Childhood Anxiety in a Diverse Primary Care Population: Parent-Child Reports, Ethnicity and SCARED Factor Structure

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ABSTRACT

Objective: To explore in a multiethnic primary care population the impact of child gender and of race/ethnicity on parent and child reports of school-age anxiety and on the factor structure of the Screen for Childhood Anxiety and Related Emotional Disorders (SCARED). Method: A consecutive sample of 515 children (8 to <13 years) and their parent presenting for primary care completed self-report (C) and parent-report (P) versions of the SCARED-41. Results: Neither SCARED scores nor parent-child difference varied significantly with race/ethnicity. Predictors of higher SCARED scores were less parental education, younger child age and female gender. Exploratory factor analysis conducted separately for SCARED-C and SCARED-P yielded four factors. There was large variation in factor structure between SCARED-C and SCARED-P and across ethnic and gender subgroups, greatest for somatic/panic/generalized anxiety and Hispanic children. Conclusions: Primary care triage of anxious children requires data from both the parent and child and must go beyond cross-sectional symptom inventories. Clinicians must elicit from each family their perhaps culturally bound interpretation of the child’s somatic and psychological symptoms.

In this report, we explore in a multiethnic northern California primary care population the impact of child gender and race/ethnicity on parent and child reports of school-age anxiety and on the factor structure of the Screen for Childhood Anxiety and Related Emotional Disorders (SCARED; Birmaher et al., 1999; Birmaher et al., 1997; Monga et al., 2000). The overall goal of our work is to contribute to the data necessary to develop reliable, feasible, and generalizable primary care screening procedures for childhood anxiety disorder, including making the most efficient use of both parent and child reports.

This is our second report of the use of the SCARED in a primary care population. In our previous report (Wren et al., 2004), we noted as an important research priority the development of practical, validated procedures to enhance assessment and specific recognition of pediatric mood and anxiety syndromes in primary care.
settings. The need for this work arises from the evidence that children and adolescents with mood and anxiety disorders in primary care settings are underrecognized, not commonly treated onsite, and less likely than youths with behavioral disorders to be referred to specialized mental health settings (Costello and Janiszewski, 1990; Rushton et al., 2000; Wren et al., 2003, 2005). We noted that one challenge is determining how such procedures should make best use of the reports of children and parents, this given the well-established finding that child and parent agreement for childhood emotional syndromes is low and that children typically report more symptoms than their parents (Kraemer et al., 2003). It is the concerns of parents that typically alert the primary care clinician to psychosocial issues (Dulcan et al., 1990), but parents are often either unaware of their child’s internalizing symptoms or do not see a need for services (Wu et al., 1999). The reader is referred to our previous report for a more detailed background discussion (Wren et al., 2004).

Our first report addressed the question of which information would be lost if self-reports of school-age children were excluded from screening for anxiety disorder. We identified discrete anxiety areas in which child reports were particularly likely to yield more information than parent reports and found that this phenomenon was better understood when variation with demographic factors was considered. Specifically, we found that the bulk of excess symptom reporting by children was of somatic/panic and separation anxiety and came from girls and younger children. We also found that there was no significant variation with demographic factors in the level of symptoms reported by parents: the phenomenon of variation in symptom subgroups was almost entirely attributable to variations in the level of symptoms reported by children.

The generalizability of this previous work was limited by the fact that it was conducted in a largely middle class and almost universally white population. Although anxiety disorders exist in all countries and cultures that have been studied, symptomatic expression, interpretation, and social response vary widely (Ballenger et al., 2001). When these variations are not documented and addressed, there is the risk that screening in the increasingly multiethnic populations of the modern world may under- or overidentify disorder, dysfunction, and distress within specific groups (Kirmayer, 2001; Safren et al., 2000). Screening children brings the further complication of multiple reporters: with low agreement between parent and child, in particular for internalizing disorders, and no consensus as to how to resolve multi-informant discrepancies (Kraemer et al., 2003). There is also limited information about how patterns of parent-child reporting and agreement vary with culture (Achenbach et al., 1990), although it is a common finding that the level of internalizing symptoms reported by and for girls is higher than that for boys (Crijnen et al., 1997, 1999). However, there is evidence of more subtle variation across culture that may influence how parents organize their perceptions of anxiety, fear, and worry in their children (Gaines et al., 1997; Scott et al., 2002; Varela, 2002). For example, there are reports of higher levels of somatic symptoms in Hispanic populations (Canino et al., 1992), although findings vary (Piccinelli and Simon, 1997). Parental perceptions may also be shaped by discrete culture-bound concepts. The Hispanic phenomenon of ataque de nervios is a collection of symptoms similar to those of panic disorder but somewhat more inclusive, such that some components could be indicative of generalized anxiety disorder, major depression, or unexplained neurological symptoms (Baer et al., 2003; Guarnaccia et al., 2003; Liebowitz et al., 1994; Oquendo, 1995). It is conceivable that such cultural variations may be reflected by variations in the factor structure of the SCARED.

