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Recent Findings in Social Phobia among Children and Adolescents

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Abstract: Childhood social phobia (SP) is common and associated with varying forms of impairment. The cause of social anxiety disorder is often complex, involving both genetic and environmental factors. Shyness in young children may be a possible precursor to social anxiety later in life, although not the sole antecedent. Current assessment of childhood social anxiety includes psychometrically sound self report and clinician administered measures either specifically targeting SP disorder or including the construct as a subscale of a broader measure. The type of measure that is used most often depends on the purpose of the assessment, the setting, time constraints, and required training. Extant data support the efficacy of both psychosocial and pharmacological interventions, with response rates ranging from 50–80%. Further research is needed to clarify the developmental stages of SP, the psychometric properties of brief measures, as well as the efficacy of combined interventions.

Phenomenology

Child social anxiety (SAD), also referred to as social phobia (SP), is characterized as a marked and persistent fear of social or performance situations in which embarrassment may occur (1). The child usually has an immediate fear response in these situations that often results in significant avoidance or distress. According to the DSM-IV (1), a diagnosis of social anxiety disorder requires that the anxiety interfere significantly in the child's daily routine or cause significant distress. While adolescents and adults are required to acknowledge the fear as excessive or unreasonable, this criterion is not required among children.

Childhood social anxiety can be described with reference to three realms: physiological, behavioral and cognitive. Physiologically, children may exhibit autonomic arousal in social situations, such as increased heart rate, sweating, flushing, nausea, abdominal problems and muscle tension. Behaviorally, social anxiety can be expressed as avoidance, irritability, angry outbursts, crying, clinginess and over-cautiousness. Also, children with social anxiety are sometimes described by their parents as being overly sensitive to criticism and non-assertive with peers (2). Cognitively, children with social anxiety have many concerns about social evaluation and are likely to interpret social situations in a threatening manner (3).

Some of the most common fears found in children with social anxiety disorder include fears about performance situations such as speaking or performing in front of people (e.g., musical recital, plays, etc.), social interactional fears such as joining or starting a conversation and interacting with same-age peers (4, 5). Unlike adults, children with social anxiety disorder are seen as generally anxious and may experience more somatic symptoms such as headaches, stomachaches and nausea due to their anxiety (5, 6). Common types of impairment include having fewer friendships, underachieving in school, low self-esteem and social skills deficits (7–9). Among adolescents, typical fears include formal and informal social interactions, public observation and performance, and situations requiring assertive behavior (10). Furthermore, adolescents seem to have a more pervasive pattern of fear and avoidance as well as higher levels of social distress than either children or adults (11).

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Epidemiology

Studies show that prevalence rates for childhood social anxiety disorder range from 3% to 6.8% in pediatric primary care samples and .5%-9.0% in community studies with slightly elevated percentages for adolescents (12–17). The variation in prevalence rates can be explained by methodological factors including differing diagnostic instruments, time frame, as well as varying thresholds of impairment that are utilized to determine a diagnosis. In clinical settings, rates of childhood social phobia have been found to range from 29–40% (18, 19), making it one of the more commonly seen child anxiety disorders. In community samples, girls are more likely to receive the diagnosis than boys (17).

Course

Data from a large longitudinal epidemiological study of DSM-III-R childhood psychiatric disorders found that certain disorders such as social anxiety, panic, depression and substance abuse increase while other disorders such as separation anxiety and ADHD decrease over time (20). This increase of social anxiety disorder in certain age groups may be due to increasing levels of self consciousness as well as environmental transitions during this time period (i.e., puberty, dating, new schools, peer influences, etc). The age of onset is usually in adolescence and typically social anxiety disorder has a chronic and unremitting course without treatment (21). In a study by Essau et al. (15), the rate of social anxiety was 0.5% in the 12–13 year old age group and 2.0% in the 14–15 year old age group. Further, Wittchen et al. (17) found rates of social anxiety increased across the 14–17 year old and 18–24 year old age groups (4.0% vs. 8.7%, respectively). It is important to note that there are individuals who report an earlier age of onset for social anxiety disorder (22) as well as those who even report being socially anxious all of their lives (23). The varying ages of onset for social phobia may be partially explained by methodological differences including the use of adult retrospective report versus epidemiological data from youth. Also, varying definitions for age of onset such as "when the symptoms began" versus "when the symptoms became a problem" could also lead to discrepancies. Some research suggests that with an earlier age of onset comes a more severe and more generalized type of social anxiety disorder (23, 24).

