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ORIGINAL ARTICLE

Specific and social fears in children and adolescents: separating normative fears from problem indicators and phobias

Paola P. Laporte,[1,2] Pedro M. Pan,[1,3] Mauricio S. Hoffmann,[1,2] Lauren S. Wakschlag,[4] Luis A. Rohde,[1,2,5] Euripedes C. Miguel,[1,2,5] Daniel S. Pine,[6] Gisele G. Manfro,[1,2] Giovanni A. Salum[1,2]

[1]*Instituto Nacional de Psiquiatria do Desenvolvimento para Crianças e Adolescentes (INPD), Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Porto Alegre, RS, Brazil.* [2]*Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, RS, Brazil.* [3]*Universidade Federal de São Paulo (UNIFESP), São Paulo, SP, Brazil.* [4]*Department of Medical Social Sciences, Feinberg School of Medicine, and Institute for Policy Research, Northwestern University, Evanston, IL, USA.* [5]*Universidade de São Paulo (USP), São Paulo, SP, Brazil.* [6]*Intramural Research Program, National Institute of Mental Health, Bethesda, MD, USA.*

Objective: To distinguish normative fears from problematic fears and phobias.
Methods: We investigated 2,512 children and adolescents from a large community school-based study, the High Risk Study for Psychiatric Disorders. Parent reports of 18 fears and psychiatric diagnosis were investigated. We used two analytical approaches: confirmatory factor analysis (CFA)/item response theory (IRT) and nonparametric receiver operating characteristic (ROC) curve.
Results: According to IRT and ROC analyses, social fears are more likely to indicate problems and phobias than specific fears. Most specific fears were normative when mild; all specific fears indicate problems when pervasive. In addition, the situational fear of toilets and people who look unusual were highly indicative of specific phobia. Among social fears, those not restricted to performance and fear of writing in front of others indicate problems when mild. All social fears indicate problems and are highly indicative of social phobia when pervasive.
Conclusion: These preliminary findings provide guidance for clinicians and researchers to determine the boundaries that separate normative fears from problem indicators in children and adolescents, and indicate a differential severity threshold for specific and social fears.

Keywords: Developmental psychopathology; child/adolescent; phobia/phobic disorders; anxiety/anxiety disorders; specific/social fears

Introduction

Fear is broadly defined as a negative emotional state triggered by the presence of a stimulus that has the potential to cause harm. It is an adaptive emotion and essential for survival. However, when intensity, duration, and/or frequency are disproportionate to the eliciting threat, and thereby cause interference or excessive distress, such fears may indicate the presence of a mental disorder requiring treatment.[1] Mental disorders are described as a list of heterogeneous symptoms not organized according to variations in their severity. However, although children can fear a variety of things and situations, more data are needed to identify which fears are most likely to indicate the presence of a significant clinical problem and the presence of specific and social phobia diagnoses.[2]

The normative fears observed in most children and adolescents are typically transient. Specific and social fears, considering both their mild and severe forms, touch almost all children and adolescents.[3,4] In contrast, clinically significant specific phobias and social phobias are characterized by one or more persistent fears that cause distress and impairment to the child's life.[1,5] The prevalence of specific and social phobia in children and adolescents is 2.9 and 0.3% respectively.[6] In short, the presence of fears is typically normative, and only a minority of children is significantly impaired by fears requiring clinical attention.

Previous studies that evaluated youth in community samples investigated whether a specific fear indicated a disorder according to the number of feared objects/situations. This research showed that the number of fears was positively associated with a higher probability of meeting diagnostic criteria for specific phobia,[3] another anxiety disorder, or having another psychiatric comorbidity.[3,7] With respect to social fears, studies that evaluated adolescents in community samples also investigated the role of the number of feared social situations. These investigations found that the number of social fears was significantly associated with higher comorbidity rates, functional impairment, and prevalence of lifetime treatment.[8] In addition, adolescents with generalized social phobia (i.e., those who fear most social situations) had earlier age of onset[9] and experienced a

