Persistence of Specific Phobia From Adolescence to Early Adulthood:

Longitudinal Follow-Up of the Mexican Adolescent Mental Health Survey

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ABSTRACT

Background: Specific phobia is one of the most common psychiatric disorders in the general population, begins at a younger age, and has high comorbidity. However, it receives less treatment than other disorders, perhaps because it is circumscribed to a specific object or situation that can be avoided or is difficult to differentiate from developmentally adaptive fear. Longitudinal studies are needed to clarify its clinical significance, risk factors, and course. This study was designed to determine the persistence of specific phobia in participants during an 8-year period from adolescence to young adulthood and its predictors in a Mexican cohort.

Methods: 1,071 respondents from a representative 2-wave panel sample participated in the Mexican Adolescent Mental Health Survey in 2005 and in the follow-up survey in 2013. *DSM-IV* disorders were evaluated with the World Mental Health Composite International Diagnostic Interview.

Results: Of adolescents with specific phobia at baseline, 17.46% persisted into adulthood. Persistence of specific phobia was predicted by an age of onset of disorder in adolescence (risk ratio [RR] = 2.83, 95% CI, 1.30–6.13), parental neglect (RR = 2.76, 95% CI, 1.35–5.65), a first-degree relative with specific phobia (RR = 2.69, 95% CI, 1.34–5.39) and economic adversities (RR = 2.06, 95% CI, 1.21–3.53). Noncomorbid specific phobia in adolescence predicted incidence of other anxiety and substance use disorders in early adulthood (RR = 1.98; 95% CI, 1.11–3.54 and RR = 1.35; 95% CI, 1.07–1.69, respectively).

Conclusions: While many adolescents with specific phobia remit in adulthood, there are early adult consequences of adolescent phobia and identifiable risk factors for persistence that suggest a group of adolescents that might benefit from early intervention.

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Specific phobia is rarely the primary motive for consultation or referral among adolescents despite specific phobia's being the most prevalent psychiatric disorder.[1–4] Because of this paradox unique to specific phobia, it is important to address whether clinicians should be concerned about specific phobia in adolescence, and if so, why. Specific phobia shares many commonalities with other anxiety disorders such as fear circuitry and high comorbidity.[5–8] However, the dearth of research on this disorder, the role of developmentally normal fears, and that the symptoms are circumscribed to a specific object or situation that can be avoided suggests the need for a better understanding of the impact and importance of both comorbid and noncomorbid specific phobia during this developmental stage. Also, we know that this disorder has an earlier age at onset than most disorders, mainly in early childhood,[9–12] and persists into adulthood.[11] Women are more likely than men to develop this illness.[4,9,10,12,13] Furthermore, specific phobia is associated with high comorbidity with other anxiety, mood, and substance disorders,[1,4,11,12,14] and it is a predictor of the subsequent onset of other mental disorders.[1,15] Despite this, it is one of the least treated and researched mental disorders, perhaps because it is circumscribed to a specific object or situation that can be avoided, generates less disability, or is difficult to differentiate from normal and adaptive fear.

While there are a number of published studies that have reported prevalence or incidence rates and associations or determinants for specific phobia, mostly these studies are cross-sectional or have small or clinical samples.[10–12,16–19] There have been only 3 long-term prospective studies[14,20,21] that clarify the course of specific phobia in different life stages and its risk factors. First, the Early Developmental Stages of Psychopathology Study[20] (EDSP) showed that in adolescents aged 14–17 years, 30.1% of specific phobia cases have a stable course over a 19-month period. Secondly, the Dresden Predictor Study[14] (DPS), a study of only women aged 18–25 years, found a remission rate of 60.6% over a 17-month period and that positive mental health, social support, self-efficacy, and life satisfaction at baseline predicted remission from specific phobia at follow-up. This same study[15] found that women with specific phobia had a 2-fold increase in odds of developing any anxiety disorder, generalized anxiety, depression, and any somatoform disorder compared with women without specific phobia. Finally, the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), in a large nationally representative adult sample, reported that 21.9% of respondents persisted in having specific phobia over 3 years and that having not received treatment, having had any personality disorder such as schizotypal or borderline, and having 2 or more personality disorders were associated with persistence.[21]

Clinical Points

- Almost 18% of adolescents with specific phobia continue to present with the disorder in early adulthood.
- Specific phobia in adolescence confers risk for subsequent substance use disorders and other anxiety disorders in early adulthood.
- Neglect, economic adversity, a first-degree relative with the disorder, and adolescent onset are risk factors for a persistent course of specific phobia.

