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Preschool Anxiety Disorders in Pediatric Primary Care: Prevalence and Comorbidity

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Abstract

Objective—We sought to establish prevalence rates and detail patterns of comorbidity for generalized anxiety disorder, separation anxiety disorder, and social phobia, in preschool aged children.

Method—The Duke Preschool Anxiety Study, a screen-stratified, cross-sectional study, drew from pediatric primary-care and oversampled for children at risk for anxiety. 917 parents of preschoolers (aged 2 to 5 years) completed the Preschool Age Psychiatric Assessment.

Results—Generalized anxiety disorder, separation anxiety disorder, and social phobia are common in preschool-aged children attending pediatric primary care. Three quarters of preschoolers with an anxiety disorder only had a single anxiety disorder. Generalized anxiety disorder displayed the greatest degree of comorbidity: with separation anxiety disorder (odds ratio [OR] = 4.1, 95% CI, 2.0–8.5), social phobia (OR = 6.4, 95% CI, 3.1–13.4), disruptive behavior disorders (OR = 5.1, 95% CI, 1.6–15.8), and depression (OR = 3.7, 95% CI, 1.1–12.4).

Conclusions—The weakness of association between generalized anxiety disorder and depression stands in contrast to substantial associations between these 2 disorders reported in older individuals. Attenuated associations in preschool aged children could translate into clinical

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opportunities for targeted early interventions, aimed at modifying the developmental trajectory of anxiety disorders.

Keywords

comorbidity; pediatric primary care; preschool anxiety disorders; prevalence

The public health burden of psychiatric disorders in preschool children is a problem whose scope is not well understood¹⁻⁴. Over the last decade, studies of prescribing patterns in insurance databases have demonstrated dramatic increases in the prescription of psychotropic medications for preschool children^{5, 6}. This increase in psychopharmacologic treatment of young children has drawn attention to the neglected topic of diagnosis in the preschool years. Until recently, necessary epidemiological research on preschool mental health disorders was inhibited by the lack of reliable and valid assessment instruments. However, major advances have been made in the past decade with the development and psychometric testing of assessment instruments that map current nosologies such as *DSM-IV* and ICD-10 onto the symptoms and impairment of preschool children, as reported by parents and teachers. Psychometric testing has shown that such instruments are as reliable as those designed for older children, adolescents, and adults⁷.

In this paper we concentrate on preschool anxiety disorders. Many anxiety disorders have their onset in early childhood⁸. The limited research among preschool-aged children supports the notion that early childhood anxiety symptoms may cluster into diagnostic-specific groupings, similar to those found among older children^{9, 10}. Generalized anxiety disorder, separation anxiety disorder, and social phobia, are thought to be among the most common, earliest onset, childhood psychiatric disorders, carrying substantial risk for anxiety disorders and depression in adulthood¹¹⁻¹⁵, and for continuing comorbidity and impaired quality of life throughout the lifespan¹⁶⁻¹⁹. To date, few studies of preschool aged children, from reasonably representative samples, using structured psychiatric assessments with known psychometric properties, have reported on one or more anxiety diagnosis^{7, 20-22}. The range of prevalence estimates for generalized anxiety disorder reported in these studies is 0.6% to 6.5%, while prevalence estimates of separation anxiety disorder range from 0.3% to 5.4%, and social phobia range from 0.5% to 4.4%. Anxiety disorders are thought to be highly comorbid at all ages²³. Comorbidity data from the preschool period remains limited with studies tending to report co-occurrence between broad categories of emotional and behavioral disorders^{24, 25}. Comorbidity, even in the preschool years, is perhaps expected, as population-based twin studies indicate that the genetic liability for specific anxiety disorders partly overlaps^{26, 27}. Egger *et al.*⁷ reported that 8% of preschoolers met criteria for more than one psychiatric disorder. Of those who met criteria for a disorder, 51.6% had a single type of disorder, 25.8% had 2, and 22.6% had 3 or more disorders. Wichstrom *et al.*²² found that children with anxiety disorders had only moderately elevated odds of having comorbid disorders compared with children without anxiety disorders, with the rates of comorbid disorders ranging from 4% (for conduct disorders) to 12% (for depressive disorders).