Correspondence: Paola Paganella Laporte, Hospital de Clínicas de Porto Alegre, Rua Ramiro Barcelos, 2350, sala 2202, CEP 90035-003, Porto Alegre, RS, Brazil. E-mail: paola_laporte@yahoo.com.br
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higher degree of clinical severity as compared to adolescents with non-generalized social phobia.[10]

To date, the literature has been limited to investigating how the number of feared situations and objects might provide insight into clinically relevant situations. However, indicators that differentiate normative from clinical fears are unknown. Among existing methods to discriminate the severity of different types of symptoms, two have received particularly little attention in the fear literature: confirmatory factor analysis (CFA)/item response theory (IRT) and signal detection theory (SDT). CFA with binary outcomes and two-parameter normal-ogive IRT are equivalent to each other.[11] The underlying assumption of these methods is that items (i.e., symptoms) are endorsed (i.e., reported) by subjects as a function of their severity on a specific latent trait (i.e., how much fear they experience). These techniques allow scaling items and people on the same underlying dimensional continuum.[12] Individual items are assigned to a severity score, and an individual score on the dimension can be used as an estimate of the overall severity of fears.[13] In contrast, SDT aims to quantify the ability to discriminate between stimuli and random patterns that distract from true information.[14] SDT has wide applications in biomedical sciences, including use of the receiver operating characteristic (ROC) curve.[15] The ROC curve represents the relationship between sensitivity and specificity by plotting the true-positive rate (in this case, phobia diagnosis) against the false-positive rate at various threshold settings to detect a significant medical problem.[16]

The existing literature is limited in many significant ways. First, no previous study has used modern psychometric analysis and SDT to assess the thresholds separating normative fear from problem indicators. Second, most of the current literature focuses on older adolescent and adult populations,[10,16-22] with few studies including children and early adolescents.[23] Finally, the majority of studies are limited to small samples sizes or selected by clinical condition, which limits the ability to use IRT and SDT, respectively.

Here, we address these issues by using CFA/IRT for problem prediction and ROC analysis for diagnostic prediction in a large, non-referred community sample of children aged 6-14. These techniques were applied to elucidate which of a list of 18 fears are more likely to be normative fear expressions and which are more likely to represent a clinically significant problem.

Methods

Sample description

The sample was obtained from a large community school-based study, the High Risk Study for Psychiatric Disorders.[6] Further details are available elsewhere.[6] Briefly, after a screening phase, 2,512 subjects were selected for further assessment by a simple randomization procedure that selects a high risk sample (n=1,554), using a risk prioritization procedure that consists of selecting individuals with high family loading of symptoms and ongoing psychiatric symptoms, as well as a random-selection subgroup (n=958). The study was previously approved by the Ethics Committee at Universidade de São Paulo, and written informed consent was obtained from the parents of all participants.

Instruments

Specific and social fears assessment

Specific and social fears were investigated using 18 questions from the specific and social phobia sections of the Development and Well-Being Assessment (DAWBA)[24] posed to a parental informant. The specific phobia session consists of 12 questions about specific fears, while the social phobia section comprises six questions about social fears. All questions have three response categories: no, a little, and a lot. In the social phobia section, we removed the skipping rule for the first question (Does child particularly fear or avoid social situations?), in order to have the six social fears included for all participants.

Diagnostic assessment

Psychiatric diagnosis was investigated using the Brazilian Portuguese version of the DAWBA,[25] answered by the child's main caregiver. The DAWBA was administered by lay interviewers, and both structured answers and verbatim responses of any reported problems recorded. Psychiatrists confirmed, refuted, or altered initial computerized diagnosis after evaluating the structured answers and verbatim responses. All questions are based on the DSM-IV diagnostic criteria, which, for diagnoses of social and specific phobia, include: a) marked and persistent fear that is excessive or unreasonable; b) the phobic stimulus almost invariably provokes an immediate anxiety response; c) fear is excessive or unreasonable; d) the phobic situation is avoided or endured with intense anxiety or distress; e) avoidance, anxious anticipation, or distress in the feared situation interferes with the person's life; f) in individuals under age 18 years, the duration is at least 6 months; and g) fears are not better accounted for by another mental disorder.[26] The DAWBA is reliable and well suited for epidemiological research. The Brazilian Portuguese version shows appropriate psychometric proprieties and high inter-rater reliability,[6] as well as good reliability for diagnosis of emotional disorders (kappa = 0.84).[6]

