Caregiver Report of the Utilization of School-Based Services and Supports Among Clinically Anxious Youth

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Abstract

Despite the high prevalence of and documented impairment associated with pediatric anxiety disorders, less than half of youth access mental health services. This study examined (a) the utilization of eight school services and supports (e.g., seen a school counselor for a mental health reason, placement in a special class for a behavior or emotional difficulty) and (b) demographic (gender, age) child clinical (anxiety severity and impairment) and family (parent psychopathology, caregiver strain) predictors of service utilization. Participants included 208 anxious youth between ages 6 to 18 years ($M = 10.92$, $SD = 3.29$, 51% male, 64% White) who were enrolled in a school-based randomized controlled trial for anxiety treatment; only baseline data were used for this study. Parents, children, teachers and independent evaluators completed measures of the above predictors. Results indicated that less than half (48%) of youth received school services for anxiety. Several predictors of higher total service utilization were identified. Youth with comorbid externalizing behaviors were more likely to be referred for and receive school-based services. Consistent with published data in community samples, less than half of anxious youth received needed services. Results suggest a need for improvements in school assessments and service referral mechanisms for students with anxiety.

Keywords

anxiety, disorders/disabilities, mental health, child, internalizing, behavior(s)

The prevalence of anxiety disorders in youth ranges from 9% to 23% (Costello et al., 2005). These disorders are highly impairing, especially in the school setting (Mychailyszyn et al., 2010). Students with excessive anxiety are at a greater risk of absenteeism and school refusal (Kearney & Albano, 2004), lower academic performance (Hughes et al., 2008; Mazzone et al., 2007), and early dropout (Breslau et al., 2008; Duchesne et al., 2008; Van Ameringen et al., 2003). Furthermore, adolescents experience more anxiety and impairment compared with younger children, suggesting that academic impairment may increase with age (Green et al., 2017; Merikangas et al., 2010).

Despite high levels of impairment both within and outside of the school setting, the majority of anxious youth are not receiving mental health services (Green et al., 2013; Merikangas et al., 2011). Barriers to accessing treatment include stigma (Gulliver et al., 2010; Huang et al., 2005; Owens et al., 2002; Pella et al., 2018), concerns about confidentiality (Gulliver et al., 2010), and time, location, and costs of treatment (Barrett & Pahl, 2006). Schools are well-equipped to overcome many of the pragmatic barriers, as anxious youth can access services regardless of financial, economic, or legal status (Sulkowski et al., 2011). Indeed,

when youth do receive mental health services, they are more likely to receive them in school (Green et al., 2013).

Accessing mental health services in the school has become easier, thanks to changes in the delivery of evidence-based models of education in schools. Multi-Tiered Systems of Supports (MTSS) is a framework that integrates academic (Response to Intervention) and behavioral instruction (Positive Behavioral Interventions and Supports) and intervention at three specific levels (Gamm et al., 2012; Sugai & Horner, 2009). Tier 1 level of support is a universal intervention, which sets standards for students in all regular classroom settings; Tier 2 is targeted and supplemental, focused on students who require additional help and monitoring; Tier 3 is the most intensive and individualized, targeting specific areas and provides remediation, if necessary. Although the MTSS framework has been around for a

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decade, there are still large gaps with identification and treatment of youth with anxiety in schools (Gage et al., 2010; Sulkowski & Nguyen, 2009). Identifying and referring youth with mental health concerns, including anxiety, is the responsibility of teachers and other school staff (Schoenfeld & Janney, 2008); however, one third of students with severe mental health concerns slip under the radar (Scott et al., 2009). There are differences, however, in who is identified. Green et al. (2013), using the U.S. National Comorbidity Survey Adolescent Supplement (NCS-A), examined service use in schools and found that adolescents with behavior (e.g., attention deficit hyperactivity disorder [ADHD]), distress (e.g., depression), and substance use disorders were more likely to receive services than those with fear disorders (e.g., social phobia [SOP]). Because anxious youth without a comorbid externalizing disorder tend to be less disruptive in the classroom (Barrett & Pahl, 2006; Schoenfeld & Janney, 2008) and, therefore, less of a problem for teachers, they are referred less often for special education evaluations compared with youth with externalizing behavior problems (Lane et al., 2004; see review by Marsh, 2016).

When students are not identified, they are less likely to have accommodations in place and, therefore, may not get the help they need (Green et al., 2017). Teacher reliance on perception of academic and social impairment often leads to biases regarding who should be referred for a special education assessment (Gage et al., 2010). To combat this consistent problem in referrals and assessment, schools have now encouraged teachers and other staff to utilize school-wide screeners, which also aligns with the MTSS framework. When examining systematic screeners among students with emotional and behavioral disorders, Eklund and Dowdy (2014) found that utilizing a teacher screener identified 11% more at-risk students than teacher referral, alone. Following identification of an emotional or behavioral disturbance, the most common referrals are for special education, followed by an intervention implementation and finally a consultation with a specialist (e.g., school psychologist; Briesch et al., 2012). Children who do receive treatment for anxiety in school compared with outpatient community mental health centers tend to be female and non-White (Stephan et al., 2007; Weist et al., 1999).

