# Part II

# Recognition and Manifestations of Adolescent Social Anxiety and Phobia in Diverse Settings

# Assessment of Social Anxiety in Adolescents

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## Introduction

Effective treatment of social anxiety disorder (SAD) and clinical research in this area require a thorough assessment, using reliable and valid assessment instruments (Tulbure et al. 2012). The appropriate and effective assessment of SAD in adolescence involves a multilevel, multi-procedure, and multi-informant process, which captures the essence of the disorder as well as other personal and family characteristics and functioning (Silverman and Ollendick 2005). In addition, the need for shortened versions of self-report measures has increased in recent years as a result of the increased importance of mental health screening by primary health-care providers, school counselors, and psychologists (Garcia-Lopez et al. 2008c). Having a screening protocol would help the scientific community to increase the awareness and detection of SAD in adolescents, particularly if the protocol was brief, valid, and reliable and demonstrated appropriate sensitivity and specificity.

In this chapter, we review clinical assessment procedures for SAD in adolescents and provide suggestions to conduct a thorough and psychometrically sensitive assessment. The chapter begins with a review of clinician assessment methods, followed by self-report measures. Next, we discuss multi-informant and

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context-sensitive clinical assessment, physiological assessment methods, and observational and role-play procedures. Finally, we present some issues regarding the future of assessment of social anxiety in adolescents.

## Clinician Assessment

Clinician assessment consists of clinical interviews, ratings of adolescent social anxiety, and general ratings of overall functioning. We briefly present each type of measure in the following sections.

### Clinician-Administered Interviews

#### General Clinical Interviews

Clinical interviews, either structured or more general in nature, are one of the most important sources of information gathering. Although a structured interview may be preferred to establish a reliable diagnosis, general interviews will cover other topics pertinent to adolescent SAD. Important topics include: physiological, cognitive, and behavioral symptoms of SAD; impact of the symptomatology on everyday life; information to rule out other diagnoses or to establish comorbid disorders; life stressors; coping skills; level of functioning in important areas (school, family, hobbies, etc.); etiological factors; maintenance factors; developmental history; the adolescent's and family's health status; and the family and cultural context (Kearney 2005).

Despite the fact that developing good rapport is an important requisite in assessment, this is particularly true with adolescents with SAD (Garcia-Lopez 2013). On one hand, adolescents may not be aware of social distress and difficulties that are associated with the disorder. They may view the condition as part of who they are, adapt their lifestyle to accommodate avoidance of social and/or performance situations in a way that camouflages their distress, and rationalize this avoidance. For all these reasons, adolescents with SAD tend to report fewer social anxiety symptoms relative to other informants (e.g., parents; see De Los Reyes et al. 2012). Furthermore, identification of social anxiety by parents and teachers is often difficult (see section "Multi-informant and context-sensitive clinical assessment" of this chapter), at least until underachievement or school refusal is identified. Lack of identification of SAD by parents is critical as especially younger adolescents depend on their parents to be taken to therapy. Finally, the very nature of SAD may interfere with the therapeutic relationship (and therefore with the assessment process). For example, adolescents may be afraid of being negatively evaluated by the therapist or interviewer (i.e., they may think that their problems are unique and that they must be weird to have them) and are vigilant for signs of disapproval. The attitude of the clinician, particularly in the first meeting, is therefore critical. The clinician's task will be to create a warm, uncritical, and understanding atmosphere, where the adolescent feels comfortable discussing his/her fears and worries.

Several strategies may be used to establish a good rapport in an initial session with an adolescent with SAD (Herbert et al. 2010). One consists of the clinician talking first about some general topic and asking the adolescent some general questions (e.g., age, school, friends, hobbies). This will break the ice and give the adolescent time to feel more at ease and comfortable in the therapy room. Also extremely important is that the clinician avoids any signs of disapproval throughout the interview. Finally, the interviewer should provide normalizing psychoeducation, emphasizing how common the adolescent's social or performance problems are, acknowledging that they must be difficult to handle sometimes, and clearly stating that there are effective treatments for such a condition. Usually, the pace of the interview will be slower, and the interview may take longer than with adolescents exhibiting other primary concerns (e.g., depression, generalized anxiety disorder).

### Structured and Semistructured Interviews

Structured and semistructured interviews are important tools that guide the clinician through the diagnostic decision-making process, leading to more reliable diagnoses. Additionally, they not only allow the categorical assessment of disorders but also the evaluation of the severity, impairment, and course of disorders. Diagnostic interviews also have the advantage of being open to evaluation of their psychometric properties and decreasing the variability inherent in clinical judgment. However, they are not without limitations. Three of the most important limitations of diagnostic interviews are that almost all require significant training to administer reliably, may be time consuming due to their length, and may be difficult to score (e.g., Beidel and Turner 2007).

There are several well-established structured and semistructured interview schedules based on DSM criteria that include an assessment of adolescents' social fears and that are used to collect information about symptomatology and additional diagnoses. Before describing the most common interviews, we would like to emphasize that the adolescent may view the interview situation as artificial and uncomfortable. For example, adolescents may answer "no" to the interview questions, particularly if they realize that this will lead to the interviewer skipping several pages (i.e., due to "skip out" rules linked to diagnostic criteria). To counteract this tendency, the clinician should ensure that a good rapport is established prior to the interview, the interview is not approached as an interrogation, and the interview begins with an informal conversation about school, friends, and hobbies. Furthermore, suggesting a break during the interview can also improve the adolescent's cooperation (Beidel and Turner 2007).

The *Anxiety Disorders Interview Schedule for DSM-5*: *Child and Parent Versions* (ADIS-5-C/P; Albano and Silverman 2014) is the most widely used interview to assess anxiety disorders in youth 6–17 years, is derived from the adult ADIS (Brown and Barlow 2013), and is organized according to anxiety disorders in the Diagnostic and Statistical Manual of Mental Disorders (5th ed. [DSM-5]; American Psychiatric Association, 2013). The ADIS-5-C/P consists of comparable but separate parent and child interviews and offers a comprehensive assessment for an adolescent with SAD. Although designed specifically to diagnose anxiety disorders, the ADIS-5-C

also assesses affective disorders and attention-deficit/hyperactivity disorder (ADHD). Additionally, it includes screening questions for a range of other disorders (substance abuse, schizophrenia, eating disorders, somatoform disorders). It also includes questions about school and the ways that youth connect with others (including texting and social media) that are relevant for an adolescent with SAD. The parent version (ADIS-5-P) includes the additional diagnostic categories of conduct disorder and oppositional defiant disorder, as well as screening questions for several other disorders, including enuresis, pervasive developmental disorders, and learning disorders. For each diagnosis, there are several questions to assess specific symptoms (on a 3-point scale, "yes," "no," and "other," or in a 9-point scale, "not at all" to "very, very much"). There are also questions to assess the disorder's duration and interference in everyday life, using a 9-point Likert-type scale; in order to be coded as a final diagnosis, a rating of at least 4 (moderate impairment) must be given by the adolescent or the parent.

