety, Separation/Panic, and Total MASC score. A shorter, ten-item form (MASC-10) also exists. The ability of the MASC to assess a broad range of anxiety symptoms is particularly useful given the high levels of comorbidity between children and adolescents with SAD, GAD, OCD, and other anxiety disorders (see Curry, March, & Hervey, 2004). The MASC has significant empirical support demonstrating its validity and reliability as well as its factor structure (March et al., 1997; March et al., 1999). Three-month test-retest reliability was found to be satisfactory to excellent, with all intra-class correlations above .60. Internal consistency was also found to be acceptable. A parent version of the MASC also exists and is often used for research purposes. However, the psychometric properties of this parent version are still being explored.

The 34-item *Separation Anxiety Assessment Scale, Parent and Child Versions* (SAAS-C/P; Eisen & Schaefer, 2007) measures specific dimensions of childhood SAD based on DSM-IV diagnostic criteria as well as related anxiety symptoms. The SAAS includes four symptom dimensions: Fear of Being Alone, Fear of Abandonment, Fear of Physical Illness, and Worry about Calamitous Events. In addition, the SAAS contains a Frequency of Calamitous Events subscale, as well a Safety Signals Index. Preliminary data support the factor structure, reliability, validity, and clinical utility of this measure (Hahn, Hajinlian, Eisen, Winder, & Pincus, 2003; Hajinlian et al., 2003; Hajinlian, Mesnik, & Eisen, 2005).

The *Spence Children's Anxiety Scale* (SCAS; Spence, 1997) assesses anxiety by both parent and child report. The scale measures a wide range of anxiety symptoms, has a specific factor/scale assessing separation anxiety symptoms, and provides information about other anxiety disorder symptoms. The subscales

include separation anxiety, panic/agoraphobia, social anxiety, generalized anxiety, obsessions/compulsions, and fear of physical injury. The six subscale structure of the SCAS has been established by confirmatory factor analysis (Spence, 1997; Spence, 1998). Total internal consistency of .92 has been found across studies while internal consistency of the separation subscale ranges from .62 to .74 (Muris, Merckelbach, Ollendick, King, & Bogie, 2002; Muris, Schmidt, & Merckelbach, 2000; Spence, 1998; Spence, Barrett & Turner, 2003). Three and six month test-retest reliabilities of .60 and .63, respectively, were reported for the total score (Spence, 1998; Spence et al., 2003). A preschool version of the SCAS is also available. The Preschool Anxiety Scale (Spence, Rapee, McDonald, & Ingram, 2001) relies on parent self-report of anxiety symptoms with normative data available for children two to six years of age. While this measure is in development, promising validity information has been established using confirmatory factor analysis (Spence et al., 2001).

The *Screen for Child Anxiety Related Emotional Disorders-Revised* (SCARED-R; Muris, Merckelbach, Schmidt, & Mayer, 1999) is a self-report questionnaire for children as young as age seven. A parent version of this measure also exists. The SCARED-R contains 66-items measuring all DSM-IV anxiety disorders occurring in children and adolescents, including 8-items assessing SAD specifically. In a sample of clinically referred youth, most scales of the SCARED-R were reliable in terms of internal consistency, and cronbach's alpha of .72 for the child version and .81 for the parent version were found for the SAD subscale. Furthermore, parent-child agreement was reasonable, with correlations of .69 for the total score and .62 for the SAD subscale reported. Convergent and discriminant validity were also established, as SCARED-R total scores were significantly associated with CBCL Internalizing Problems but not with Externalizing Problems (Muris, Dreessen, Bogels, Weckx, & van Melick, 2004).

Additional self-report measures

When addressing separation anxiety, precise assessment of avoidance behaviors may be crucial to subsequent cognitive-behavioral treatment. The *Fear and Avoidance Hierarchy* (FAH), commonly used in many cognitive-behavioral approaches in the treatment of anxiety, operationally defines the "top 10" anxiety provoking situations for the child, and serves as a measure of treatment progress. Depending on the age of the child, the FAH can be completed by the parent or the parent and child together. Each anxiety provoking situation or item listed by the child is rated separately for level of fear and degree of avoidance on a 0 (not at all) to 8 (extreme) Likert-type scale. The inclusion of the avoidance rating may help later in treatment when designing particular exposures for the child. The FAH provides an ecologically valid method of defining the behavioral limits of a child's separation anxiety, and has been used extensively with childhood anxiety disorders, such as social phobia and specific fears (Albano & Barlow, 1996). It is recommended that the child and his or her parent(s) complete the FAH with the help of the clinician,

who can assist in drawing out the separation situations that may need to be addressed in treatment.

Other widely used rating scales for anxiety symptoms in children and adolescents include the Fear Survey Schedule for Children-Revised (FSSC-R; Ollendick, 1983), the Revised Child Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978), the Stait-Trait Anxiety Inventory for Children (STAIC; Spielberger, Gorsuch, & Luchene, 1970), and the Social Phobia and Anxiety Inventory for Children (SPAI-C; Beidel, Turner, & Morris, 1995). In addition to the MASC, these measures can provide significant information on a range of anxiety difficulties in children. However, the MASC conveniently assesses the broad cross-section of childhood DSM-IV anxiety difficulties in a single measure (March, 1997).

Assessment of parent-child interaction

Parent-child interaction factors have long been implicated in the etiology and maintenance of childhood anxiety disorders (e.g., Ainsworth, Blehar, Waters, & Wall, 1978). Thus, within a comprehensive psychological assessment, direct behavioral observation is extremely important and beneficial, particularly with children (Ciminero, 1986; McMahon & Forehand, 1988). Such observation is also necessary due to the incomplete results often produced by self-report measures, especially when assessing inappropriate behavior, such as the avoidant behavior characteristic of children with SAD (Hartmann & Wood, 1990). While behavioral observation protocols are not diagnostic tools, they enable the assessment of interaction factors thought to contribute to childhood SAD and parent-child responding to the separation context. The development of the *Dyadic Parent-Child Interaction Coding System* (DPICS; Eyberg & Robinson, 1983) and the subsequent *Dyadic Parent-Child Interaction Coding System II* (DPICS II; Eyberg, Bessmer, Newcomb, Edwards & Robinson, 1994) has provided the clinical community with one direct observational-based method for assessing parent-child interactions. It is especially important to address such interactions in children with separation anxiety because these interactions, when maladaptive, form the core construct of the disorder. Psychometric data for the DPICS II has proven to be good to excellent (Deskin, 2005).