Statistical analysis

Confirmatory factor analysis

The 18 fear items were included in a CFA analysis using one-dimensional (all items loading into a single factor), correlated (six social items loading into a social latent factor; 12 specific items loading into a specific latent factor), and bifactor models (all items loading into a general factor and residuals not explained by the general factor loading into two group factors - specific and social). For all CFA models, we used delta parameterization and weighted least-square parameters using a diagonal weight matrix with standard errors and with mean and variance-adjusted chi-square test statistics (WLSMV) estimators. Goodness of fit was assessed using four indices: the chi-square test of model fit, Tucker-Lewis index (TLI),

comparative fit index (CFI), and root mean square error of approximation (RMSEA). TLI and CFI values $>$ 0.95 and RMSEA values $<$ 0.06 represent good-to-excellent model fit.[1] The comparison between these three nested models was tested for differences using a chi-square test run with the DIFFTEST command in MPLUS 7.3 software.[27]

Defining a problem indicator (CFA and IRT)

CFA estimates from the best-fitting model previously tested were used to estimate factor loadings (λ) and item category thresholds (τ). In addition, we also performed unidimensional IRT analysis using the graded response model[28] to estimate GRM item parameters reflecting the item discrimination or slope (a) and item difficulty (b) for each item.

Factor loadings from CFA are analogous to item discrimination parameters from IRT, and represent the strength of the relationship between latent trait and item responses, or how well the item discriminates different severity levels. Category thresholds from CFA are analogous to item difficulty parameters from IRT insofar as they are used to indicate the expected value of the latent factor at which there is a 50% probability of endorsing a given category of higher. The category thresholds roughly indicate the severity level at which the transition from one response category to the next is likely to happen (e.g., from no to a little or higher, from a little to a lot). Higher thresholds indicate that, to be severe, a given item must be endorsed at a given response category or higher. In this sample, as suggested by Wakschlag et al.,[29] latent trait values at or above the 95th percentile of the sample distribution were chosen to define a problem indicator, which represents a b of 1.53 in the IRT metric and a category threshold of 0.78 in the CFA metric for the bifactor model (general factor). A problem indicator was defined as those items meeting problem indicator criteria in both CFA and IRT analysis.

Defining a diagnostic indicator (SDT)

Nonparametric ROC curves were used to analyze associations between specific and social fears with specific and social phobia diagnosis. The following indexes were estimated: area under the curve (AUC; probability of identifying cases), sensitivity (Sn; the percentage of true cases correctly classified), specificity (Sp; the percentage of true non-cases correctly classified), positive likelihood ratio (LR+; [Sn/{1-Sp}]), and negative likelihood ratio (LR-; [{1-Sn}/Sp]). Likelihood ratios assess the relative proportions of screened positives versus confirmed cases (LR+) or non-cases (LR-). LR+ values $\geqslant$ 5 and LR- values $\leqslant$ 0.2 are considered useful, whereas LR+ values $\geqslant$ 10 and LR- values $\leqslant$ 0.1 are considered sufficient to rule in or out the diagnosis.[16,30]

Results

Prevalence

Our data suggest that fears occur normatively and are extremely prevalent in children and adolescents. Among the randomly selected subjects, 86.5% (n=829) presented at least one mild specific fear and 32.1% (n=308) presented at least one mild social fear. Specific fears were more common than social fears (the mean prevalence of specific fears graded as a little or higher was 26%, while the mean prevalence of social fears graded as such was 11.7%) (Table 1). Prevalence rates by