In summary, knowledge about the course of specific phobia in prospective studies of large samples of the general population, including both sexes, is lacking, as is information about a broad range of predictors of specific phobia. Therefore, the current follow-up study determined persistence rates of specific phobia in a prospective study of a community sample of Mexican youth surveyed at 2 time points over 8 years, and it evaluated a broad range of predictors of persistence and subsequent mental disorders as early adult outcomes of adolescent specific phobia.

METHODS

Participants

Young adults (N = 1,071; 57% female [50.1% female when weighted to adjust for response bias]) participated in both waves of the Mexican Adolescent Mental Health Survey, first in 2005 when they were between 12 and 17 years of age and again in 2013 when they were between 19 and 26 years of age. Of those, 227 participants fulfilled criteria for specific phobia according to the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (*DSM-IV*),[24] in the 12-months prior to wave 1 of the survey. A description of wave 1 and wave 2 samples and of population representativeness has been previously reported.[2,22]

Procedures

Both waves of fieldwork involved face-to-face interviews lasting approximately 2.5 hours in the homes of the participants by trained lay interviewers. An oral and written explanation of the study was given to the participants after which informed consent was obtained. All participants gave informed consent prior to their inclusion in the study. All were given contact information for different institutions where they could seek mental health services should they wish to do so, and at wave 2 they were also given a pamphlet of the study findings from wave 1. The Human Subjects Committee of the National Institute of Psychiatry, Mexico, approved the recruitment, consent form, and field procedures.

Diagnostic Assessment

The World Mental Health Survey Initiative version of the World Health Organization Composite International Diagnostic Interview (CIDI),[23] a fully structured computer-assisted interview that generates diagnoses for *DSM-IV*[24] mental disorders, was administered at both waves to assess specific phobia, other mental disorders, age at onset, recency of disorders, sociodemographic characteristics, and risk factors. The wave 2 CIDI version was modified for follow-up by preloading wave 1 diagnoses in the program such that for each disorder, those who met criteria in 2005 were asked only about symptomatology for that disorder in the years since wave 1, whereas those who did not meet criteria for the disorder in 2005 were asked about lifetime symptomatology for that disorder. Clinical reappraisal interviews have found generally good concordance between *DSM-IV* diagnoses from the CIDI and those from the Structured Clinical Interview for *DSM-IV* Axis I Disorders.[25] Persistent cases of specific phobia were defined as those that met the criteria of disorder in both waves (during the prior 12 months). Participants that did not meet disorder criteria at wave 1 but at wave 2 reported a 12-month disorder with an age at onset 3 or more years before their age at wave 1 were included as persistent cases.

Assessment of Sociodemographic, Clinical, and Adversity Characteristics

We included the following information from the CIDI at wave 1: sex, age at onset of specific phobia, number and types of fears, having a first-degree relative with specific phobia, having received treatment, serious impairment, types and number of childhood adversities, and comorbid disorders. Age at onset was categorized as childhood onset (before age 11) and adolescent onset (age 11 or later). Types of fears were categorized as fear of animals, the natural environment, height, blood-injection-injury, closed spaces, and flying. Serious impairment was classified with a rating of 7 or higher on the Sheehan Disability Scale,[26] which measures how much symptoms have disrupted 4 different areas of life (social, work/school, family, and daily activities) on a scale from 0 (no impairment) to 10 (extreme impairment). Number of childhood adversities was the sum of having experienced the following 12 events (physical abuse, neglect, sexual abuse, parent with a mental illness, parent with a substance use problem, parent with criminal behavior, witnessing domestic violence, death of a parent, parental divorce, other parental loss, serious physical illness, and economic adversity). Variables included from wave 2 were past 12-month diagnosis of specific phobia and 5 classes of disorders: any other anxiety disorder, mood disorders, impulse-control disorders (disruptive behavior), substance use, and eating disorders.