The DPICS II contains categories of both parent and child behavior, including behavioral descriptions, informational descriptions, questions, commands, labeled and unlabeled praise, and criticism. Administered in a specific protocol, the DPICS II includes three phases of a brief play interaction between the child and parent. In phase one (Child Directed Interaction; CDI), the child is encouraged to lead the play while the parent attempts to create a positive, non-directive environment. In the second phase of the interaction (Parent Directed Interaction; PDI), the parent directs the play. In the final phase (Clean-up; CU), the child is instructed to clean up the playroom (Eyberg et al., 1994).

The DPICS II and its coding system have been recently modified for use with young children with separation anxiety and their families (Pincus, Cheron, Santucci

& Eyberg, 2006). By adding a fourth observational phase (Separation; SEP), in which the parent briefly leaves the room and the child is told to play with a confederate, the clinician is privy to the types of behaviors the child might exhibit during periods of acute separation. The DPICS II, as modified for children with separation anxiety, can be useful not only for assessment, but also for monitoring treatment progress, outcome, and maintenance of gains over time.

As noted previously, research has pointed to parental intrusiveness as a specific risk factor for childhood SAD (Wood, 2006). To assess the parent-child interaction and parental intrusiveness specifically, the following four measures have been combined into *The Composite Parental Intrusiveness Scale* by Wood (2006): a belt-buckling task that is videotaped and later coded for intrusive behavior, *Parent-Child Interaction Questionnaire, Parent and Child versions* (PCIQ), and *Skills of Daily Living Checklist* (SDLC). This composite scale has been found to have favorable psychometric properties. Convergent and discriminant validity have been established through a multitrait-multimethod matrix (Wood, 2006). Importantly, the *Composite Parental Intrusiveness Scale* has been found to mediate treatment outcome and to be responsive to parent-training (Wood, 2006).

Treatment

Although childhood anxiety disorders are amongst the most common forms of developmental psychopathology, efficacious treatments have only been introduced and evaluated in the last 20 years. Currently, the treatment with the most evidence supporting its efficacy in ameliorating childhood anxiety disorders, including SAD, is cognitive behavior therapy (CBT; Kazdin & Weisz, 1998; Velting, Setzer, & Albano, 2004). Cognitive behavior therapy utilizes both cognitive restructuring and exposure techniques to reduce anxiety and enable anxious individuals to cope more effectively with their anxiety. Additionally, CBT often includes psychoeducation about the nature and treatment of anxiety and anxiety reduction techniques, including breathing retraining and progressive muscle relaxation. While several controlled studies have shown the efficacy of CBT for anxiety disorders in children and adolescents (Barrett, Dadds, & Rapee, 1996; Kendall, 1994; Kendall et al., 1997), the majority of these investigations have excluded youth under the age of seven (Table 1).

The Coping Cat program (Kendall, 1990) is a popular manualized CBT intervention for youth with anxiety disorders, including SAD. The program incorporates cognitive restructuring and relaxation training followed by gradual exposure to anxiety-provoking situations while applying the coping skills learned in previous sessions (Grover, Hughes, & Bergman, 2006). The Coping Cat program was evaluated in a randomized controlled trial (RCT; Kendall, 1994) including 47 children between the ages of eight and 13. All study participants met diagnostic criteria for GAD, SAD, or Social Phobia and were randomly assigned to either a 16-week treatment or waitlist control condition. Results revealed that children in the treatment condition had significantly better outcomes than those assigned to waitlist. At post-treatment, 66% of the participants who followed the Coping

Table 1
Randomized clinical trials for child anxiety including children with SAD

Study details	Therapy type/duration	Comparison	Outcome measure	Outcome
Rapee et al. (2006) Australia Sample: GAD, SocP, SAD, SP, OCD, PD Age: 6-12 years	GCBT with parent 9 x 120 min Bibliotherapy	WL	ADIS-IV-C/P	GCBT with parent > Bibliotherapy > WL
Bogels & Siqueland (2006) The Netherlands Sample: SocP, SAD, GAD, SP, Anx NOS Age 8-17 years	FCBT 13 x not reported	WL	KSCID	FCBT > WL
Wood et al. (2006) USA Sample: SAD, SocP, GAD Age: 6-13 years	FCBT ("Building Confidence") 12-16 x 60-80 min CCBT 12-16 x 60-80 min	CCBT	ADIS-IV-C/P	FCBT > CCBT
Nauta et al. (2003) The Netherlands Sample: SAD, SocP, GAD, PD(A) Age: 7-18 years	ICBT 12 (child) ICBT + CPT 12 (child) + 7 (parent)	WL	ADIS-IV-C/P	ICBT = ICBT + CPT > WL
Manassis et al. (2002) Canada Sample: GAD, SAD, SP, SocP, PD Age: 8-12 years	GCBT + parent 12 x 90 min ICBT + parent 12 x 90 min	ICBT + parent	MASC, CGAS	GCBT + parent = ICBT + parent

Study details	Therapy type/duration	Comparison	Outcome measure	Outcome
Flannery-Schroeder & Kendall (2000) USA Sample: GAD, SAD, SocP Age: 8-14 years	GCBT: 18 x 90 min ICBT: 18 x 50-60 min	WL	ADIS-IV-C/P	ICBT = GCBT > WL
Mendlowitz et al. (1999) Canada Sample: SAD, SocP, GAD, SP, OCD Age: 7-12 years	GCBT (child only): 12 x 90 min GCBT (parent only): 12 x 90 min GCBT (parent and child): 12 x 90 min	WL	RCMAS, CDI, CCSC, GIS	GCBT -P/C > GCBT = GCBT-P > WL
Silverman et al. (1999) USA Sample: OAD, GAD, SocP Age: 6-16 years	FGCBT: Children: 12 x 55 min Parents: 12 x 55 min:	Control Schools	ADIS-P	FGCBT = control
Cobham, Dadds & Spence (1998) Australia Sample: SAD, OAD < GAD, Simple Phobia, SocP, Ag Age: 7-14 years	ICBT: 10 x 90 min ICBT + PAM: Children: 10 x 60 min Parents: 4 x 60 min	Child-only anxiety	ADIS-P	Child-only anxiety: ICBT + PAM = ICBT Child and Parent anxiety: ICBT + PAM > ICBT
King et al. (1998) Australia Sample: School Refusal*, SAD AdjD, OAD, Simple Phobia, SocP Age: 5-15 years	ICBT 6 x 50 min	WL	School Attendance	ICBT > WL