All these criteria combined allow confirming or excluding a diagnosis. To derive a combined diagnosis from child and parent reports, a diagnosis is assigned if either one or the other indicates the presence of the disorder. At the end of the interview, a composite profile of diagnoses resulting from the information of the interviews is obtained, and each diagnosis is associated with a clinician severity rating (CSR) (from 0 to 8). These ratings are used to classify the diagnoses as principal (the most impairing one), coprincipal (other diagnoses that may share the same highest clinician severity rating), or additional (any other diagnosis with a lower severity rating). This classification is used to prioritize the disorder that causes greatest distress and impairment and that may be addressed first in treatment. The SAD section includes a list of situations that have to be rated according to the degree of anxiety and avoidance it provokes.

Administration of the whole interview, either the child or parent version, usually takes longer (about 60–120 min in total) than a typical clinical session (March and Albano 2002). However, if time is limited and a particular case involves assessing the presence of SAD (or performance anxiety), the clinician may decide to administer only the SAD section (or other relevant sections) to obtain important information about the problem and its interference (Kearney 2005).

The ADIS-IV-C/P (Silverman and Albano 1996) has demonstrated excellent test–retest reliability, excellent reliability for deriving combined diagnosis of separation anxiety disorder, SAD, specific phobia, and generalized anxiety disorder, and is highly reliable for deriving the same diagnoses with either child or parent information (Silverman et al. 2001). Its concurrent validity has also been established, particularly for the SAD, separation anxiety disorder, and panic disorder (Wood et al. 2002). Another study (Lyneham et al. 2007) explored interrater agreement, indicating that the ADIS-IV-C/P provided consistent diagnostic results across different clinicians.

Another commonly used interview is the *Schedule for Affective Disorders and Schizophrenia for School Age Children-Present and Lifetime Version* (K-SADS-PL; Kaufman et al. 1997). The K-SADS was designed to assess present and past episodes of 33 mental disorders and their interference (either in a paper and pencil

format or using a computerized version) according to the DSM-IV (APA 1994). Three DSM-IV compatible versions of the K-SADS are in general use, all providing a current diagnostic assessment: one present state (K-SADS-P IVR) and two epidemiological editions (the K-SADS-E (Epidemiological Version) and the K-SADS-PL (Present and Lifetime Version)). The K-SADS-P IVR also evaluates the worst past episode during the previous year, while the K-SADS-E and the K-SADS-PL provide a lifetime diagnosis. Furthermore, the K-SADS-E and the K-SADS PL are primarily categorical diagnostic interviews; however, the K-SADS-P IVR also measures symptom severity, thus allowing its use to monitor treatment response (for more details, see Ambrosini 2000). All versions of this interview are semistructured integrated parent–child interviews where the clinician records data from parents and youth on a common answer sheet. Diagnoses are assigned by synthesizing parent and child data (Kaufman 1997).

The K-SADS demonstrated good concurrent validity, good to excellent test–retest reliability for present and lifetime diagnoses, and high interrater agreement in a sample of children, adolescents, and their parents (Kaufman 1997). Reviewing the various past and current K-SADS editions and respective literature, Ambrosini (2000) concluded that all editions had good interrater reliability, noting, nevertheless, that the quality of the validating data was limited.

The *Structured Clinical Interview for DSM-IV Childhood Diagnoses* (KID-SCID; Hien et al. 1994) is a semistructured interview to assess childhood DSM-IV diagnoses, based on the Structured Clinical Interview for DSM-IV for adults (First et al. 1994). Its structure consists of questions for each DSM-IV criterion, and the interviewer rates the presence of each criterion using a three-point rating scale (absent, possibly present, or present). Both child and parent(s) provide answers that the interviewer combines to rate a "best" score. Next, the number of symptoms rated as "present" is counted, and if the required number of symptoms according DSM-IV symptom-criterion is met, the interviewer asks about other DSM criteria, such as age of onset and interference. Finally, a KID-SCID diagnosis is obtained if all DSM-IV criteria are met. Several studies support the validity of the KID-SCID (Matzner 1994; Matzner et al. 1997; Smith et al. 2005; Trimbremont et al. 2004). Additionally, two studies reported very good interrater reliability (Hien et al. 1994; Trimbremont et al. 2004) and another study (Matzner et al. 1997) showed fair to excellent test–retest reliability.

The *Diagnostic Interview for Children and Adolescents* (DICA; Reich 1998) is another widely used diagnostic interview for children and adolescents under 18 years. The DICA has a child version (DICA-C) for children aged 8–12 years, an adolescent version (DICA-A; 13–17 years), and a parent version that contains the same categories as the child and adolescent versions with the addition of two categories to solicit information on prenatal health (pregnancy/birth) and early child development. The DICA-IV offers a screening for a broad range of clinical symptoms and it also includes the Stein-Reich critical items listing. These items identify high-risk features that can alert the clinician for dangerous behavior (e.g., suicidal thoughts and behavior, drug abuse). The DICA has been computerized, allowing both an interviewer-administrated and a self-administrated version (Reich et al.

1997). Weldner et al. (1987) reported high reliability and high interrater agreement between DICA-C diagnoses and clinician's diagnoses and moderate to good parent–child agreement for most diagnoses. After reviewing administration procedures, psychometric properties, and comparisons with other measures, Reich (2000) concluded that this interview had good reliability and could serve as a valid tool for assessing psychiatric information in children and adolescents. Sala et al. (2005) have applied factor analysis to the DICA-IV responses provided by a sample of Spanish children/adolescents and parents and obtained a two-dimensional model (internalizing–externalizing) with good internal consistency and validity. These authors concluded that the DICA-IV could be used to obtain both categorical and dimensional indicators.