Studies that establish prevalence rates and detail patterns of comorbidity for generalized anxiety disorder, separation anxiety disorder, and social phobia, 3 of the most common, earliest onset, psychiatric disorders, would provide the basic information necessary for the establishment of formal mental health services for young children. Effective psychotherapeutic and psychopharmacological treatments have been developed for older children²⁸, and younger children too could potentially benefit if we were able to develop a greater understanding of the presentation, prevalence, and specific patterns of comorbidity associated with these disorders. The Duke Preschool Anxiety Study aimed to 1) establish prevalence rates for generalized anxiety disorder, separation anxiety disorder, and social

phobia according to the *DSM-IV* criteria; 2) detail patterns of comorbidity among generalized anxiety disorder, separation anxiety disorder, and social phobia; and 3) examine the patterns of comorbidity among generalized anxiety disorder, separation anxiety disorder, and social phobia and other anxious or non-anxious disorders in preschool aged children in pediatric primary care.

Method

Study Design

The Duke Preschool Anxiety Study is a screen-stratified, cross-sectional study with three phases: 1) a primary care questionnaire screening phase, 2) an in-home parent interview phase, and 3) a lab-based case-control phase. The aim of this sampling strategy was to identify 250 children with and 250 children without anxiety disorders to participate in phase 3, a nested case-control study (total N=500). The determining factor for this sample size was based on power calculations to obtain enough children with clinically significant anxiety disorders to: a) produce reasonably narrow confidence intervals around the prevalence estimate of generalized anxiety disorder, separation anxiety disorder, and social phobia; and b) examine patterns of comorbidity of these three disorders. Phases one and two are illustrated in a figure (see Figure S1, available online) and described in detail below. Data presented in this paper focuses on the *phase two* sample.

Phase 1: Screening—Screening took place over 45 months (January 2007–October 2010). We screened children aged 2 through 5 years attending Duke Pediatric Primary Care Clinics. Primary care pediatric clinic samples have a number of important advantages: 1) rates of psychiatric disorder in randomly selected general pediatric primary care samples have been found to be similar to general population prevalence rates^{29,30}; 2) most preschool children see a pediatrician at least annually; and 3) pediatricians see a large number of children per day, so collecting an adequate sample in a reasonable time is feasible.

Preschoolers scheduled for both well-child and sick-child visits on the specified recruitment day were identified using a tracking and scheduling system. When the child and their caregiver were in the examination room, the nurse asked the caregiver whether they were willing to speak with the screener regarding participation in a research study. If the caregiver agreed, the screener would obtain written consent from the caregiver and complete the screen.

Inclusion criteria were 1) the child was between 24 and 71 months old, and 2) the child attended the pediatric clinic during a screening period.

Exclusion criteria were 1) the child was not accompanied by a parent/legal guardian who could provide consent, 2) the parent/legal guardian did not have adequate fluency in English to complete the screen, 3) the index child was known to have mental retardation (IQ < 70), autism, or other pervasive developmental disorders, 4) the child's sibling was participating in the study already, or 5) the provider decided that the child was too medically ill at the visit for the parent to be approached about the study. There is considerable evidence that children and adolescents with autism spectrum disorders are at increased risk for anxiety disorders³¹. We also acknowledge that mental retardation is woefully understudied. However, less than 1% (n=21) of our screened sample was known to have an autism spectrum disorder and/or mental retardation, and these extremely low prevalence rates would have made inclusion of these subgroups in our analyses problematic.

4,520 children ages 2–5 years attended the Duke pediatric clinics on the screening days; 519 (11.5%) were excluded from screening (for meeting any of the 5 exclusion criteria outlined

above); 522 (13%) parents refused to participate in screening, and we missed making contact with 46 parents (1.1%). Thus, of the 4,001 eligible children, we screened 3,433 (85.8%). There were no significant differences by age or sex between screen completers and noncompleters. Of the 3,433 children screened, 944 (27.5%) screened high, and 2,490 (72.5%) did not screen high. All of the children who screened high and a random sample of 189 (7.5%) who did not screen high were selected to participate in phase 2: the in-home assessment phase.