The original work with the SCARED in outpatient psychiatric samples (Birmaher et al., 1997, 1999; Monga et al., 2000) yielded a five-factor structure (separation, social, generalized, somatic/panic, and school anxiety). This structure has been largely replicated in subsequent studies in community samples in The Netherlands and South Africa conducted by Muris and colleagues (Hale et al., 2005; Muris et al., 2002b). In the most recent study from this group, Hale et al. reported no significant variation with gender, age, or ethnicity (Dutch native versus ethnic minorities not of Dutch descent). However, one recent report in an African American high school population found a different (three-factor) structure from that reported for younger, predominantly white children (Boyd et al., 2003). With the exception of our own recent study (Wren et al., 2004) and this current primary care study,
no community studies using the SCARED have included parent reports.

With these considerations in mind, we present the findings of a study that used the SCARED to screen for anxiety in a northern California primary care population that has rich ethnic and socioeconomic diversity. We had two aims in conducting this work: (1) to determine whether analysis in this sample would replicate the patterns of differences and similarities in parent and child reporting identified in our previous work, including variations in parent-child differences with gender and age and to determine whether race/ethnicity would emerge as an additional independent predictor of variations in parent and child reporting; and (2) to determine whether the five-factor structure identified in the early work on the SCARED was reproducible in this multiethnic sample and whether the factor structure was consistent across race/ethnicity and gender subgroups.

METHOD

Setting and Participants

The study was a collaboration between Stanford University Department of Psychiatry and Kaiser Permanente Northern California, a group model health maintenance organization, and the largest health care provider in northern California and was approved by the institutional review boards at each organization. Recruitment occurred between May 2002 and August 2003 in waiting rooms of the pediatric primary care clinics of Kaiser Santa Teresa Hospital, which serves the ethnically and demographically mixed greater San Jose area, drawing from urban, suburban, and rural populations. The study group was a consecutive sample of 515 children ages 8 years to 12 years, 11 months who presented for a primary care visit during discrete recruitment periods and consented to screening for potential recruitment for a longitudinal study of childhood anxiety disorder in primary care.

Screening and Recruitment

Research assistants (RAs) were in waiting rooms for 4 to 10 hours per week. When children in the age range registered, the RA invited the child and parent(s) (used to include legal guardians) to enter screening, confirmed eligibility, checked with parents for exclusion criteria, and obtained informed consent. The child and parent completed the 41-item SCARED (Birmaher et al., 1999), and the parent completed a demographic form, which included child race/ethnicity. Of 1,172 children in the age range, 222 (18.9%) were called to see the doctor before determination of eligibility, consent, and screening could be completed, a usual clinic procedure, not a reflection of acuity. Of 950 children whose stay was long enough to complete the process 196 (20.6%) were ineligible according to predetermined criteria: inability of child or parent to speak or read English (13.5%); not accompanied by a custodial parent or guardian (2.5%); acute injury or fever >101°F (2.5%); pervasive developmental disorder, autism, or more than mild mental retardation (1.24%); participation in another study (1.24%); psychotic or acutely suicidal (0%). Of the remaining 754 eligible children, 532 (71%) consented to screening, of whom 515 supplied complete demographic data.