Parents also play a key role in helping their children get connected to school services; notably, parents were a major influence in helping to shape the Education for All Handicapped Children Education Act of 1975 (now known as IDEA). When examining parental advocacy for their children with disabilities, Trainor (2010) found that parents who understood cultural capital (e.g., Individualized Education Plans [IEPs] and parental rights) and invested in social capital (e.g., developing relationships with key players in and outside of the school setting) were more effective than parents who did not at advocating for their children, regardless of disability.

Parental factors such as parental psychopathology and caregiver strain have also been found to be predictive of youth receiving services. Both poor self-rated maternal mental health (Pfefferle & Spitznagel, 2009) and overall caregiver mental health (Lindsey et al., 2012) were associated with children receiving mental health services within the past year. Finally, Burnett-Zeigler and Lyons (2010) found that youth of caregivers who self-identified as more strained received more days of treatment in school.

The types of services provided to and utilized by anxious youth specifically, have rarely, if ever, been examined in the literature (Bickman, 2000; Garland et al., 2010; Hoagwood & Kolko, 2009; Weisz et al., 2006). This is particularly the case regarding school-based services. One exception to the examination of supports, although not examined strictly with anxious youth, was a study by Kutash et al., (2011). This study compared the effectiveness of four school-based mental health programs for youth with emotional disturbances: an integrated program (i.e., working with community agencies to provide support and services), a milieu approach (i.e., district operates, curriculum is enhanced), pull-out 1 program (i.e., district operates and school provides counseling services), and pull-out 2 program (i.e., district operates, but contracts out to mental health agency staff who provides counseling services).

The authors concluded that no single program was superior, however, having a diversity of services was associated with better outcomes (Kutash et al., 2011). Although an important first step in understanding what types of service programs exist in schools, Kutash and colleagues (2011) did not focus solely on students with anxiety or specific services that students used. Furthermore, this study did not report on what factors predicted service utilization in youth. These questions are important as they help determine how and for what type of services students are being referred and can inform interventions aimed at increasing service referrals in anxious youth.

To extend this literature, the current study examined (a) the use of eight types of school mental health services and supports, as reported by parents, and (b) predictors of both total service use and individual types of services used by students with anxiety. Six of these items measure "formal" services offered in schools (e.g., referred for special education), whereas two items measure "informal" supports a child might utilize (e.g., talking to a teacher about feelings and behaviors). Although both are included in the measure, the word "service" will hereafter be used to represent both formal services and informal supports. Specifically, three domains of predictors were examined: demographic (age, gender, race, income), child clinical (anxiety severity and impairment, global functioning, comorbidity, classroom behavior), and family factors (parent psychopathology, caregiver strain). Based on the extant literature, we hypothesized that less than half of anxious youth would be

receiving school-based services and higher anxiety severity, comorbid externalizing symptoms and youth whose parents have higher levels of psychopathology would report using more school-based services.

Method

Participants

Two hundred and eight clinically anxious youth between the ages of 6 to 18 years ($M = 10.92$, $SD = 3.29$) who were enrolled in the School-based Treatment of Anxiety Research Study (STARS described below; Ginsburg et al., 2020) participated. Youth were from diverse racial backgrounds (64.4% White; 27.9% African American); 51% were male, and all met Diagnostic and Statistical Manual of Mental Disorders (4th ed.; *DSM-IV*; American Psychiatric Association, 1994) diagnostic criteria for a primary anxiety disorder. The majority of students in our sample had generalized anxiety disorder (GAD; 61.1%), SOP (22.6%), and separation anxiety disorder (SAD; 13%) based on the Anxiety Interview Schedule for DSM-IV for Children (ADIS; see Table 1; Silverman & Albano, 1996).

Instrumentation

Service utilization. The service utilization form is a modified version of the Child and Adolescent Services Assessment (CASA; Farmer et al., 1994), administered as an interview with parents by independent evaluators (IEs). The measure assesses the use of eight school-based services within the past 3 months (see Table 2 for items). Items were rated using a yes or no response and summed to generate a total score (range 0–8).

Child Clinical Measures

Children's Global Assessment Scale (CGAS). The CGAS, rated by IEs, is used to rate the global functioning of a child/adolescent (Shaffer et al., 1983). Scores range from 1 (*lowest level of functioning*) to 100 (*highest level of functioning*), with scores below 70 suggestive of more severe impairment. Modified from the adult GAF, the CGAS has shown to have good reliability and sensitivity to treatment change (Green et al., 1994; Mufson et al., 2004; Shaffer et al., 1983). In the current study, inter-rater reliability was .850.