The *Diagnostic Interview Schedule for Children Version IV* (DISC-IV; Shaffer et al. 2000) is a highly structured diagnostic interview that consists of a series of close-ended questions to evaluate more than 30 psychiatric disorders in children and adolescents. The DISC-IV also collects information about several aspects of school functioning as well as information about the child/adolescent relationships with family, peers, and teachers. It has a version for children or adolescents (DISC-Y; from 9 to 17 years), a version for parents (DISC-P; from 6 to 17 years), and a version for teachers (DISC-T); the teacher version is limited to disorders whose symptoms might be expected to be observed in a school setting (e.g., disruptive disorders). The DISC-IV assesses the presence of diagnoses in three different moments in time: the previous 4 weeks, the previous year, and "whole life." Its format and structure (either in paper and pencil or computer format) allows the DISC-IV to be administered by lay interviewers after a minimal training period. Previous versions of the DISC have shown moderate to good criterion validity across a number of diagnoses (Schwab-Stone et al. 1996), moderate to substantial test–retest reliability (Jensen et al. 1995), and good reliability and acceptability (Shaffer et al. 1996). However, Lewczyk et al. (2003) reported that, compared to clinician diagnosis, the DISC-IV had a significantly higher prevalence of ADHD, disruptive behavior disorders, and anxiety disorders and a significantly lower prevalence of mood disorders.

The *Child and Adolescent Psychiatric Assessment* (CAPA; Angold and Costello 2000) is a structured interview for use with children/adolescents (ages 9–17) and their parents. The CAPA includes several sections: psychiatric symptoms, functional impairment, demographics, and family structure and dynamics. Included in this interview are three sections that specifically assess social fears: shyness with peers, social anxiety in interaction contexts, and fears of activities in public. The CAPA also has a glossary providing operationalized symptom definitions and application rules. The time frame is the three previous months, but duration of symptoms is in line with diagnostic frameworks. Results from the study of Angold and Costello (2000) confirmed the CAPA's test–retest reliability and validity.

The Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID; Sheehan et al. 1998) is a short structured clinical diagnostic interview designed to assess the presence of psychiatric disorders according to DSM-IV and ICD-10 criteria. The MINI-KID was based on the adult version of the interview (MINI; Lecrubier et al. 1997; Sheehan et al. 1997, 1998) and is intended to be used

with children and adolescents aged 6–17 years without mental retardation. It is organized in diagnostic modules with screening questions for each disorder that, if they are endorsed, will be followed by additional symptoms questions. Twenty-four disorders are screened, excluding organic mental disorders and specific learning disabilities. Current and lifetime suicide risk is additionally screened. Sheehan and collaborators (2010) found that the MINI-KID presented substantial to excellent agreement to the K-SADS-PL (Kaufman et al. 1997) on every disorder, except psychotic disorder, where results were more modest. The same authors reported substantial sensitivity, excellent specificity, and almost perfect interrater agreement and test–retest reliability. Also, the concordance of the parent version (MINI-KID-P) with the standard MINI-KID was good. Finally, the MINI-KID took a third of the time to be administered compared to the K-SADS.

## Clinician-Administered Scales

In addition to clinical interviews, clinician-administered measures include scales for social anxiety assessment, scales that assess anxiety and include a section for social anxiety, and ratings of the overall level of adolescent functioning.

### Clinician-Administered Social Anxiety Scales

There are two clinician-administered measures to specifically assess social anxiety in children and adolescents, which are described below.

The *Liebowitz Social Anxiety Scale for Children and Adolescents* (LSAS-CA; Masia-Warner et al. 2003), based on its adult version (Liebowitz 1987), is a 24-item clinician-administered rating scale that assesses youths' anxiety and avoidance for both social and performance situations. Twelve items describe interaction situations and the other 12 describe performance situations. For each item, the clinician asks for a separate rating for anxiety and avoidance, using a 0–3 Likert scale, but these ratings may also be adjusted based on clinical judgment, further inquiry, and behavioral observation of the youth. Items are then summed in two subscales assessing social interactions and performance situations. Six scores may be obtained: total anxiety, social anxiety, performance anxiety, total avoidance, social avoidance, and performance avoidance. Masia-Warner et al. (2003) reported high internal consistency (both for the full sample and for a SAD group), high test–retest reliability (for the total and subscales), stronger positive associations with measures of social anxiety and general impairment than with a measure of depression, and sensitivity to discriminate youth with SAD from youth with other anxiety disorder and from healthy controls. However, factor analysis of the LSAS-CA indicated that anxiety and avoidance ratings were better explained by a two-factor solution that measures social anxiety and avoidance in social or school performance situations (Storch et al. 2006). These two factors—social and school performance—obtained high internal consistency and acceptable validity (Storch et al. 2006). The LSAS-CA has been used in several treatment studies and has demonstrated sensitivity to treatment effects (Masia-Warner et al. 2005; Wagner et al. 2004). It has also been useful as a

self-report measure (see "Social anxiety measures specifically designed for adolescents" section of this chapter).

The *Kutcher Generalized SAD Scale for Adolescents* (K-GSADS-A; Brooks and Kutcher 2004) is a clinician-rated scale designed to assess the severity of SAD and to measure treatment outcome in adolescents (i.e., monitoring the severity of symptoms over time). The K-GSADS-A is divided in three sections, each reflecting different aspects of SAD. Section A includes 18 items related to fear and avoidance of social situations, each rated on two 4-point scales (i.e., from "none" to "severe" on anxiety and from "none" to "total" on avoidance.) Section B asks the adolescent to choose the three most feared social situations and then rate them using the same 4-point system; these three items will be rerated on repeated administrations of the K-GSADS-A. Section C includes 11 items that describe affective distress and somatic distress symptoms, rated from 0 ("never") to 3 ("severe") according to how strongly each symptom occurs in most social situations. This section allows the evaluation of whether a particular treatment has differential effects on affective and somatic symptoms (Brooks and Kutcher 2004). Four subscales can then be calculated: fear and anxiety (the sum of section A's discomfort ratings), avoidance (the sum of section A's avoidance items), affective distress (the sum of section C's affective items), and somatic distress (the sum of Section C's somatic items). Finally, the sum of these four subscales comprises the K-GSADS-A Total Score. Brooks and Kutcher (2004) explored and supported the scale's internal consistency, test–retest reliability, and convergent and divergent validity. The K-GSADS-A's sensitivity to treatment outcomes has also been established (Brooks and Kutcher 2004; Wagner et al. 2004).

### Ratings of Global Level of Functioning

Finally, global clinician ratings are useful measures of the youth's overall level of functioning or of his/her treatment progress. These instruments are applicable across all psychiatric disorders and treatments and were designed for easy use. If the clinician has enough information available, the measures only take a few minutes to complete. Two of these instruments are briefly reviewed.