Table 1 Prevalence of common fears in the randomly selected sample (n=958)

Fear list	No	A little	A lot
Specific fears			
Animals	443 (46.2)	382 (39.9)	133 (13.9)
Natural environments			
Storms, thunder, heights	550 (57.4)	295 (30.8)	113 (11.8)
Dark	503 (52.5)	315 (32.9)	140 (14.6)
Blood, injection, injury			
Blood, injection, injury	525 (54.8)	308 (32.2)	125 (13.0)
Dentists, doctors	712 (74.3)	186 (19.4)	60 (6.3)
Situational			
Modes of transport	894 (93.3)	49 (5.1)	15 (1.6)
Enclosed spaces	861 (89.9)	73 (7.6)	24 (2.5)
Toilets	882 (92.1)	60 (6.3)	16 (1.7)
Others			
Monsters	700 (73.1)	197 (20.6)	61 (6.4)
Vomiting, choking, diseases	774 (80.8)	145 (15.1)	39 (4.1)
Loud noises	800 (83.5)	120 (12.5)	38 (4.0)
People who look unusual	874 (91.2)	67 (7.0)	17 (1.8)
Social fears			
Not restricted to performance			
Meeting new people	913 (95.3)	39 (4.1)	6 (0.6)
Meeting a lot of people	902 (94.2)	44 (4.6)	12 (1.3)
Eating in front of others	900 (93.9)	49 (5.1)	9 (0.9)
Performance-related only			
Speaking in class	794 (82.9)	141 (14.7)	23 (2.4)
Reading aloud in front of others	730 (76.2)	181 (18.9)	47 (4.9)
Writing in front of others	838 (87.5)	97 (10.1)	23 (2.4)

Data presented as n (%).
Fear of other things: no (n=900; 93.9%), a little (n=31; 3.2%), a lot (n=27; 2.8%).

Table 2 Fit index of the one-dimensional, correlated, and bifactor models for specific and social fears

	One-factor	Correlated two-factor			Bifactor	
	Fear	Specific	Social	G	Specific	Social
Items						
Animals	0.459	0.524		0.221	0.495	
Storms, thunder, heights	0.567	0.646		0.262	0.62	
Dark	0.537	0.604		0.259	0.566	
Blood, injection, injury	0.572	0.642		0.34	0.538	
Dentists, doctors	0.56	0.613		0.403	0.444	
Modes of transport	0.574	0.635		0.402	0.476	
Enclosed spaces	0.608	0.677		0.37	0.563	
Toilets	0.54	0.599		0.356	0.473	
Monsters, etc.	0.608	0.68		0.322	0.608	
Vomiting, choking, diseases	0.583	0.645		0.388	0.502	
Loud noises	0.641	0.712		0.344	0.632	
People who look unusual	0.551	0.612		0.351	0.493	
Meeting new people	0.639		0.739	0.783		-0.239
Meeting a lot of people	0.695		0.8	0.89		-0.304
Eating in front of others	0.651		0.753	0.804		-0.065
Speaking in class	0.751		0.831	0.747		0.387
Reading in front of others	0.842		0.918	0.727		0.657
Writing in front of others	0.851		0.899	0.739		0.502
Fit indexes						
FP	54	55			72	
χ^2	3,379.9 (df = 135; $p < 0.001$)	898.2 (df = 134; $p < 0.001$)			627.3 (df = 117; $p < 0.001$)	
RMSEA	0.098	0.048			0.042	
90%CI	0.095-0.101	0.045-0.051			0.038-0.045	
CFI	0.799	0.953			0.968	
TLI	0.772	0.946			0.959	
WRMR	4.242	2.093			1.482	
Reliability indexes						
Omega	0.921	0.889	0.870	0.933	0.889	0.945
Omega h				0.600		
Omega s					0.638	0.036

Data presented as factor loadings (λ).
90%CI = 90% confidence interval; CFI = comparative fit index; FP = fitting propensity; G = general factor; RMSEA = root mean square error of approximation; TLI = Tucker Lewis index; WRMR = weighted root mean square residual.

age and group are available from the corresponding author.