Clinical Global Impressions Scale–Severity (CGI-S). The CGI-S is used to assess anxiety symptom severity, rated by an IE (Guy, 1976). Scores range from 1 (*normal/not ill*) to 7 (*extremely ill*). In the current study, inter-rater reliability was .900.

Child Anxiety Impact Scale (CAIS). The CAIS is a 27-item measure, completed by parents and children, which assesses

Table 1. Demographic and Clinical Characteristics

Variable name	M (SD)
Age	10.92 (3.29)
Gender	Frequency (%)
Female	102 (49.0)
Race	
White	134 (64.4)
African American	58 (27.9)
Asian	6 (2.9)
Other	10 (4.8)
Ethnicity	
Hispanic/Latino	24 (12.2)
Family income, more than US$80,000	90 (43.3)
Primary anxiety disorder	
Generalized anxiety	127 (61.1)
Social phobia	47 (22.6)
Separation	27 (13.0)
Anxiety disorder not otherwise specified	4 (1.9)
Specific phobia	3 (1.4)
Child clinical variables	M (SD)
CGAS	48.35 (5.85)
CGI-S	5.19 (0.77)
CAIS-C	25.81 (15.06)
CAIS-P	21.21 (15.38)
RCADS	52.81 (14.67)
SCARED-C	32.53 (15.46)
SCARED-P	27.31 (13.23)
CBCL-internalizing	16.10 (10.19)
CBCL-externalizing	7.58 (8.04)
TRF	34.33 (28.21)
Family variables	
BSI	0.46 (0.50)
CGSQ	36.56 (14.42)

Note. N = 208. CGAS = Children's Global Assessment Scale; CGI-S = Clinical Global Impressions Scale–Severity; CAIS = Child Anxiety Impact Scale; RCADS = Revised Child Anxiety and Depression Scale; SCARED = Screen for Anxiety-Related Emotional Disorders; TRF = Teacher Report Form; BSI = Brief Symptom Inventory; CGSQ = Caregiver Strain Questionnaire.

the degree to which anxiety interferes with a child's functioning in various domains (i.e., school, social, and home/family; Langley et al., 2004). Items are rated using a 4-point Likert-type scale ranging from *not at all* to *very much* and summed to create a total score. Higher scores reflect more interference in functioning due to anxiety. In the present sample, internal consistency was .897 for the child version and .910 for the parent version.

Revised Child Anxiety and Depression Scale (RCADS). The RCADS is a 47-item measure completed by youth that assesses anxious and depressive symptoms (Chorpita et al., 2000). Items are rated using a 4-point Likert-type scale

Table 2. School Services and Supports Utilized by Anxious Youth

Item	Number of students (% yes)
Seen school guidance counselor/psychologist/social worker for a mental health problem	100 (48.1)
Special accommodations in the classroom for behavioral/emotional difficulties	58 (27.9)
Referred for special education	48 (23.1)
Talked to a school teacher about feelings/behaviors	46 (22.1)
Placed in a special class for a learning difficulty	24 (11.5)
Talked to a school nurse about feelings/behaviors	22 (10.6)
Educational tutoring (outside of a special class)	19 (9.1)
Placed in a special class for behavior/emotional difficulties	16 (7.7)

Note. N = 208.

ranging from *never* to *always* and summed to create a total score. Higher scores reflect a higher occurrence of anxious and depressive symptoms. For the current study, only the 10-item depression subscale was used; internal consistency was .847.

Screen for Anxiety-Related Emotional Disorders (SCARED). The SCARED-C/P is a 41-item measure, completed by parents and children, which assesses a broad range of anxiety symptoms (Birmaher et al., 1997). Items are rated using a 3-point Likert-type scale describing how true the statements are (i.e., *not true/hardly ever true*, *somewhat true/sometimes true*, *very true/often true*) and summed to create a total score. Higher scores reflect higher levels of anxiety. In the current study, internal consistency for the child version was .925 and the parent version was .911.

Child Behavior Checklist (CBCL). The CBCL is a widely used 113-item measure completed by parents, which assesses their child's internalizing and externalizing behavioral problems (Achenbach & Rescorla, 2001). Items are rated on a 3-point Likert-type scale (1 = *not true*, 2 = *somewhat/ sometimes true*, 3 = *very true/often true*). Higher scores reflect higher problem areas. In the current study, only the internalizing and externalizing subscales were used which had internal consistencies of .884 and .914, respectively.

Teacher Report Form (TRF). The TRF is a 113-item measure that gauges teacher-reported beliefs regarding students' academic performance, adaptive functioning and externalizing and internalizing problems (Achenbach & Rescorla, 2001). Teachers rated each item on a 3-point scale from 0 (*not true*) to 2 (*very true or often true*), and items were summed to create a total score. Higher scores indicate higher impairment. In the current study, internal consistency for total score was .962.