Phase 2: In-home Assessment—In-home assessments took place over 47 months (January 2007–December 2010). The mean time lapse between screen completion and completion of the in-home assessment was 52.6 days (SD 115.8). Of the 1132 children selected to participate, 1,113 were eligible. Nineteen (1.7%) were excluded (for meeting any of the 5 exclusion criteria mentioned above), and 196 (17.6%) parents/legal guardians refused to participate. The Preschool Aged Psychiatric Assessment was completed by 917 (82.4%) eligible parents. The interviewers were blind to the child’s screen status. There were no significant differences by age or sex between those selected and those who completed the in-home interview. However, of those who refused the in-home interview, 80.6% had screened high. 391 children (30%), whose parents completed the in-home assessment, were enrolled in Medicaid, a similar rate of coverage for children under the age of 18 in both North Carolina and the United States³²

Procedures

The study design and methods were approved by Duke University School of Medicine Institutional Review Board (IRB). Prior to the initiation of each study phase, the parent or legal guardian signed informed consent forms approved by the Duke IRB. Parents were not compensated for completing the screening phase of the study. The primary parent/caregiver was given \$75 for completion of the in-home assessment. Parental/caregiver reimbursement was intended to pay for travel, parking, and childcare for siblings, and to reimburse participants for their time and effort.

Measures

The Child Behavior Checklist (CBCL) for Ages 1½–5³³ has been widely used both as a reliable measure of psychopathology in its own right and as a screening instrument for sample selection for more intensive assessments. The narrow-band anxious/depressed scale consisting of 10 items was used as the screening instrument in phase 1. A cutpoint based on data from an earlier study⁷ was used as a benchmark to identify a group consisting of approximately 25% of the primary care clinic sample who were at relatively high risk of having an anxiety disorder. The cutpoint was adjusted during the study to ensure that the correct proportion of participants (25%) were being identified (cutpoint of 4 was used for 0.3% of the cohort, 5 for 62.0%, and 7 for 37.7%).

The Preschool Age Psychiatric Assessment (PAPA), a parent-report instrument for the assessment of psychopathology in 2- to 5-year-olds, is based on the parent version of the Child and Adolescent Psychiatric Assessment³⁴. The PAPA uses a highly structured protocol, with requires questions and probes, however, the onus throughout is on the interviewer to ensure that interviewees 1) understand the question being asked; 2) provide clear information on behavior or feelings relevant to the symptom; and 3) report the symptom at a pre-specified level of severity as defined in an extensive glossary. Symptom frequency, duration and dates of onset are collected, to determine whether they meet symptom and duration criteria for *DSM* diagnoses. A 3-month “primary period” is used, because shorter recall periods are associated with more accurate recall³⁵. The PAPA includes assessment of most *DSM-IV* diagnostic criteria insofar as they are relevant to

younger children. *DSM-IV* diagnoses include: attention-deficit/hyperactivity disorder, oppositional defiant disorder, conduct disorder, depression (major depression, dysthymia and depression–not otherwise specified), anxiety disorders (separation anxiety disorder, generalized anxiety disorder, social phobia, specific phobia, posttraumatic stress disorder, and selective mutism), and elimination disorder (enuresis and encopresis). Impairment was based upon the World Health Organization's International Classification of Functioning, Disability and Health³⁶. To avoid tapping into normative fears, impairment from anxiety was required for all anxiety diagnoses. Diagnostic reliability of the PAPA is on a par with those achieved by older child, adolescent, and adult psychiatric interviews⁷.

Sociodemographic variables (Table 1) include most of those examined in previous epidemiological studies of child-adolescent mental health³⁷. Ethnic origin/race included: American Indian or Alaska Native, Asian, Hispanic, Native Hawaiian or Other Pacific Islander, Black or African American, White, and Other. Caregivers could mark off all categories applicable to the child. For the analyses: gender (male/female) and family income (above/at or below the federal poverty threshold³²) had 2 levels; number of biological parents living with the child (0, 1, 2) and ethnic origin/race (Hispanic, Non-Hispanic black, Non-Hispanic white) had 3 levels; and age (2, 3, 4, or 5), primary caregiver education (< high school, high school graduate, some college, college graduate), and number of siblings (3, 2, 1, 0) had 4 levels.

