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Exploring the role of the DSM-5 performance-only specifier in adolescents with social anxiety disorder

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ABSTRACT

The DSM-5 social anxiety disorder section has recently added the performance-only specifier for individuals whose anxiety is limited to speaking or performing in public. The impact of the DSM-5 performance-only specifier remains a neglected area. The sample comprised 44 healthy controls and 50 adolescents with a clinical diagnosis of SAD (20% met criteria for the performance-only specifier). Findings revealed that adolescents with the specifier had a later age of onset; lower levels of depression, social anxiety symptomatology and clinical severity; and a lesser degree of comorbidity relative to adolescents with SAD but excluding the performance-only specifier. Specifiers only evidenced higher (cognitive) social anxiety symptomatology compared to healthy controls. Results of this study also suggested that the performance-only specifier may correspond to a mild form of social anxiety disorder. Data also revealed that SAD exists on a continuum of severity among healthy controls, specifier participants, and those with both interactional and performance fears, which is consistent with a dimensional structure for SAD. Finally, findings suggested a unique comorbid pattern for specifiers and those adolescents with SAD but excluding the performance-only specifier. The implications of these findings for the etiology, assessment, classification, and treatment of social anxiety in youth are discussed.

1. Introduction

According to the latest edition of the Diagnostic and Statistical Manual (DSM-5; American Psychiatric Association [APA], 2013), social anxiety disorder (SAD) is characterized by “marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others” . SAD is a highly prevalent, youth-onset disorder (Wong and Rapee, 2015). Since the inclusion of the generalized subtype in the DSM-III-R, there has been heterogeneity in definitions of generalized SAD. Based on the limited supporting evidence for the generalized subtype and data substantiating that social anxiety symptomatology appears to fall along a continuum of severity, the DSM-5 Anxiety, Obsessive-Compulsive Spectrum, Posttraumatic, and Dissociative Disorders Work Group suggested the usefulness of a specifier (Bögel et al., 2010). As a result, the DSM-5 added the performance-only specifier to characterize individuals whose anxiety is limited to speaking or performing in public, emphasizing a narrower range of the condition in a subgroup of persons (APA, 2013). The implication of this specifier is still unclear and there is a need for the operationalization of SAD both in the past and in the future (Guerry et al., 2015; Kodal et al., 2017).

Given the debate arising from the performance-only specifier's inclusion in the DSM-5 (e.g., Heimberg et al., 2014), this study aimed to evaluate whether performance-only specifier (S-SAD) adolescents exhibit differences in terms of gender, age, age of onset, comorbidity, social anxiety, depression and well-being scores compared to (a) individuals with SAD but excluding those with the performance-only specifier (no specifier SAD; nS-SAD); (b) (b) those with S-SAD and a full spectrum of SAD symptomatology (performance and interaction anxiety; F-SAD); and (c) healthy controls (absence of a mental health diagnosis).

2. Methods

2.1. Participants

Ninety-four Spanish-speaking adolescents (63% girls; age range 14 to 18 years, *M* age = 15.35 ± 1.09) participated in a comprehensive, individualized assessment (see Procedure) among those who screened positive for being at risk for SAD and a gender-matched control sample. The healthy controls comprised 44 participants (52.3% female) who received no mental health diagnosis (*M* age = 15.45, *SD* = 1.17). Table 1 shows sociodemographic characteristics, age of onset, comorbidity rates, social anxiety and negative mood symptomatology, as

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Table 1
Sociodemographic data, age of onset, comorbidity rates, social anxiety, depressive and quality of life scores across conditions.