Analysis

Cross-tabulations were used to characterize the sociodemographic, clinical, and chronic adversity characteristics of the persistent cases versus cases in remission. To estimate prospective associations of risk factors with persistent disorder, risk ratios (RRs) were calculated as functions of mean marginal predictions from simple logistic regression and fitted logistic regression models. We used the SUDAAN 11.0.1: RTI International software package[27]

(Research Triangle Institute) to obtain point estimates, standard errors, confidence intervals, and *P* values for the parameters and contrasts of interest using the Taylor series method. Significance was evaluated using Wald χ^2 tests and .05 as the probability level.

Ethical Standards

This study was approved by the ethics committee of the National Institute of Psychiatry Ramón de la Fuente and therefore has been performed in accordance with the ethical standards set forth in the 1964 Declaration of Helsinki and its later amendments. All participants gave informed consent prior to their inclusion in the study; all participants, when minors, gave their assent, and their parents or legal guardians gave informed consent prior to their inclusion in the study.

RESULTS

Attrition

The original wave 1 sample consisted of 3,005 adolescents; however, 242 (8.1%) of the original participants did not provide contact information in 2005; 293 (9.8%) households could not be located; 622 (20.7%) households had an informant who was not willing to provide information on the whereabouts of the participant; 101 (3.4%) moved away to another city, state, or country; 12 (0.4%) had died; 2 (0.07%) were in jail; and 5 (0.2%) were hospitalized. Of the resulting 1,728 participants eligible for interview at wave 2, 128 (7.4%) declined to participate, 517 (29.9%) were not found at home on any of the visits, and 12 (0.7%) had incomplete interviews. Thus, a response rate of 62.0% of eligible participants was obtained (N = 1,071), although this was 35.6% of the wave 1 sample.

In Table 1 we present an attrition analysis for the follow-up sample, showing attrition bias for 3 sociodemographic variables: females, adolescents who lived with both parents, and those who were students at wave 1. Most importantly, there were no differences for the principal variables of interest: specific phobia disorder, participants' clinical characteristics, or other mental disorders. Thus, in subsequent analyses, the sample of participants was weighted for the variables with bias.

Table 1. Attrition Analysis: Sociodemographic and Clinical Characteristics by Reinterview Status

	Those Reinterviewed (N = 1,071)		Those Not Reinterviewed (N = 1,934)			
Wave 1 (2005)	n	%[a]	n	%[a]	χ^2_1	*P*
Sex						
Male	460	43.00	980	50.70		
Female	611	57.00	954	49.30	17.50	.01
Age, y[b]						
12–14	632	59.01	1,132	58.53		
15–17	439	40.99	802	41.47	0.50	.82
Living with both parents						
Yes (both)	752	70.20	1,228	63.50		
No (one/none)	319	29.80	706	36.50	10.50	.01
Student						
Yes	928	86.60	1,598	82.60		
No	143	13.40	336	17.40	8.20	.01
Specific phobia disorder in the previous 12 months	227	21.20	412	21.30	0.00	.95
Any lifetime disorder	548	51.20	978	50.60	0.20	.68
Types of fear						
Animals	469	43.80	848	43.90	0.00	.98
Natural environment (except height)	316	29.50	523	27.00	3.39	.08
Height	332	31.00	583	30.10	0.24	.63
Blood-injection-injury	510	47.60	897	46.40	0.50	.48
Closed spaces	276	25.80	474	24.50	0.09	.33
Flying	194	18.10	377	19.50	1.05	.31
Number of fears[c]						
1 or 2	107	47.10	163	39.56		
3 or more	120	52.90	249	60.44	3.48	.07
Has received treatment[c]	15	6.61	25	6.07	0.09	.76
Any serious impairment in the previous 12 months[c]	48	21.15	99	24.03	1.14	.29
First-degree relative with specific phobia[c]	112	49.34	195	47.33	0.14	.70

[a]Proportions are unweighted.
[b]Age at first interview (wave 1) in 2005.
[c]Among those who had 12-month specific phobia in 2005.