Study details	Therapy type/duration	Comparison	Outcome measure	Outcome
Last, Hansen & Franco (1998) USA Sample: School Refusal*, SAD AD, OAD, PD, SP, SocP Age: 6-17 years	ICBT: 12 x 60 min ES: 12 x 60 min	ES	School Attendance K-SADS-P	ICBT = ES
Kendall et al. (1997) USA Sample: OAD/GAD, AD/SP, SAD Age: 9-13 years	ICBT M = 18 x 60 min	WL	ADIS	ICBT>WL
Barrett et al. (1996) Australia Ages: 7-14 years Sample: OAD, SAD, SocP	ICBT: 12 x 60-80 min 12 x 80-60 min IBCT + FCBT:	WL	ADIS -C/P	FCBT > IBCT > WL
Kendall (1994) USA Sample: OAD, SAD, AD Age: 9-13 years	ICBT: 17 x 50-60 min	WL	ADIS-P	ICBT>WL

Note: Abbreviations for therapy types: FCBT = family involvement cognitive-behavioral therapy; CCBT = child-focused cognitive-behavioral therapy; CPT = cognitive parent-training; GCBT = group cognitive-behavioral therapy; ICBT = individual cognitive-behavioral therapy; FGCBT = group cognitive-behavioral therapy with significant family component; ES = Educational Support Therapy; PAM = Parental Anxiety Management.

Abbreviations for sample: SocP = social phobia; OAD = over-anxious disorder; SAD = social anxiety disorder; SP = Specific Phobia; GAD = generalized anxiety disorder; AD = avoidant disorder; AdjD = Adjustment Disorder; PD(A) = Panic Disorder with or without Agoraphobia.

Other abbreviations: WL = waiting list control; KSCID = Kids Semi-structured Clinical Interview for DSM-IV diagnoses; ADIS = Anxiety Disorders Interview Schedule; ADIS-C = Anxiety Disorders Interview Schedule-Children; ADIS-P = Anxiety Disorders Interview Schedule-Parents; MASC = Multidimensional Anxiety Scale for Children; CGAS = Children's Global Assessment Scale; RCMAS = Revised Children's Manifest Anxiety Scale; CDI = Children's Depression Inventory; CCSC = Children's Coping Strategies Checklist; K-SADS-P = Kiddie-Schedule for Affective Disorders and Schizophrenia - Parents; GIS = Global Improvement Scale.; * School refusal was required for inclusion in the study.

Cat program no longer met criteria for an anxiety disorder versus only 5% in the waitlist condition. Long-term follow-up assessments conducted at three years and seven and a half years revealed maintenance of treatment gains over time (Kendall & Southam-Gerow, 1996; Kendall, Safford, Flannery-Schroeder, & Webb, 2004). These promising results were replicated in a second RCT including 94 anxious youth ages nine to 13, again randomly assigned to a waitlist control or the Coping Cat treatment program. Over 50% of youth in the treatment condition were free of their primary diagnosis at post-treatment (Kendall et al., 1997).

Family involvement in the treatment of SAD is often recommended because of the parent's integral role in the maintenance of children's separation fears. The FRIENDS program (Barrett, Lowry-Webster, & Turner, 2000) is a 10-session CBT intervention for children with anxiety disorders that is delivered in a group format. The program includes all of the essential components of CBT, such as cognitive restructuring and systematic exposure, but also incorporates family involvement and elements of interpersonal therapy. For instance, cognitive restructuring for parents is included in the program and families are encouraged to develop supportive social networks. Parents are encouraged to practice the FRIENDS skills with their children on a daily basis and provide positive reinforcement when skills are used appropriately. In addition to the importance of parental involvement, the program promotes peer involvement and interpersonal support through an emphasis on developing friendships, talking to friends about difficult situations, and learning from peers' experiences.

FRIENDS is an acronym that stands for: F—Feeling worried?; R—Relax and feel good; I—Inner thoughts; E—Explore plans, N—Nice work so reward yourself; D—Don't forget to practice; and S—Stay calm, you know how to cope now. The FRIENDS program was systematically evaluated in a RCT including 71 children aged six to 10 who met diagnostic criteria for GAD, SAD or Social Phobia (Shortt, Barrett & Fox, 2001). Subjects were randomly assigned to either a treatment or waitlist control condition. Results indicated that 69% of children in the FRIENDS program versus only 6% of controls no longer met diagnostic criteria for an anxiety disorder at post-treatment. For study participants in the treatment group, therapeutic gains were maintained at a one-year follow-up assessment.

As previously mentioned, both parent and child participation is often recommended for SAD treatment. However, preliminary research suggests that direct child involvement may not be necessary. A recent study by Eisen and colleagues (2008) examined the efficacy of an integrated cognitive-behavioral parent-training intervention specifically targeting the parents of SAD youth. Using a multiple baseline design, six families were included in the study, each with a child (seven to 10 years of age) who met diagnostic criteria for SAD. The treatment protocol included 10 parent-only sessions and incorporated traditional cognitive-behavioral techniques such as psychoeducation, in-session practice, imaginal exposure, and homework assignments. Following the treatment, 5 of the 6 child participants no longer met diagnostic criteria for SAD, and the sixth child was assigned a subclinical SAD diagnosis. Additionally, the intervention led to clinically significant improvement on measures of parental self-efficacy and stress.

As previously noted, most investigations of CBT for childhood anxiety disorders, including SAD, have investigated treatment outcome only for children aged 7 and older. This age cutoff is pragmatic, given the slightly more sophisticated cognitive and reasoning skills required for learning certain CBT skills, such as cognitive restructuring. However, given that SAD symptoms often manifest in children under seven, the common usage of this age-based exclusion criteria means that we know relatively little about effective treatments for young children with SAD. Recently, Parent-Child Interaction Therapy (PCIT; Brinkmeyer & Eyberg, 2003) has been adapted specifically for young children with SAD (Choate, Pincus, & Eyberg, 2005; Pincus, Eyberg, Choate, & Barlow, 2005). Parent-Child Interaction Therapy, as developed for the treatment of SAD in children aged four to eight, incorporates three treatment phases: Child-Directed Interaction (CDI), Bravery-Directed Interaction (BDI), and Parent-Directed Interaction (PDI). The CDI phase focuses on improving the quality of the parent-child relationship. Parents are taught interaction skills that focus on parental warmth, attention, and praise, which ultimately facilitate the child's development of internal attributions of self-control. The improved attachment and warmth elicited by CDI may help strengthen the child's feeling of security and thus encourage separation from the parent with less distress. Differential reinforcement, or the praising of appropriate behavior and ignoring of undesirable behavior, provides a positive and effective method of behavior management.