	Healthy group	S-SAD	nS-SAD	F-SAD	*p*'s (Effect Size, *Comparisons* Cohen's *d)*
N	44	10	40	50	
Mean of Age (SD)	15.45 (1.17)	15.80 (1.75)	15.17 (0.93)	15.30 (1.15)	All *n's*
Number of girls (frequencies)	23 (52.3%)	6 (60%)	31 (77.5%)	37 (74%)	nS-SAD > Healthy 0.02 (0.25)[a]
					F-SAD > Healthy 0.03 (0.23)[a]
					S-SAD > Healthy *ns*
					S-SAD = NS-SAD *ns*
Age of onset (SD)	N/A	11.40 (3.24)	7.43 (3.62)	8.22 (3.87)	S-SAD > NS-SAD 0.003 (1.16)**
Comorbidity (SD)	N/A	0.3 (0.48)	1.05 (1.08)	0.90 (1.04)	S-SAD < NS-SAD 0.039 (0.89)**
Clinician Severity Rating (CSR; SD)	N/A	4.60 (0.84)	5.60 (1.03)	5.40 (1.07)	S-SAD < NS-SAD 0.007 (1.06)**
SPAI-B means (SD)	13.19 (7.30)	23.49 (7.20)	32.17 (10.96)	30.43 (10.84)	nS-SAD > Healthy 0.001 (2.06)**
					F-SAD > Healthy 0.001 (1.84)**
					S-SAD > Healthy 0.001 (1.41)**
					S-SAD < NS-SAD 0.022 (0.84)**
SAS-A means (SD)					
FNE	14.89 (4.72)	20.40 (4.47)	25.52 (7.43)	24.50 (7.21)	nS-SAD > Healthy 0.001 (1.73)**
					F-SAD > Healthy 0.001 (1.56)**
					S-SAD > Healthy 0.001 (1.18)**
					S-SAD < NS-SAD 0.043 (0.74)*
SAD-N	13.93 (4.10)	14.60 (2.17)	21.02 (4.10)	19.74 (4.58)	nS-SAD > Healthy 0.001 (1.73)**
					F-SAD > Healthy 0.001 (1.33)**
					S-SAD = Healthy *ns*
					S-SAD < NS-SAD 0.001 (1.68)**
SAD-G	6.45 (2.23)	7.70 (2.91)	11.12 (3.39)	10.44 (3.55)	nS-SAD > Healthy 0.001 (1.64)**
					F-SAD > Healthy 0.001 (1.33)**
					S-SAD = Healthy *ns*
					S-SAD < NS-SAD 0.005 (1.08)**
Total score	35.27 (9.35)	42.70 (7.73)	57.67 (12.23)	54.68 (12.91)	nS-SAD > Healthy 0.001 (2.07)**
					F-SAD > Healthy 0.001 (1.70)**
					S-SAD > Healthy 0.024 (0.82)**
					S-SAD < NS-SAD 0.005 (1.30)**
CDI means (SD)	8.23 (5.02)	10.50 (2.76)	15.17 (7.36)	14.24 (6.93)	nS-SAD > Healthy 0.001 (1.11)**
					F-SAD > Healthy 0.001 (0.98)**
					S-SAD = Healthy *ns*
					S-SAD < NS-SAD 0.003 (0.69)*
KIDSCREEN means (SD)					
Physical Well-being subscale	18.30 (3.94)	17.20 (2.89)	15.62 (4.41)	15.94 (4.17)	nS-SAD < Healthy 0.004 (0.64)*
					F-SAD < Healthy 0.006 (0.58)*
					S-SAD = Healthy *ns*
					S-SAD = NS-SAD *ns*
Psychological subscale	29.82 (3.71)	28.00 (3.56)	25.47 (5.53)	25.98 (5.27)	nS-SAD < Healthy 0.001 (0.93)**
					F-SAD < Healthy 0.001 (0.83)**
					S-SAD = Healthy *ns*
					S-SAD = NS-SAD *ns*
Autonomy & parent relations subscale	29.55 (4.37)	28.20 (3.71)	26.90 (5.00)	27.16 (4.76)	nS-SAD < Healthy 0.011 (0.57)*
					F-SAD < Healthy 0.014 (0.52)*
					S-SAD = Healthy *ns*
					S-SAD = NS-SAD *ns*
Social support & peers subscale	18.07 (1.91)	16.10 (3.11)	16.65 (3.19)	16.54 (3.15)	nS-SAD < Healthy 0.017 (0.54)*
					F-SAD < Healthy 0.005 (0.58)*
					S-SAD < Healthy *ns*
					S-SAD = NS-SAD *ns*
School environment subscale	15.91 (2.70)	15.00 (2.16)	15.35 (5.41)	15.28 (4.92)	nS-SAD = Healthy *ns*
					F-SAD = Healthy *ns*
					S-SAD = Healthy *ns*
					S-SAD = NS-SAD *ns*
Total score	111.64 (13.34)	104.50 (9.70)	100.00 (15.51)	100.9 (14.57)	nS-SAD < Healthy 0.001 (0.85)**
					F-SAD < Healthy 0.001 (0.77)*
					S-SAD = Healthy *ns*
					S-SAD = NS-SAD *ns*

