

Rates, Associations, and Predictors of Psychopathology in a Convenience Sample of School-Aged Latino Youth: Identifying Areas for Mental Health Outreach

Lauren M. Haack¹  · Theresa L. Kapke² · Alyson C. Gerdes²

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Abstract The Latino youth population is rapidly growing and expected to comprise nearly 40 % of the total youth population by 2060. Unfortunate disparities exist in the United States (U.S.), such that young Latinos are less likely than non-Hispanic Whites to receive and benefit from mental health services. In order to identify and prioritize specific areas of mental health outreach, the current study examined preliminary rates, associations, and predictors of child psychopathology in a convenience sample of Latino youth. 123 Spanish and English speaking Latino parents of school-aged children completed a series of questionnaires regarding child and family functioning. Latino youth in the current sample demonstrated comparable rates of psychopathology to non-referred, normative samples. Parental acculturation (particularly Separated parental acculturation status: high orientation to Latino culture and low orientation to U.S. mainstream culture) was associated with an increased prevalence of clinically significant psychopathology across several domains, and socioeconomic status was associated with an increased prevalence of thought problems. Additionally, Separated parental acculturation status significantly predicted the prevalence of clinically significant anxious/depressed problems, such that youth of parents displaying Separated acculturation status were significantly more represented in the clinically-elevated groups than the functional groups. These preliminary results suggest that prioritizing outreach to Latino youth of

parents maintaining orientation to Latino culture but not U.S. mainstream culture may be necessary in order to begin addressing existing mental health disparities in the U.S.

Keywords Acculturation · Latino · Psychopathology · Outreach · Disparities

Introduction

Latino youth represent one of the fastest growing ethnic minority groups in the United States (U.S.), with estimates suggesting that this cohort will comprise nearly 40 % of the youth population by 2060 (U.S. Census Bureau, 2012). Young Latinos face a host of psychosocial stressors that theoretically contribute to an increased risk of psychopathology compared to nonminority youth, such as experiencing racial discrimination and prejudice, facing a greater likelihood of living in poverty, and enduring acculturation and language stress (DeNavas-Walt et al. 2010; Flores et al. 2002). Furthermore, Latino youth are less likely to utilize mental health services than are their non-Hispanic White peers (Kataoka et al. 2002). Despite the abundant theoretical literature on mental health risk factors and consistently documented service utilization disparities for Latino youth, there is a lack of consistent, culturally sensitive empirical research examining rates of psychopathology between Latino and non-Latino youth, as well as the associations and predictors of psychopathology within Latino youth. This knowledge may help identify and prioritize the most effective targets for outreach, prevention, and treatment of psychopathology in young Latinos.

Existing evidence regarding rates of childhood psychopathology for Latino versus non-Latino youth can appear inconsistent given nuanced differences in study

✉ Lauren M. Haack
lauren.haack@ucsf.edu

¹ University of California, San Francisco, 401 Parnassus Avenue 255, San Francisco, CA 94143, USA

² Department of Psychology, Marquette University, P.O. Box 1881, Milwaukee, WI 53201-1881, USA

findings and interpretations depending on the nature of the sample and/or research methodology employed. Large-scale, representative community sample studies typically utilize parent-report surveys or interviews inquiring about history of psychopathology diagnosis and/or service use and suggest that Latino youth are less likely than non-Latino youth to be identified, diagnosed, and/or treated for a mental health disorder (e.g., Kataoka et al. 2002; Pastor and Reuban 2005). Large-scale, representative sample studies of *adolescents* in the community may utilize developmentally-appropriate self-report surveys or interviews inquiring about the current level or severity of psychopathology that youth are actually experiencing, regardless of history of diagnosis or treatment (Radloff 1991; Sieving et al. 2001). In one such study, Latino adolescents self-reported higher levels of depressive symptoms than their non-Latino peers on a standardized diagnostic interview (Roberts et al. 2006). Therefore, large-scale, representative sample studies utilizing parent-reports of mental health history suggest that Latino youth are less likely to be identified, diagnosed, and treated for mental health problems, despite the fact that studies utilizing adolescent self-report suggest that this population may actually experience higher levels of psychopathology, thus highlighting a potentially compounded burden of unmet need for Latino youth.

