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### Diagnosis of Social Anxiety Disorder in Children

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As a symptom state, nearly all humans have personal experience with the feeling of social anxiety. For most individuals, the feeling state is transitory, or limited to relatively circumscribed developmental periods. For others, social anxiety is a chronic condition resulting in significant functional impairment. Social anxiety disorder is defined in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as a "marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others" (1). In order to qualify for a diagnosis of social anxiety disorder, children must demonstrate capacity for age-appropriate social relationships. Pervasive developmental disorder must be considered as an alternative diagnosis for children who demonstrate deficits in social relatedness even with family members and others with whom they have extended contact. Further, diagnosis of social anxiety disorder requires that the child experience anxiety-related symptoms in the presence of other children, not merely in interaction with adult authority figures. Reticence only in the presence of adults, while potentially disconcerting, falls within the normative scope of shyness and is not necessarily grounds for intervention.

As childhood shyness is a relatively common phenomenon, which for many children subsides as they age, how do clinicians distinguish between normative and pathological social anxiety? This question is generally answered with reference to the extent of functional impairment in social relationships and/or academic performance as well as the level of distress experienced by the child. Escape from, and avoidance of, social situations are particularly salient features of social anxiety disorder. However, as children often do not have the freedom to avoid many social situations (e.g., school), responses such as clinging to parental figures, freezing, or tantruming may be observed when children are unable to avoid feared stimuli. Self-deprecatory cognitions and fear of negative evaluation are common among children with social anxiety disorder—even when faced with objective evidence to the contrary. Intense physiological responses—including heart palpitations, trembling, sweating, and blushing—are also common in anticipation of, throughout, and/or following social performance situations. Fear that others will notice these physiological reactions further exacerbates the child's social concerns.

Social anxiety disorder typically begins in early childhood, with a mean age of onset of 11 years reported for the generalized form (2). Due to the pervasive deleterious effects of social anxiety on children's social and academic functioning, early detection and diagnosis are crucial in order that proper intervention may be delivered. Early intervention can serve to avert a lifetime of dysfunction and distress. Unfortunately, relatively few children meeting criteria for social anxiety disorder are identified and referred to appropriate treatment providers. This is due in part to limits in children's understanding of their own emotional states, and ability to communicate them, limited ability of parents and teachers to detect mild to moderate levels of anxiety in children, and the often expressed hope of parents that their children will simply "grow out of it."

Accurate assessment of social anxiety disorder requires an appreciation of child development. In order to determine whether a given behavior is age-appropriate, one must have an understanding of the behaviors and skills that children should demonstrate across various ages. Unfortunately, many clinicians have not received adequate training in "normal" child development and thus have limited ability to ascertain whether certain behaviors are indeed "abnormal." Normative information regarding social, cognitive, emotional, and physical development is necessary to place behaviors in a proper context.

## I. STRANGER ANXIETY AND BEHAVIORAL INHIBITION

Stranger anxiety tends to arise among infants around 8 months of age and peaks between 12 to 18 months. For most infants this is expressed as an

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initial wariness of unfamiliar persons followed by a gradual warming and willingness to interact with the stranger over a period of a few minutes. For other infants and toddlers, this stranger anxiety is exemplified by extreme distress, crying, and protestation that fails to subside. Young children who demonstrate extreme wariness and withdrawal in the face of novelty have been termed behaviorally inhibited (3). These behaviorally inhibited children refrain from exploration, prefer to remain in close proximity to their mothers, rarely initiate verbal interaction, and smile at significantly lower rates than do other children. Approximately 15% of children are classified as behaviorally inhibited. Comprehensive assessment of behavioral inhibition generally involves structured observation of the child's responses to familiar and unfamiliar settings, objects, and people (including same-age peers and adults). Children who behave in an inhibited manner across multiple contexts—and with both adults and peers—tend to be those who will manifest the highest levels of anxiety over time (4).

Not surprisingly, behavioral inhibition has been suggested as an early precursor to social anxiety disorder. Behavioral inhibition is prevalent among children of parents with anxiety disorders (5–7) and with social anxiety disorder in particular (8). Likewise, cross-sectional and prospective investigations of toddlers and preschoolers have found that inhibited children are at elevated risk for social anxiety disorder (9–11).

## II. ASSESSMENT OF SOCIAL ANXIETY IN CHILDREN

Comprehensive evaluation and diagnosis of social anxiety disorder in children requires examination of behavioral, cognitive, and physiological responses across multiple social contexts. Diagnostic assessment tools include clinical interviews, child self-report measures, parent- and teacher-completed questionnaires, behavioral observation, and peer reports. The hazards of relying on only a single source of information cannot be overstated. Nonetheless, the diagnostician's task is not merely to obtain a substantial quantity of assessment data but also to integrate and gauge the potential relevance of data from multiple sources.