Family Measures

Brief Symptom Inventory (BSI). The BSI is a 53-item measure completed by parents, which assesses parental

psychopathology (Derogatis & Melisaratos, 1983). Items are rated on a 5-point Likert-type scale describing the level of discomfort problems have caused them. Higher scores indicate higher distress. For the current study, the Global Severity Index Scale was used; internal consistency was .965.

Caregiver Strain Questionnaire (CGSQ). The CGSQ is a 21-item measure completed by parents, which assesses the behaviors and emotions parents deal with in caring for youth with anxiety (Brannan et al., 1997). Items assess objective strain (i.e., observable items like financial problems), externalized strain (i.e., outward negative feelings such as anger and resentment), and internalized strain (i.e., inward negative feelings such as worry, guilt, or fatigue). Items are rated on a 5-point Likert-type scale and summed to yield a total score. Higher scores reflect more caregiver strain. Internal consistency for the total score was .936.

Procedure

Recruitment of anxious youth occurred between Fall of 2012 through Spring of 2017 and was generally conducted by school personnel, with students being identified by school-based mental health clinicians. Study staff also attended school open houses, gave in-school presentations on anxiety to parents, teachers and clinical support staff and circulated study flyers and brochures. A total of nine school districts and 59 schools (elementary, middle and high school) in Connecticut and Maryland participated. These districts included both urban settings and suburban settings. Once consented, parents and children completed a baseline evaluation at their school, their home or at a research office. During the evaluation, parents and their children completed the measures (including those described above) to determine study eligibility for the randomized controlled trial. Students were included in the study if they were between the ages of 6 to 18 years and met *DSM-IV* criteria for a primary anxiety disorder (e.g., SOP, GAD). Students were excluded if they had a contraindicating medical or psychiatric condition (i.e., students were allowed to

have a comorbid internalizing or externalizing disorder, but anxiety had to be the primary concern), were currently receiving individual psychosocial treatment for anxiety and/or had previously completed at least 10 sessions of cognitive behavioral therapy within the last 2 years (i.e., to avoid contamination and ensure that comparison between the intervention and control group was not influenced by additional sessions of psychotherapy) and/or were in foster care or a ward of the state (i.e., due to the fact that this was a research study, parents needed to have custody to consent their child as valid participants). Students who were receiving outpatient mental health services prior to enrolling (3.2%) discontinued their treatment to participate in the study. Data on eligible youth were collected at three time points throughout study participation (i.e., baseline, post treatment and at a 1-year follow-up); for the current study, only baseline data were used.

IEs

All evaluations were conducted by IEs; individuals who held a master's or PhD or had relevant child mental health experience with the population targeted in this intervention. Training to become an IE included 15 hours of didactic review and practice of all assessment measures and study procedures, review and matching on a minimum of four ADIS-C videotaped administrations by a senior interviewer and administration of the ADIS-C in the presence of a senior interviewer. All evaluations (baseline, post and follow-up) were videotaped. In all, 10% of tapes were evaluated by a second coder for quality assurance and inter-rater reliability over the course of the study. Inter-rater agreement for the primary diagnosis was 85% (Kappa = .82).

Data Analysis

Descriptive analyses were initially conducted by calculating means and standard deviations for dimensional data and frequencies (percentages) for categorical data (see Table 1). Regression-based analyses were used to examine the relative strength of associations between outcomes (total service use score and eight binary individual service use indicators) and significant predictors from simple regression models at 5% significance level in two steps. First, each of the 16 predictors was considered in separate single-predictor regression models for each service use item and total service use score. Second, all significant predictors in Step 1 were entered into multiple-predictor regression models for the corresponding service use item or total service use score. Both linear and logistic regression models were used for the continuous total service use score outcome and the eight binary outcomes, respectively. Subject-level missing data existed across child clinical and family variables, ranging from 6.3% to 26.9%.

To address the issue of missing data, multiple imputation was used to generate 20 imputed data sets, as best practice dictates the number of imputations should be similar to or greater than the percentage of missing data (White et al., 2011). Data were imputed using a Markov chain Monte Carlo algorithm, which fills in missing data through the use of linear regression. Results reflect the pooled data based from 20 imputations. Data analysis was conducted using SPSS Version 23.

Results

Rate of Service Utilization

Parent-reported percentages of students utilizing each school-based service in the last 3 months ranged from 7.7% (placed in a special class for behavior/emotional difficulties) to 48.1% (seen a school guidance counselor/psychologist/social worker for a mental health problem) and appear in Table 2. When examining the total number of services utilized, around one third of the youth in our sample (31.3%) did not receive any school-based services. Parents reported youth using an average of 1.60 (1.59) services.