Recently, researchers have begun to supplement these large-scale, representative investigations with studies utilizing culturally-validated, norm-referenced behavior rating scales in target populations of interest. For example, several investigations of convenience or school samples have employed the Achenbach System of Empirically Based Assessment (ASEBA) behavior rating scales, which have demonstrated adequate reliability and construct validity across 30 ethnic/cultural groups, including Spanish speaking Latino populations (e.g., Crijnen et al. 1997, 1999; Ivanova et al. 2007; Sivan et al. 2008). Norm-referenced behavior rating scales, such as the ASEBA scales, do not inquire about symptom severity and distress and thus do not provide sufficient information to diagnosis psychological disorders in isolation. However, norm-referenced behavior rating scales (including ASEBA) are particularly useful in that they provide information about a youth's level of functioning compared to his/her same aged peers across several psychopathology domains, such as internalizing, externalizing, and social problems, in an efficient and culturally-appropriate questionnaire format.

Available studies investigating culturally-validated, norm-referenced behavior rating scales in convenience samples of young children (e.g., the Child Behavior Checklist/1-5.5; CBCL/1-5.5) suggest that parents report similar levels of psychopathology for Latino versus non-Latino preschoolers (Gross et al. 2006; Weiss et al. 1999).

One available study utilizing the adolescent self-report ASEBA scale (i.e., the Youth Self Report; YSR) in a school sample suggested that Latino adolescents self-report higher levels of psychopathology than non-Latino adolescents, particularly anxiety (Glover et al. 1999). Unfortunately, less is known about reports of psychopathology using culturally-validated, norm-referenced behavior ratings scales for Latino and non-Latino school-aged children.

In sum, despite some seemingly inconsistent results and interpretations based on the nature of the sample and/or research methodology employed, trends from available research suggests that Latino youth are at similar, or potentially greater, risk for psychopathology compared to non-Latino youth, yet they are less likely to be identified and receive services for mental health disorders. However, most available studies employing culturally-validated, norm-referenced assessment measures (rather than selected questions about mental health symptoms or history) have utilized convenience samples of preschool children or adolescents, leaving a gap in research focused on school-aged children, a population that is developmentally distinct from preschoolers and adolescents in many ways (Lightfoot et al. 2009). Thus, examination of between-ethnic-group differences in school-aged children of English and Spanish-speaking Latino parents utilizing culturally-validated, norm-referenced psychopathology measures (such as the Child Behavior Checklist; CBCL) is needed.

Furthermore, although examination of psychopathology rates for Latino and non-Latino youth is a critical step towards understanding and combatting the current unmet psychological needs found in the U.S., between-ethnic group examination alone is not enough. Between-ethnic-group investigations inherently converge all Latino participants together for comparison to non-Latino participants, thus ignoring the substantial heterogeneity and diversity of the Latino population in the U.S. In order to thoroughly understand the development and treatment of mental health problems in at-risk Latino youth, it also is necessary to examine associations and predictors of psychopathology *within* Latino youth.

Various factors associated with being part of an ethnic minority group may contribute to the development of psychopathology in the Latino population (Kaiser Family Foundation and Pew Hispanic Center 2002; Smokowski et al. 2009). Unfortunately, traditional models of child development have not accounted for the complex nature in which these risk factors interact with cultural factors (e.g., race, ethnicity, language proficiency) in the development of psychopathology for minority children and their families (García Coll et al. 1996). However, recent research has attempted to identify particularly relevant cultural factors associated with psychopathology in Latino youth. One of the most consistently examined cultural constructs is

acculturation, which describes the cultural changes that occur when groups of individuals from different cultures come into contact with each other (Redfield et al. 1936). Acculturation is considered to be a multidimensional process that involves orientation to the mainstream culture *and* one's ethnic culture of origin (Marín and Gamba 2003).