Measures

SCARED. The SCARED (Birmaher et al., 1999) forms part of the recent “second wave” of anxiety rating scales specifically developed to be suitable for children and youths rather than as downward extensions of adult scales (Myers and Winters, 2002). It is a symptom inventory using a 3-point scale designed to screen for DSM-IV anxiety disorder with child self-report (C) and parent-report (P) versions each consisting of 41 items that are identical, varying only in the substitution of you/your child. In studies of outpatient psychiatric samples (Birmaher et al., 1997, 1999; Monga et al., 2000), it showed good convergent and divergent validity compared with formal psychiatric diagnoses and/or structured psychiatric interview and with older and more widely studied screening scales. It yielded an optimal cutoff point (25) on the child SCARED with a sensitivity of 71% and a specificity of 67%, 61%, and 71% when discriminating between anxiety and nonanxiety, anxiety and depression, and anxiety and disruptive disorders, respectively. Finally, it yielded, via principal component factor analysis, five factors (somatic/panic, generalized anxiety, separation anxiety, social phobia, school phobia) with good internal consistency, test-retest reliability, and discriminative validity. Pearson intraclass correlation coefficients for parent and child scores were low to moderate (total SCARED: R = 0.33; specific factors ranged from R = 0.20 for social anxiety to R = 0.47 for separation and school anxiety (p < .001 for all)). Intraclass correlation coefficient ratios were higher in the one community (primary care) sample that gathered both parent- and child-report data (Wren et al., 2004): R = 0.55 total score; 0.40 to 0.58 subfactors (p < .001 for all). There are no published data on cutoff points for the SCARED-41 for community populations. Other published reports from community samples come from two sources, neither of which gathered parent-report SCARED data: (1) Muris et al. (2002a, b) used a modified 66-item version in samples of Dutch schoolchildren, which compared well with older self-report instruments and with structured interviews, had acceptable reliability, and the original 38 items of which had a similar five-factor structure to that reported by Birmaher et al. (1997, 1999) in outpatient psychiatric samples. A more recent study from the same group (Hale et al., 2005) reported that the five-factor structure fitted well for both genders, for preadolescent and adolescent children, and for both Dutch native and a mixed group of ethnic minorities not of Dutch descent; and (2) Boyd et al. (2003) evaluated the SCARED-C-41 in African American adolescents attending an urban parochial school, finding promising correlation with measures of anxiety and perceived self-worth, but a different factor structure from that reported for younger, predominantly white children.

Demographics. The demographic form was completed by parents and included the date of birth of the child, gender and race, and parental education on the 7-point Hollingshead scale. The education level of the reporting parent was used for analyses.

Data Management and Data Analyses

Data were first hand-entered by one coder who compared manually and computer-generated scores, checking for errors when inconsistencies arose. Data were then checked and cleaned by a team of two coders. For each subject, any instrument missing more than 10% of
items was coded as incomplete and excluded from analyses. When 0% to 10% of items were missing, a prorated score was generated. This method yielded a sample of 515 cases with valid demographic plus child and/or parent SCARED data. For the exploratory factor analysis, only cases in which both the child and parent had valid measures (both answered at least 37 of the 41 items) were included, reducing the sample for factor analyses to 484 matched cases.

Hypothesis Testing. Because symptom score data were not normally distributed, hypothesis testing was conducted using nonparametric methods. Parent-child differences in mean symptom scores for the total SCARED were evaluated using the Wilcoxon signed-rank test. Pearson intraclass correlation coefficients were calculated to assess agreement between scales. A multiple regression model was used to explore the predictive value of demographic and clinical variables, including race/ethnicity, as to the level of symptoms reported by parents and by children and the level of excess symptoms reported by children within parent-child dyads. The model included the following simple effects: child age, child gender, and education level of the responding parent. Ethnicity and parental education were dummy-coded, with the white/non-Hispanic race/ethnicity and parental graduation from a 4-year college or postgraduate degree as the reference groups.

Exploratory Factor Analyses (EFAs). Principal components factor analyses with Varimax rotation were conducted separately upon child and parent responses to the SCARED. Factor structure was determined based upon examination of the screen plot, eigenvalues ≥1, and item loadings ≥0.40.