SAD: Social Anxiety Disorder; SPAI-B: Social Phobia and Anxiety Inventory-Brief version; SAS-A: Social Anxiety Scale for Adolescents; CDI: Children's Depression Inventory; [a] All Phi values were < 0.3 (small effect size) for Chi-square test; * Medium effect size and** Large effect size (Cohen, 1985); S-SAD: SAD: specifier (limited to performance-only specifier); nS-SAD: SAD no specifier (excluding performance-only specifier); F-SAD: SAD, full spectrum (social performance and interactional fears).

well as quality of life (QoL) scores for each condition.

The clinical sample comprised 50 adolescents with performance and/or interaction anxiety (SAD, full spectrum; F-SAD) and having received a primary clinical diagnosis of SAD, a clinician severity rating (CSR) ranging from 4 to 8, and an average number of comorbid disorders from 0 to 5. Twenty-eight out of the 50 adolescents (56%) evidenced co-occurrence with additional disorders. Among them, 15 out of 28 (53.6%) individuals had a single comorbid disorder, 11 out of 28 (39.3%) exhibited two comorbid disorders, and 2 out of 28 (7.1%) presented with three or more comorbid disorders. Of those adolescents with a single comorbid disorder to SAD ($n = 15$), SAD was followed by Specific Phobia (SP; 46.7%); Generalized Anxiety Disorder (GAD; 26.7%); ADHD (20%; 1 inattentive subtype, 1 hyperactive-impulsive subtype, 1 combined); and Persistent Depressive Disorder (PDD, formerly dysthymia; 6.6%). Data for SAD as a primary disorder and two grouped comorbid disorders ($n = 11$) were as follows: almost one third

exhibited a grouping of SAD followed by GAD and SP (27.2% out of 11); SAD followed by GAD and Major Depressive Disorder (MDD; 18.2%); SAD followed by GAD and ADHD, inattentive subtype (9.1%); SAD followed by MDD and either GAD or tics (18.2%); SAD followed by SP and ADHD, combined (9.1%); SAD followed by separation anxiety disorder and SP (9.1%); and finally, SAD followed by ADHD, combined and PDD (9.1%). Three or more comorbid disorders (2 out of 28) were grouped as (a) SAD followed by GAD, SP and Panic Disorder; and (b) SAD followed by GAD, ADHD, combined, Oppositional Defiant Disorder, SP, and Separation Anxiety Disorder.

Among the F-SAD sample (N = 50), 10 adolescents (20%) met DSM-5 criteria for the performance-only specifier (S-SAD), with a CSR ranging from 4 to 6 and an average number of comorbid disorders from 0 to 1. When this subsample was examined based on comorbidity rates, 3 (100% female) out of 10 (30%) adolescents evidenced the performance-only specifier and comorbid disorders and 7 (70%) did not evidence comorbid conditions. Comorbidity was limited to a single comorbid disorder to SAD (M = 1.00, SD = 0.00, range: 0–1): either GAD (66.7%) or SP (23.3%).

Finally, out of the clinical sample of F-SAD (N = 50), a subsample of 40 adolescents presented with SAD, excluding those with the performance-only specifier (nS-SAD), with a CSR ranging from 4 to 8 and an average number of comorbid disorders from 0 to 5. Taking into account the presence of comorbidity, 25 (76% girls) out of 40 (62.5%) adolescents with nS-SAD exhibited a comorbid disorder: 12 (48%) had a single comorbid disorder, 11 (44%) exhibited two comorbid disorders, and 2 (8%) presented with three or more comorbid disorders. Comorbidity rates for those with only one comorbid disorder were as follows: SP (50%); GAD (16.7%); ADHD (25%; one inattentive subtype, one hyperactive-impulsive subtype, one combined); and PDD (8.3%). Data for nS-SAD as a primary disorder and two or more grouped comorbid disorders (n = 11) were the same as for F-SAD.

The inclusion criteria were (a) a primary diagnosis of SAD (clinical sample) or no mental health diagnosis (healthy controls); and (b) parental and adolescents' written informed consent forms completed and returned. Exclusion criteria were (a) current suicidal intent or risk; and (b) a positive diagnosis of intellectual disability, psychosis, or other psychiatric conditions that would limit their ability to understand assessment.