Characterization of Persistent Versus Remitted Cases of Specific Phobia

Clinical characteristics and childhood adversities. Of the 227 adolescents with specific phobia at baseline, 17.46% persisted into early adulthood. Table 2 shows the clinical characteristics and childhood adversities at wave 1 of those with a persisting course of specific phobia compared to those whose specific phobia remitted. Almost 90% of persistent cases had 3 or more types of fears, roughly 75% had a fear of animals and closed spaces and at least 1 first-degree relative with specific phobia, and more than a third had serious impairment. While 12.89% of persistent cases had an adolescent onset, only 3.04% of remitted cases had an adolescent onset. Having more types of fears, having a first-degree relative with specific phobia, and having received treatment was associated with a more than 3-fold increase in risk of persistence (RR = 3.24, 95% CI, 1.15–9.07; RR = 3.56, 95% CI, 1.84–6.89; and RR = 3.87, 95% CI, 2.44–6.12, respectively). Age at onset in adolescence was associated with a 3-fold increase in risk of persistence (RR = 2.96; 95% CI, 1.17–7.48), and fears of closed spaces an almost 2-fold risk of persistence (RR = 1.99; 95% CI, 1.01–3.91).

Compared with 71.5% of remitted cases, 83.4% of persistent cases had experienced any childhood adversity, with 31.3% having experienced 3 or more adversities compared to 15.6% of remitted cases; this represented a relative risk of 2.73 (95% CI, 1.04–7.11). The specific types of adversities that were more frequent in persistent versus remitted cases included parental neglect (15.8% vs 4.1%), parental criminal behavior (11.5% vs 4.1%), and economic adversity (37.9% vs 20.6%), though only neglect (RR = 2.86; 95% CI, 1.26–6.49) and economic adversity (RR = 1.98; 95% CI, 1.17–3.35) were associated with a significantly increased risk of persistence.

Comorbidity with specific phobia. In Table 3 we present a comparison of wave 1 comorbid disorders between those with persistent and remitted specific phobia. Almost all of

Table 2. Comparison of Baseline Clinical Characteristics and Childhood Adversities Between Persistent and Remitted Cases of Specific Phobia Disorder (n = 227)

	Persistence[a] (n = 39, 17.46%)		Remission[a] (n = 188, 82.54%)				
Wave 1 Variables	n	%[a]	n	%[a]	*P* Value[b]	RR[c]	95% CI
Female	30	74.04	124	61.27	.24	1.64	(0.66–4.05)
Age at onset of specific phobia							
Childhood	34	87.11	182	96.96			
Adolescence	5	12.89	6	3.04	.22	2.96	(1.17–7.48)
Number of fears							
1 or 2	5	11.14	62	32.62			
3 or more	34	88.86	126	67.38	.01	**3.24**	**(1.15–9.07)**
Types of fear							
Animals	30	79.59	124	65.43	.11	1.84	(0.74–4.59)
Natural environment (except height)	24	64.59	106	57.44	.47	1.28	(0.62–2.64)
Height	25	64.96	104	54.22	.32	1.45	(0.68–3.09)
Blood-injection-injury	34	83.99	146	78.07	.52	1.39	(0.46–4.15)
Closed spaces	28	73.54	101	55.02	.04	**1.99**	**(1.01–3.91)**
Flying	14	39.69	75	38.18	.86	1.05	(0.57–1.94)
First-degree relative with specific phobia	29	77.81	83	43.69	.01	**3.56**	**(1.84–6.89)**
Serious impairment	14	38.47	38	28.11	.32	1.45	(0.72–2.89)
Having received treatment	11	31.43	11	6.19	.02	**3.87**	**(2.44–6.12)**
Childhood adversities							
Any childhood adversities	33	83.43	132	71.46	.08	1.81	(0.78–4.21)
None	6	16.57	56	28.54		1.00	REF
1 or 2	21	52.14	101	55.89		1.51	(0.59–3.82)
3 or more	12	31.29	31	15.57	.08	**2.73**	**(1.04–7.11)**
Physical abuse	6	18.80	31	15.10	.62	1.24	(0.54–2.83)
Sexual abuse	1	3.69	4	1.62	.58	1.89	(0.39–9.30)
Neglect	7	15.78	7	4.10	.06	**2.86**	**(1.26–6.49)**
Parental death	2	5.58	12	6.90	.77	0.83	(0.19–3.66)
Parental divorce	5	11.87	26	14.03	.80	0.85	(0.21–3.39)
Other parental loss	4	15.88	26	14.03	.81	1.13	(0.42–3.01)
Parental mental disorder	9	17.77	29	15.04	.61	1.18	(0.62–2.25)
Parental substance use disorder	3	5.28	6	2.84	.66	1.65	(0.27–10.24)
Parental criminal behavior	6	11.53	7	4.08	.12	2.29	(0.87–6.03)
Violence in family	11	27.85	34	20.01	.42	1.42	(0.61–3.31)
Physical illness	3	10.62	15	7.43	.55	1.37	(0.55–3.42)
Economic adversities	14	37.91	40	20.58	.05	**1.98**	**(1.17–3.35)**