The BDI phase begins with psychoeducation for parents about the nature of anxiety and explains the rationale for gradual exposure to anxiety-provoking separation situations. The therapist works with both the parent(s) and the child to develop a fear hierarchy, or "bravery ladder," that lists each situation of which the child is fearful and/or currently avoiding. Additionally, the family creates a reward list to reinforce the child's approach behaviors to these feared situations.

In the final stage of treatment, PDI, methods of incorporating clearly communicated and age-appropriate instructions to the child are taught to parents as a means of managing misbehavior. Using techniques based directly on operant principles of behavior change, parents are taught to provide consistent positive and negative consequences following the child's obedience and disobedience. In addition, the therapist assists the parents in understanding how a child's behavior is shaped and maintained by his or her social environment. For instance, parents may inadvertently reinforce anxious behaviors by giving the child more attention, thus increasing the likelihood of those behaviors in the future (Eisen, Engler, & Geyer, 1998).

During all three stages of PCIT, parents are actively coached on how to apply the skills during a play-task with their child. Coaching occurs through a one-way mirror, using a "bug-in-the-ear" (walkie-talkies and an ear-piece microphone) to communicate with and provide instruction to the parents. Mastery is measured by the parents' ability to utilize a specified number of each skill demonstrated during an observed interaction task.

The first RCT to investigate the efficacy of using PCIT to treat young children with SAD is in its final stages of completion. Currently, 45 children with a principal

diagnosis of SAD have been randomly assigned to one of two conditions following a pre-treatment assessment. In the treatment condition, participants receive an immediate course of PCIT over approximately nine weekly sessions. Those assigned to the waitlist condition are required to wait nine weeks prior to receiving treatment, after which the family receives a post-waitlist assessment prior to beginning the active treatment phase. Preliminary analyses indicate that children with SAD evidenced clinically significant improvement following the intervention, with continued improvement over time (Pincus, Santucci, Ehrenreich, & Eyberg, *in press*).

Another new treatment for SAD, in which CBT skills are delivered in a one-week "summer camp" format, is currently being evaluated for school-aged girls with SAD (Santucci & Ehrenreich, 2007). A potential benefit of a camp-based, group approach for SAD is the incorporation of children's social context into treatment. Whereas many school-aged children are spending increasing time with their peers and away from parents, children with SAD often exhibit increased clinginess and attachment to parents. Additionally, providing treatment in a group format allows for more naturalistic exposure possibilities regarding typical separation situations, such as group field trips, activities, and sleepovers. The program also includes a parent component aimed to increase parent education about management of SAD behaviors. Throughout the week, parent involvement is systematically decreased in order to gradually expose children to anxiety-provoking separation situations.

The summer treatment program for SAD was pilot tested using a multiple-baseline design across participants with five female children, aged eight to 11, all meeting diagnostic criteria for SAD at pre-treatment. Results from this initial investigation revealed significant changes in diagnostic status across all participants (Santucci, Ehrenreich, Bennett, Troser, & Pincus, 2007). Specifically, severity of the SAD symptoms decreased substantially at post-treatment for each subject. Immediately following treatment, three participants no longer met diagnostic severity criteria for the disorder and, by two month follow-up, none of the participants met criteria for a clinical diagnosis of SAD, suggesting an even greater generalization of treatment effects over time. Reductions in severity of other comorbid anxiety diagnoses not specifically targeted by the intervention were also observed and, by two month follow-up, only one participant met criteria for any clinical-level diagnosis.

In addition, another manualized CBT intervention for anxiety disorders in children aged four to seven is currently under investigation that may have benefit for young children with SAD (Hirshfeld-Becker & Biederman, 2002). This early-intervention program focuses on identifying children at risk for developing an anxiety disorder and utilizes cognitive-behavioral techniques appropriate for preschool-age children. A substantial parental component is included in the program in order to teach parents techniques to effectively manage their child's anxious symptoms and behaviors.

Finally, numerous pharmacological treatments for childhood anxiety have been investigated with mixed results. While medication for SAD is not usually recommended as a first line of treatment, it is possibly a useful strategy for CBT nonresponders (Masi, Mucci, & Millepiedi, 2001). Research suggests that selective

serotonin reuptake inhibitors (SSRIs) may have therapeutic effects for children and adolescents with anxiety disorders (Reinblatt & Riddle, 2007). Two RCTs have supported the use of SSRIs in children and adolescents with SAD, GAD, and Social Phobia. In an eight-week RCT investigating the use of fluvoxamine in treating children and adolescents diagnosed with SAD, GAD, or social phobia, fluvoxamine was found to be significantly more efficacious than placebo in decreasing anxiety symptoms (RUPP Anxiety Study Group, 2001). At the end of the eight-week study period, 76% of the children taking fluvoxamine were doing significantly better versus only 29% of the children who received a placebo, using the Pediatric Anxiety Ratings Scale (PARS; Research Units on Pediatric Psychopharmacology Anxiety Study Group, 2002) and the Clinical Global Impressions-Improvement Scale (CGI-S; Guy, 1976) to measure improvements in symptomatology. Birmaher et al. (2003) demonstrated the efficacy of fluoxetine in a 12-week RCT including 37 youth with SAD, GAD, and/or social phobia. Subjects in the active treatment condition were found to be less symptomatic than those assigned to the placebo condition at post-treatment. At one-year follow-up, the fluoxetine group showed significantly greater improvement than the placebo group. Additionally, 30% of those in the placebo group were rated as "not improved" by independent evaluators versus only 5% of those who received fluoxetine (Birmaher et al., 2003).

Future directions

Separation anxiety disorder is an impairing and costly difficulty that is common amongst younger children and those in their early school years. While separation anxiety often prompts parents and school professionals to seek clinical assistance for children experiencing more severe symptoms, the knowledge base regarding the etiology, assessment and treatment of this disorder is still clearly in development. There are several burgeoning areas of research regarding SAD that could benefit from additional attention, many of which have already been alluded to in this review. Amongst these, the need for additional investigation of assessment, treatment, and preventative intervention methodology appropriate for younger children (below age seven) is clearly paramount. In addition, further research regarding the role of parenting, temperament, and other etiological variables in the environment of children with SAD symptoms appears warranted, as well as clarification of subsequent risks for further psychopathology development.