Factor structure

The bifactor model with one general factor (fear) and two specific factors (specific and social) had the best fit (Table 2) as compared to other models (one-factor and correlated two-factor models). The bifactor model presented measurement invariance in multigroup CFA for age groups and gender (data not shown; available upon request). Therefore, further analysis were conducted using this model.

Investigating problem indicators

Factor loadings and category thresholds for the best-fitting CFA model (bifactor model with one general factor and two specific factors), as well as discrimination and severity parameters from the one-dimensional IRT model, are depicted in Table 3. Both CFA thresholds and IRT discrimination parameters converge to demonstrate that, generally, specific fears are more likely to be normative than social fears. For example, the mean of the severity parameter for specific fears was 1.77 (0.89-2.83), compared to 2.57 (1.74-3.39) for social fears in the IRT metric. The least severe specific fear (blood, injection, injury) had a location of 0.86, whereas the least severe social fear (reading in front of others) had a location of 1.74 (Table 3).

Among specific fears, animals, natural environments, blood, injection, injury, and some fears classified as others (monsters; vomiting, choking, and diseases), were found to be normative when mild. Situational fears (modes of transport, enclosed spaces, and toilets) and fear of people who look unusual do indicate problems even when mild. All specific fears indicate problems when pervasive.

Among social fears, those classified as performance-related only (speaking in class and reading in front of others) were found to be normative when graded as a little. Fears not restricted to performance (meeting new people, meeting a lot of people, and eating in front of others) and fear of writing in front of others do indicate problems even when mild. As in specific fears, all social fears indicate problems when pervasive.

As an example, Figure 1 depicts item response function curves for one item classified as normative (Figure 1A)

Table 3 Item response theory analysis for specific and social fears in the total sample (n=2,512)

	Confirmatory factor analysis (bifactor model, general factor)					Item response theory (unidimensional model)				
		Category thresholds					Discrimination			
	Factor loadings (λ)	A little	A lot	Location (mean)	Location rank	Slope (a)	A little (b1)	A lot (b2)	Item location (mean b)	Location rank
Specific fears										
Animals	0.221	-0.126	**0.996**	0.435	1	0.942	-0.254	**2.048**	0.897	2
Natural environments										
Storms, thunder, heights	0.262	0.103	**1.133**	0.618	4	1.286	0.168	**1.885**	1.0265	4
Dark	0.259	0.025	**0.978**	0.502	2	1.12	0.033	**1.766**	0.8995	3
Blood, injection, injury										
Blood, injection, injury	0.34	0.029	**1.017**	0.523	3	1.291	0.044	**1.677**	0.8605	1
Dentists, doctors	0.403	0.535	**1.392**	0.964	6	1.218	0.904	**2.426**	1.665	6
Situational										
Modes of transport	0.402	**1.356**	**2.081**	1.719	15	1.444	**2.116**	**3.382**	2.749	13
Enclosed spaces	0.37	**1.109**	**1.849**	1.479	12	1.52	**1.666**	**2.872**	2.269	12
Toilets	0.356	**1.300**	**2.024**	1.662	13	1.316	**2.153**	**3.493**	2.823	14
Other fears										
Monsters etc.	0.322	0.533	**1.384**	0.959	5	1.414	0.823	**2.191**	1.507	5
Vomiting, choking, diseases	0.388	0.770	**1.610**	1.190	8	1.414	1.196	**2.575**	1.8855	9
Loud noises	0.344	**0.886**	**1.643**	1.265	9	1.584	1.299	**2.469**	1.884	8
People who look unusual	0.351	**1.379**	**2.024**	1.702	14	1.357	**2.243**	**3.417**	2.83	15
Social fears										
Not restricted to performance										
Meeting new people	0.783	**1.632**	**2.449**	2.041	18	1.409	**2.626**	**4.165**	3.3955	18
Meeting a lot of people	0.89	**1.524**	**2.259**	1.892	16	1.644	**2.234**	**3.431**	2.8325	16
Eating in front of others	0.804	**1.506**	**2.449**	1.978	17	1.555	**2.278**	**3.917**	3.0975	17
Performance only										
Speaking in class	0.747	**0.806**	**1.811**	1.309	10	1.399	1.262	**2.95**	2.106	10
Reading in front of others	0.727	0.566	**1.551**	1.059	7	1.33	0.913	**2.571**	1.742	7
Writing in front of others	0.739	**1.041**	**1.871**	1.456	11	1.504	**1.576**	**2.921**	2.2485	11