The *Clinical Global Impression Scale* (CGI; Guy 1976) was developed to provide a brief, stand-alone assessment of the clinician's view of the individual's global functioning prior to and after treatment, taking into account all available information on the person's history, psychosocial circumstances, symptoms, behavior, and interference (Busner and Targum 2007). The CGI consists of two subscales, rated in a 7-point scale: Severity of Illness (CGI-S), which rates illness severity (ranging from 1 = "normal not at all ill" to 7 = "among the most extremely ill patients"), and Global Improvement (CGI-I), which assesses improvement relative to treatment baseline (ranging from 1 = "very much improved since the initiation of treatment" to 7 = "very much worse since the initiation of treatment"). The CGI has been shown to correlate with other well-known treatment efficacy scales across a wide range of psychiatric disorders in adults, including SAD (Bandelow et al. 2006; Zaider et al. 2003). The CGI has also demonstrated sensitivity to treatment effects in children and adolescents with SAD (Compton et al. 2001).

The *Children's Global Assessment Scale* (CGAS; Shaffer et al. 1983) is an adaptation from the Global Assessment Scale for Adults (GAS; Endicott et al. 1976). It contains numeric scale (from 1 = most impaired to 100 = least impaired) to assess overall functioning during the previous month for children under the age of 18 years. It is easy to use and it takes only a few minutes to complete. Shaffer et al. (1983) found the CGAS to be reliable between raters and across time and also reported concurrent and discriminant validity. The psychometric characteristics of the CGAS are well documented, its utility is well established in nationwide clinical settings, and it has been used in treatment outcome studies of childhood psychopathology (see Schorre and Vandvik 2004 for a review).

## Self-Report Measures

### Scales Designed or Adapted to Measure Social Anxiety in Adolescents

#### Social Anxiety Measures Specifically Designed for Adolescents

The *Social Anxiety Scale for Children-Revised* (SASC-R; La Greca and Stone 1993; La Greca 1999) was designed to assess levels of social anxiety in children aged 7–13 years (elementary school). The SASC-R contains 18 items (plus 4 filler items) and evaluates three aspects of social anxiety: Fear of Negative Evaluation from Peers (FNE = 8 items), Social Avoidance and Distress specific to new situations or unfamiliar peers (SAD-New = 6 items), and Generalized Social Avoidance and Distress (SAD-General = 4 items). Items are rated on a 5-point Likert scale and summed across relevant items to obtain total SASC-R scores and scores for each of the three subscales. The total score can range from 18 to 90. In addition to the findings of La Greca and colleagues, good psychometric properties have been found in Finnish, Dominican, Puerto Rican, Portuguese, Japanese, Spanish, US, and Norwegian children (e.g., Kristensen and Torgersen 2006; Kuusikko et al. 2009; Martins et al. 2014; Okajima et al. 2009; Reijntjes et al. 2007; Sandin et al. 1999; Storch et al. 2003).

The *Social Anxiety Scale for Adolescents* (SAS-A; La Greca and Lopez 1998) was adapted from the SASC-R to assess adolescents' levels of social anxiety. The SAS-A is suitable for adolescents ages 13–18 years (middle and high school). As with the SASC-R, the SAS-A contains 22 items (including 4 filler items) and evaluates FNE (range: 8–40), SAD-New (range: 6–30), and SAD-General (range: 4–20). A total score can also be computed (range: 18–90). The rating scale for each item ranges from 1 (never) to 5 (always). In line with the original study, research carried out by Inderbitzen-Nolan and Walters (2000) and Myers et al. (2002) confirmed the three-factor structure in US adolescents. Similarly, studies in countries such as Finland, Turkey, Spain, Portugal, China, Japan, and Latin America have reported excellent psychometric properties for this measure of social anxiety in adolescents (Aydin and Sütcü 2007; Cunha et al. 2004; Garcia-Lopez et al. 2005, 2009, 2014b; Jimenez-Lopez et al. 2013; La Greca et al. (in press); Okajima et al.

2009; Olivares et al. 2005; Ranta et al. 2012a). In addition, Olivares et al. (2002) suggested a cutoff score of 44, rather than the score of 50 proposed by the original authors. Furthermore, Ingles et al. (2010) and La Greca et al. (2014) have found factorial invariance for the scale.

*Social Phobia and Anxiety Inventory for Children* (SPAI-C; Beidel et al. 1995). The SPAI-C evaluates the somatic, cognitive, and behavioral aspects of social anxiety in children between the ages of 8 and 14. The SPAI-C consists of 26 items with a 3-point (0–2) Likert rating format. The scale has been used in Brazil, Norway, Finland, Spain, Italy, and the USA (Aune et al. 2008; Beidel et al. 2000a, b; Gauer et al. 2005; Inderbitzen-Nolan et al. 2004; Kuusikko et al. 2009; Ogliari et al. 2012; Olivares et al. 2010; Storch et al. 2004). Kuusikko et al. (2009) recommended a cutoff score of 18 for a Finnish adolescent population. A meta-analysis conducted by Scaini et al. (2012) found that SPAI-C presents with good cross-cultural validity.

The *Liebowitz Social Anxiety Scale for Children and Adolescents* (LSAS-CA; Masia et al. 1999) is based on the adult version (LSAS; Liebowitz 1987). The LSAS-CA is a 24-item scale with a 4-point (0–3) Likert rating format, designed for children over the age of 7 years. This measure rates the following: total fear, fear of social interaction, fear of performance, total avoidance, avoidance of social interaction, and avoidance of performance. Although it was originally conceptualized as a clinician-administered scale (see section "Clinician-administered social anxiety scales"), a self-report version (LSAS-CA_SR) has been developed, with appropriate psychometric properties for French- and Spanish-speaking adolescents (Olivares et al. 2009; Schmits et al. 2014).

*Social Anxiety Questionnaire for Children* (SAQ-C; Caballo et al. 2012) assesses social anxiety in children between the ages of 9 and 14 years. It consists of 24 items grouped into six factors or dimensions (4 items for factor): (1) speaking in public/interactions with teachers, (2) interactions with strangers, (3) interactions with the opposite sex, (4) criticism and embarrassment, (5) assertive expression of annoyance or disgust, and (6) performing in public. Each item is answered on a 4-point Likert scale to indicate how much the child feels afraid, embarrassed, or nervous in response to each social situation: 1 (none), 2 (a little), 3 (quite a lot), and 4 (a lot). Available psychometric properties are limited to the study published by authors.

*Escala para la Detección de Ansiedad Social* (EDAS; *Social Anxiety Screening Scale*, SASS; Olivares and Garcia Lopez 1998; Olivares & Piqueras, 2005). This measure consists of 10 items: 2 are dichotomous and the remaining 8 have three-independent-factor structure (avoidance, distress, and interference). Validation of the scale is limited to Hispanic populations (Olivares & Piqueras, 2005; Olivares et al. 2004b; Piqueras et al. 2011, 2012b, c; Vera-Villarroel et al. 2007).