Analytic Strategy

To establish prevalence rates from a multistage sampling design subjects were assigned a weight inversely proportional to their probability of selection. Associations were tested using weighted regression models in a generalized estimating equations framework implemented by SAS PROC GENMOD, which computes robust standard errors to account for effects of the sample stratification. Comparisons between unadjusted and adjusted odds ratios were used to examine patterns of comorbidity. Two outcomes were possible: 1) unadjusted associations could remain significant in multivariable models accounting for other comorbid disorders, or 2) unadjusted associations could attenuate to non-significance in multivariable models accounting for other comorbid disorders.

Results

The screen performed adequately with a sensitivity of 56% and a specificity of 80%.

Sociodemographic distributions from the in-home assessment phase are presented in Table 1. Our sample demographics were similar to those of the area (Durham County) where the clinics were located, but are not representative of all children in the U.S. Table 2 displays the prevalence rates for generalized anxiety disorder, separation anxiety disorder, and social phobia in preschool aged children in pediatric primary care. Multivariable regression analyses examining the association between preschool anxiety disorders and sociodemographic variables are presented in Table 2. Preschoolers who lived with a greater number of siblings were more likely to meet criteria for generalized anxiety disorder, social phobia, and any anxiety disorder. Preschoolers who lived with both biological parents were less likely to meet criteria for generalized anxiety disorder. Female preschoolers were more likely to meet criteria for separation anxiety disorder compared to male preschoolers.

Figure 1 presents the weighted rates of comorbidity among generalized anxiety disorder, separation anxiety disorder, and social phobia in the form of Venn diagrams, with the unweighted number of individuals in each 'pure' or comorbid group. Seventy percent (n=187) only met criteria for one of the 3 anxiety disorders, 23% (n=103) met criteria for 2 anxiety disorders, and 7% (n=37) met criteria for all 3 anxiety disorders.

Figure 2 presents the weighted rates of comorbidity among generalized anxiety disorder, separation anxiety disorder, and social phobia, and other anxious and non-anxious disorders (depression, attention deficit/hyperactivity disorder and/or disruptive behavior disorders) in the form of pie charts, with the unweighted number of individuals in each group. Generalized anxiety disorder displayed the greatest degree of comorbidity. Forty nine percent of children with generalized anxiety disorder only had anxiety disorders, compared with 59% of the children with separation anxiety disorder, and 68% of the children with social phobia. Fifty one percent of children with generalized anxiety disorder had a comorbid non-anxious disorder, compared with 41% of children with separation anxiety disorder, and 32% of children with social phobia.

Table 3 displays 1) the weighted prevalence of generalized anxiety disorder, separation anxiety disorder, and social phobia, a) when the disorder is comorbid with another anxious or non-anxious disorder or b) when the disorder is not comorbid with another anxious or non-anxious disorder, 2) the unadjusted, and 3) the adjusted associations among generalized anxiety disorder, separation anxiety disorder, and social phobia, and other anxious or non-anxious disorders. The adjusted model provides pairwise associations after accounting for other comorbid conditions. Controlling for other comorbid conditions, generalized anxiety disorder displayed the greatest degree of comorbidity, as significant relationships were maintained with separation anxiety disorder (odds ratio [OR] = 4.1, 95% CI, 2.0–8.5), social phobia (OR = 6.4, 95% CI, 3.1–13.4), disruptive behavior disorders (OR = 5.1, 95% CI, 1.6–15.8), and depression (OR = 3.7, 95% CI, 1.1–12.4). This means, for example, that controlling for other comorbid disorders, separation anxiety disorder was 4 times as likely in children with generalized anxiety disorder than in children without generalized anxiety disorder. Generalized anxiety disorder (OR 6.1, 95% CI, 3.0–12.7), and attention deficit/hyperactivity disorder (OR 3.1, 95% CI, 1.1–8.7) remained significantly associated with social phobia after controlling for other comorbid disorders. Separation anxiety disorder displayed the least degree of comorbidity; after controlling for other comorbid conditions, the only significant relationship was with generalized anxiety disorder (OR = 3.9, 95% CI, 1.8–8.4). For the most part, associations between anxiety disorders and attention deficit/hyperactivity disorder, disruptive behavior disorders, and interestingly depression were attenuated, or became nonsignificant in the adjusted models.