2.2. Procedure

One thousand five hundred and one adolescents were recruited from public and private schools in a medium-sized state in southern Spain, which were selected using a clustered, random sampling method from the school lists held by the Department of Education, ensuring that all school districts were represented. The use of this method meant that the socioeconomic status and ethnic composition of the overall sample was representative of the community. Schools were informed as to the objectives of the study and their cooperation was requested. Active informed consent from the family and assent of the adolescents were required.

One hundred and sixteen adolescents, including those who screened positive for being at risk for SAD (scoring higher than SPAI-B and SAS-A cut-off scores, see below) and a matched control sample among those who screened negative for SAD were invited to participate in a comprehensive, individualized assessment (ADIS5-C/P, see Section 2.3) to determine the presence or absence of a clinical diagnosis of SAD. Ninety-four adolescents and their families participated in the diagnostic assessment. No statistical differences were found in sociodemographic data, age of onset, comorbidity rates, social anxiety, depression or quality of life between those who agreed to participate in the interview and those who did not ($p > 0.05$). Interviews were conducted by clinical psychology graduate students who were trained during a 12-hour workshop and supervised by a licensed clinical psychologist with more than 20 years' experience using the interview (first author). The training included assigned readings on SAD, a didactic seminar on the ADIS-5 interviews, and at least three role-playing interviews. After the ADIS5-C/P sections were administered, 46 adolescents were free of any diagnosis; 78 met criteria for SAD: 50 participants (5.2% of the original sample, consistent with prevalence reported in other studies; see Knappe et al., 2015) were diagnosed with a primary clinical diagnosis of SAD (10 out of 50 met criteria for the performance-only specifier); and 28 were excluded given that they met SAD criteria but as secondary to another disorder as the principal one. Data analyses were conducted on gender-matched healthy controls (N = 44), the F-SAD sample (N = 50), and the nS- and S-SAD subsamples (n = 40 and 10, respectively).

The study was approved by the school district and the University Research Ethics Committee in compliance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) and the Charter of Fundamental Rights of the European Union.

2.3. Measures

The *Anxiety Disorders Interview Schedule for DSM-5 – Child and Parent Versions* (ADIS-5-C/P; Albano and Silverman, 2018) assesses anxiety disorders in youth aged 6 to 17 years and is organized according to anxiety disorders included in the Diagnostic and Statistical Manual of Mental Disorders (5th ed. [DSM-5]; APA, 2013). The ADIS-5-C/P consists of comparable but separate child and parent interviews. Although designed specifically to diagnose anxiety disorders, the ADIS-5-C also assesses affective disorders and ADHD. Additionally, it features screening questions for a range of other conditions (substance abuse, schizophrenia, eating disorders, somatoform disorders, etc.). The parent version (ADIS-5-P) encompasses the additional diagnostic categories of conduct disorder and oppositional defiant disorder, as well as screening questions for several other conditions, including enuresis, pervasive developmental disorders, and learning disorders. All these criteria combined allow us to confirm or exclude a diagnosis. In order to derive a combined diagnosis from the child and parent reports, a diagnosis is assigned if either one indicates the presence of the disorder. At the end of the interviews, a composite profile of diagnoses resulting from the information gathered is obtained, comorbidity is identified, and each diagnosis is assigned a clinician severity rating (CSR) on a scale from 0 to 8, with 4 being the level that indicates clinical severity. The CSR was used as a measure to determine severity levels in the SAD sample. It was also used to identify those participants with a primary diagnosis of SAD (the most impairing one) and comorbidity with other disorders. The SAD section includes a list of socially provoking interactional and performance-based situations that have to be rated according to the degree of anxiety and avoidance provoked so that the performance-only specifier can be identified. A kappa value of 0.91 was found in the social anxiety section. A Spanish translation was administered subsequent to obtaining Oxford University Press' approval for the ADIS5-C/P to be used for research purposes.

The *Social Phobia and Anxiety Inventory, Brief Form* (SPAI-B; Garcia-Lopez et al., 2008) measures cognitive, somatic and behavioral symptoms, as well as interactional and performance-based social situations. It consists of 16 items answered on a 5-point Likert-type scale, avoiding heterocentric language (Weiss et al., 2013). Items 15 and 16 cover sub-items related to cognitive and somatic symptoms; hence, item 15 is scored as an average of 4 sub-items, and item 16 as an average of 5 sub-items. Therefore, two 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). Several studies have confirmed its excellent psychometric properties using either online or paper-and-pencil formats, in young adults and Spanish and Portuguese adolescent populations (for a review, please see Garcia-Lopez et al., 2015a). In this study, the scale has demonstrated excellent internal consistency for both the healthy control and F-SAD samples (Cronbach's alpha coefficient value = 0.89 and 0.92, respectively).