Considering the influence of acculturation, many studies have demonstrated that higher levels of orientation to U.S. mainstream culture are associated with poorer health outcomes for adult Latinos. This is referred to as the “immigrant paradox”, or the phenomenon suggesting that Latino immigrants report lower rates of physical and mental health problems than second- or later-generations of Latinos, despite the stressful experiences and socio-economic disadvantage often linked to immigration (Alegria et al. 2008; Schwartz et al. 2010). The immigrant paradox has been observed among Latino children and adolescents as well, although the most conclusive evidence examines health outcomes (e.g., infant birth weight and mortality data; Mendoza 2009) unspecific to mental health and psychopathology.

When examining the relation between acculturation and child outcomes, it may be most relevant to examine parental acculturation because of its significant influence on parenting behaviors (Dumka et al. 1997; Ispa et al. 2004), which may have a substantial impact on the development of psychopathology in children (Kim et al. 2003; Wang et al. 2013). In fact, research with Latino parents demonstrates that higher orientation to Latino culture of origin predicts several positive family outcomes, which may serve as protective factors against engagement in youth delinquent behavior (Germán et al. 2009; Marsiglia et al. 2009). Interestingly, higher levels of parental orientation to U.S. mainstream culture also are associated with several positive family outcomes (Dumka et al. 1997; Knight et al. 1994). Although these findings may appear in contrast, both may exist simultaneously when conceptualizing acculturation as a multidimensional, bidirectional process.

Although parental acculturation may account for variability in mental health outcomes for Latino youth, available empirical studies present conflicting findings. For example, while some research fails to find a relation between parental acculturation and youth externalizing problems (e.g., Knight et al. 1994; Vega et al. 1995), other studies suggest that greater orientation to culture of origin is associated with more externalizing problems in Latino youth (e.g., Weiss et al. 1999). In contrast, some studies have found that greater orientation to U.S. mainstream culture is associated with more externalizing problems in Latino youth (e.g., Calzada et al. 2009). Similarly, although research has linked parental acculturation to internalizing problems in youth, the nature of this relation is unclear (Dumka et al. 1997; Knight et al. 1994). While some studies have found that greater parental orientation to the

Latino culture is associated with fewer internalizing in Latino youth (e.g., Calzada et al. 2009), other studies have produced conflicting findings (e.g., Gudiño and Lau 2010).

In light of inconsistent research examining the role of acculturation and youth outcomes, a growing body of literature has begun examining a more sophisticated construct of acculturation—biculturalism, or the maintenance of Latino culture of origin while simultaneously adapting to the U.S. mainstream culture. Given research suggesting that biculturalism predicts better psychological adjustment among Latino mothers (López and Contreras 2005), it is likely that parental biculturalism could protect against the development of youth psychopathology via parenting behaviors and supportive family environments. Indeed, available research indicates that parental biculturalism predicts positive outcomes for children and adolescents (Gonzales et al. 2002), including lower rates of internalizing problems and higher rates of adaptive behavior (Calzada et al. 2009).

There are considerable limitations in the available literature on parental acculturation and Latino youth outcomes, which likely contributes to inconsistent findings described above. For one, although researchers agree on the multidirectional, multidimensional nature of acculturation, many studies rely on linear measures of acculturation, which prohibit researchers from examining biculturalism and the parallel processes of orientation to both Latino culture of origin and U.S. mainstream culture separately and in aggregate (Calzada et al. 2009). Additionally, despite the fact that the modern conceptualization of acculturation includes multiple facets of cultural behaviors, values, and expectations, many researchers have relied on proxy measures of acculturation, including language preference or generational status (Gonzales et al. 2002). Furthermore, contextual variables, such as socioeconomic status (SES) and family structure (i.e., married vs. unmarried parents, one vs. two parent homes), routinely have been ignored, despite the fact that acculturation may have differential effects when SES and other contextual variables are taken into account (Gonzales et al. 1997; as reviewed by White et al. 2009).