RESULTS

Sample

The sample consisted of 515 children (50.9% girls) ages 8 years to 12 years, 11 months (mean 10.5, SD 1.4). Most were accompanied by their mother (393, 77.8%); 94 (18.6%) by their father and 18 (3.6%) by another legal guardian. Family demographics reflected well the diverse Kaiser Permanente Northern California population. Parents described the majority of children as either white/non-Hispanic (189, 36.7%) or Hispanic (171, 33.2%) with smaller subgroups described as black/non-Hispanic (26, 5.0%), Asian/Pacific (54, 10.5%), biracial (44, 8.5%), or other (31, 6.0%). Seventy-four parents (15.4%) had a high school education or less, 224 (46.4%) had some college or were technical or 2-year college graduates, and 134 (27.7%) had completed 4-year college or graduate school. Group demographics were similar for boys and girls and for racial/ethnic subgroups except parental education, which varied with race/ethnicity ($\chi^2 = 87.3$, $p < .001$): notably 59% (30) of Asian/Pacific parents had graduated from a 4-year college or graduate or professional school, whereas 48% (77) of Hispanic parents had a high school education or less (Fig. 1).

Parent and Child Reports of Anxiety Symptom

Children across all racial/ethnic groups reported on average more child anxiety than parents (mean difference 5.3; SD 10.6). Mean scores from parent reports were 76% of mean scores from child reports (21.5, SD 12.4 versus 16.2, SD 11.3, $z = -10.74$, $p < .001$ Wilcoxon; Fig. 2). Girls reported more anxiety symptoms than boys (23.38, SD 12.45 versus 19.85, SD 12.60, $z = -3.22$, $p = .001$ [Mann-Whitney]), but their parents did not (girls 16.85, SD 11.22 versus boys 15.76, SD 11.70, $z = -1.35$, $p = .176$). Younger children (age <10 years) reported more anxiety symptoms than older children (≥10 years; 24.87, SD 13.51 versus 19.59, SD 11.48, $z = -4.26$, $p < .001$ [Mann-Whitney]) as did their parents (18.20, SD 12.22 versus 15.09, SD 10.66, $z = -2.77$, $p = .006$). Neither child

Fig. 1 Parental education by ethnicity.
nor parent report differed significantly by racial/ethnic group ($F = 1.85, p = .10$; $F = 2.09, p = .07$), although there was a trend toward higher scores for the Hispanic group (child report: 23.52, SD 11.50; parent report: 17.91, SD 10.97) and lower scores for the Asian/Pacific group (child report: 18.47, SD 12.81; parent report: 14.72, SD 11.20). Child anxiety scores, by both child and parent report, did differ with parental education ($F = 7.09, p = .001$; $F = 6.24, p = .002$) with fewer years of formal education being associated with higher scores. When a regression model was evaluated (child age, gender, race/ethnicity; parental education), race/ethnicity was not a significant independent predictor of child anxiety either by child or parent report. Overall, demographics only accounted for modest, although statistically significant, proportions of the large variation in levels of child anxiety reported by parents ($R^2 = 0.053, F = 2.77, p = .004$) and by children ($R^2 = 0.096, F = 5.16, p < .001$). Specific independent demographic predictors of higher scores were fewer years of formal parental education (high school or less versus 4-year college or higher; parent report, $t = -3.171, \beta = -.179, p = .002$; child report, $t = -3.096, \beta = -.141, p = .002$); younger child age (parent report, $t = -2.861, \beta = -.132, p = .004$; child report, $\beta = -.194, t = -4.251, p < .001$); female gender (child report only, $t = -3.382, \beta = .154, p = .001$).

Parent-Child Agreement

Child anxiety scores generated by parent and child report were moderately to highly correlated across demographic subgroups: $R = 0.61 (p < .001)$ for full sample; range across racial/ethnic groups: $R = 0.50$ (biracial) to $R = 0.67$ (white, Asian/Pacific; Pearson’s intraclass correlation coefficient, $p < .001$ for all); girls: $R = 0.61, p < .001$; boys: $R = 0.60 p < .001$. The level of excess anxiety reported by children did not vary with race/ethnicity ($F = 0.86, p = 0.51$): mean SCARED-P scores ranged from 68% (black) to 80% (Asian/Pacific) of mean SCARED-C scores. Among demographic factors, only female gender was a significant independent predictor of level of excess anxiety reported by the child ($t = 2.92, \beta = .138, p < .01, R^2 = 0.031, F = 4.69, p < .01$).