Similar to adults, social anxiety disorder in children is highly comorbid with depression as shown by prevalence rates of 25–31% in epidemiological studies and 17–52% in clinical settings (14, 15, 17). Child social anxiety disorder is also commonly comorbid with other anxiety disorders and substance use disorders (15, 17, 23, 24). A study by Beidel and colleagues found that among 50 youths with social phobia, 60% had a comorbid diagnosis (5). The highest rates of comorbidity were found for generalized anxiety disorder (10%), attention deficit/ hyperactivity disorder (10%), and simple (specific) phobia (10%), followed by separation anxiety disorder (6%), obsessive compulsive disorder (6%), depression (6%) and panic disorder (2%). In comparison to children, adolescents have a lower rate of comorbid selective mutism (with 8% and 1.6%, respectively) (11).

The Spectrum of Social Anxiety

Shyness and behavioral inhibition

Shyness can be interpreted as the tendency to be socially reserved and is very common in children (25, 26). Some research supports the notion that childhood shyness transitions into later anxiety disorders. In a longitudinal community sample of nearly 2,000 families followed from infancy to early adolescence (15 years), children who were rated by their mothers as having a shy temperament in infancy or early childhood had an increased probability (approximately 2–3 times that) of having an anxiety disorder in early or mid adolescence. Similarly, research findings also suggest that adolescents with anxiety problems are several times more likely to have been rated as shy during childhood when compared to adolescents who were not anxious. This is not to say that all shy children develop anxiety disorders; in fact most shy children do not develop an anxiety disorder (27). However, there appears to be a subgroup of shy children who are at increased risk for later anxiety disorders.

Behavioral inhibition (BI) is a type of temperament in which there is a tendency to demonstrate fearfulness or resistance when faced with unfamiliar

stimuli. It is very similar to shyness, yet is measured via behavioral tasks in the clinical laboratory. Some studies suggest that children with stable or persistent behavioral inhibition may be at highest risk of later development of social anxiety disorder (6, 28). In a five year longitudinal study, researchers found that behavioral inhibition (BI) in pre-school children appeared to be a predictor for social anxiety in middle school (6). The rates for lifetime social anxiety for inhibited children versus non-inhibited children were 28% and 14% respectively (6). In an earlier study, Schwartz et al. (28) investigated the outcomes of adolescents who had been inhibited or uninhibited since the age of two. They found that those who had inhibited temperaments at the age of two were more prone to develop social anxiety by adolescence (34%) when compared to those with an uninhibited temperament (9%). Results indicated no association with specific fears, separation anxiety or performance anxiety. Important to note, many children in the Schwartz study with an inhibited temperament as toddlers (66%) did not go on to develop social anxiety disorder, which may be explained by environmental and non-genetic familial factors (28).

In an epidemiological longitudinal study on temperament by Caspi and Silva (29), 800 children were followed over the course of 15 years. At age 3 children were assessed and placed in specific behavioral categories (undercontrolled, inhibited, confident, reserved and well-adjusted). Results at age 18 indicated that specific behavioral styles found in early childhood were connected to personality differences in young adulthood. Those with inhibited temperaments at age 3 were described as having an overcontrolled, restrained style and nonassertive interpersonal attitude as adults. They were also found to be lacking in social effectiveness including a tendency toward submissiveness and not being fond of leadership roles (29).