### A. Clinical Interviews

Semistructured diagnostic interviews offer several advantages, including broad assessment of a wide range of symptoms potentially experienced by children within configurations demonstrated to have adequate or better psychometric properties. This is of significant advantage over unstructured intake interviews, which may be subject to the personal biases or limitations in knowledge of classification on the part of the interviewer. More detailed

and targeted information may be acquired through branching question sequences (12,13). The downside of semistructured interviews includes the long time required to become proficient in administration and the relatively lengthy time to administer and score the interviews in comparison with that of questionnaire measures. However, the accuracy and thoroughness of diagnostic information would seem to take precedence over mere time-related concerns. More often than not, sufficient time taken to complete a thorough evaluation will more than pay off in terms of accuracy of differential diagnosis and identification of proper target behaviors for intervention.

The most widely used and highly regarded interviews for the assessment of childhood psychopathology include the Schedule for Affective Disorders and Schizophrenia for School-Aged Children (14), the Diagnostic Interview Schedule for Children (15), and the Diagnostic Interview for Children and Adolescents-Revised (16). Although these interviews generally have demonstrated acceptable psychometric properties, particularly for disruptive behavior disorders, they have demonstrated weaknesses with respect to anxiety disorders (17).

In an attempt to improve on this state of affairs, Silverman and Albano (18) developed the Anxiety Disorders Interview Schedule for DSM-IV-Child and Parent Versions (ADIS-IV-C/P) (18). The ADIS-IV-C/P was designed specifically to diagnose childhood anxiety disorders and to differentiate anxiety from other affective and disruptive behavior disorders. Parent and child interviews are administered separately and then integrated to derive diagnoses. Since its release, the ADIS-IV-C/P has become the interview of choice for child anxiety researchers.

Although intended for children of ages 6 to 18, the ADIS-IV-C/P has been administered to children as young as 4 years of age (19). Excellent psychometric properties have been reported (20). The interview has been used in most of the published treatment trials for childhood anxiety and has been shown to be sensitive to treatment effects (21-24).

## B. Clinician Ratings

Clinician ratings provide for quick and expedient assessment of symptom level and overall functioning. The Hamilton Anxiety Rating Scale (25), though developed for adults, has been validated for use with adolescents (26). The Pediatric Anxiety Rating Scale (27) is a 50-item checklist that assesses symptoms of social anxiety, separation anxiety, generalized anxiety, and specific phobias. Data are gathered during separate or joint interviews with parents and children and then rated by the clinician on seven dimensions (e.g., frequency, avoidance, severity of distress). Adequate psychometric properties have been demonstrated.

The Liebowitz Social Anxiety Scale for Children and Adolescents (LSAS-CA) (28) is a 24-item clinician-rated measure that is based on the adult Liebowitz Social Anxiety Scale (29). The LSAS-CA comprises two scales assessing social interactions and performance situations. Separate ratings are provided for anxiety level and avoidance. Initial psychometric reports support the reliability and sensitivity of the measure (30,31).

## C. Child Self-Report

Child self-report measures should be considered a standard part of any assessment protocol, given the largely subjective nature of anxiety. Global self-report measures provide a general index of overall anxiety, whereas syndrome-specific measures assess symptoms within more circumscribed contexts and are more closely related to individual anxiety disorder diagnoses. The Revised Children's Manifest Anxiety Scale (RCMAS) (32), State-Trait Anxiety Inventory for Children (STAI-C) (33), and Fear Survey Scale for Children-Revised (FSSC-R) (34) represent the first-generation of global self-report measures of childhood anxiety. While serving a worthy purpose at the time they were initially released, these measures have been criticized as being mere downward extensions of adult self-reports. Further, these measures do not reflect the current diagnostic system and generally have failed to adequately discriminate among different forms of psychopathology (35,36).

The next generations of self-report measures have been designed to better address issues of discriminative validity and treatment sensitivity. The Multidimensional Anxiety Scale for Children (MASC) (37) is a 45-item scale that yields a Total Anxiety Disorder Index and four main factor scores: Social Anxiety, Physical Symptoms, Harm/Avoidance, and Separation/Panic. The MASC has demonstrated strong psychometric properties and is becoming one of the most accepted measures of child anxiety (38-40). The Spence Children's Anxiety Scale (SCAS) (41,42) consists of 45 items, assessing Social Anxiety, Generalized Anxiety, Separation Anxiety, Panic/Agoraphobia Obsessions/Compulsions, Fear of Physical Injury, as well as Social Desirability. The SCAS has demonstrated good internal consistency and test-retest reliability. The Screen for Child Anxiety Related Emotional Disorders-Revised (SCARED-R) (43,44) is a 66-item self-report instrument with subscales encompassing Social Anxiety, Generalized Anxiety, Separation Anxiety, Panic, OCD, PTSD, and three types of Specific Phobias (blood-injection-injury, animal, environmental phobias). The SCARED-R has demonstrated strong psychometric properties and sensitivity to treatment effects (45).