*Social Anxiety and Avoidance Scale for Adolescents* (SAASA; Cunha et al. 2008; Salvador, 2009). The primary aims of this instrument are: (1) to identify possible dimensions of social fears in a specific developmental context; (2) to serve as an assessment measure for adolescents at risk for developing SAD; (3) to be a helpful tool in the clinical assessment of adolescents with SAD, identifying the intensity

and frequency of anxiety and avoidance responses to feared situations; and (4) to be a useful instrument for tailoring an intervention and assessing its outcome. The scale consists of 34 items, with each item score ranging from 1 to 5. The total score for each of the SAASA subscales (the distress/anxiety subscale and the avoidance subscale) varies between 34 and 170. A total score may also be obtained by calculating the mean of the two subscales.

*Social Anxiety Scale for Adolescents* (SASA; Puklek 1997a, b). The SASA was developed in Slovenia to measure anxiety in social situations that typically evoke uneasiness, worry, and avoidant behavior in adolescents. The work conducted by Puklek and colleagues (Puklek Levpuscek 2004; Puklek and Vidmar 2000) revealed that Watson and Friend's (1969) two components of social anxiety were also evident in Slovene adolescents. Specifically, the SASA has 28 items (Likert range: 1–5) and a two-factor structure: (a) Apprehension and Fear of Negative Evaluation (AFNE), consisting of 15 items that assess the adolescent's fears, worries, and anticipations of possible negative evaluation by their peers and audience, and (b) Tension and Inhibition in Social Contact (TISC), consisting of 13 items that assess social tension/relaxation, speech or behavior inhibition, and readiness to exposure in social interactions. Further papers have confirmed the psychometric properties of the scale in Slovenia (Puklek Levpušček and Videc 2008). This scale also has the same factor structure and test–retest reliability in Spanish adolescents (Garcia-Lopez et al. 2011b).

### Social Anxiety Measures Adapted for Adolescents

*Fear of Negative Evaluation* (*FNE*) *and Social Avoidance and Distress Scale* (*SAD*). Watson and Friend (1969) developed these scales to measure social-evaluative anxiety and social anxiety/distress and avoidance of social situations among college students prior to the DSM-III recognition of social phobia or SAD as a diagnostic entity. The FNE is a 30-item scale and the SAD is a 28-item scale, both of which employ a true–false format. Studies have demonstrated the reliability and validity of the scales in a Spanish-speaking adolescent sample (Garcia-Lopez et al. 2001).

The *Social Phobia Inventory* (SoPhI; Moore and Gee 2003) is a 21-item scale that measures social anxiety according to DSM-IV-TR criteria (American Psychiatric Association 2000). Items are rated on a 5-point scale (1–5). This is the only scale that includes an item to tap DSM duration criteria for SAD, stating that social anxiety symptomatology must be present for at least 6 months. The SoPhI has been validated in Spain by Bermejo et al. (2011).

*Social Phobia Inventory* (SPIN; Connor et al. 2000). This 17-item questionnaire measures behavioral, physiological, and cognitive symptoms associated with social phobia. Six of its items assess fear in social situations, seven measure avoidance of performing in social situations, and four items assess physiological discomfort in social situations. Adolescents are asked to rate the frequency with which they experienced each symptom over the last week, using a five-point Likert-type scale (0–4). Thus, total scores can range from 0 to 68. Although initially developed for adults, research has also demonstrated its validity and reliability in adolescent populations

in countries such as the USA, Finland, Canada, Germany, Spain, and Brazil (Antony et al. 2006; Garcia-Lopez et al. 2010; Johnson et al. 2006; Pereira et al. 2004; Ranta et al. 2007a, b; Sosic et al. 2008; Vilete et al. 2004).

*Mini-Social Phobia Inventory* (Mini-SPIN; Connor et al. 2001) is a 3-item scale derived from the SPIN. Recently, Ranta et al. (2012b) and Garcia-Lopez and Moore (2015) found it to be a valid and reliable measure for screening socially anxious adolescents in Spain and Finland.

*Self-Statements During Public Speaking Scale* (SSPS; Hofmann & DiBartolo, 2000) was designed to specifically assess typical negative and positive self-statements related to public speaking situations. This measure contains 10 items, and each self-statement is rated on a 0–5-point scale. Factor analytic studies have reliably identified a 5-item subscale assessing negative self-statements (SSPS-N) and a 5-item subscale measuring positive self-statements (SSPS-P). Rivero et al. (2010) found that this scale, and particularly the SPSS-N, is a valid and reliable self-statement measure of public speaking anxiety for adolescents.

*Social Phobia and Anxiety Inventory* (SPAI; Turner et al. 1989). In the late 1980s, these authors developed a self-report inventory that assesses behavioral, physiological, and cognitive symptoms associated with SAD. The SPAI is comprised of two scales: the 32-item Social Phobia subscale (Likert-type scale: 1–7) and the 13-item Agoraphobia subscale. The difference score is calculated by subtracting the Social Phobia subscale from the Agoraphobia subscale. Research has demonstrated that the SPAI is a valid and reliable measure for use with English and Spanish-speaking adolescent populations (Clark et al. 1994; Garcia-Lopez et al. 2001, 2005; Olivares et al. 1999). A cutoff score of 70 on the Social Phobia subscale has been shown to produce the highest agreement rate among Spanish adolescents (Olivares et al. 2002). Olivares et al. (2004a) found that FNE, SAD, SAS-A, and SPAI are invariant among samples, and all of them assess a single higher-order factor, labeled as "social anxiety," although each measure appears to tap different symptomatology. In this study, data revealed SPAI and SAS-A are better predictors of social phobia than FNE and SAD. As a result, these authors recommended the SPAI and the SAS-A as first-line assessment measures to assess adolescents' social anxiety.

The *Social Phobia and Anxiety Inventory-Brief* (SPAI-B; Garcia-Lopez et al. 2008a) stems from the SPAI and assesses both interactional and performance situations, and the three-response system approach (Lang 1968). It is a brief version of the SPAI, albeit different in terms of the Likert scale format used, the number of items, and avoidance of heterocentric language, as recently proposed by Weiss et al. (2013). Unlike SPAI, SPAI-B is a short self-report, particularly useful when screening for social anxiety. It consists of 16 items using a 5-point Likert scale (1–5). For example, "I feel nervous when I have to speak in public." Items 15 and 16 are comprised of sub-items related to cognitive and somatic symptoms; hence item 15 is scored as the average of 4 sub-items, and item 16 as the average of 5 sub-items. Therefore, decimals can be obtained. The SPAI-B score is the sum of item ratings minus 16. As a result, a total score can also be computed (range: 0–64). Although originally developed to screen for adolescents with social anxiety, Piqueras et al. (2012a) found it to

be useful for young adults. Vieira et al. (2011; 2013) have confirmed its excellent psychometric properties in a Portuguese adolescent population. Finally, Piqueras et al. (2012a) have revealed that SPAI-B can be administered using online or paper and pencil formats and is a sensitive measure of treatment outcome (Garcia-Lopez et al. 2009; 2014; 2015).