Young children without developmental disabilities have rarely been the target of clinical assessment and intervention research. Separation anxiety, recognized as a normative fear during a child's early development, typically begins to diminish after approximately 30 months of age. For those children that continue to demonstrate distressing and interfering separation fear or avoidance symptoms, the options for broader assessment of symptomatology are generally lacking. Other than those few measures cited previously as having been or currently being normed with preschool-aged children (the PAPA; Preschool Anxiety Scale), research on assessment has failed to keep up with the burgeoning treatment investigations regarding younger children

with SAD. Moreover, while the Preschool Anxiety Scale is available online, relatively few similar tools are available to clinicians working outside the research domain. Without the development and evaluation of appropriate, clinically-relevant tools for the assessment of SAD symptoms, impairment, general functioning, and family environment in this younger population of children with SAD, research regarding etiology and appropriate treatment will continue to lag behind investigation of older children and those with other clinical anxiety disorders.

Investigation of treatments for younger children with SAD has similarly lagged behind treatments for older children. As noted in this review, new research regarding PCIT for SAD and other parent-focused interventions has greatly expanded our knowledge base regarding intervention for those who present for such treatment. However, a focus on those with only clinically-significant separation fears fails to account for those parents who have difficulty coping with their young child's separation fears, despite the fact that this demonstration of anxiety might be normative. Perhaps providing families with early intervention strategies, even for separation fears deemed developmentally appropriate, might protect the parents and the child from a later exacerbation of symptoms. Similarly, the presentation of brief, preventative intervention strategies at times of difficult transition for children with separation anxiety symptoms (e.g., transition to kindergarten, camps) may also target children that might struggle with such transitions but have yet to be identified or for whom current symptoms might only present in particular domains. In addition, given that parental behaviors such as intrusiveness have been linked specifically to SAD, early parent training might also have the potential to alter the course of the development of child psychopathology.

Further research is also needed in the understanding of the etiology of SAD, beyond the genetic risk factors and parenting behaviors known to contribute to the manifestation and maintenance of the disorder. Although recent research into parental intrusiveness (e.g., Wood, 2006) and similar efforts have shed light on parenting factors associated with SAD and subsequent implications for parent involvement in treatment, more research is still needed to better understand the full scope of developmental influences on and trajectory of children with SAD. Investigation into potential pathways from SAD to other specific anxiety disorders could greatly inform treatment strategy. If specific pathways are identified, such as SAD leading to GAD, PDA, or OCD, research can investigate whether treatment should differ based on these various trajectories. For instance, a child exhibiting compulsive checking rituals surrounding parental separation might most benefit from exposure and response prevention, while treatment for a child exhibiting somatic sensitivity related to separation could be tailored to include a more robust somatic awareness component. Such attentiveness to the etiology of SAD and the links between SAD and subsequent prevention and treatment options for children both younger and older would greatly expand the research base regarding separation anxiety in youth.

References

- Ainsworth, M. D., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Albano, A. M., & Barlow, D. H. (1996). Breaking the Vicious Cycle: Cognitive-behavioral group treatment of socially anxious youth. In E. B. Hibbs & P. S. Jensen (Eds.), *Psychosocial Treatment Research and Adolescent Disorders* (pp. 43-62). Washington, DC: APA Press.
- Albano, A. M., Chorpita, B. R., & Barlow, D. H. (1996). Childhood anxiety disorders. In E. J. Mash & R. A. Barkley (Eds.), *Child psychopathology* (pp. 196-241). New York: Guilford Press.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th ed., text rev.)*. Washington, DC: APA Press.
- Angold, A., & Egger, H. L. (2004). Psychiatric diagnosis in preschool children. In R. Del Carmen Wiggins & A. Carter (Eds.), *Handbook of infant, toddler, and preschool mental health assessment* (pp. 123-139). New York: Oxford University Press.
- Aschenbrand, S. G., Kendall, P. C., & Webb, A. (2003). Is childhood separation anxiety disorder a predictor of adult panic disorder and agoraphobia? A seven-year longitudinal study. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*, 1478-1485.
- Barrett, P. M., Dadds, M. R., & Rapee, R. M. (1996). Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology, 64*, 333-342.
- Barrett, P., Lowry-Webster, H., & Turner, G. (2000). *FRIENDS program for children: Group leaders manual*. Brisbane: Australian Academic Press.
- Battaglia, M., Bertella, S., Politi, E., & Bernardeschi, L. (1995). Age of onset of panic disorder influence of familial liability to the disease and of childhood separation anxiety disorder. *American Journal of Psychiatry, 152*, 362-364.
- Beidel, D. C., Turner, S. M., & Morris, T. L. (1995). A new inventory to assess childhood social anxiety and phobia: The Social Phobia and Anxiety Inventory for Children. *Psychological Assessment, 7*, 73-79.
- Bell-Dolan, D. (1995). Separation anxiety disorder. In R. T. Ammerman & M. Hersen (Eds.), *Handbook of child behavior therapy in the psychiatric settings* (pp. 217-298). New York: Wiley.
- Bernstein, G. A., & Borchardt, C. M. (1996). School refusal: Family constellation and family functioning. *Journal of Anxiety Disorders, 10*, 1-19.
- Biederman, J., Petty, C., Faraone, S. V., Hirshfeld-Becker, D. R., Henin, A., Rauf, A., Scott, M., Pollack, M., & Rosenbaum, J.F. (2005). Childhood antecedents to panic disorder in referred and nonreferred adults. *Journal of Child and Adolescent Psychopharmacology, 15*, 549-562.
- Birmaher, B., Axelson, D. A., Monk, K., Kalas, C., Clark, D. B., Ehmann, M., Bridge, J., Heo, J., & Brent, D. A. (2003). Fluoxetine for the treatment of childhood anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 415-423.
- Black, B. (1995). Separation anxiety disorder and panic disorder. In J. S. March (Ed.), *Anxiety disorders in children and adolescents* (pp. 212-234). New York: Guilford.
- Boyd, C. P., Kostanski, M., Gullone, E., Ollendick, T. H., & Shek, D.T. L. (2000). Prevalence of anxiety and depression in Australian adolescents: Comparisons with worldwide data. *Journal of Genetic Psychology, 161*, 479-492.
- Brinkmeyer, M. Y., & Eyberg, S. M. (2003). Parent-Child Interaction Therapy for oppositional children. In A. E. Kazdin & J. R. Weisz (Eds.), *Evidence based psychotherapies for children and adolescents*. New York: The Guilford Press.