Two self-report measures have been designed specifically to assess social anxiety in children. The Social Anxiety Scale for Children-Revised (SASC-R)

(46) includes 22 items assessing a range of subjective experiences and behavioral consequences associated with social anxiety. The SASC-R is comprised of three factors: Fear of Negative Evaluation (FNE), Social Avoidance and Distress with new or unfamiliar peers (SAD-New) and generalized social avoidance and distress (SAD-G). The SASC-R and its parallel version for adolescents (SASC-A) have demonstrated excellent psychometric properties. The Social Phobia and Anxiety Inventory for Children (SPAI-C) (47,48) was designed specifically to assess the DSM construct of social anxiety disorder and comprises 26 items assessing a range of social fears experienced by children and adolescents (8 to 14 years) in multiple social settings (e.g., home and school). Several items require the child to indicate level of fear or distress experienced in three different contexts: familiar peers, unfamiliar peers, and adults. The SPAI-C has demonstrated excellent psychometric properties. The measure has not only successfully discriminated children with social anxiety disorder from normal controls but also, more significantly, has been shown to discriminate children with social anxiety disorder from children with other anxiety disorders. Moderate associations have been found between the SPAI-C and SASC-R, indicating that the two measures assess similar but not identical constructs (49,50).

#### D. Parent Report

The Child Behavior Checklist (CBCL) (51) is the most widely used global parent-report measure of childhood psychopathology. Separate versions are available for children of ages 2 to 3 years and for those of ages 4 to 16. The CBCL comprises over 100 items assessing social and academic functioning and a range of problem behaviors. Scores are derived for two broad-band scales (Internalizing and Externalizing) and nine content areas (e.g., Anxious/Depressed; Social Problems; Withdrawn). The CBCL has high short- and long-term retest reliability, good predictive validity, and moderate ability to discriminate referred and nonreferred children (51,52).

Although to date there have been no published measures designed specifically as parent reports of social anxiety in children, child self-report measures have been adapted to allow comparison across informants. For example, Beidel and colleagues (53) have reported a modest correlation between child and parent versions of the Social Phobia and Anxiety Inventory for Children. Further examination of the psychometric properties of the parent-report version of the SPAI-C is in progress.

#### E. Parent-Child Agreement

A challenging dilemma for diagnosticians is how to evaluate and integrate information obtained from multiple informants. Clinicians and researchers

must take care not to assume that parents are the "gold standard" for all information about their children. Child, parent, teacher, and peer reports may all play a significant role in diagnostic assessment. Each informant may provide uniquely relevant information (54). When reports differ, possible bases for cross-informant disagreement should be examined. Potential reasons why discrepant information may be obtained across reporters include: 1) bias or error on the part of one or more of the respondents; 2) actual variability in the child's behavior across the situations observed by the informants; 3) limited access to the child's private events (cognitions, affect, and physiological responses); 4) denial of the problem; or 5) intentional false reporting in service of an ulterior motive such as qualification for treatment or financial services (55).

Correlations across child, parent, and teacher reports have generally been found to be small to moderate (56). Cross-informant agreement is generally higher between child and teacher reports than between child and parent reports. Child and parent reports typically tend to be more highly correlated for younger children than for older children (57). However, accuracy of assessment for very young children can be extremely difficult, as self-reports are of limited value with children below reading age and many parents may not be aware that certain behaviors are abnormal or developmentally inappropriate. For example, 40% of parents whose 3-year-olds displayed clinically significant behavioral or emotional problems failed to identify these as significant concerns (58). Concordance across child, parent, and teacher reports has been shown to decrease in adolescence, as children begin to spend proportionally more private time with peers (59). Differential patterns of agreement have also been found for child gender, with parent reports (from mothers and fathers) more highly correlated with child self-reports for boys than for girls.

With respect to type of symptoms under consideration, parent-child agreement is typically higher for externalizing than for internalizing symptoms (60,61). This is not surprising given the more readily observable nature of disruptive behavior in contrast to the more subjective components of anxiety and affective disorders. Along these lines, parents have been found to report higher frequencies and intensities of externalizing symptoms, while children tend to report higher levels of internalizing symptoms (61-64). Lowered sensitivity to and detection of internalizing symptoms in children on the part of adults contributes in part to the fact that children with anxiety and depression are less likely to receive treatment than are children with disruptive behavior disorders (65,66).