EFAs

SCARED-C and SCARED-P Each Alone. EFAs conducted separately for child self-reports and parent reports each produced a well-differentiated four-factor solution that largely replicated the original factor

![Graphical representation of parent and child-reported anxiety distribution by demographic group.](image-url)
structure (Birmaher et al., 1997, 1999), with the exception that school anxiety did not emerge as a separate factor in this sample (Table 1). Separation and social factors were similar for child and parent report, whereas there were many nonoverlapping items for somatic/panic (45%, 5 of 11) and generalized (38%, 5 of 13). When EFA was repeated stratifying the sample by gender (boys, \( n = 225 \), girls, \( n = 245 \) from the paired sample of 484) and in the two largest ethnic subgroups (white non-Hispanic, \( n = 175 \) and Hispanic, \( n = 162 \)

### Table 1

<table>
<thead>
<tr>
<th>Factor</th>
<th>Items</th>
<th>SCC</th>
<th>SCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation</td>
<td>Scared to sleep away from home</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Cronbach’s ( \alpha )</td>
<td>Afraid to be alone in the house</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 0.80, SCP: 0.81</td>
<td>Worry about something happen parents</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>Worry about sleeping alone</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 1.84, SCP: 1.97</td>
<td>Dislikes being away from family</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>% variance</td>
<td>Follows parents wherever they go</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 9.11%, SCP: 9.14%</td>
<td>When frightened, things not real</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Social</td>
<td>Shy with people not known well</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Cronbach’s ( \alpha )</td>
<td>Hard to talk with people not known well</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 0.80, SCP: 0.84</td>
<td>Shy</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>Nervous going to parties, dances, etc.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 1.49, SCP: 2.72</td>
<td>Dislikes being with people not known well</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>% variance</td>
<td>Nervous when does something watched</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 8.33%, SCP: 9.28%</td>
<td>Nervous with people not known well</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Somatic/panic</td>
<td>When frightened, choking</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Cronbach’s ( \alpha )</td>
<td>When frightened, dizzy</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 0.73, SCP: 0.66</td>
<td>When frightened, hard to breathe</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>Gets shaky</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 2.21, SCP: 1.91</td>
<td>When frightened, feels like throwing up</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>% variance</td>
<td>When frightened, feels like passing out</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 9.36%, SCP: 9.13%</td>
<td>When frightened, feels like going crazy</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>General</td>
<td>A worrier</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Cronbach’s ( \alpha )</td>
<td>Scared to go to school</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 0.75, SCP: 0.82</td>
<td>Worries about being as good as other kids</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Eigenvalue</td>
<td>Worries about going to school</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 9.65, SCP: 10.01</td>
<td>People tell that worries</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>% variance</td>
<td>Worries about things working out</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>SCC: 10.25%, SCP: 12.95%</td>
<td>Worries about people liking me</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Worries about the future</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Worries about how well does things</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Worries about things that have happened</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Gets really frightened for no reason</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Headaches at school</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>Stomachaches at school</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Note: Loads (\( \geq 0.40 \)) for all subgroups (Hispanic, white, girls, boys) are shown in bold. SCC = Screen for Childhood Anxiety and Related Emotional Disorders-child report; SCP = Screen for Childhood Anxiety and Related Emotional Disorders-parent report; each alone (each four factors); Y = yes.
from the paired sample of 484), the core four-factor structure remained. However, there was large variation by demographic group and by factor in the degree to which included items corresponded to those in the EFA for the full group. The greatest variation was in the somatic/panic/generalized domains and for Hispanic children and their parents (Fig. 3).

DISCUSSION

In this large, multiethnic sample, we found intriguing variation with race/ethnicity and gender in patterns of parent-child reporting of child anxiety symptoms. However, this variation was not evident in the total scores generated by responses to a standard screening instrument for child anxiety, in levels of concordance between parent-report and child self-report scores or in the degree to which children reported more symptoms than their parents. Rather, we replicated previous findings (Wren et al., 2004) that variations in total symptoms score were best explained by gender and age and a new finding emerging in this more diverse sample, level of parental education: specifically scores from parent and child reports were higher for girls, for younger children, and for children of parents with fewer years of formal education. Observed variation in total scores across racial/ethnic groups was best explained by variation across groups in levels of parental education, replicating preliminary work (Snell, 2003). In this second primary care sample, we again found higher levels of parent-child concordance for anxiety symptom scores than is typically reported in clinical psychiatric samples. Of note, female gender emerged as the only independent predictor of level of excess anxiety symptoms reported by children.