[a]Weighted.
[b]Difference between persistence and remission; probability from Pearson χ^2.
[c]Results of RR are based on univariate logistic regression. Bold values represent $P < .05$ from the logistic regression equations.
Abbreviations: REF = reference group, RR = risk ratio.

those with a persistent disorder (93.94%) had a comorbid adolescent disorder whereas less than three-fourths of remitted cases (72.31%) had a comorbid wave 1 disorder (RR = 4.87; 95% CI, 1.67–14.19). The prevalence of each class of disorder and each individual comorbid disorder was higher in those with persistent phobia in comparison with those who remitted, although these differences were not statistically significant.

Predictors of Persistence of Specific Phobia

Table 4 presents the results of a multiple logistic regression equation for the prediction of specific phobia persistence, from the variables that were significant in the univariate logistic regression analyses shown in the prior tables. Having received treatment was not included in the model as it was highly correlated with impairment. Persistence of specific phobia was predicted by age at onset of disorder in adolescence (RR = 2.83; 95% CI, 1.30–6.13), parental neglect (RR = 2.76; 95% CI, 1.35–5.65), a first-degree relative with specific phobia (RR = 2.69; 95% CI, 1.34–5.39), and economic adversities (RR = 2.06; 95% CI, 1.21–3.53). Fear of closed spaces, a comorbid adolescent disorder, any childhood adversities, and number of fear types did not predict persistence.

Other Mental Disorders as Early Adult Outcomes of Adolescent Specific Phobia

In Table 5 we present the results of 5 separate multiple logistic regression equations, each predicting one of the 5 classes of disorders (ie, any other anxiety disorders, mood disorders, impulse-control disorders, substance use disorders, and eating disorders) from the presence of specific phobia without comorbidity in 2005. The presence of specific phobia without comorbidity in adolescence was associated with an almost 2-fold risk of developing another anxiety disorder (RR = 1.98; 95% CI, 1.11–3.54) and an increased risk of developing a substance use disorder (RR = 1.35; 95% CI, 1.07–1.69).

DISCUSSION

Study Strengths and Limitations

The main strength of this study is its prospective longitudinal design that describes the path of specific phobia disorder and examines the predictors in a sample of young adults. This study has the additional advantage of being a general population sample that allows for less biased information compared with clinical sample studies. Also, this study is unique in a population of youth from a developing country in Latin America for which scarce epidemiologic information is available. To assure that the wave 2 sample was representative and to compensate for difficulties in the process of re-contacting participants after such an extended follow-up period, attrition analysis was used to create weights. Fortunately, the nonresponse bias at follow-up did not occur in the variables of interest (specific phobia or other mental disorders). It did, however, occur only in a few of the sociodemographic variables (sex, living with both parents, and being a student). Moreover, as we have only 2 measurements over a period of 8 years, there is probably some recall bias such that participants may have forgotten the presence or the exact year of remission. However, this time period gives us valuable information from one stage of development to another, which would not have been achieved in a shorter follow-up. A further limitation is that the sample size was relatively small, and thus some nonsignificant effects could be due to lack of statistical power.

Table 3. Comparison of Wave 1 Comorbidity Between Persistent and Remitted Specific Phobia Disorder