Discussion

Generalized anxiety disorder, separation anxiety disorder, and social phobia are common in preschool aged children attending pediatric primary care for nonpsychiatric reasons. Our prevalence rates are higher than those previously reported^{7, 20–22}. As 3 of the 4 comparable studies^{7, 21, 22} used the PAPA, differences in sampling design, variability in response rates, and geographic location may explain the variation in prevalence rates.

Associations were found between generalized anxiety disorder and the number of biological parents in the household, such that living with both biological parents appeared to be protective. A higher prevalence of disorders among children exposed to single parenthood has been reported^{38, 39}. Living with a greater number of siblings was associated an increased risk for generalized anxiety disorder, and social phobia. Kessler *et al.*³⁷ reported a lower prevalence of disorders among adolescents with 1 versus 2 or more siblings. Female preschoolers were more likely to meet criteria for separation anxiety disorder. Studies have indicated a greater prevalence of separation anxiety disorder for girls than boys in both community^{40–43} and clinical samples⁴⁵. These findings highlight the importance of exploring more deeply other risk and protective factors associated with preschool anxiety disorders.

Close to three quarters of preschoolers who met criteria for an anxiety disorder only had a single anxiety disorder. Of the 3 anxiety disorders, generalized anxiety disorder displayed the greatest degree of comorbidity. Findings from population-based twin studies suggest that generalized anxiety disorder shares genetic liability with depression^{46, 47}. A study by Sterba *et al.*¹⁰ suggested that the ways in which preschool psychopathology differentiation departs from *DSM-IV* nosology are strikingly similar to those found in older children and adolescents: a lack of separation between generalized anxiety disorder and depression. However, the weakness of association, between generalized anxiety disorder and depression, in preschool aged children stands in contrast to substantial associations in older individuals⁴⁸⁻⁵⁰. A developmental variation in the phenotype of generalized anxiety disorder has previously been suggested⁹. This may in part be explained by a differential course of anxiety in individuals from childhood to adulthood as a result of age-related changes in the genetic and environmental factors⁵¹, as well as variability in ages of onset^{52, 53}.

Limitations include the following: 1) this data is taken from phase 2 of the Duke Preschool Anxiety Study and is based solely on parent report. Phase 3 of this study, a lab-based case-control phase where 500 children completed observational assessments and cognitive and psychological testing, will help us gain a deeper understanding of the behavioral phenotypes of early onset anxiety, and their relationship to parent report of psychiatric symptomatology; 2) participants were recruited from pediatric primary care, and not from the community. The focus of this study was on psychiatric disorders and comorbidity among these disorders. We believe that very few, if any preschoolers attended primary care clinics because of mental health concerns and it is therefore unlikely that, for example, differences between generalized anxiety disorder/social phobia comorbidity would be affected by the fact that this is a clinic-based rather than a community-based sample; and 3) prevalence and comorbidity estimates were computed on the basis of a screen-stratified sample, with a screen that was 56% sensitive, with relatively few children who screened negative receiving a PAPA assessment. This could affect the reliability of the results. However, confidence intervals, an interval estimate of a population parameter, are provided for the reader to indicate the reliability of the estimates. The size of the confidence intervals reported in this study, are similar to other comparable studies^{7, 20-22}.