## Anxiety Scales Including Social Anxiety Measures

The *Multidimensional Anxiety Scale for Children* (MASC; March 1998; March et al. 1997) assesses the presence of symptoms related to anxiety disorders in youth aged 8–19 years. The MASC consists of 39 items (score range: 1–4) distributed across four major factors, three of which can be parsed into two subfactors. Main and subfactors include: (1) physical symptoms (tense/restless and somatic/autonomic), (2) social anxiety (humiliation/rejection and public performance fears), (3) harm avoidance (perfectionism and anxious coping), and (4) separation anxiety. Good psychometric properties in the social anxiety subscale have been found for adolescents (Anderson et al. 2009; Gastel and Ferdinand 2008; Grills-Taquechel et al. 2008; Wood et al. 2002).

The *Screen for Child Anxiety-Related Disorder* (SCARED; Birmaher et al. 1997) measures anxiety symptomatology in children and adolescents ranging from 8 to 18 years. It contains 41 items, using a 3-point Likert format (0–2). The SCARED is a screening instrument that purports to measure five child and adolescent anxiety disorder symptom dimensions. Four of the five factors (generalized anxiety disorder, panic disorder, separation anxiety disorder, and SAD) are clearly related to DSM-IV-TR anxiety disorders. The fifth anxiety symptom dimension of the SCARED is school anxiety (or school refusal). The SCARED has been validated for use among Cypriot, German, Italian, Spanish, Indian, Chinese, UK, South African, and Dutch adolescents (Crocetti et al. 2009; Essau et al. 2002, 2013; Hale et al. 2005, 2013; Linyan et al. 2008; Muris and Merkelbach 2000; Su et al. 2008; Vigil-Colet et al. 2009). A cutoff of 21 has been suggested as the optimal score to screen for adolescents with anxiety disorders (Swamidhas et al. 2013).

*Spence Children's Anxiety Scale* (SCAS; Spence 1998). The SCAS assesses six domains of anxiety covering generalized anxiety, panic/agoraphobia, social phobia, separation anxiety, obsessive–compulsive disorder, and physical injury fears. Each symptom is scored on a 4-point (0–3) frequency scale. This measure contains 44 items, 38 of which reflect specific anxiety symptoms and 6 are positive filler items to reduce negative response bias. In addition to the data provided by Spence and colleagues (Spence 1997, 1998; Spence et al. 2003) in an Australian population, the scale has proven to be valid and reliable measure in countries such as Japan, Germany, Cyprus, Spain, the Netherlands, and Mexico (Essau et al. 2004, 2011; Godoy et al. 2011; Hernandez-Guzman et al. 2010; Muris & Merckelbach, 2000; Orgiles et al. 2012). Parent versions have been developed with norms for 6–18-year-olds (Nauta et al. 2004.)

## Multi-Informant and Context-Sensitive Clinical Assessment

Properly assessing social anxiety among adolescents involves structuring assessments with the idea that not all individuals express social anxiety in the same way. For example, some individuals may experience clinically significant social anxiety concerns but only within structured performance contexts such as public speaking, whereas others may experience concerns across these performance contexts and also in unstructured social contexts (e.g., asking a stranger for directions) (Bögels et al. 2010). This key component of adolescents' clinical presentations—the potential for significant variations in the contexts in which social concerns may occur—necessitates a comprehensive assessment approach. This approach involves obtaining self-reports from adolescents as well as reports from significant others in adolescents' lives, such as parents and teachers (Silverman and Ollendick 2005). These informants observe adolescents in different contexts (e.g., home vs. school vs. peer interactions); thus, not surprisingly, their reports often yield different conclusions as to adolescents' social anxiety concerns (i.e., *informant discrepancies*; De Los Reyes 2013; De Los Reyes & Kazdin, 2005; Hoffman & Chu, 2015).

One interesting observation involves comparing patterns of informant discrepancies across clinic and community samples. Specifically, in a recent large-scale study of cross-informant correspondence across community samples in 25 societies, adolescents tended to self-report greater anxiety concerns than parents reported about adolescents (Rescorla et al. 2013), whereas in previous work with clinic samples, adolescents have tended to self-report lower concerns relative to parent reports (e.g., De Los Reyes et al. 2012; De Los Reyes et al. 2010). These differences in patterns of informant discrepancies have led many mental health professionals to assume that, when adolescents self-report fewer concerns than adult informants (e.g., parents), in clinical settings, the adolescent is providing unreliable and invalid self-reports (for a review, see De Los Reyes et al. 2011).

However, two key pieces of evidence-based assessment research contradict this interpretation of patterns of informant discrepancies, particularly in terms of adolescent patients' self-reports. First, decades of research attest to the reliability and validity of adolescent self-reports of social anxiety concerns (Silverman and Ollendick 2005). Second, the strong psychometric support for adolescent self-reports extends to circumstances in which one observes large discrepancies between adolescents' self-reports and reports from other informants. For instance, on well-researched, established clinical instruments, even when adolescents' self-reported anxiety concerns evidence low correspondence with parents' reports about adolescents' concerns, both reports nonetheless exhibit the same factor structure (for a review, see De Los Reyes 2013). Further, De Los Reyes and colleagues (2012) recruited a group of adolescents referred for a clinical evaluation for social anxiety concerns, as well as an age- and gender-matched community control group. In this study, clinic-referred adolescents self-reported fewer social anxiety concerns than parents reported about the adolescents, and adolescents' self-reports exhibited very low correspondence with objective measures of their baseline physiological regulation. Yet, adolescents' self-reports nonetheless

evidenced high internal consistency, convergent validity, and could significantly distinguish adolescents on referral status (i.e., clinic-referred vs. community control).

## Observational and Role-Playing Assessment

Behavioral observation of anxious youth can occur in more or less structured contexts, involving only the adolescent or including the family. Since observation in the natural environment (especially with adolescents) is usually very difficult, structured or unstructured role-play procedures in various situations have become widely used.

The *Behavioral Assessment Tests* (BATs), sometimes also called behavioral avoidance tasks/tests or behavioral approach tasks/tests, are structured role-play procedures commonly used in the behavioral assessment of anxiety disorders. Despite a long history in the assessment of other anxiety disorders, BATs use in the assessment of SAD in children and adolescents were rare until recently. In BATs, the adolescent is exposed to anxiety-provoking situations (included in the adolescent's fear and avoidance list or hierarchy), while the approach or avoidance of the situation and related behaviors are rated, which can be very useful to assess the presence and nature of social fears.