In addition to measurement issues, available studies have presented a number of sampling concerns. Similar to the between-ethnic-group investigations critiqued previously, monolingual Spanish-speaking individuals often are not represented in the within-Latino literature (e.g., Calzada et al. 2009; Weiss et al. 1999), limiting researchers' ability to generalize available research findings to certain members of the Latino population at large (Flores et al. 2002). Additionally, most of the research related to acculturation and mental health outcomes for Latinos has concentrated on adult populations, which alone cannot necessarily be used to—explain child outcomes (Gonzales

et al. 2002). Thus, research utilizing appropriate measurement of acculturation and related contextual variables (e.g., SES, family structure) in a generalizable sample is needed to better understand predictors of psychopathology for Latino youth.

The purpose of the current study was to examine preliminary rates, associations, and predictors of child psychopathology in a convenience sample of Latino youth utilizing a culturally-validated measure of child psychopathology, a measure of acculturation allowing for examination of multidimensional, orthogonal categories of biculturalism, and measures of related contextual factors. We first hypothesized that rates of psychopathology in the sample of Latino youth would be comparable to rates in the general population (i.e., within one standard deviation of the norm-referenced, non-referred mean T-scores). Secondly, we hypothesized that parental acculturation would be associated with and predict rates of psychopathology in Latino youth, such that bicultural parents (i.e., parents highly orientated to both the Latino culture of origin and U.S. mainstream culture on the ARSMA-II) would be less likely to display clinically significant rating scale elevations compared to Latino youth of parents who are not bicultural. Examination of the association and prediction of psychopathology with other factors (i.e., SES, family structure, and generational status) were exploratory, and no specific hypotheses were made.

Method

Participants

Participants for the current study represented a convenience sample of 123 Latino parents of school-aged children in an urban setting. Briefly, participants included 102 mothers and twenty fathers reporting a reported a mean age of 35.47 years ($SD = 6.94$). The majority of participants immigrated to the U.S. after birth (88.61 %) and were of Mexican descent (85.37 %). The sample was relatively variable in terms of socioeconomic variables (e.g., education level and income) and cultural variables (e.g., English proficiency, time in the U.S.). Children selected by their parents to be the focus of the parent-rated behavioral questionnaires included 71 boys and 51 girls (mean age = 8.48 years, $SD = 2.16$). See Table 1 for more detailed demographic information for parents and children; note that one participant declined to state demographic information.

Procedure

Parents were recruited to participate through two larger research studies investigating Latino child behavior and

family functioning between 2008 and 2012. Specifically, these studies were designed to investigate Latino parents' conceptualization and identification of Attention-Deficit/Hyperactivity Disorder (ADHD) in relation to acculturation and family functioning. Researchers followed multicultural guidelines (e.g., National Institutes of Health 2002; Loue and Sajatovic 2008) to encourage Latino participation in clinical research. Specifically, a mutually-beneficial partnership with a local charter school serving predominantly Latino families was established. Recruitment occurred through school announcements and mailings, face-to-face interaction with families at school events (e.g., parent-teacher conferences, academic orientation, etc.), and word-of-mouth referral (as recommended by previous studies recruiting Latino families, such as Haack et al. 2012; Loue and Sajatovic 2008).

Data collection occurred at the end of the school day at the children's school. Following the consent process, parents completed a packet of pencil and paper questionnaires in Spanish or English based on their preference. Parents were asked to choose one of their children between the ages of 6–12 years to be the subject of child behavior measures (relevant to the current study: the Child Behavior Checklist; CBCL). Given the larger aim of the parent research studies, parents also were asked to choose a child who had never been diagnosed with ADHD. It should be noted that no parents declined to participate due to their selected child having a diagnosis of ADHD. Parents also completed cultural questionnaires (relevant to the current study: the ARSMA-II) and a demographic form. Psychological referral information was available for any parent who wished to follow-up on responses provided for the behavioral questionnaires; no parents ultimately requested referral information. Parents were compensated with gift cards for their participation (\$10 for Study 1, \$20 for Study 2, based on the amount of time required for the larger study).