Comorbidity may play an important role in understanding the etiology, course, and treatment of children's mental health problems. An understanding of different comorbidity patterns may be an opportunity to move beyond *DSM* to characterize phenotypes that link genes with brain and behavior⁵⁴. While very little attention has been paid to age effects on comorbidity, the malleability of the immature fear circuit in infants and young children suggests that it may be easier to shape amygdala-ventrolateral prefrontal cortex function and its effects on attention-bias in relatively young compared with older children⁵⁵. The attenuated associations among disorders in preschool aged children demonstrated in this study could translate into clinical opportunities for early intervention and targeted treatment of young children. These interventions could potentially modify the developmental trajectory of anxiety disorders, lower rates of mental health disorders in older children, adolescents, and adults, and improve quality of life throughout the lifespan.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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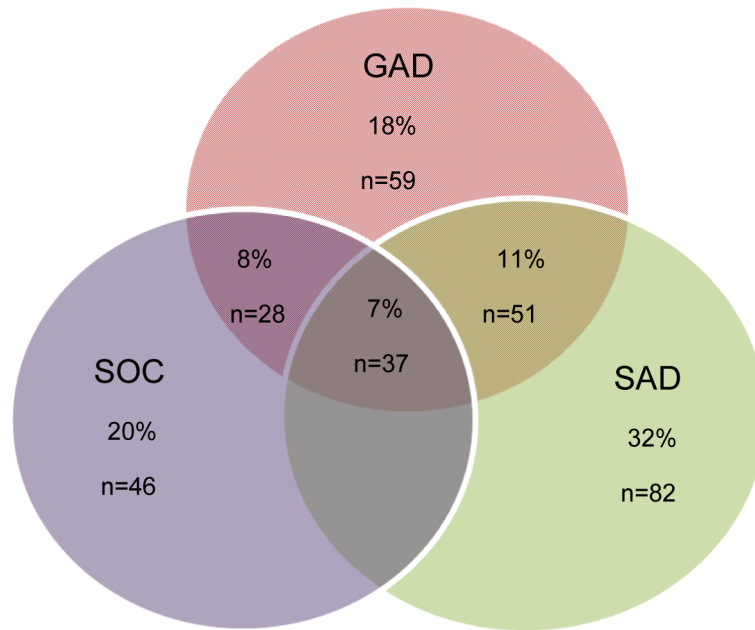


Figure 1. Comorbidity among generalized anxiety disorder (GAD), separation anxiety disorder (SAD), and social phobia (SOC). Note: Percentages add up to 100, n = 327. Figure 2 shows comorbidity across all disorders. n = unweighted number in group; % = weighted percentage.