All items loaded significantly on their respective latent factors ($p < 0.0001$).
Threshold limits: 0.78 in confirmatory factor analysis and 1.53 in item response theory.
Bold indicates problem indicators.

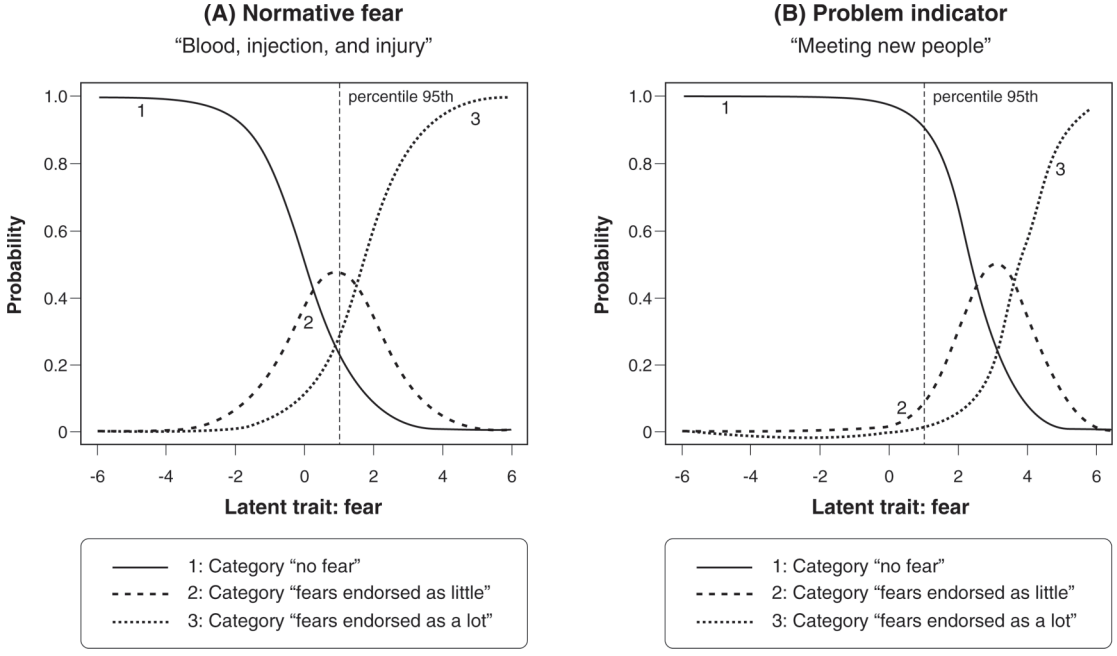

Figure 1 Illustrative item response functions.A) Normative fear; B) Problem indicator

Table 4 Associations between each specific and social fear classified as a lot with specific phobia and social phobia diagnosis in the total sample (n=2,512)