- Cartwright-Hatton, S., McNicol, K., & Doubleday, E. (2006). Anxiety in a neglected population: Prevalence of anxiety disorders in pre-adolescent children. *Clinical Psychology Review, 26*, 817-833.
- Choate, M. L., Pincus, D.B., & Eyberg, S. M. (2005). Parent-Child Interaction Therapy for treatment of separation anxiety disorder in young children: A pilot study. *Cognitive and Behavioral Practice, 12*, 126-135.
- Chorpita, B. E., & Barlow, D. H. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin, 124*, 3-21.
- Ciminero, A. R. (1986). Behavioral assessment: An overview. In A. R. Ciminero, K. S. Calhoun, & H. E. Adams (Eds.), *Handbook of behavioral assessment* (2nd ed., pp. 3-11). New York: Wiley.
- Costello, E. J., Mustillo, S., Erklani, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry, 60*, 837-844.
- Curry, J. F., March, J. S., & Hervey, A. S. (2004). Comorbidity of childhood and adolescent anxiety disorders. In T. H. Ollendick & J. S. March (Eds.), *Phobic and anxiety disorders in children and adolescents: A clinician's guide to effective psychosocial and pharmacological interventions* (pp. 116-140). New York: Oxford University Press.
- Deskins, M. M. (2005). The Dyadic Parent-Child Interaction Coding System (DPICS II): Reliability and Validity with School Aged Children. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 66*(4-B), pp. 2302.
- Egger, E. L., & Angold, A. (2006). Common emotional and behavioral disorders in preschool children: Presentation, nosology, and epidemiology. *Journal of Child Psychology and Psychiatry, 47*, 313-337.
- Egger H. L., Ascher, B. H., & Angold, A. (1999). *The Preschool Age Psychiatric Assessment: Version 1.1. Unpublished Interview Schedule*. Durham, NC: Center for Developmental Epidemiology, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center.
- Eisen, A. R., Engler, L. B., & Geyer, B. (1998). Parent training for separation anxiety disorder. In J. M. Briemeister & C. E. Schaefer (Eds.), *Handbook of parent training: Parents as co-therapists for children's behavior problems* (2nd ed.) (pp. 205-224). New York: John Wiley and Sons.
- Eisen, A. R., Raleigh, H., & Neuhoff, C. C. (2008). The unique impact of parent training for separation anxiety disorder in children. *Behavior Therapy, 39*, 195-206.
- Eisen, A. R., & Schaefer, C. E. (2007). *Separation anxiety in children and adolescents: An individualized approach to assessment and treatment*. New York: Guilford Press.
- Eley, T. C. (2001). Contributions of behavioral genetics research: Quantifying genetic, shared environment and nonshared environmental influences. In M. W. Vasey, & M. R. Dadds (Eds.), *The Developmental Psychopathology of Anxiety* (pp. 45-59). New York: Oxford University Press.
- Essau, C. A., Conradt, J., & Petermann, F. (2000). Frequency, comorbidity, and psychosocial impairment of anxiety disorders in German adolescents. *Journal of Anxiety Disorders, 14*, 263-279.
- Eyberg, S. M., Bessmer, J., Newcomb, K., Edwards, D., & Robinson, E. A. (1994). Dyadic parent-child interaction coding system-II: A manual. *Social and Behavioral Sciences Documents* (Ms. No. 2897). San Rafael, CA: Select Press.
- Eyberg, S. M., & Robinson, E. A. (1983). Conduct problem behavior: Standardization of a behavioral rating scale with adolescents. *Journal of Clinical Child Psychology, 12*, 347-354.

- Feigon, S. A., Waldman, I. D., Levy, F., & Hay, D. A. (1997). Genetic and environmental influences on various anxiety disorder symptoms in children [Abstract]. *Behavior Genetics*, 27, 588.
- Fischer, D. J., Himle, J. A., & Thyer, B. A. (1999). Separation anxiety disorder. In R. T. Ammerman, M. Hersen & C. Last (Eds.), *Handbook of prescriptive treatments for children and adolescents* (2nd ed., pp. 141-154), Boston: Allyn & Bacon.
- Foote, R., Eyberg, S. M., & Schuhmann, E. (1998). Parent-child interaction approaches to the treatment of child behavior disorders. In T.H. Ollendick & R.J. Prinz (Eds.) *Advances in Clinical Child Psychology*. New York: Plenum Press.
- Francis, G., Last, C. G., & Strauss, C. C. (1987). Expression of separation anxiety disorder: The roles of age and gender. *Child Psychiatry and Human Development*, 18, 82-89.
- Ginsburg, G. S., Siqueland, L., Masia-Warner, C., & Hedtke, K. A. (2004). Anxiety disorders in children: Family matters. *Cognitive and Behavioral Practice*, 11, 28-43.
- Goldsmith, H., & Gottesman, I. (1981). Origins of variation in behavioral style: A longitudinal study of temperament in young twins. *Child Development*, 52, 91-103.
- Grover, R. L., Hughes, A. A., & Bergman, R. L. (2006). Treatment modifications based on childhood anxiety diagnosis: Demonstrating the flexibility in manualized treatment. *Journal of Cognitive Psychotherapy*, 20, 275-286.
- Guy, W. (1976). ECDEU assessment manual for psychopharmacology (NIMH Publication No. 76-338, pp. 217-222). Washington, DC: Department of Health, Education, & Welfare, U.S. National Institutes of Mental Health.
- Hahn, L., Hajinlian, J., Eisen, A. R., Winder, B., & Pincus, D. B. (2003, November). Measuring the dimensions of separation anxiety and early panic in children and adolescents: The Separation Anxiety Assessment Scale. In A. R. Eisen (Chair), *Recent Advances in the Treatment of Separation Anxiety and Panic in Children and Adolescents*. Paper presented at the 37th annual convention of the Association for the Advancement of Behavior Therapy, Boston, MA.
- Hajinlian, J., Hahn, L. G., Eisen, A. R., Zilli-Richardson, L., Reddy, L. A., & Winder, B., et al. (2003, November). *The phenomenon of separation anxiety across DSM-IV internalizing and externalizing disorders*. Poster session presented at the 37th annual convention of the Association for the Advancement of Behavior Therapy, Boston, MA.
- Hajinlian, J., Mesnick, J., & Eisen, A. R. (2005, November). *Separation anxiety symptom dimensions and DSM-IV anxiety disorders: Correlates, comorbidity, and clinical utility*. Poster presented at the 39th annual convention of the Association for Behavioral and Cognitive Therapies, Washington, DC.
- Hartmann, D. P., & Wood, D. D. (1990). Observational methods. In A. S. Bellack, M. Hersen, & A. E. Kazdin (Eds.), *International handbook of behavior modification and therapy* (2nd ed., pp. 107-139). New York: Pergamon.
- Hirshfeld-Becker, D. R., & Biederman, J. (2002). Rationale and principles for early intervention with young children at risk for anxiety disorders. *Clinical Child and Family Psychology Review*, 5, 161-172.
- Kaufman J., Birmaher B., Brent, D.A., Rao, U., Flynn, C., Moreci, P., Williamson, D., & Ryan, N. (1999). Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version (K-SADS-PL): Initial reliability and validity data. *Journal of the American Academy of Child and Adolescent Psychiatry* 36, 980-988.
- Kazdin, A. E., & Weisz, J. R. (1998). Identifying and developing empirically supported child and adolescent treatments. *Journal of Consulting and Clinical Psychology*, 66, 19-36.
- Kearney, C. A. (2006). Dealing with school refusal behavior: A primer for family physicians: Workable solutions for unhappy youth and frustrated parents. *The Journal of Family Practice*, 55, 685-692.