The Case of Selective Mutism

Selective mutism can be considered an extreme form of social anxiety including features of shyness and behavioral inhibition, where the most prominent feature is the inhibition of speech in select situations. Although selective mutism is currently classified among Other Disorders of Infancy, childhood or adolescence (1), a growing body of evidence suggests that SM and social anxiety disorder are closely related and that SM may even be a more severe variant of social anxiety disorder rather than a distinct psychiatric disorder (30). Children with selective mutism are consistently unable to speak in one or more social settings (e.g., school) despite speaking normally in other settings (e.g., home). They typically do not warm up to conversations even after a substantial period of time, although they may engage in nonverbal gestures during this period (31). Comorbidity rates between SM and SP range from 70–95% (32, 33) and characteristics such as shyness, anxiousness, withdrawal and seriousness are used to describe both selective mutism and social anxiety alike (34, 35). Findings from family history studies also support a relationship between SM and SAD (33, 36, 37). Parents of SM children tend to report that their child has always behaved in a shy and withdrawn manner from an early age even before the mutism was present (38, 39). Lastly, pharmacotherapy and case studies have shown that the same medication and behavioral treatments used to treat children with SP are also effective for children with SM (40–44).

Even though much of the data support SM as a variant of social anxiety, some data suggest that SM is not necessarily a more severe form of social anxiety and in some cases shares much in common with communication disorders (45, 46). A follow-up study of a sample of 41 young adults who had been diagnosed with SM as children reported that 60% of the sample continued to struggle with self-confidence, independence, achievement and social communication skills (47). Despite the similarities between SM and SP, selective mutism usually has an earlier age of onset than social phobia typically in the preschool years, before the age of 5.

From a longitudinal perspective, SM may be an early form of social phobia. In a retrospective study, adults that were once affected by SM as children continue to report social anxiety problems (33, 48). Further, in a study by Bergman et al. (49) which included 12 children, 73% of children who did not speak in the first few weeks of school continued to have problems related to social anxiety after a

6-month follow-up. Additional longitudinal studies, with larger sample sizes, are necessary to further understand the course and overlap between social anxiety and selective mutism, along with variations in clinical presentation.

Assessment

Assessments can be used to facilitate effective screening, diagnosis, and treatment. At present there are several measures to assess social anxiety in children, many of which may be most useful in a given setting or for a specific purpose. As shown in Tables 1 and 2, there are at least three measures that assess social anxiety/social anxiety disorder specifically and numerous others where social anxiety or related constructs are included as subscales. The Social Phobia and Anxiety Inventory for Children (SPAI-C; 50) is most commonly used as a measure of symptoms consistent with a diagnosis of social anxiety disorder, whereas the Social Anxiety Scale for Children-Revised and the Social Anxiety Scale for Adolescents (SASC-R/SAS-A; 51) is more useful in assessing the continuum of social anxiety primarily in interactional situations. Of the specific and general measures, at least three have a version that may be useful as a screening instrument for social anxiety: the 10-item Multidimensional Anxiety Scale for Children (MASC-10 item; 52), the 5-item Screen for Child Anxiety Related Emotional Disorders-Revised (SCARED-R; 53), and the 10-item Social Worries Questionnaires (SWQ; 54). However, additional data are necessary to support the validity of these briefer measures. Lastly, various general measures of anxiety exist, where social anxiety is included as a subscale. These measures may be particularly useful in assessing the extensive comorbidity present among children with social anxiety disorder. Given the substantial comorbidity between anxiety and depression, continued psychometric evaluation of anxiety measures that include depression items, like the Revised Children's Manifest Anxiety Scale (RCMAS; 55), is important.