Measures

Child Behavior Checklist/6-18 (CBCL; Achenbach and Rescorla 2001; Spanish translation by Rubio-Stipec et al. 1990)

The CBCL is a parent-report measure of the occurrence of child psychopathology. It contains 112 items rated on a 3-point scale, ranging from "not true" to "very true or often true." It results in three broadband scores for total, internalizing, and externalizing problems, as well as several narrowband syndrome scale scores. Higher scores indicate greater severity on each scale. The CBCL is norm-referenced to provide T-scores and borderline and clinically significant cutoffs based on the child's age and

Table 1 Parent and child demographics

Parent demographic factors		Parent cultural factors	
Age, <i>M</i> (<i>SD</i>) ^a	35.47 (6.94)	Ethnicity, <i>n</i> (%) ^a	
Gender, <i>n</i> (%) ^a		Latino, Mexican descent	105 (85.37)
Female	102 (82.93)	Latino, Puerto Rican descent	9 (7.32)
Male	20 (16.26)	Latino, other descent	7 (5.69)
Family structure, <i>n</i> (%)		Time in US, <i>n</i> (%) ^a	
Married parents	93 (75.61)	Less than 1 year	1 (0.81)
Unmarried parents	30 (24.39)	1–5 years	15 (12.20)
Number of children, <i>n</i> (%) ^a		6–10 years	34 (27.64)
1–2	51 (41.46)	More than 10 years	71 (57.72)
3–4	43 (34.96)	Generational status, <i>n</i> (%) ^a	
5 or more	9 (7.32)	Immigrated to U.S.	109 (88.61)
Education, <i>n</i> (%) ^a		Born in U.S.	14 (11.39)
Some high school or less	49 (39.84)	Language, <i>n</i> (%) ^a	
Graduated high school/GED	29 (23.58)	Only Spanish	42 (34.15)
Some college	27 (21.95)	Primarily Spanish, some English	43 (34.96)
College or graduate degree	17 (13.82)	Bilingual	32 (26.02)
Income, <i>n</i> (%) ^a		Primarily English, some Spanish	5 (4.07)
\$20,000 or less	53 (43.09)	Acculturation, <i>n</i> (%) ^b	
\$20,001–40,000	37 (30.08)	Integrated	22 (17.89)
\$40,001–60,000	6 (4.88)	Marginalized	8 (6.50)
\$60,001–80,000	10 (8.13)	Assimilated	22 (17.89)
More than \$80,000	4 (3.25)	Separated	71 (57.72)
Child demographic factors			
Age, <i>M</i> (<i>SD</i>) ^a			8.48 (2.16)
Gender, <i>n</i> (%) ^a			
Female			51 (41.46)
Male			71 (57.72)

N = 123

^a Indicates missing data for some participants

^b As measured by ARSMA-II (Cuéllar et al. 1995), with a range of 1–5, 5 indicating strong orientation

gender. The English version of the scale has demonstrated good internal consistencies (.63–.98), good concurrent criterion validity with the ability to discriminate between referred and non-referred children, as well as good convergent construct validity with associations with DSM criteria and other measures of behavioral and emotional problems (Achenbach and Rescorla 2001). In 1990, Rubio-Stipec et al. examined the Spanish translation’s internal consistency and convergent construct validity with a Latino sample. The broadband internalizing and externalizing scales showed high levels of internal consistency (.89–.94), while the narrow-band scales showed good levels (.65 and higher). The measure also demonstrated good convergent construct validity with the theoretically related TRF/6-18 (.13–.38). As described previously, the CBCL and its Spanish translation have demonstrated adequate cultural

validity in qualitative and quantitative studies across 30 populations, including Latinos (e.g., Crijnen et al. 1997, 1999; Ivanova et al. 2007; Sivan et al. 2008).

Acculturation Rating Scale for Mexican–Americans-II (ARSMA-II; Cuéllar et al. 1995)

The ARSMA-II is a 30-item self-report measure available in English and Spanish. It assesses the parallel processes of acculturation to both culture of origin and mainstream culture in terms of language use, ethnic identity, and ethnic interaction. Items are rated as not at all (0) to extremely often or almost always (5). The original ARSMA-II frames questions specifically to Mexican–Americans; thus, in order to accommodate all Latino subgroups, the word “Mexican” was changed to “Latino.” This method this

method has been used previously and maintains good reliability (e.g., Cronbach's $\alpha = .78$; Steidel and Contreras 2003).