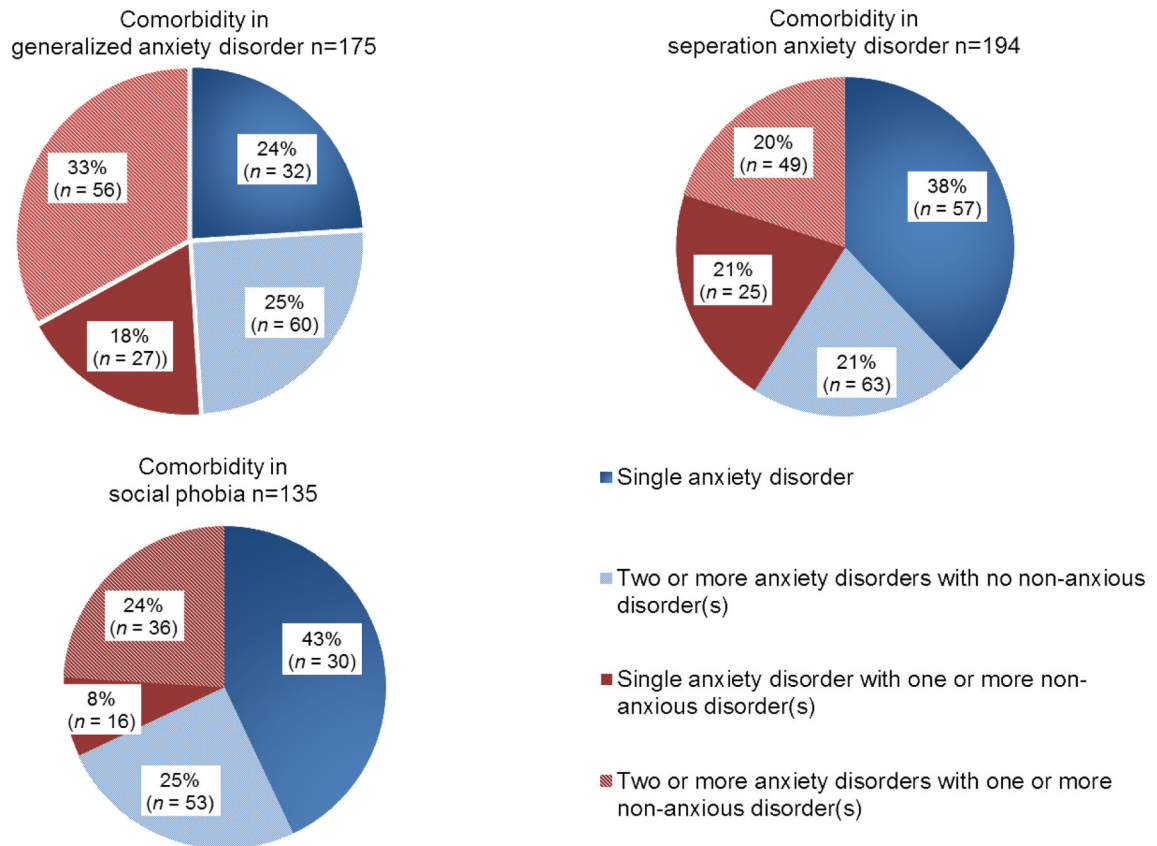


Figure 2. Comorbidity across all disorders in preschoolers with anxiety disorders. Note: Percentages add up to 100. ADHD = attention-deficit/hyperactivity disorder; DBD = disruptive behavior disorders (oppositional defiant disorder or conduct disorder); n = unweighted number in group; non-anxious disorders = depression (major depressive disorder, depression–not otherwise specified [NOS], or dysthymia); % = weighted percentage.

Table 1

Sociodemographic Distributions

	DPAS		Durham County ^a
	Unweighted n	Weighted %	Weighted %
	Overall N = 917		N = 267,587
<i>Age, years</i>			N/A
2	276	26.6	
3	241	26.1	
4	172	17.9	
5	228	29.4	
<i>Gender</i>			
Male	466	48.2	47.7
Female	451	51.8	52.3
<i>Ethnic origin/Race</i>			
Hispanic	104	12.8	13.5
Non-Hispanic black	383	32.2	38.0
Non-Hispanic white	347	46.9	46.4
American Indian or Alaska Native	2	0.4	0.5
Asian	24	2.3	4.6
Native Hawaiian or Other Pacific Islander	1	0.04	0.1
Two or more races	55	5.3	2.6
Other	0	0	7.9
<i>Family income^b</i>			
Below federal poverty level	169	11.9	17.1
<i>Primary caregiver education</i>			
< High school	121	8.4	13.1
High school graduate	150	14.3	18.7
Some college	275	23.1	17.4
College graduate	368	54.2	50.8
<i>Biological parents living with child</i>			N/A
0	50	3.6	
1	326	25.2	
2	541	71.2	
<i>Siblings, number</i>			N/A
3	79	7.2	
2	162	19.1	
1	395	45.3	
0	281	28.4	

Note: DPAS = Duke Preschool Anxiety Study.

^aInformation from the 2010 U.S. Census Report (www.factfinder2.census.gov).

^bFamily income missing variables = 72

Table 2
Prevalence of Anxiety Disorders and Association Between Sociodemographic Variables and Anxiety Disorders

	Generalized anxiety disorder	Separation anxiety disorder	Social phobia	Any anxiety disorder
Prevalence of disorder, weighted % (95% CI)	8.6 (6.0–11.2)	10.5 (7.7–13.4)	7.5 (4.8–10.2)	19.4 (15.3–23.6)
Unweighted, n	175	194	135	327
Association between sociodemographic variables and disorder: OR (95% CI)				
Age	1.1 (0.8–1.5)	0.8 (0.6–1.1)	1.3 (0.9–1.7)	0.9 (0.7–1.2)
Gender	1.4 (0.7–2.7)	0.5 (0.3–0.9)*	0.8 (0.4–1.8)	0.7 (0.4–1.2)
Ethnic origin/Race				
Non-Hispanic white vs. Hispanic	1.0 (0.3–3.2)	0.9 (0.3–2.5)	0.7 (0.2–2.5)	1.1 (0.4–2.6)
Non-Hispanic white vs. Non-Hispanic black	0.6 (0.3–1.2)	0.8 (0.4–1.6)	0.6 (0.3–1.2)	0.7 (0.3–1.2)
Family income	2.0 (0.8–5.1)	1.9 (0.8–4.3)	1.4 (0.5–3.8)	2.0 (0.8–4.7)
Primary caregiver education	1.3 (0.9–1.8)	1.0 (0.7–1.3)	1.3 (0.9–1.8)	1.2 (0.9–1.7)
Biological parents living with child	0.5 (0.3–0.8)**	0.7 (0.7–1.2)	1.5 (1.2–2.4)	0.7 (0.4–1.2)
Sibling, n	1.5 (1.1–2.2)*	0.8 (0.6–1.1)	1.5 (1.0–2.4)*	1.4 (1.0–1.9)*