Table 1. *Social Anxiety Disorder/Social Anxiety Measures – Self and Parent Report*

Measure	Subscales	Number of items	Pros and Cons
The Social Phobia and Anxiety Inventory for Children (SPAI-C; 50)	Somatic, cognitive, and behavioral symptoms of social anxiety disorder across a range of social situations and settings.	26 items	Pros: Assesses the specific construct of Social Phobia. Good psychometric properties and discriminant validity. Cons: Length. Scoring can be difficult.
The Social Anxiety Scale for Children-revised (SASC-R) and the SAS-A for Adolescents (51)	Three factors: (a) Fear of Negative Evaluation; (b) Social Avoidance and Distress-New (i.e., new situations or unfamiliar peers); and (c) Social Avoidance and Distress-General (generalized or pervasive social distress/discomfort).	22 items for children; 18 items for adolescents	Pros: Good psychometric properties and discriminant validity. Brief and easy to score. Useful in measuring continuum of social interactional anxiety. Cons: Not developed to specifically assess symptoms of DSM based social anxiety disorder.
Social Worries Questionnaire (SWQ; 54)	Assesses social fears and socially anxious behaviors.	10 items	Pros: Brief. Easy to score. May be useful as a screening instrument for social anxiety disorder. Cons: Limited psychometric evaluation.

Table 2. *General Anxiety Measures – Self and Parent Report*

Measure	Type of Anxiety	Number of items	Pros and Cons
Multidimensional Anxiety Scale for Children (MASC; 52)	Assess the major dimensions of anxiety; Physical Symptoms, Harm Avoidance, Social Anxiety and Separation/Panic.	39 items; 10-item screen	Pros: Well established. Comprehensive. Good psychometric properties. Cons: Length for full version. Scoring can be difficult. Parent version has not been validated.
The Revised Children's Manifest Anxiety Scale (RCMAS; 55)	Three anxiety related subfactors: Physiological manifestations of anxiety, worry and oversensitivity problems with fear/ concentration	37 items	Pros: Widely used measure. Used for clinical, educational and research purposes. Also includes items on mood, attention, impulsivity, and peer interaction problems. Cons: Some issues with discriminant validity. Not a pure measure of childhood anxiety.
The Fear Survey Schedule for Children-Revised (FSSC-R; 56)	Child's distress in different situations (5 of which are social settings)	80 questions	Pros: Good psychometric properties and discriminant validity. Cons: Length. Out of 80 situations only 5 address social phobia.
The Screen for Child Anxiety Related Emotional Disorders-Revised (SCARED-R; 53)	Subscales include separation anxiety, generalized anxiety, panic disorder, obsessive-compulsive, traumatic stress disorder, social phobia, specific phobia and school phobia.	41 item and 5 item screen	Pros: Good discriminant validity. Brief version that can be used as a screen. Easy to score. Cons: More psychometric evaluation is needed, particularly on 5-item screen.

Clinician delivered social anxiety assessments

There are two clinician rated measures that capture childhood anxiety disorder with good validity and test-retest reliability. One of those measures is the Liebowitz Social Anxiety Scale for Children and Adolescents (LSAS-CA; 57). This is a 24-item clinician rated scale that focuses on social interaction (12 items) and performance-related anxiety and avoidance (12 items). The clinician administers standardized questions, but also incorporates clinical judgement and adjusts the rating based on behavioral observations. The LSAS-CA is broken down into six subscales which include: total anxiety, social anxiety, performance anxiety, total avoidance, social avoidance, and performance avoidance. The sum of these subscales comprises a total score. However, similarly to the problems with the subscales in the adult version of the LSAS the child version has two somewhat independent factors (social anxiety and school performance anxiety) but the within factors, anxiety and avoidance, are highly intercorrelated (58, 59). This measure can be useful in both clinical and research settings (59). The length of the LSAS-CA and the required training limit its use in some settings.

Another clinician administered measure used to capture social anxiety in children is the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent versions (ADIS-CP). The ADIS is a semi-structured interview normed for children starting at the age of 5 and intended to assess anxiety and associated disorders. Ideally, the clinician administers the measure to both parent and child and is able to use his/her clinical

judgement by prompting for further information. The measure is scored by assessing the total number of "yes" responses to questions that would lead to a DSM-IV diagnosis, along with interference in the child's life due to the problem (60). Current data suggests that the ADIS-C/P has good psychometric properties, including interrater reliability, discriminant, and convergent validity (61). Similar to the LSAS-CA, the length of the ADIS and necessary training makes it difficult to use in some settings, although comparatively the LSAS does not require as much training and is not as lengthy as the ADIS.