The *Social Anxiety Scale for Adolescents* (SAS-A; La Greca and Lopez, 1998) contains 18 items (plus 4 filler items) and includes three subscales: Fear of Negative Evaluation (FNE; range: 8–40); Social Avoidance and Distress specific to new situations or unfamiliar peers (SAD-New; range: 6–30); and Social Avoidance and Distress that is experienced more generally in the company of peers (SAD-General; range: 4–20). The rating scale for each item ranges from 1 (never) to 5 (always). A total score can also be computed (range: 18–90). The scale has been translated and adapted to different cultures and languages, with favorable psychometric properties (for a review, please see Garcia-Lopez et al., 2015a,b). In this study, the scale has demonstrated excellent internal consistency (Cronbach's alpha = 0.90) for both the healthy control and SAD clinical samples.

The *Children's Depression Inventory* (CDI; Kovacs, 1985) contains 27 items (range: 0–54) and is used to assess the severity of self-reported symptoms of childhood depression. Favorable psychometric properties in the Spanish population for youth between 10 and 18 years of age (Figueras Masip et al., 2010) have been confirmed. The measure has also shown good internal consistency (0.78 and 0.87, respectively) in this study for both healthy control and SAD clinical samples.

KIDSCREEN-27 (Ravens-Sieberer et al., 2001, 2005) assesses the subjective health and well-being of children and adolescents aged 8 to 18 years. It measures five health-related quality of life (QoL) dimensions as reported by children/adolescents, which are scored on a 5-point scale ranging from never /not at all (1) to always (5): Physical Well-being (range: 5–25); Psychological Well-being (range: 7–35); Autonomy & Parent Relations (range: 7–35); Social Support & Peers (range: 4–20); and School Environment (range: 4–20). A total score can also be computed (range: 27–135). The scale has been translated and adapted to different cultures and languages, with favorable psychometric properties (for a review, please see The KIDSCREEN Group Europe, 2006). In this study, the scale and subscales presented with good internal consistency indices for both healthy control and SAD clinical samples, respectively: Physical Well-being (0.80 and 0.82); Psychological Well-being (0.81 and 0.89); Autonomy & Parent Relations (0.78 and 0.78); Social Support & Peers (0.75 and 0.84); School Environment (0.72 and 0.71); and Total score (0.90 and 0.92).

2.4. Statistical analyses

Conditions were compared with respect to gender, age, mood, quality of life and social anxiety measures by means of *t*-test (the assumption of homogeneity of variance was assessed using Levene's test of equality of variances) or χ^2 test (for gender). Effect sizes for a chi-square test of independence were computed using Phi values, whereas Cohen's d value (1985) was computed for *t*-test comparisons, with 0.2 representing a small effect size, 0.5 a medium effect size, and 0.8 a large effect size.

3. Results

3.1. Gender, age of onset, comorbidity and clinician-severity rating (CSR) levels of social anxiety across conditions

As can be seen in Table 1, there were statistically significant gender differences between the healthy and nS- and F-SAD groups, but a low value of Phi should be noted. Adolescents with the specifier (S-SAD) exhibited statistically significant later age of onset, lower comorbidity rates, and lower social anxiety CSR scores compared to those with SAD, no specifier (nS-SAD), yielding very large effect sizes according to Cohen's (1985) criteria (see Table 1). Specifiers only evidenced higher (cognitive) social anxiety symptomatology compared to healthy controls. The clinical sample exhibited CSR values in the clinical range whereas the control sample reported CSR in the normal range.