- Kendall, P. C. (1990). *Coping Cat workbook*. Ardmore, PA: Workbook Publishing.
- Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62*, 100-110.
- Kendall, P. C., Flannery-Schroeder, E., Panichelli-Mindel, S. M., Southam-Gerow, M., Henin A., & Warman M. (1997). Therapy for youths with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65*, 366-380.
- Kendall, P. C., Safford, S., Flannery-Schroeder, E., & Webb, A. (2004). Child anxiety treatment: Outcomes in adolescence and impact on substance use and depression at 7.4-year follow-up. *Journal of Consulting and Clinical Psychology, 72*, 276-287.
- Kendall, P. C., & Southam-Gerow, M. A. (1996). Long-term follow-up of a cognitive-behavioral therapy for anxiety-disordered youth. *Journal of Consulting and Clinical Psychology, 64*, 724-730.
- Last, C. G. (1991). Somatic complaints in anxiety disordered children. *Journal of Anxiety Disorders, 5*, 125-138.
- Last, C. G., Francis, G., Hersen, M., Kazdin, A. E., & Strauss, C. C. (1987). Separation anxiety and school phobia: A comparison using DSM-III criteria. *American Journal of Psychiatry, 144*, 653-657.
- March, J. S. (1997). *Multidimensional Anxiety Scale for Children: Technical manual*. Multi-Health Systems, Inc.: North Tonawanda, New York.
- March, J. S., Conners, C., Arnold, G., Epstein, J., Parker, J., Hinshaw, S., Abikoff, H., Molina, B., Wells, K., Newcorn, J., Schuck, S., Pelham, W. E., & Hoza, B. (1999). The Multidimensional Anxiety Scale for Children (MASC): Confirmatory factor analysis in a pediatric ADHD sample. *Journal of Attention Disorders, 3*, 85-89.
- March, J. S., Parker, J., Sullivan, K., Stallings, P., & Conners, C. K. (1997). The Multidimensional Anxiety Scale for Children (MASC): Factor structure, reliability, and validity. *Journal of the American Academy of Child & Adolescent Psychiatry, 36*, 554-565.
- Masi, G., Mucci, M., & Millepiedi, S. (2001). Separation anxiety disorder in children and adolescents: Epidemiology, diagnosis and management. *CNS Drugs, 15*, 93-104.
- McMahon, R. J., & Forehand, R. (1988). Conduct disorders. In E. J. Mash & L. G. Terdal (Eds.), *Behavioral assessment of childhood disorders* (2nd ed., pp. 105-153). New York: Guilford.
- Muris, P., Dreessen, L., Bogels, S., Weckx, M., & von Melick, M. (2004). A questionnaire for screening a broad range of DSM-defined anxiety disorder symptoms in clinically referred children and adolescents. *Journal of Child Psychology and Psychiatry, 45*, 813-820.
- Muris, P., Merckelbach, H., Ollendick, T., King, N., & Bogie, N. (2002). Three traditional and three new childhood anxiety questionnaires: Their reliability and validity in a normal adolescent sample. *Behaviour Research and Therapy, 40*, 753-772.
- Muris, P., Merckelbach, H., Schmidt, H., & Mayer, B. (1999). The revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R): Factor structure in normal children. *Personality and Individual Differences, 26*, 99-112.
- Muris, P., Schmidt, H., & Merckelbach, H. (2000). Correlations among two self-report questionnaires for measuring DSM-defined anxiety disorder symptoms in children: The Screen for Child Anxiety Related Emotional Disorders and the Spence Children's Anxiety Scale. *Personality and Individual Differences, 28*, 333-346.
- Ollendick, T. H. (1983). Reliability and validity of the Revised Fear Survey Schedule for Children (FSSC-R). *Behaviour Research and Therapy, 21*, 685-692.
- Pincus, D. B., Cheron, D., Santucci, L. C., & Eyberg, S. M. (2006). *Dyadic Parent-Child Interaction Coding System II - Revised for Separation Anxiety Disorder. Unpublished Manual*. Boston, MA: Center for Anxiety and Related Disorders, Boston University.