Parental psychopathology has been suggested as a potential factor related to discrepancies in parent-child agreement. Maternal anxiety and depression have been implicated in potential reporting biases (67,68). Mothers

who are depressed and anxious have been found to report higher levels of internalizing and externalizing symptoms for their children (69) than do mothers who are not anxious or depressed. Perhaps these mothers are merely more sensitive to actual internalizing symptoms in their children, but this pattern has typically been labeled as overreporting. In a study of children of parents with social anxiety disorder (19), number of anxiety symptoms endorsed for the parent significantly correlated with the number of anxiety disorders for the child. Some authors have suggested that parents with social anxiety may be more likely to perceive social inhibition in their children as a projection of their own social concerns (8,68). Further research is necessary to determine whether parent perceptions of anxiety in their children are indeed biased overreports or sensitive reflections from parents who are intimately acquainted with the subtleties of anxiety. At any rate, thorough evaluation will incorporate assessment of the family system. Intervention efforts will differ depending on whether parents are affected by their own anxiety. Parents with anxiety disorders may model dependency, reinforce anxious behaviors (e.g., school refusal), and/or discourage their children's attempts at separation. Parental anxiety may have to be addressed prior to—or at least concurrently with—treatment for the child's social anxiety disorder in order that the parent may more fully engage in social exposure assignments as part of standard cognitive-behavioral intervention.

#### F. Behavioral Observation

Any comprehensive assessment of social anxiety will include observation of the child. In an ideal world, observation would take place across several settings in the naturalistic environment—notably those in which anxiety is most often elicited (e.g., at school, in the classroom, and on the playground during recess). Granted, it can be difficult for many clinicians to leave the office to conduct extensive observation. With forethought and planning, analogous situations may be arranged within the clinic to provide the proper setting events in which relevant skills and anxious behaviors may be displayed. For instance, children may be asked to read aloud or deliver an impromptu speech in the presence of the clinician and other staff or to initiate conversation with other children and adults in the waiting room. Behavioral assessment tasks have been of considerable utility not only as diagnostic assessment tools but also as measures of treatment outcome in clinical trials of cognitive-behavioral therapy for social anxiety disorder (21).

#### G. Peer Reports

School is the primary social setting for children over 5 years of age. While teacher reports serve as the gold standard for assessment of academic

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functioning, peer reports have no substitute in terms of ascertaining the child's level of integration in the social group. Assessments of children's peer relations may be of particular value in evaluating generalization of treatment effects. Peer status is typically obtained through sociometric nomination methods in which each child in a classroom names three children with whom he or she most likes to play and three with whom he or she least likes to play. Peer status is then classified based on the extent to which the child is liked or disliked by his or her peers (70). Alternatively, sociometric rating procedures may be employed in which children rate each of their classmates on various dimensions using Likert-type scales. In the Revised Class Play procedure (71), children are asked to assign classmates to roles in an imaginary play. For example, children may be asked which classmate is the most shy, most fearful, most outgoing, and so on. In addition to peer reports, direct observation of children's interactions with classmates can provide key information regarding social behavior, interaction style, skills, and deficits that may be identified as targets for intervention. It is important to keep in mind that many children who are socially anxious with peers are able to interact quite skillfully with adults; thus, important behaviors may be missed in the absence of peer observation. Among children, athletic ability, trendy attire, skill with video games, and use of current slang are important social variables that must be considered in evaluation of age-appropriate behavior, whether or not adults wish this to be the case.

#### H. Recommended Assessment Protocol

Clearly, one will not always be in a position to collect as extensive an assessment battery as one might prefer. If social anxiety disorder is suspected (based on the initial referral question or uncovered during broad-band screening), a reasonable diagnostic protocol would include administration of the Social Phobia and Anxiety Inventory for Children (child self-report) and the Anxiety Disorders Interview Schedule (child and parent interviews). Additionally, it is recommended that children self-monitor anxiety-provoking situations and use of coping responses via a daily diary (21,72). Diary sheets may be sent home with the child and returned at the time of the next appointment. Self-monitoring should continue throughout treatment to assist in target selection. The assessment protocol should be repeated following the treatment course in order to document outcome.