BATs can consist of several types of tasks. Some BATs explore the presence of social skills, using role-plays and asking the adolescent to engage in a simulated social encounter, where a trained confederate plays the role of an interpersonal partner in different scenarios (e.g., having a conversation, giving or receiving a compliment) (e.g., Spence et al. 1999). In a recent study, Mesa et al. (2014) have used a novel social interaction task in which the adolescent played a video game with an unfamiliar confederate. The BAT tasks usually have a set time (e.g., 10 min), during which subjects are instructed to behave as they would if they were actually in that situation, and the confederate may have certain instructions regarding the interaction. Other BATs may be more focused on the ability to perform in front of an audience or in front of a camera, like giving an impromptu speech. In both types of situations, the adolescent may be audiotaped or videotaped, and his/her performance is scored by the confederate and/or by an independent observer for various indicators of social anxiety and social skills (e.g., eye contact, posture, appropriate verbal content). Additionally, before, during, or after the performance of the task, several measures can be employed. These measures include the adolescent's ratings of distress (e.g., 0–100 Subjective Units of Distress Scale), thought-listing procedures, or, if possible, measures of physiological reactions. Cartwright-Hatton et al. (2003) have developed an eight-item Performance Questionnaire to be used in behavioral assessment, which consists of a child version (PQ-C) and an observer version (PQ-O), and that has demonstrated acceptable inter-item and interrater reliability. Although the authors have used this scale with children, it can easily be used with adolescents.

One specific BAT is the *Revised Behavioral Assertiveness Test for Children* (BAT-CR; Ollendick 1981; Ollendick et al. 1985). The BAT-CR, derived from the

Behavioral Assertiveness Test-Revised (Eisler et al. 1975) and from the Behavioral Assertiveness Test for Children (Bornstein et al. 1977), is a measure of children's social skills and social competence that assesses responses to both positive and negative assertion situations with peers. The child/adolescent is required to participate in a series of 12 role-plays, of which 6 require positive assertion (e.g., giving a compliment) and the other 6 require negative assertion (e.g., refusing unreasonable requests). The role-plays are videotaped for later scoring of assertiveness by a trained independent observer (from −2 = very submissive to 2 = very aggressive). The total assertiveness score, obtained by adding the absolute value of the 12 role-play assertiveness ratings, reflects the deviation of the responses from assertion.

Coding categories include eye contact, response latency, response length, and verbal content (Ollendick et al. 1985). The BAT-CR has been found to demonstrate high interrater reliability (Ollendick et al. 1985, 1986; Spence et al. 1999, 2000) and validity (Ollendick 1981; Ollendick et al. 1986). Although this task was not originally developed to be used with children, several studies have used it both with children and with young adolescents (8–14 years; e.g., Spence et al. 1999, 2000).

Structured role-play procedures have been used with children and adolescents in treatment outcome research to assess social anxiety and social skills (e.g., Beidel et al. 2005; Compton et al. 2001; Herbert et al. 2009; Spence et al. 2000). Further research is needed to standardize these procedures and allow comparisons across studies and investigations on their validity and reliability.

Although BATs are useful assessment tools in research, they may not be easy to use in everyday clinical practice due to their time requirements and complexity: an analogue situation has to be created, an appropriate confederate has to be found (same age, same gender) and sometimes trained, and a coding system must be used. However, BATs adapted to clinical use can provide important information on the adolescent's behavior when in social situations. Asking the adolescent to engage in a brief role-play with the clinician (adapted for a relevant situation), or to engage in a performance situation (a reading aloud task, giving a brief speech, or an oral presentation), either in front of an audience or videotaped, can give the clinician important information on his/her baseline anxiety and behavior. This information will help the clinician to decide on the best treatment targets and treatment options and can also help the clinician to evaluate treatment outcome (Beidel and Turner 2007; Kearney 2005).

Naturalistic observations of behavior can also be used for the assessment of social anxiety. Situations to be observed may include ordering food at a restaurant or cafe, buying an article in a store, asking for information, and so on. Although a formal coding of behavioral categories in these observations may not be feasible, it is possible to obtain other types of ratings. For example, adolescents could rate their anxiety before, during, and after the observation; rate their desire to escape the situation; or use a think aloud or thought-listing procedure to express their fears. On the other hand, certain behaviors can be observed in session or in the waiting room. General appearance, fidgeting or other signs of nervousness, lack of eye contact, facial expressions, body posture, or level of other social skills may be identified and can be highly informative (Kearney 2005). Also, parent–child interactions can also be observed. Clinicians should pay attention to instances of conflict, overprotectiveness, or parent reinforcement of anxious/fearful and avoidance behavior.

## Physiological Assessment

An interesting area for future research involves developing paradigms for integrating physiological measures into clinical assessments of adolescent social anxiety (for a review, see De Los Reyes and Aldao 2015). That is, can we integrate physiological measures with our traditional clinical tools (e.g., clinical interviews, multi-informant assessments, and/or behavioral observations) in a way that improves clinical decision-making? Some recent work indicates potential for advancements on these issues. For example, using functional magnetic resonance imaging (fMRI), researchers have identified neural circuits that relate to how adolescents process fearful and rewarding stimuli (e.g., social rejection vs. social approval), and this work may inform us of the biological factors that predispose some adolescents to develop social anxiety, particularly within the context of exposure to aversive social experiences (e.g., humiliating peer interactions; Caouette and Guyer 2014). Recently, Myllyneva, Ranta, Hietanen (in press) have found psychophysiological responses (i.e., enhanced autonomic and self-evaluated arousal, attenuated relative left-sided frontal cortical activity) to eye contact in adolescents with social anxiety disorder. Further, with relatively inexpensive and noninvasive modalities for assessing physiology (e.g., heart rate monitors), one can reliably elicit biological markers of stress reactivity (e.g., low heart rate variability) within widely used clinical tasks (e.g., public speaking tasks) (Thomas et al. 2012). Yet, although researchers have fruitfully leveraged fMRI to begin investigating possible neurobiological mechanisms underlying adolescent social anxiety (Caouette and Guyer 2014), as a whole fMRI research is relatively underdeveloped in terms of demonstrating the ability of these assessments for incrementally predicting "real-world" clinical outcomes (e.g., diagnostic status and treatment response) above and beyond our traditional clinical tools (Berkman and Falk 2013). For that matter, the same can be said for relatively less expensive physiological measures (e.g., electroencephalography, heart rate monitors, and salivary assays; see Youngstrom and De Los Reyes 2015).