3.2. Social anxiety measures (SPAI-B & SAS-A) across conditions

Statistically significant differences were observed for healthy versus any SAD group, except for specifiers on the behavioral subscales of SAS-A, with all $p's < 0.05$ and large effect sizes, $d's > 0.80$ (see Table 1). Therefore, when comparing healthy controls with specifier participants, differences were limited to the SPAI-B and the cognitive subscale (and Total score) of SAS-A. Specifiers also evidenced lower SPAI-B and SAS-A scores (any subscale) than nS-SAD adolescents, with large effect sizes except for the cognitive subscale (medium-to-large effect size). In other words, specifiers significantly differed from nS-SAD adolescents across all social anxiety measures. However, differences between S-SAD and healthy controls were limited to cognitive symptomatology and overall social anxiety symptomatology but not behavioral social anxiety scores (measured by SAD-N and SAD-G). The clinical sample exhibited SPAI-B and SAS-A means in the clinical range whereas the control sample reported means in the normal range.

3.3. Mood

There was an absence of differences in mood between healthy controls and specifiers, but statistically significant differences were observed for healthy versus the nS- and F-SAD groups, with healthy controls scoring lower than both clinical samples, with all $p's < 0.05$ and large effect sizes, $d's > 0.80$ (see Table 1). Significant differences were observed for the SAD subsamples (S- and nS-SAD), with the S-SAD presenting lower scores than the nS-SAD, with a medium effect size. S-SAD and control samples reported means in the normal range. However, it must be noted that no participants in the control and S-SAD conditions scored higher than the cut-off score, while 37.5% did so in the nS-SAD condition.

3.4. Quality of life (QoL)

As can be seen in Table 1, statistical differences in QoL were limited to comparisons between healthy controls and nS- and F-SAD across all subscales, excluding the School Environment domain. Although healthy controls evidenced better QoL than nS- and F-SAD, it must be noted that effect sizes were mostly medium, except for the Psychological Well-being subscale and Total score, both yielding large effect sizes. Compared to healthy controls, specifier participants failed to evidence worse quality of life, compared to nS- and F-SAD conditions.

Control participants reported means in the normal range, whereas health-related quality of life dimension means appeared to be low for the Psychological Well-being subscale, and medium-to-low for the remaining measures in the clinical sample (except for the School Environment subscale, where clinical and control conditions reported means in the normal range).

4. Discussion

DSM-5 criteria for social anxiety disorder have included a “performance only” specifier for anxious individuals exclusively in social performance situations. There is ongoing debate as to whether “performance only” specifiers may represent a discrete entity, distinct from those with broader social fears, or if specifiers are likely to evidence milder social anxiety symptomatology, in line with a dimensional conceptualization of social anxiety disorder.

The present study examined whether performance-only specifier adolescents exhibited differences in terms of gender, age of onset, comorbidity rates, social anxiety, depression and well-being scores compared to the group that included adolescents with performance anxiety only and adolescents with interaction anxiety (full spectrum of SAD), and adolescents free of any diagnosis (healthy controls). Data have revealed that adolescents diagnosed with the DSM-5 performance-only specifier reported later age of onset, lower means of CSR scores,

comorbidity rates, and depressive and social anxiety symptomatology than those with the no specifier condition (group excluding adolescents limited to the performance-only specifier). Compared to controls, significant differences were found for the cognitive aspects of SAD, but not for behavioral ones on the SAS-A, among adolescents with the performance-only specifier, in line with Kerns et al. (2013). As fear of negative evaluation has been considered the core fear of SAD, this has clinical implications and supports the relevance of considering the specifier as a subtype of SAD. However, no differences in behavioral social anxiety symptomatology, mood or QoL were observed for specifiers compared to healthy controls. This is consistent with Peyre et al. (2016) findings; these authors found that individuals with the specifier had significantly better mental health than other participants with SAD. Even though social fears are limited to social performance situations, it must be noted that S-SAD participants had a clinical diagnosis and, therefore, evidenced clinical interference, albeit significantly lower than nS-SAD.

All of these data taken together seem to suggest that the performance-only specifier may correspond to a mild form of social anxiety disorder (Bögels et al., 2010; Boyers et al., 2017; Garcia-Lopez et al., 2018; Heimberg et al., 2014; Peyre et al., 2016). Thus, these findings are consistent with a dimensional solution, suggesting that SAD exists on a continuum, ranging from absent or low social anxiety symptomatology for healthy controls to mild scores (mainly cognitive symptomatology) for the performance-only specifier participants and the highest scores (both cognitive and behavioral) for young adults with SAD (Aderka et al., 2012; Boyers et al., 2017; Caballo et al., 2010; De Los Reyes et al., 2013; Garcia-Lopez et al., 2016; Olivares et al., 2004; Peyre et al., 2016; Ruscio, 2010). The value of dimensional assessment has been proposed to measure anxiety disorders and particularly SAD (Beesdo-Baum et al., 2012; Boyers et al., 2017; Hofmann et al., 2009; Knappe et al., 2014; Lebeau et al., 2012; Lebeau et al., 2016; Peyre et al., 2016).