### III. COMORBIDITY AND DIFFERENTIAL DIAGNOSIS

Social anxiety disorder is highly comorbid (this volume, chapter by Baldwin and Buis). The most frequently associated conditions include school refusal,

other anxiety disorders, and depression. Children who meet criteria for multiple anxiety disorders tend to manifest earlier age of onset, extended chronicity, and higher intensity of anxiety symptoms than do children who meet criteria for only a single anxiety disorder.

### A. School Refusal

School refusal may be related to one of several different functions: a child may fear separation from a parent (as with separation anxiety disorder) or ridicule by peers (as with social anxiety), or may avoid school subsequent to academic difficulties (as a consequence of a learning disability or attention deficit hyperactivity disorder), or as part of a general pattern of noncompliance (as with oppositional defiant disorder). It is imperative that clinicians conduct a thorough functional analysis of school refusal behavior to select appropriate targets and methods for intervention. In a study of children with anxiety-related school refusal, 30% met criteria for social anxiety disorder (73). Socially anxious children are likely to withdraw from social encounters in the school setting and may soon experience perceived or actual lack of reinforcement or even punishment from the social environment. Social isolation from peers may impair the development of age-appropriate social skills and further exacerbate the potential for social anxiety.

### B. Separation Anxiety Disorder

The hallmark feature of separation anxiety disorder is excessive concern over separation from parental attachment figures. Although the child may have considerable difficulty articulating the reasons behind his or her separation fears, targeted interviewing generally will reveal that the child anticipates coming to harm and/or fears harm to the parental figure(s) if they are separated. While on the surface similar behaviors may be manifest in the two conditions (e.g., clinging, school refusal), social anxiety is not a dependency on the caretaker but rather a fear of approaching social interaction in which scrutiny by others is possible. In contrast to children with separation anxiety disorder, those with social anxiety will not express significant fear or distress when left at home with babysitters or during overnight stays with close friends or relatives. These disorders may co-occur; in such cases, separate avenues of treatment must be engaged. As effective treatment of social anxiety inevitably will involve social encounters apart from parents, it may be best to address the separation anxiety first.

### C. Generalized Anxiety Disorder

The diagnosis of generalized anxiety disorder requires that the child experience numerous cognitive and physiological symptoms across multiple areas.

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These fears and anxieties must not merely be associated with social concerns; otherwise a diagnosis of social anxiety disorder would be more appropriate. Generalized anxiety disorder is highly comorbid with social anxiety disorder in adults, with rates ranging from 15 to 50% across samples. Beidel and Turner have reported 16% comorbidity within their samples of children with social anxiety disorder (74).

### D. Depression

Comorbidity rates of 8 to 10% have been reported for social anxiety and depression in child samples (21,75). Children who are depressed may resist attending social events, but they do so for different reasons than children who are socially anxious. Children who are depressed will report that they are tired or do not have sufficient energy to participate (and at high levels of depression will indeed appear to be fatigued). Unfortunately, children with social anxiety disorder are at elevated risk for the development of depression subsequent to decreased social engagement and reinforcement, as well as maladaptive cognitions of worthlessness.

### E. Attention-Deficit Hyperactivity Disorder (ADHD)

Restless, fidgety, and noncompliant behavior in classroom settings may be interpreted by teachers and other adults as a result of anxiety, but more often there are seen as indications of ADHD. Inability to concentrate in academic contexts may be related to either condition; as such, full psychological assessment (including achievement testing) and functional analysis is necessary. Further, anxiety and ADHD may co-occur, with estimates upward of 20% having been reported (76). Social anxiety may be a legitimate outcome for children with ADHD, who may be ridiculed or disliked by their peers for engaging in disruptive, impulsive, or aggressive behavior or failure to perform academically. Realization of lowered peer status among children with ADHD is increasingly likely as they age and develop a better understanding of themselves and others. Early intervention for attentional and academic problems will serve to reduce the likelihood that these children will develop a dislike for school and distress in social settings. In cases where children legitimately meet criteria for ADHD and an anxiety or mood disorder, the disruptive behavior disorder tends to overshadow the identification and treatment of anxiety and depression (56). Clinicians should be cautioned not to overlook the possibility of co-occurring anxiety when children are referred for evaluation of ADHD.

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#### IV. CONCLUDING COMMENTS

Social anxiety is an early-onset, chronic disorder. Most adults with social anxiety disorder report that they have felt shy and uncomfortable in social situations most of their lives. The onset of social anxiety disorder in childhood places the individual at considerable risk for the later development of depression and substance abuse. It is essential that pediatricians, family physicians, and mental health professionals develop an awareness of social anxiety disorder and implement adequate screening procedures so that children may be referred for appropriate intervention. Accurate detection and diagnosis of social anxiety disorder will go a long way toward improving the quality of life for countless children and adolescents.

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