Baseline Predictors of Total Service Use

With regard to demographic variables, males used a higher number of school services compared with their female counterparts. Several child clinical and family variables predicted a higher total number of services used. For reference, a lower CGAS indicates poorer functioning, whereas higher scores on all other variables (i.e., CGI-S, CAIS-P, RCADS, CBCL, BSI and CGSQ) indicates poorer functioning. Child clinical variables included lower CGAS, higher CGI-S, higher CAIS-P, higher RCADS and higher CBCL—internalizing and externalizing. Family variables such as a higher BSI and higher CGSQ predicted using more school services (Table 3). In the final regression model for total service utilization, which included all of the individually significant predictors above, only male gender and a higher CBCL-externalizing score emerged as significant predictors after adjusting for the other seven previously significant predictors (Table 4).

Baseline Predictors of Individual Service Use

To examine whether there were predictors of individual service use (rather than total service use), logistic regressions were conducted. Higher scores on the CGI-S, CBCL-externalizing scale, TRF total scale and BSI individually predicted being more likely to see a school counselor. Age (younger), higher scores on the CAIS-P, CBCL-externalizing scale and CGSQ individually predicted receiving special accommodations in the classroom. Male gender, lower

Table 3. Individual and Total Predictors of School Service and Support Use

					Dependent variable				
Predictor variables	Total score	Seen a school counselor	Received special accommodations	Referred for special education	Talked to a school teacher	Placed in a class for learning difficulties	Talking to a school nurse	Had educational tutoring	Placed in a class for behavior/emotional difficulties
	β (CI)				OR (CI)				
Demographic									
Gender	0.45 (0.02, 0.88)*	1.37 (0.79, 2.4)	1.54 (0.83, 2.83)	2.32 (1.18, 4.57)*	1.06 (0.55, 2.05)	1.40 (0.59, 3.31)	1.44 (0.59, 3.54)	1.08 (0.42, 2.77)	2.25 (0.75, 6.71)
Income	−0.04 (−0.48, 0.40)	0.91 (0.52, 1.57)	1.33 (0.72, 2.44)	0.65 (0.34, 1.28)	1.27 (0.66, 2.45)	0.76 (0.32, 1.83)	1.10 (0.45, 2.68)	0.75 (0.28, 1.98)	1.02 (0.37, 2.86)
Race	0.262 (−0.20, 0.71)	1.60 (0.90, 2.85)	1.48 (0.77, 2.84)	1.29 (0.65, 2.56)	1.76 (0.85, 3.65)	0.75 (0.31, 1.78)	1.54 (0.57, 4.11)	0.74 (0.28, 1.92)	0.52 (0.19, 1.46)
Age	0.20 (−0.63, 0.24)	0.69 (0.40, 1.18)	0.53 (0.28, 0.97)*	1.07 (0.56, 2.04)	1.21 (0.62, 2.33)	0.73 (0.31, 1.71)	2.05 (0.80, 5.27)	0.78 (0.31, 2.02)	0.67 (0.24, 1.88)
Child Clinical									
CGAS	−0.04 (−0.08, −0.00)*	0.98 (0.93, 1.03)	0.98 (0.93, 1.03)	0.94 (0.89, 1.00)*	0.99 (0.94, 1.05)	0.97 (0.90, 1.05)	0.96 (0.89, 1.04)	0.92 (0.84, 1.00)	0.94 (0.85, 1.03)
CGI-S	0.37 (0.09, 0.65)*	1.62 (1.12, 2.34)*	1.34 (0.90, 2.01)	1.32 (0.86, 2.03)	1.18 (0.77, 1.81)	1.13 (0.65, 1.97)	1.85 (1.01, 3.40)*	1.28 (0.69, 2.37)	1.42 (0.72, 2.80)
CAIS-C	0.00 (−0.01, 0.02)	0.99 (0.97, 1.01)	0.99 (0.97, 1.01)	1.00 (0.97, 1.02)	1.01 (0.99, 1.04)	1.01 (0.98, 1.04)	1.02 (0.99, 1.05)	1.01 (0.98, 1.05)	1.03 (1.00, 1.07)
CAIS-P	0.02 (0.00, 0.03)*	1.00 (0.98, 1.02)	1.02 (1.00, 1.04)*	1.03 (1.01, 1.05)*	1.00 (0.98, 1.02)	1.02 (0.99, 1.04)	0.99 (0.96, 1.02)	1.04 (1.01, 1.06)*	1.03 (1.00, 1.06)
RCADS	0.02 (0.00, 0.03)*	1.01 (0.99, 1.03)	1.01 (0.99, 1.03)	1.01 (0.99, 1.04)	1.02 (0.99, 1.04)	1.00 (0.97, 1.04)	1.03 (1.00, 1.06)	1.02 (1.00, 1.05)	1.03 (1.00, 1.07)
SCARED-C	0.00 (−0.01, 0.02)	1.01 (0.99, 1.03)	1.00 (0.98, 1.02)	1.00 (0.97, 1.01)	1.01 (0.98, 1.03)	0.98 (0.95, 1.01)	1.01 (0.97, 1.04)	1.01 (0.97, 1.04)	1.00 (0.97, 1.04)
SCARED-P	0.02 (−0.00, 0.03)	1.01 (0.99, 1.03)	1.00 (0.98, 1.03)	1.02 (1.00, 1.05)	1.00 (0.97, 1.02)	1.01 (0.98, 1.05)	1.03 (0.99, 1.06)	1.03 (0.99, 1.07)	1.04 (1.00, 1.08)
CBCL-internalizing	0.03 (0.01, 0.05)*	1.02 (0.99, 1.05)	1.02 (0.98, 1.05)	1.03 (1.00, 1.06)	1.02 (0.99, 1.05)	1.01 (0.97, 1.05)	1.04 (0.99, 1.08)	1.05 (1.00, 1.09)*	1.04 (1.00, 1.09)
CBCL-externalizing	0.05 (0.03, 0.08)**	1.05 (1.01, 1.10)*	1.06 (1.02, 1.10)*	1.05 (1.01, 1.09)*	0.98 (0.93, 1.02)	1.06 (1.02, 1.11)*	1.02 (0.97, 1.08)	1.04 (0.99, 1.10)	1.09 (1.03, 1.14)**
TRF	0.01 (−0.00, 0.02)	1.01 (1.00, 1.03)*	1.01 (1.00, 1.02)	1.01 (1.00, 1.02)	1.00 (0.99, 1.02)	1.00 (0.99, 1.02)	1.00 (0.98, 1.02)	1.00 (0.99, 1.02)	1.01 (0.99, 1.03)
Family									
BSI	0.49 (0.05, 0.92)*	1.82 (1.02, 3.26)*	1.38 (0.76, 2.49)	1.71 (0.93, 3.14)	0.57 (0.27, 1.19)	2.14 (1.01, 4.53)*	1.32 (0.57, 3.09)	1.26 (0.52, 3.04)	4.00 (1.70, 9.41)*
CGSQ	0.02 (0.00, 0.04)*	1.01 (0.99, 1.03)	1.02 (1.00, 1.04)*	1.02 (1.00, 1.04)	0.99 (0.96, 1.01)	1.03 (1.00, 1.05)	1.02 (1.00, 1.05)	1.03 (1.00, 1.06)	1.03 (1.00, 1.06)*