	Persistence (n = 39)		Remission (n = 188)				
Wave 1 Disorders	n	%[a]	n	%[a]	*P* Value[b]	RR[c]	95% CI
Any other disorder	35	93.94	136	72.31	.01	**4.87**	**(1.67–14.19)**
Any other anxiety disorder[d]	26	63.17	104	54.82	.24	1.33	(0.78–2.26)
Agoraphobia	11	25.32	34	18.73	.41	1.37	(0.67–2.79)
Social phobia	15	37.23	62	34.81	.79	1.09	(0.57–2.10)
Posttraumatic stress disorder	3	8.63	7	4.13	.10	1.83	(0.91–3.69)
Panic disorder	3	7.63	15	7.07	.88	1.07	(0.43–2.64)
Separation anxiety	12	25.11	31	16.84	.25	1.50	(0.78–2.90)
Any impulse-control disorder	18	47.77	65	36.58	.09	1.46	(0.93–2.29)
Intermittent explosive disorder	9	24.34	33	18.20	.30	1.35	(0.78–2.33)
Conduct disorder	6	16.39	14	9.11	.31	1.69	(0.62–4.60)
Attention-deficit disorder	3	7.86	12	7.08	.87	1.10	(0.36–3.35)
Oppositional defiant disorder	11	27.04	34	19.97	.44	1.38	(0.64–2.95)
Any mood disorder	14	31.71	38	19.49	.12	1.68	(0.95–2.98)
Major depressive disorder	9	19.74	24	12.38	.32	1.55	(0.73–3.29)
Dysthymia	1	3.52	2	1.16	.50	2.29	(0.48–10.93)
Bipolar	6	13.45	14	6.80	.17	1.80	(0.87–3.73)
Any eating disorder	6	15.55	13	7.19	.20	1.94	(0.91–4.16)
Bulimia	2	3.97	4	1.85	.38	1.82	(0.71–4.63)
Binge-eating disorder	4	11.58	7	4.32	.24	2.21	(0.91–5.40)
Any substance use disorder	6	17.30	14	9.89	.23	1.66	(0.83–3.33)
Alcohol abuse	4	11.71	7	4.32	.20	2.23	(0.84–5.92)
Drug abuse	2	3.87	4	3.10	.84	1.21	(0.19–7.57)

[a]Weighted.
[b]Difference between persistence and remission; probability from Pearson χ^2.
[c]Results of RR are based on univariate logistic regression. Bold values represent $P < .05$ from the logistic regression equations.
[d]Generalized anxiety disorder and anorexia were not included as there were no persistent specific phobia cases with these individual comorbid disorders.
Abbreviation: RR = risk ratio.

Table 4. Risk Factors of Specific Phobia Disorder Persistence From a Multivariate Logistic Regression Model[a]

Risk Factors	RR	95% CI
Any other disorder comorbid in 2005	2.72	(0.95–7.79)
Age at onset in adolescence	**2.83**	**(1.30–6.13)**
Parental neglect	**2.76**	**(1.35–5.65)**
First-degree relative with specific phobia	**2.69**	**(1.34–5.39)**
Economic adversities	**2.06**	**(1.21–3.53)**
Fear of closed spaces	1.32	(0.70–2.48)
Any childhood adversities		
None	1.00	REF
1 or 2	0.92	(0.47–1.86)
3 or more	0.83	(0.32–2.16)
Number of fear types		
1 or 2	1.00	REF
3 or more	2.64	(0.65–10.78)

[a]Results are based on multivariate logistic regression models adjusted for sex. Bolded values show significance at $P < .05$.
Abbreviations: REF = reference group, RR = risk ratio.

Noteworthy Findings

Persistence of specific phobia. Results revealed that remission (82.5%) was greater than persistence (17.5%). This persistence rate is even lower than in previous studies,[14,20,21] which is quite likely explained by the considerably longer follow-up period in the current study. The marked remission during early adulthood, as shown in this and previous studies, suggests a sizable group for whom this disorder is transitory.

Risk factors for persistence of specific phobia. While previous studies[4,9,10,12,13] have found consistently that females are more likely to present specific phobia than males, there are no previous studies of which we are aware that estimate sex differences in persistence, once the disorder has developed. So while females are more likely to develop specific phobia, these findings suggest that females are no more likely than males to persist.