In this multiethnic sample, EFAs produced four factors that approximately corresponded to four of the five factors identified in other less diverse samples; separation,
social, somatic/panic, and general anxiety. However, there was more variation between parents and children in factor structure than has been previously reported, particularly for somatic/panic and generalized anxiety. The factor structure for the Hispanic subgroup differed significantly from the full sample, most notably again in the domains of somatic/panic and generalized anxiety.

Separation and social anxiety syndromes, as reflected by the SCARED and by the *DSM-IV* from which it was derived, each have well-defined areas of behavioral disturbance and functional impairment that are intrinsic to the diagnostic construct (DiBartolo et al., 1998). This is a probable explanation for the fact that these syndromes are more consistently and distinctly perceived by all subgroups and observers. The much greater variation across ethnic groups in the areas of somatic/panic and generalized anxiety is significant because these areas are of core importance to the presentation and accurate management of childhood anxiety in medical settings (Campo et al., 2002, 2004). The perception of symptoms in these areas may be more sensitive to the differing perspectives of parent and child and to cultural and gender-based expectations leading to more risk of over-, under-, or misidentification of clinically significant anxiety syndromes within subgroups. Self-reports of girls appear to be particularly important: parents may be less aware of (or less likely to see as a reportable problem) the level of anxiety carried by girls and girls themselves are the subgroup of children that can most clearly distinguish subtypes of anxiety. The observed differences in the Hispanic group have several, likely overlapping sources, sample size of which does not allow us to disentangle. It is possible that they reflect culture-bound differences in conceptualizing anxiety: for example, the concept of *ataque de nervios*. However, we cannot be certain how much the observed differences are associations of ethnic or linguistic subculture per se versus associations of lower levels of parental education or perhaps associated socioeconomic challenges.

Limitations

This study was not specifically designed to study race and ethnic variations. The racial/ethnic categories used are simple. The population of the San Jose area contains a high proportion of immigrants and hence of families in cultural transition. However, we gathered race/ethnicity data for the child only; we have no data on the proportions of children and parents who were native born versus immigrant, the level of acculturation, the proportion of those who came from refugee populations, from which subgroups within, for example, the Asian population, our sample is drawn. We also could not include non-English speakers, which excluded about 13% of the population.

Clinical Implications

Primary care has great potential as a source of education, triage, and frontline intervention for anxious children and their families. This role will require simple and efficient methods and tools to accurately identify, in collaboration with the family, the child’s core areas of difficulty. Symptom inventories are useful supplements to the clinical assessment of a child who carries a developmentally inappropriate burden of anxiety. However, as our data illustrate, there are risks, especially in culturally diverse populations, if clinicians rely entirely on cross-sectional symptom inventories to subtype childhood anxiety. Both effective triage and good clinical practice require that the clinician work directly with each family to elicit their specific, perhaps culturally based, interpretation of the nature and source of the child’s difficulties, in particular, for children with combinations of somatic and emotional symptoms.

Our data also lend further support to the importance of gathering history from both child and parent data even at the point of frontline, primary care triage of anxiety and raises promising new questions about approaches to integrating this information. Specifically, does one factor (parent or child reported) more accurately predict symptoms with the persistence and functional impact to merit a diagnosis of anxiety disorder? Which factor is more important in identifying subgroups that generate the misallocation of resources and elevation in medical costs that may be associated with somatic symptoms? We plan to explore these questions within a subgroup of children from our sample who have completed a research diagnostic interview and are enrolled in a longitudinal primary care study.

Disclosure: Dr. Birmaher is the author of *New Hope for Children and Teens with Bipolar Disorder: Your Friendly, Authoritative Guide to the Latest in Traditional and Complementary Solutions, Three*
REFERENCES