Treatment

For those children with social anxiety disorder, varying evidence based treatment options are available including cognitive behavior therapy and pharmacotherapy. While data are not available to support the sequencing of treatment options or combined approaches, most practitioners advise the initial use of psychological interventions followed by pharmacotherapy when necessary.

Among adults with anxiety disorders, pharmacological treatments such as selective serotonin reuptake inhibitors (SSRIs) (e.g., fluoxetine, paroxetine, fluvoxamine, citalopram) and serotonin norepinephrine reuptake inhibitors (SNRIs) (e.g., venlafaxine) have received much support and are often considered a first-line pharmacological approach; among children less information is available regarding the safety, efficacy and long term outcomes (e.g., relapse rates) of SSRI/SNRI treatment. Studies with both open-label and double blind placebo control groups have shown promising results ranging from 36–100% success rates (62, 63) (see Table 3). In a large double blind placebo controlled study by Wagner et al., 75% of children with social anxiety disorder were considered responders to medication with good overall tolerance to medication in these trials (64). Less information is available for benzodiazepines such as alprazolam, clonazepam and lorazepam for children with anxiety disorders. Tricyclic antidepressants continue to be used for problems such as OCD, but due to their somewhat unfavorable side effect profile, their use remains limited.

Recently, the use of antidepressants in children and adolescents has come under investigation by regulatory authorities (and the media) due to concerns of possible increased suicidal thinking (64). Based on a review of 24 different short-term (4 to 16 weeks) studies of 9 antidepressant medications (SSRIs and others) involving over 4,400 youth with major depressive disorder, obsessive-compulsive disorder, or other psychiatric disorders, suicidal ideation and suicidal behaviors occurred in 4% of patients treated with antidepressants, compared to 2% of patients who were treated with a placebo, but no suicides occurred in any of the studies. At this point, more research is needed to evaluate the safety profile of antidepressant medications in children with anxiety disorders. This is particularly true in the presence of recent data suggesting a relationship between the decreased use of antidepressants in children and adolescents and an increase in suicide rates (65–68). When children do not respond to treatments with lower risk (e.g., counseling, behavioral therapies and CBT), clinicians and parents will need to make an informed decision about the use of pharmacotherapy on a case-by-case basis.

Psychological Interventions

Cognitive behavioral therapy (CBT) is often an effective first line of treatment for social anxiety disorder with response rates as favorable as pharmacotherapy treatments. The main components of CBT are relaxation exercises, cognitive restructuring, exposure to feared situations and reinforcement. In a study done by Albano et al. (73), examining group treatment with CBT for adolescents with social phobia, significant improvement was found on measures of anxiety and depression during a 16-session treatment as well as continued improvement at 1-year post-treatment.

In a study done by Spence et al. (74), 50 children with social phobia as their primary diagnosis were randomized to one of three conditions; treatment with no parental involvement, CBT with parent involvement or a wait list control group, utilizing an integrated cognitive behavioral therapy (CBT) that involved social skills training, graded exposure and cognitive restructuring. The two treatment groups