Note. CGAS = Children's Global Assessment Scale; CGI-S = Clinical Global Impressions Scale–Severity; CAIS = Child Anxiety Impact Scale; RCADS = Revised Child Anxiety and Depression Scale; SCARED = Screen for Anxiety-Related Emotional Disorders; TRF = Teacher Report Form; BSI = Brief Symptom Inventory; CGSQ = Caregiver Strain Questionnaire.
*$p < .05$. **$p < .01$.

Table 4. Most Significant Predictor Variables—Total Score and Individual Items

						Dependent variable			
	Total score	Seen a school counselor	Received special accommodations	Referred for special education	Talked to a school teacher	Placed in a class for learning difficulties	Talking to a school nurse	Had educational tutoring	Placed in a class for behavior/emotional difficulties
Predictor variables	β (CI)	OR (CI)							
Demographic									
Gender	0.43 (0.01, 0.86)*			2.48 (1.23, 5.02)*					
Income									
Race									
Age			0.59 (0.31, 1.11)						
Child clinical									
CGAS	0.02 (−0.04, 0.08)			0.97 (0.91, 1.04)					
CGI-S	0.32 (−0.11, 0.74)	1.46 (0.99, 2.15)							
CAIS-C									
CAIS-P	0.01 (−0.01, 0.03)		1.01 (0.99, 1.04)	1.02 (1.00, 1.05)				1.03 (0.99, 1.07)	
RCADS	0.01 (−0.00, 0.03)								
SCARED-C									
SCARED-P									
CBCL-internalizing	0.00 (−0.03, 0.03)								
CBCL-externalizing	0.04 (0.01, 0.08)*	1.03 (0.98, 1.07)	1.05 (1.00, 1.10)*	1.02 (0.98, 1.07)		1.05 (1.00, 1.11)*		1.02 (0.96, 1.08)	1.07 (1.00, 1.15)*
TRF		1.01 (1.00, 1.02)							
Family									
BSI	0.19 (−0.31, 0.69)	1.52 (0.79, 2.90)				1.46 (0.61, 3.49)			3.00 (1.06, 8.48)*
CGSQ	−0.01 (−0.03, 0.02)		1.00 (0.97, 1.03)						0.98 (0.94, 1.03)

Note. CGAS = Children's Global Assessment Scale; CGI-S = Clinical Global Impressions Scale–Severity; CAIS = Child Anxiety Impact Scale; RCADS = Revised Child Anxiety and Depression Scale; SCARED = Screen for Anxiety-Related Emotional Disorders; TRF = Teacher Report Form; BSI = Brief Symptom Inventory; CGSQ = Caregiver Strain Questionnaire.
*p < .05. **p < .01.