The finding that adolescent-onset specific phobia had a more persistent course than childhood-onset specific phobia is clinically relevant and consistent with the findings from research with both rodents and humans.[28] Research has shown an attenuated extinction response in adolescents compared to children and to adults. Given this, adolescents may be less likely to benefit from exposure-based treatment, which relies on fear-extinction principles. Unfortunately, exposure-based therapy is the only evidence-based treatment for specific phobia.[29] This suggests 2 important implications: (1) youth with childhood-onset specific phobia should be treated early before reaching adolescence and (2)

Table 5. Noncomorbid Specific Phobia in Adolescence as Predictor of Subsequent Mental Disorders[a]

Only Specific Phobia Disorder, Wave 1	Any Anxiety Disorder Except Specific Phobia	Any Mood Disorder	Any Impulse-Control Disorder	Any Eating Disorder	Any Substance Use Disorder
RR	**1.98**	1.13	0.9	1.53	**1.35**
95% CI	**(1.11–3.54)**	(0.58–2.22)	(0.44–1.83)	(0.48–4.87)	**(1.07–1.69)**

[a]Results are based on 5 separate multiple logistic regression models adjusted for sex and other class of disorder. Bolded values show significance at $P < .05$.
Abbreviation: RR = risk ratio.

new therapies or therapeutic techniques may need to be developed and evaluated specifically for adolescents.

That having a first-degree relative with specific phobia is associated with persistence of this disorder denotes that the genetic vulnerability and learning experiences that are involved in the development of the disorder are also most likely involved in the process of maintenance. Our results are in concordance, with findings of familial aggregation of specific phobia.[30–32] However, no studies to our knowledge have examined whether these factors affect persistence.

Regarding comorbidity as a risk factor for specific phobia persistence, many studies have reported the concurrent relation between specific phobia with anxiety, depressive, and substance use disorders.[1,4,11,12,14] However, Trumpf et al[14] did not find psychopathology at baseline to predict remission at follow-up, consistent with our findings. The difference in findings between these studies may be due to differences in the follow-up period or differences in the measurement of baseline psychopathology, the prior an aggregate variable using symptomatology and the current a measurement of specific *DSM-IV* diagnoses.

Consistent with other studies that have found a strong association between childhood adversities and a more chronic and unfavorable course of psychopathology in adulthood,[33,34] the current study found parental neglect and economic adversity as risk factors for persistence of this disorder. Our results are similar to a study[33] that showed an association between emotional neglect with persistent comorbid depressive and anxiety disorders at 2-year follow-up. Magee[35] suggests that life experiences that trigger the onset of the phobia usually do not resemble the feared situations and speculates that since harmful or threatening childhood experiences are unpredictable and uncontrollable, an atmosphere of constant threat of physical harm is created and leads children to generalize such expectation to relatively harmless objects or situations.

Successive comorbidity as an early adult outcome of adolescent specific phobia. A major finding of the present study was that the presence of specific phobia without any comorbid disorder in adolescence confers risk for the development of later substance use disorders and other anxiety disorders in early adulthood. This finding has also been reported by Trumpf et al[15] for young women. An explanation of the association between anxiety in general and substance use disorders in prior studies is that substance use decreases symptoms of anxiety and thus is a form of self-medication that allows those who suffer from anxiety to face their phobia.[36] As such, the presence of specific phobia in youth may be an initial indication of vulnerability to subsequent pathology and impairment.[19] These results are most relevant in a context and age group where substance use disorder is the principal mental disorder among young adults,[22] emphasizing the need for integral interventions.

The high prevalence of specific phobia detected in adolescence led to this investigation of the course of the disorder in young adults to explore whether this large group of youth is experiencing a transitory disorder that will resolve in early adulthood and whether, as professionals, we should be concerned about these youth even if their disorder remits. Our findings suggest that, indeed, only a minor proportion persist into emerging adulthood and that this persistent group is identifiable by having a first-degree relative with the disorder, having baseline comorbidity, having adolescent onset, and having experienced neglect and economic adversity. However, our results also suggest that we should be concerned about all adolescents with specific phobia, even those who are not likely to persist, given that they are at an increased risk of developing other anxiety disorders and substance use disorders later on. Future studies are necessary to examine if early intervention with adolescents suffering specific phobia can reduce the risk of developing other disorders in early adulthood and to determine whether there are other negative consequences for remittent cases other than successive comorbidity.

CONCLUSIONS

This study was designed to determine the persistence of specific phobia from adolescence to young adulthood and its predictors. While the persistence of specific phobia from adolescence to adulthood is low, our findings suggest that clinicians and researchers should be concerned about specific phobia in adolescence (1) because onset in adolescence may be associated with greater risk of persistence than childhood-onset specific phobia and (2) because specific phobia in adolescence may confer increased risk for developing a substance use and other anxiety disorders in adulthood.

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