Note: Any anxiety disorder = generalized anxiety disorder (GAD), separation anxiety disorder (SAD), or social phobia (SOC). OR = Odds ratio.

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.001$

Table 3

Comorbidity: Weighted Prevalence, Unadjusted, and Adjusted Associations Between Preschool Anxiety Disorders and Other Disorders

Disorder A	Disorder B	% Rate of A in			% Rate of B in			Unadjusted association		Controlling for other comorbidity	
		B	No B	A	A	No A	OR (95%CI)	OR (95%CI)	OR (95%CI)	OR (95%CI)	
GAD	SAD	32.9	5.7	40.5	7.7	8.1 ^{****}	(4.2–15.7)	4.1 ^{****}	(2.0–8.5)		
GAD	SOC	37.6	6.2	33.0	5.1	9.1 ^{****}	(4.2–19.9)	6.4 ^{****}	(3.1–13.4)		
GAD	DEP	58.5	7.7	11.9	0.8	17.0 ^{****}	(8.8–32.9)	3.7 [*]	(1.1–12.4)		
GAD	ADHD	42.9	7.0	21.4	2.7	9.9 ^{****}	(4.1–24.3)	2.8	(0.8–9.0)		
GAD	DBD	37.8	6.3	1.6	4.8	9.0 ^{****}	(4.0–20.1)	5.1 ^{**}	(1.6–15.8)		
SAD	GAD	40.5	7.7	32.9	5.7	8.1 ^{****}	(4.2–15.7)	3.9 ^{****}	(1.8–8.4)		
SAD	SOC	28.6	9.1	20.4	6.0	4.0 ^{****}	(2.1–7.8)	1.7	(0.8–3.8)		
SAD	DEP	54.5	9.7	9.0	0.9	11.1 ^{****}	(5.9–21.1)	2.2	(0.8–6.2)		
SAD	ADHD	49.7	8.8	20.2	2.4	10.3 ^{****}	(4.3–24.5)	4.4	(0.9–20.2)		
SAD	DBD	35.5	8.6	23.9	5.1	5.8 ^{****}	(2.6–13.1)	2.8	(0.9–8.7)		
SOC	GAD	33.0	5.1	37.6	6.2	9.1 ^{****}	(4.2–19.9)	6.1 ^{****}	(3.0–12.7)		
SOC	SAD	20.4	6.0	28.6	9.1	4.0 ^{****}	(2.1–7.8)	1.8	(0.9–3.6)		
SOC	DEP	29.7	7.1	6.9	1.3	5.5 ^{****}	(2.7–11.4)	1.1	(0.5–2.8)		
SOC	ADHD	33.1	6.4	18.8	3.1	7.3 ^{****}	(2.6–20.4)	3.1 [*]	(1.1–8.7)		
SOC	DBD	16.7	6.8	15.8	6.4	2.8 [*]	(1.4–5.5)	0.9	(0.4–2.0)		

Note: ADHD = attention-deficit/hyperactivity disorder; DBD = disruptive behavior disorder (oppositional defiant disorder or conduct disorder); DEP = depression; GAD = generalized anxiety disorder; OR = Odds ratio; SAD = separation anxiety disorder; SOC = social phobia.

* $p < 0.05$,

** $p < 0.01$,

**** $p < 0.001$