Using heart rate monitors and indicators of adolescent arousal and/or physiological regulation (e.g., heart rate and heart rate variability), researchers have sought to provide "proof-of-concept" support for the ability of physiological measures to inform clinical decision-making in assessments of adolescent social anxiety. For instance, in two recent studies, researchers integrated physiological measures with informants' reports of adolescents' social anxiety to understand whether physiological measures provide incremental information regarding adolescents' diagnostic status (Anderson and Hope 2009) and clinical referral status (De Los Reyes et al. 2012). In another recent study, researchers demonstrated that personnel without a background in physiology (i.e., undergraduate research assistants) could reliably and accurately interpret graphical representations of adolescents' physiological arousal during a social stressor task (i.e., whether adolescents' heart rates rose above clinical norms of resting heart rate) (De Los Reyes et al. 2015). Collectively, this recent work indicates the potential for physiological measures to yield fruitful information within clinical assessments of adolescent social anxiety, and paradigms exist that might allow assessors without a background in physiology to interpret these data. In line with this recent work, future research might involve examining whether paradigms can be developed for leveraging physiological data to understand the specific contexts in which adolescents experience biological responses

linked to social anxiety (e.g., cardiovascular and brain responses to aversive social experiences; see also De Los Reyes and Aldao 2015). Such paradigms might have important clinical implications, as they might allow mental health professionals to identify whether treatment changes an important component of clinical models of social anxiety (i.e., physiological arousal; for a review, see Thomas et al. 2012).

## The Future of Assessment of Social Anxiety in Adolescents

Significant progress in the assessment of adolescents with SAD has been made over the last decades. More adolescents with SAD are being identified and accurately diagnosed. A number of psychometrically sound assessment measures are available for adolescents, parents, teachers, and clinicians to report on socially anxious adolescents (Garcia-Lopez and Storch 2008). However, many questions remain to be answered about how to efficiently detect adolescent population who is suffering or at risk of suffer SAD. Screening adolescents for SAD in schools has its own characteristics. Masia-Warner and Garcia-Lopez's teams have implemented two-step screening approaches, consisting of administering self-report measures or nominations by school personnel, followed by phone or personal interviews. Evidence supports using self-report measures (but not school staff nominations) in the first step to screen for socially anxious adolescents and interviews as second step for the identification of adolescents with SAD (Garcia-Lopez et al. 2001, 2006, 2009; 2014; Masia-Warner et al. 2005, 2007; Olivares & Garcia-Lopez, 2001; Sweeney et al. 2015). Using this two-step screening approach developed in mid-1990s, Garcia-Lopez and Moore (2015) have examined the performance of a number of brief social anxiety measures validated for Spanish adolescents, namely, the SPIN, SAS-A, SASA, LSAS-CA, SPAI-B, Mini-SPIN, SoPhI, and EDAS. Findings reveal all scales were accurate in detecting socially anxious adolescents, but the SPAI-B cut-off score yielded the best balance between sensitivity and specificity and the highest Youden Index. Depending on the purpose of the study, SAS-A may be especially useful for reducing false negatives and SPAI-B for false positives. Given that effective treatments are available, useful screening can contribute to no longer say SAD is an under-detected condition. Finally, it is crucial to develop a screening protocol in the school system, including strategies for obtaining data from underrepresented populations such as immigrant and minority groups.

Despite the need for multimethod assessment, agreement on symptoms of social anxiety is rare. In light of recent work in evidence-based assessment (see section "Multi-informant and context-sensitive clinical assessment" of this chapter), the key question for future research is not: *Which informants provide psychometrically sound reports about adolescent social anxiety*? Rather, the key question is: *How can assessors maximize the value of multi-informant assessments*? That is, discrepancies among informants' reports may meaningfully reflect differences in the contexts in which adolescents express social anxiety (De Los Reyes et al. 2013b). To this end, future work might involve using independent behavioral assessments to corroborate the discrepancies observed within multi-informant

assessments. This approach may allow mental health professionals to use informant discrepancies as tools for understanding the specific contexts in which adolescents evidence social anxiety. As an example of this approach, consider that in recent work with adult social anxiety patients, convergence between patients' self-reports and clinician reports about patients' internalizing symptoms tended to occur when patients expressed social skills deficits across multiple standardized social interactions (e.g., one-on-one social interactions and public speaking in front of strangers; De Los Reyes et al. 2013a). If these effects generalize to assessments with adolescent patients, contextually sensitive clinical assessments may inform treatment planning and plans for monitoring treatment response (see also De Los Reyes 2013).

In addition, Garcia-Lopez et al. (2011a) revealed that socially anxious adolescents' language can be used as a complementary treatment outcome measure, using a Corpus Linguistic methodology. These authors found that the linguistic analysis of adolescents' discourse is useful when evaluating the efficacy of treatment, as a close relationship between the sensitivity of treatment outcome and adolescents' use of language was revealed. Further, Garcia-Lopez and Diez-Bedmar (2008) found there is different linguistic pattern to discriminate between adolescents with social anxiety disorder in comparison with a control group. These authors suggested an additional linguistic measure could be used when some discrepancy between self-report and clinician is observed. This is particularly important as adolescents are likely to minimize their social anxiety symptomatology during assessment in an attempt to make a good impression on the diagnostician.

Finally, to target the size and burden of SAD, it seems crucial not only to obtain data from different sources other than the youth themselves, such as teachers and parents, but also to analyze and evaluate data from a multidisciplinary approach. Further, safety behaviors or avoidance on a covert level in adolescents with SAD (eg, "shadow friend"; Garcia-Lopez, 2013) should be assessed. Until now, screening protocols to detect SAD have been designed from traditional approaches and considered only a single perspective, which clearly limits the impact of findings. Further, screening protocols rarely cover the full spectrum of emotional problems and rarely include risk factors. Given the fast expansion of new technologies across world, Information and Communication Technologies and Computerized-Adaptive Testing-based (ICT- and CAT-based) methods of surveying may offer flexibility in the collection of information from different sources and contexts and cost-effectiveness in both implementation and maintenance. This may be especially true in populations such as children and adolescents, who are familiar with the use of electronic devices such as computers, laptops, smartphones, or tablets. Future work could examine potential role of these methodologies in the assessment process. ICT- and CAT-based screening protocols may serve as a feasible, acceptable, and multifaceted delivery method because they can provide assessment at a relatively low cost in large groups of youths. Identification of variables affecting early detection of adolescents at risk for SAD from a comprehensive, multidisciplinary perspective may be the next step in assessment of SAD in adolescents.

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