7

scores on the CGAS, higher CAIS-P and higher CBCL-externalizing scale individually predicted referral for special education. Higher CBCL-externalizing scores and higher BSI individually predicted being placed in a class for learning difficulties. A higher CGI-S score predicted talking to a school nurse. Higher CAIS-P and higher CBCL-internalizing scores individually predicted educational tutoring. Higher CBCL-externalizing scores, a higher BSI, and higher CGSQ score predicted being placed in a class for behavioral or emotional difficulties. None of the 16 examined potential predictors significantly predicted "talking to a school teacher" (Table 3).

For the six services with more than one significant predictor from the single-predictor regression models, multiple-predictor regression models were fitted by including all individually significant predictors. Across all service use items, three variables were statistically significant predictors of individual services (male gender, CBCL-externalizing and BSI). The most robust predictor of individual service use items was a higher CBCL-externalizing score (Table 4).

Discussion

The purpose of this study was to examine (a) the use of eight types of school mental health services and supports, as reported by parents, and (b) predictors of using these school mental health services and supports among youth with anxiety disorders. Predictors were examined for total service use and for individual services (e.g., special education). According to parental perception and knowledge, within the last 3 months, between 8% and 48% of students with an anxiety disorder received some school-based service. Several variables were related to higher service use, with the most robust predictors being male and having higher externalizing symptoms.

Consistent with our hypotheses, fewer than half of anxious youth were receiving school-based mental health services. One reason for this could be that teachers, as the main source of referral to school-based mental health services (Schoenfeld & Janney, 2008), are unaware of anxious youth who need services. Teacher training is lacking when it comes to identifying and managing social and emotional problems within the classroom setting (Sindelar et al., 2010), and only around one quarter of parents in our sample reported that their child sought out help or comfort from their teachers regarding their anxious feelings and behaviors. Because some anxious youth do not cause disruptions in the classroom, they can be overlooked, which could explain the low endorsement of receiving school services in this sample (Lane et al., 2004; see review by Marsh, 2016). The absence of a relation between teacher reports of classroom behavior and service use is relevant. Given that all youth in this sample had clinical levels of anxiety and the documented negative impact anxiety has on school performance and classroom behavior (Hughes et al., 2008; Mazzone et al., 2007), this finding reveals a knowledge gap and a missed opportunity that teachers were not more involved with assisting these youth. It may also be that anxious youth are afraid to discuss their concerns with their teachers for fear of negative evaluation or perfectionism, a key concern of anxious youth.

Another interpretation of less than half of youth using school-based services could be due to parents not advocating for their child to have a formal assessment done or due to their lack of trust regarding the school's ability to help their child. Given that parents who struggled with their own psychopathology and parents who had higher levels of strain were more likely to have students connected to school services (Burnett-Zeigler & Lyons, 2010; Lindsey et al., 2012), it could be that parents who did not experience these symptoms were less likely to support their child in this process. It could also be that parents who have had a poor therapeutic alliance with their child's previous therapist or school counselor could be hesitant to encourage their child to attend sessions or give permission for a formal assessment to be conducted (Kerkorian et al., 2006), due to their distrust of mental health providers.

A pattern with respect to the type of services used was also evident in our findings. Many of the individual services parents reported their children used were "formal" in nature (e.g., seeing a school counselor and receiving special accommodations) as opposed to "informal" supports (e.g., talking to a teacher or nurse and educational tutoring). A rationale for this might be that children are hesitant to seek services or ask for help unless clear mechanisms for help are put in place by a teacher or a school counselor. Because students with anxiety may not feel comfortable advocating for themselves (Colognori et al., 2012), it is imperative that teachers and parents intervene when they become aware of an anxious child. Finally, because support utilization was only obtained by the parent, it could be that parents were unaware of more "informal" mechanisms of support, given that these occur naturally, without their written consent.

The second aim of this study was to examine predictors of service use. Variables in each domain predicted receiving school-based services. Demographic variables (i.e., being male), child clinical characteristics (i.e., more severe anxiety and impairment in daily functioning due to anxiety, higher depressive symptoms and higher internalizing and externalizing symptoms), family characteristics (i.e., parents who struggle with their own mental health symptoms [e.g., feeling fearful, feeling tense, or keyed up]) and reported higher caregiver strain (e.g., worried about child's future, disruption of family relationships) all were related to students accessing school-based resources. However, an examination of the relative importance of all predictors examined in this study indicated that two factors—being male and having comorbid externalizing problems—were

the most robust predictors of school-based mental health service use after accounting for anxiety severity and associated impairment due to anxiety.