Table 3. *Pharmacotherapy*

Reference	Disorder	n	Age (yrs)	Design	Treatment	Duration	Results
Birmaher et al. (69)	Mixed anxiety disorder	21	11–17	Open label	Fluoxetine	10 months	81% moderate to marked improvement
Fairbanks et al. (70)	Mixed anxiety disorder	16	9–17	Open label	Fluoxetine	9 weeks	80% with social phobia showed improvement
Mancini et al. (63)	Social anxiety disorder	7	7–18	Open label	Nefazadone, paroetine, and sertraline	7 months	100% showed significant improvement
RUPP (44)	Mixed anxiety disorders	128	6–17	Case series-chart review	Fluvoxamine	8 weeks	76% Responders 29% placebo group responders
Compton et al. (62)	Social anxiety disorder	14	10–17	Double-blind, placebo controlled with supportive psychoeducation	Sertraline	8 weeks	36% Responders 29% partial responders
Chavira, Stein (7)	Generalized social anxiety disorder	12	8–17	Open label	Citalopram	12 weeks	83% Responders
Wagner et al. (64)	Social anxiety disorder	319	8–17	Combined psychoeducation and pharmacology (open label)	Paroxetine	16 week	77.6% Responders
Clark et al. (71)	Generalized anxiety disorder, separation anxiety disorder, and/or social phobia.	74	7–17	Randomized, double blind, placebo controlled, flexible dose, parallel group	Fluoxetine	1 year	95% responders at 1 year follow up
March et al. (72)	Generalized social anxiety disorder	293	8–17	Randomized, double blind, placebo controlled trial	Venlafaxine ER	16 weeks	56% responders
Beidel et al. (11)	Social phobia	139	7–17	Randomized, masked controlled trial	SET-C and Fluoxetine	12 weeks	46% Responder for SET-C, 21% fluoxetine, Placebo 3.1%

reported greater reductions in children's social and general anxiety impairment when compared to the control group. Both treatment groups (parent involved and parent not involved) maintained treatment effects or showed improvement at the 12-month follow-up. Although not clinically significant, the group with parental involvement had a higher percentage of children who did not receive a social anxiety diagnosis (74). In a study by Kendall et al. (75) children participated in a 16-week CBT treatment (for GAD, SP or SAD) and outcomes were examined for 86 participants after 7.4 years. On various measures of anxiety and depression, positive outcomes were maintained. The research team also reported lower rates of substance abuse and less substance use consequences among CBT participants when compared to the general population (76).

In the first randomized comparative trial done by Beidel et al. (11), children with social anxiety disorder were randomized to one of three treatment groups: Social Effectiveness Therapy for Children (SET-C), fluoxetine (an SSRI used to treat social phobia), or placebo. They found that both SET-C and fluoxetine were superior to placebo across all measures; social anxiety and behavioral avoidance were decreased and overall functioning was increased. When results of SET-C and fluoxetine were compared both groups showed similar decreases in social distress. However, SET-C appeared to be superior to fluoxetine with respect to percentage of treatment responders, lack of post-treatment diagnosis, and achievement of high-end state functioning. SET-C also had less behavioral avoidance, lower symptom severity and higher overall functioning. These results were sustained at 1-year follow-up (11).

Combined interventions

At this point there do not seem to be any controlled studies of combined CBT and SSRI treatment for childhood social anxiety disorder, although research addressing this topic is underway. In a pilot study, Chavira and Stein (7) used a combined psychoeducational intervention with a pharmacological treatment for youth (8–17 years of age) with generalized social anxiety disorder. They found positive results with 83% of youth considered treatment responders after 12 weeks of open label use of citalopram in combination with brief cognitive-behaviorally oriented psychoeducation. Future randomized controlled studies with larger sample sizes are necessary to evaluate the effectiveness of combined interventions (7).

Conclusion

This review covered current research on the phenomenology, epidemiology, course, assessment, and treatment of childhood social phobia. Although childhood social phobia has moved beyond a "neglected" status, further research is needed to understand the continuum of social anxiety including precursors such as shyness and behavioral inhibition, as well as possible developmental variants, such as selective mutism. Continued research on pharmacological, psychosocial and combined interventions is necessary in order to establish efficient, practical and generalizable treatment options. Furthermore, greater efforts directed at detection and prevention for children at risk for social anxiety (i.e., children with excessive shyness and/or stable behavioral inhibition) are necessary to facilitate identification and deter the deleterious consequences of social anxiety disorder.

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