On the other hand, the limited impact on the depressive measure, behavioral social anxiety subscales, and health-related quality of life dimensions calls into question the clinical usefulness of the SAD specifier. Findings are consistent with the issues raised by some authors on the performance-only specifier, namely its low prevalence and that it merely reflects an indicator of severity and not a different diagnostic entity (Boyers et al., 2017; Crome et al., 2015; Eapen and Črnčec, 2014; Garcia-Lopez and Moore, 2015; Garcia-Lopez et al., 2018; Heimberg et al., 2014; Kerns et al., 2013). All of this has serious clinical implications.

Finally, our data revealed that three anxiety disorders (SAD, GAD and SP) tend to be grouped together because of their high level of comorbidity in adolescents, similar to previous studies (Essau et al., 1999; Garcia-Lopez et al., 2016; Ollendick et al., 2010; Viana et al., 2008). Regarding the DSM-5 specifier, S-SAD adolescents exhibit comorbidity for only one disorder, either GAD or SP. Compared to the aforementioned studies, this research points to a high co-occurrence of SAD and SP, followed by GAD and ADHD. However, when two comorbid disorders are present, in almost half of all cases, GAD appears as the first comorbid disorder followed by SP and MDD. This reveals a unique association between disorders. Past research has also observed how comorbid conditions to SAD tend to shape these particular associations (Baer and Garland, 2005; Garcia-Lopez et al., 2014, 2018; Gros et al., 2013; Hearn et al., 2016; Ingul et al., 2014; Masia et al., 2005; Masia-Warner et al., 2007, 2016; Mesa et al., 2014; Olivares et al., 2002; Viana et al., 2008). These comorbidity findings highlight the potential role that transdiagnostic approaches may play in interventions involving adolescents with SAD.

When assessing SAD in youth, mental health providers, pediatricians and school counselors should pay special attention to screening for GAD and SP, and particularly GAD as a predictor of other comorbid disorders such as MDD. Although there are a significant number of publications that have evidenced associations between SAD, GAD and SP (e.g., Seligman and Ollendick, 1998), there are few studies available that report on the link between SAD and ADHD, despite recommendations that anxiety literature findings and research on ADHD be brought together more (Jarrett and Ollendick, 2008). This paper reveals strong comorbidity rates between both disorders, particularly in SAD adolescents, excluding those with the performance-only specifier. Recently, Koyuncu et al. (2016) proposed a developmental hypothesis that postulates a relationship between SAD and ADHD.

Overall, these findings are consistent with Walczaka et al. (2018) who suggest that comorbid disorders may be more “problematic”, particularly for pediatric social anxiety. Future studies should include predictor and moderator analyses in randomized clinical trials to highlight treatment outcomes in socially anxious children.

Some limitations must be noted. Even though our study was strengthened by the use of a sample of adolescents with a primary clinical diagnosis of SAD according to DSM-5, the limited number of performance-only SAD specifier adolescents is a drawback of this study, which might have affected statistical power. However, large effect sizes were mostly found when significant differences were revealed, which indicates a strong effect. Second, the prevalence of the specifier participants in our sample (20%), among those who met DSM-5 SAD criteria, contrasts with lower rates in adolescents diagnosed according to the DSM-IV (0.7%, 3.8%, 6.8% and 0% in Burnstein et al., 2011; Garcia-Lopez et al., 2016; Garcia-Lopez and Moore, 2015; Kerns et al., 2013, respectively) and in adults (0.3% and 27% in Crome et al., 2015; Garcia-Lopez et al., 2018). Differences in DSM manuals may partly explain the heterogeneity of specifier prevalence. It must be noted, however, that social anxiety symptomatology, depression and CSR scores in this study are similar to previous research on youth (Garcia-Lopez et al., 2014, 2016; Masia et al., 2005; Masia-Warner et al., 2016). Furthermore, age of onset in nS-SAD (8.2 years) is nearly equal to generalized social anxiety reported in recent epidemiological studies (8.7 years; Burnstein et al., 2011).

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