The finding that males in our sample receive school-based services at a higher rate than females is interesting and does not reflect patterns in traditional outpatient settings (Mason-Jones et al., 2012; Merikangas et al., 2011). However, when examining special education services specifically, Hibel et al., (2010) found that, after controlling for academic achievement and behavior, boys are more likely to be referred than girls. One interpretation of this finding could be that due to the push for universal screenings in schools as well as school staff playing a larger role in identification of at-risk students (Dowdy et al., 2015), boys who were once under identified as having an emotional and/or behavioral disorder are more likely to be noticed and get connected to school-based services.

The second predictor, that students with comorbid externalizing disorders were more likely to receive school-based services, is supported in the literature (Green et al., 2013; Marsh, 2016). This could be due to the fact that youth with externalizing behaviors tend to be more disruptive to the class environment and to their peers and be referred for services at a higher rate, compared with children with internalizing disorders (Barrett & Pahl, 2006; Schoenfeld & Janney, 2008). This finding indicates a discrepancy in who gets referred for services in school settings. As such, youth who suffer from primarily internalizing symptoms (anxiety) are struggling just as much in the classroom (Green et al., 2017), but are not on the receiving end of school-based services.

Limitations

Although this study is novel in its approach, there are a few limitations to note. First, service utilization was only collected from the parent. It is possible that parents were limited in their knowledge of certain types of services (e.g., talking to a school nurse or a teacher). Future studies should collect this information from the child and/or school records. The number of services assessed were limited; thus, it will be important to collect additional services offered in the school, such as groups (e.g., social skills groups) that students may use. Service utilization was reported as yes/no; in the future, it will be important to determine the frequency and duration of service use. This study did not assess if students had a 504 plan/IEP in place at the time of the study and if students were classified as having an emotional disturbance. Examining this mechanism within the school system can inform which students, based on diagnosis, are identified and referred for school-based services. Finally, systemic factors such as the school's ability to provide services, the degree to which services were offered consistently and the level of fidelity and the quality of internal assessment and referral systems were not evaluated. Determining how students get connected to services is partially related to how well the school can provide these services and how likely youth are to use services.

Conclusion

Despite documented impairments in academic functioning, less than half of anxious youth in our sample were receiving school-based mental health services. In examining both total number of services and individual services used, it was found that males and youth with higher levels of externalizing symptoms were more likely to be referred to and use school-based mental health services. One consequence of this is that anxious youth without externalizing symptoms may be overlooked and suffering in silence. The current study fills a gap in the extant literature, as it is the first of its kind to examine which students are more likely to be referred for school services in hopes of quantifying the under-identification of anxious youth. Interventions are needed to help teachers better identify and refer anxious youth for services as well as help engage parents to become advocates for their anxious children. Because teachers and parents interact with anxious youth on a daily basis, teaching them to recognize and advocate for anxious youth will help get students connected to services more efficiently and rapidly.

Implications for School Health

Because anxious youth are under identified for services (Sulkowski & Nguyen, 2009) compared with youth with disruptive behaviors (Barrett & Pahl, 2006; Schoenfeld & Janney, 2008), schools may benefit from adopting teacher training to assist with identifying anxiety in students and/or a school-wide screening for all students, which would allow for better recognition of students with excessive anxiety. A school-wide screening falls in line with the MTSS Tier 1, universal intervention, in that it is a collective approach in helping anxious youth get connected to services.

In planning for school-wide screens for emotional and behavioral disorders in general and anxiety specifically, it is necessary to use reliable and valid measures. Emotional and behavioral screener such as the Student Risk Screening Scale—Internalizing and Externalizing (SRSS; Lane et al., 2013) is a free, universal measure that helps identify students who are at risk of behavioral problems. Screeners like the SRSS are found to be more effective at identifying at-risk youth and connecting them to services compared with teacher referral, alone (Eklund & Dowdy, 2014). For anxiety-specific screeners, the SCARED (Birmaher et al., 1997) is also a viable option. As noted previously, the SCARED is a self-report measure that distinguishes between clinically anxious and nonanxious youth. Furthermore, the SCARED also has a parent version, allowing for a multiple-informant

approach. Because higher parental psychopathology predicted youth getting connected to services in this sample, getting this information from parents and caregivers will be important.

Although there are less economic and logistic barriers to receiving services in schools, barriers to identification and treatment still exist (Pella et al., 2018). Preventive and ongoing screening can alleviate some of these barriers, but understanding and establishing a "next step" after screening will be important. Schools need to determine what specific barriers are preventing them from connecting anxious students to services and put mechanisms in place to streamline the process (e.g., starting from screening all the way to placement in a specific service). If the school does not have enough staff to support the identification and assessment of students with emotional and behavioral disorders, establishing relationships with local child and adolescent mental health centers in the area is advisable.

Authors' Note

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