- Pincus, D. B., Eyberg, S. M., Choate, M. L., & Barlow, D. H. (2005). Adapting Parent-Child Interaction Therapy for young children with separation anxiety disorder. *Education and Treatment of Children, 28*, 163-181.
- Pincus, D.B., Santucci, L.C., Ehrenreich, J.T., & Eyberg, S.M. (in press). The implementation of modified Parent-Child Interaction Therapy for youth with separation anxiety disorder. *Cognitive & Behavioral Practice*.
- Research Units on Pediatric Psychopharmacology Anxiety Study Group (2002). The Pediatric Anxiety Rating Scale (PARS): Development and psychometric properties. *Journal of the American Academy of Child & Adolescent Psychiatry, 41*, 1061-1069.
- Reinblatt, S. P., & Riddle, M. A. (2007). The pharmacological management of childhood anxiety disorders: A review. *Psychopharmacology, 191*, 67-86.
- Reynolds, C. R. & Richmond, B. O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology, 6*, 271-280.
- Roza, S. J., Hofstra, M. B., van der Ende, J., & Verhulst, F. C. (2003). Stable prediction of mood and anxiety disorders based on behavioral and emotional problems in childhood: A 14-year follow-up during childhood, adolescence, and young adulthood. *American Journal of Psychiatry, 160*, 2116-2121.
- RUPP Anxiety Study Group (2001). Fluvoxamine for the treatment of anxiety disorders in children and adolescents. *New England Journal of Medicine, 344*, 1279-1285.
- Santucci, L. C., & Ehrenreich, J. T. (2007). Summer Treatment Program for Separation Anxiety Disorder: Therapist Guide. *Unpublished Manual*. Boston, MA: Center for Anxiety and Related Disorders, Boston University.
- Santucci, L. C., Ehrenreich, J. T., Bennett, S. M., Trospers, S., & Pincus, D. P. (2007). *Development and preliminary evaluation of a one-week summer treatment program for separation anxiety disorder*. Manuscript currently under review.
- Shaffer, D., Fisher, P., Lucas, C., Dulcan, M., & Schwab-Stone, M. (2000). NIMH diagnostic interview schedule for children version IV (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*, 28-38.
- Shear, K., Jin, R., Ruscio, A. M., Walters, E. E., & Kessler, R. C. (2006). Prevalence and correlates of estimated DSM-IV child and adult separation anxiety disorder in the national comorbidity survey replication. *American Journal of Psychiatry, 163*, 1074-1083.
- Shortt, A. L., Barrett, P. M., & Fox, T. L. (2001). Evaluating the FRIENDS Program: a cognitive-behavioral group treatment for anxious children and their parents. *Journal of Clinical Child Psychology, 30*, 525-535.
- Silove, D. & Manicavasagar, V. (1993). Adults who feared school: Is early separation anxiety specific to the pathogenesis of panic disorder? *Acta Psychiatrica, 88*, 385-390.
- Silove, D., Harris, M., Morgan, A., & Boyce, P., et al. (1995). Is early separation anxiety a specific precursor of panic disorder-agoraphobia? A community study. *Psychological Medicine, 25*, 405-411.
- Silverman, W. K., & Albano, A. M. (1996). *The Anxiety Disorders Interview Schedule for DSM-IV – Child and Parent Versions*. San Antonio, TX: Psychological Corporation.
- Silverman, W. K., & Nelles, W. B. (1988). The Anxiety Disorders Interview Schedule for Children. *Journal of the American Academy of Child & Adolescent Psychiatry, 27*, 772-778.
- Silverman, W. K., Saavedra, L. M., & Pina, A. A. (2001). Test-retest reliability of anxiety symptoms and diagnoses with the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*, 937-944.

- Spence, S. H. (1997). Structure of anxiety symptoms among children: a confirmatory factor-analytic study. *Journal of Abnormal Psychology, 106*, 280-297.
- Spence, S. H. (1998). A measure of anxiety symptoms among children. *Behaviour Research and Therapy, 36*, 545-566.
- Spence, S. H., Barrett, P. M., & Turner, C. M. (2003). Psychometric properties of the Spence Children's Anxiety Scale with young adolescents. *Journal of Anxiety Disorders, 17*, 605-625.
- Spence, S. H., Rapee, R., McDonald, C., & Ingram, M. (2001). The structure of anxiety symptoms among preschoolers. *Behaviour Research and Therapy, 39*, 1293-1316.
- Spielberger, C. D., Gorsuch, R. L., & Luchene, R. E. (1970). *State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychology Press.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development, 7*, 349-367.
- Task Force on Research Diagnostic Criteria: Infancy and Preschool. (2003). Research diagnostic criteria for infants and preschool children: The process and empirical support. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*, 1504-1512.
- Tonge, B. (1994). Separation anxiety disorder. In T. H. Ollendick, N.J. King, & W. Yule (Eds.), *International handbook of phobic and anxiety disorders in children and adolescents* (pp. 145-167). New York: Plenum Press.
- Topolski, T. D., Hewitt, J. K., Eaves, L. J., Silberg, J. L., Meyer, J. M., Rutter, M., Pickles, A., & Simonoff, E. (1997). Genetic and environmental influences on child reports of manifest anxiety and symptoms of separation anxiety and overanxious disorders: A community-based twin study. *Behavior Genetics, 27*, 15-28.
- Vasey, M. W., & Dadds, M. R. (2001). An introduction to the developmental psychopathology of anxiety. In M. W. Vasey & M. R. Dadds (Eds.) *The developmental psychopathology of anxiety* (pp. 3-26). New York: Oxford University Press.
- Velting, O. N., Setzer, N. J., & Albano, A. M. (2004). Update on and advances in assessment of cognitive-behavioral treatment of anxiety disorders in children and adolescents. *Professional Psychology: Research and Practice, 35*, 42-54.
- Westen, D., Nakash, O., Thomas, C., & Bradley, R. (2006). Clinical assessment of attachment patterns and personality disorder in adolescents and adults. *Journal of Consulting and Clinical Psychology, 74*, 1065-1085.
- Westenberg, P. M., Siebelink, B. M., Warmenhoven, N. J. C., & Treffers, P. D. A. (1999). Separation anxiety and overanxious disorders: Relations to age and level of psychosocial maturity. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*, 1000-1007.
- Wittchen, H., Nelson, C. B., & Lachner, G. (1998). Prevalence of mental disorders and psychosocial impairments in adolescents and young adults. *Psychological Medicine, 28*, 109-126.
- Wood, J. J. (2006). Parental intrusiveness and children's separation anxiety in a clinical sample. *Child Psychiatry & Human Development, 37*, 73-87.
- Wood, J. J., McLeod, B. D., Sigman, M., Hwang, W. C., & Chu, B. C. (2003). Parenting and childhood anxiety: Theory, empirical findings, and future directions. *Journal of Child Psychology and Psychiatry, 44*, 134-151.
- Wood, J. J., Piacentini, J. C., Bergman, R. L., McCracken, J., & Barrios, V. (2002). Concurrent validity of the anxiety disorders section of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions. *Journal of Clinical Child and Adolescent Psychology, 31*, 335-342.