	Sn	Sp	CC	LR+	LR-	ROC	95%CI
Specific fears							
Animals	41.6	85	83.4	2.8	0.7	0.656	0.597-0.715
Natural environments							
Storms, thunder, heights	37.1	88	86.2	3.1	0.7	0.654	0.595-0.714
Dark	55.1	85	84	3.7	0.5	0.731	0.677-0.785
Blood, injection, injury							
Blood, injection, injury	38.2	85.4	83.7	2.6	0.7	0.643	0.584-0.702
Dentists, doctors	20.2	92.2	89.7	2.6	0.9	0.612	0.556-0.668
Situational							
Modes of transport	5.6	98.3	95	3.2	1	0.548	0.507-0.589
Enclosed spaces	6.7	96.9	93.7	2.2	1	0.525	0.484-0.567
Toilets	13.5	98.3	95.3	7.8	0.9	0.587	0.540-0.635
Others							
Monsters, etc.	29.2	92.5	90.2	3.9	0.8	0.642	0.583-0.700
Vomiting, choking, diseases	12.3	94.9	92	2.4	0.9	0.587	0.534-0.639
Loud noises	16.9	95.4	92.6	3.7	0.9	0.585	0.532-0.637
People who look unusual	10.1	98.1	95	5.4	0.9	0.546	0.505-0.586
Social fears							
Not restricted to performance							
Meeting new people	23.1	99.5	98.7	47.8	0.8	0.769	0.671-0.867
Meeting a lot of people	30.8	99.1	98.4	34.8	0.7	0.688	0.588-0.789
Eating in front of others	19.2	99.5	98.7	36.8	0.8	0.666	0.567-0.763
Performance only							
Speaking in class	57.7	97.1	96.7	19.6	0.4	0.83	0.735-0.924
Reading aloud in front of others	76.9	94.7	94.1	14.5	0.2	0.923	0.873-0.972
Writing in front of others	46.2	97.4	96.9	17.7	0.5	0.779	0.678-0.880

95%CI = 95% confidence interval; CC = correlation coefficient; LR+ = positive likelihood ratio; LR- = negative likelihood ratio; ROC = receiver operating characteristic curve; Sn = sensitivity; Sp = specificity.
Fears ordered by DSM-5 classification.

and one item classified as a problem indicator (Figure 1B). As shown in panel A, fear of blood, injection, and injury starts to be endorsed as a little for subjects at the mild end of the fear latent trait continuum, whereas only when classified as a lot is the item more likely to be endorsed by those at the severe end of the latent trait. In contrast, panel B shows that, for fear of meeting new people, the category a little starts to be endorsed by subjects already at the severe end of the fear spectrum whereas those endorsing the a lot category are at the extreme end of the latent trait spectrum.

Investigating diagnostic indicators

Only fears characterized as a lot were evaluated in this analysis, because at least one of them is required for diagnosis of specific and social phobia. Our analysis showed that social fears tend to be more associated with phobias than specific fears. The AUC was nominally higher for social fears predicting social phobia than for specific fears predicting specific phobia: 0.775 (0.666-0.923) and 0.609 (0.525-0.731), respectively (Table 4).

An inspection of each specific fear showed that, of 12 common fears graded as a lot, two yielded LR+ considered useful for diagnosis (LR+ $>$ 5): toilets and people who look unusual. For all social fears classified as a lot, the LR+ was greater than 10 (17.7-47.8), indicating that screened positives are more likely than screened negatives to be confirmed as cases of social phobia. There was low sensitivity, particularly among specific fears (5.6-55.1), indicating a low proportion of truly positive individuals among those diagnosed with specific phobia. The sensitivity increased for social fears, especially for performance-only fears (46.2-76.9) (Table 4).

Discussion

To our knowledge, this is the first report to characterize the normal/abnormal spectrum of fears clinically and psychometrically in a community sample of children and youths. Our main findings are summarized as follows. First, specific fears are generally less likely to indicate problems and less likely to indicate a phobia diagnosis than social fears. Second, there is heterogeneity in the severity of both specific and social fears. Specific fears are generally not problematic when mild but become problematic when pervasive, and some are strongly indicative of specific phobia (i.e., fear of toilets and of people who look unusual). In contrast, most social fears indicate problems at both mild and severe levels, except for speaking in class and reading aloud in front of others, which appear to be normative at mild levels. In contrast, all social fears answered as pervasive were strongly indicative of a social phobia diagnosis.

The developmental psychopathology framework theorizes that clinical patterns can be seen as deviations from normative patterns.[31,32] The fear system matures in the beginning of infant development; as a consequence, normative fears are commonly present since very early in life.[5,33,34] Our data showed that common fears occur in

most children and adolescents, and it is their intensity that differentiates normative from clinically salient manifestations. In our results, the greater severity of social fears in comparison with specific fears was noteworthy. This is consistent with prior studies[10,18] evaluating the clinical correlates of specific and social phobias in the same population of adolescents. In these studies, social phobia was more impairing, with worse rates on the Sheehan disability scale and days out of role.[10,18] Furthermore, there is evidence that social phobia is more comorbid than specific phobia.[9]

With respect to specific fears, our results are in agreement with Burstein et al.,[7] suggesting that the clinical relevance of specific phobia varies as a function of the nature of fears. However, the clinical significance found in Burstein et al.[7] was somewhat different from that found in our sample. While both studies showed that fear of animals tends to be normative when present at mild levels and fear of enclosed spaces tends to indicate problems, our study found that fear of the dark and fears of blood, injection, and injury tend to be normative, whereas Burstein et al.[7] showed that such fears were associated with greater severity. Our study is also aligned with others showing that situational phobia (fear of modes of transport, enclosed spaces, and toilets) is associated with high treatment-seeking behavior, use of medications, and interference with daily and social life,[35] as well as higher level of comorbidity with other mental disorders[36,37] in comparison with other types of specific phobia. In addition, we showed greater severity associated with fear of people who look unusual, which has been studied only rarely in the previous literature.

With respect to social fears, contrasting fears not restricted to performance and those related to the performance only, comorbidities were most common in subjects with fears unrestricted to performance than in subjects with fears restricted to performance.[9] Burstein et al.[10] showed that anxiety about non-performance situations is associated with greater morbidity and clinical severity, earlier onset, and higher degree of disability and impairment if compared to performance fears, which is in agreement with our findings. As the odds of social fear related to performance increases with age, performance fears may only become clinically significant in adulthood, given that such fears are not of high developmental salience at the youngest age range of this sample.[10]

Limitations of this work must be noted. First, the questionnaires we used came from the specific fear and social fears sections of the DAWBA; therefore, our item pool was constrained by this measure. Also, our work was not designed specifically to capture developmental variations in fear expression, given that the scale employed uses subjective ratings (a little, a lot) rather than frequency scales, which might have limited our sensitivity to developmental variations. Nevertheless, we have a comprehensive list of fears, and the subjective ratings assigned might provide the opportunity to compare fears more directly across different age groups. Second, our analysis was restricted to parent-reported fears, and parents might not be aware of their children's fears if the latter do not express them explicitly. However, specific and social fears have been shown to be captured more similarly by parent and child reports, if compared to other forms of anxiety.[38] Third, our analysis was restricted to cross-sectional associations, and important severity validators, such as persistence, could not be analyzed. Finally, to answer the complete DAWBA specific fear and social fears sections, the subject must have at least one specific fear graded as a lot (a condition also required for diagnosis); therefore, we were unable to use ROC analysis for fears classified as a little.

Advancing understanding about the boundaries between normative symptoms and problem indicators is a major concern in child and adolescent psychiatry practice. Our findings are a first step towards defining parameters to alert clinicians of when to be, and when not to be, concerned with specific and social fears. Furthermore, we provide insights into the dimensionality of the fear trait, showing that not all fears are created equally, i.e., they vary widely in terms of severity and might carry different information about typical vs. atypical development. Our results also indicate that severity-based classification of fears provides clinically useful information for the diagnosis of specific and social phobia. Future research examining these patterns with measures specifically designed to differentiate normative versus non-normative patterns, and including developmentally sensitive items, might be an important path to advancing the field. Prospective longitudinal investigations that apply this framework beginning at earlier ages may be able to elucidate the origins of pathologic fear pathways and inform developmentally based prevention.

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Disclosure

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