There are several ways to interpret and utilize the ARSMA-II. The ARSMA-II can derive two linear subscales, one of orientation to mainstream culture [i.e., the Latino Orientation Subscale (LOS), 13 items] and one of orientation to the culture of origin [i.e., the Anglo Orientation Subscale (AOS), 17 items]. Higher scores on the AOS represent greater affiliation/orientation to U.S. mainstream culture; higher scores on the LOS represent greater affiliation/orientation with the Latino country of origin. Strong internal consistencies for the AOS (.83) and LOS (.88) have been reported (Cuéllar et al. 1995). In addition, construct validity was found using a sample of 379 individuals representing five generations (Cuéllar et al. 1995).

The LOS and AOS also can be used to derive multidimensional, orthogonal categories of biculturalism, which map onto Berry's modes of acculturation (Cuéllar et al. 1995; Berry 1980), including High Integrated Bicultural (i.e., high orientation to Latino culture and high orientation to U.S. mainstream culture; hereon referred to as "Integrated"), Low Integrated Bicultural (i.e., low orientation to Latino culture and low orientation to U.S. mainstream culture; hereon referred to as "Marginalized"), Assimilated Bicultural (i.e., low orientation to Latino culture and high orientation to U.S. mainstream culture; hereon referred to as "Assimilated"), and Mexican/Latino Oriented Bicultural (i.e., high orientation to Latino culture and low orientation to U.S. mainstream culture; hereon referred to as "Separated"). The current study utilized the multidimensional, orthogonal categories of biculturalism as derived from the AOS and LOS. The internal consistency of the ARMSA-II for the current study was good (Cronbach's α values for AOS and LOS = .82 and .80 respectively).

Demographic Form

A demographic questionnaire was administered to collect general information about each participant and the designated child, such as age, gender, income, educational attainment, family structure (i.e., married vs. unmarried parents) and generational status (i.e., immigrated to U.S. after birth or born in U.S.). From responses on the demographic questionnaire, SES was examined dimensionally using the Hollingshead Scale (Hollingshead 1975), which computes SES based on parental education and occupation.

Data Analysis

All statistical analyses were performed in IBM SPSS, Version 20 (IBM SPSS, 2011).

Data was examined to determine if demographic characteristics (e.g., parent gender, child gender, etc.), language (i.e., English or Spanish), or study time period (i.e., Study 1 and Study 2) were related to predictor and outcome variables of the current study and no major differences emerged. To prepare data to investigate if significantly associated factors predicted the prevalence of clinically significant CBCL elevations via binary logistic regressions, the outcome variable was coded (1) for children who displayed elevations and (0) for those who did not. Predictors were z-scored to standardize the interpretation of odds ratios. Parental acculturation was dummy-coded such that parents displaying Separated acculturation status were coded (1) and parents displaying all other levels of acculturation (i.e., Integrated, Marginalized, and Assimilated parents) were coded (0).

Results

To examine if rates of Latino youth psychopathology differed from rates documented in the general population, mean CBCL broadband and syndrome scale T-scores for the current sample were compared with the norm-referenced, nonreferred mean CBCL broadband and syndrome scale T-scores (Achenbach and Rescorla 2001). As seen in Table 2, each mean CBCL broadband and syndrome scale T-scores for the current sample fell within one standard deviation of the norm-referenced sample.

A two-step process was utilized to investigate associations with and predictors of psychopathology within the Latino youth population. First, preliminary analyses were completed to screen for which cultural and contextual factors may be associated with child psychopathology in the current sample. Specifically, independent-sample T-tests and Chi-Square Tests of Independence were computed to determine which factors were related to the prevalence of clinically significant elevations on the CBCL broadband and syndrome scales (i.e., T-scores ≥ 65). With one exception, no contextual factors (i.e., SES and family structure) were associated with the prevalence of any clinically significant CBCL elevations. Parental SES was associated with one subscale, such that parents of youth displaying clinically significant thought problems reported higher SES than parents of children in the functional range ($p \leq .05$). Parental generational status was not significantly associated with the prevalence of any clinically significant CBCL elevations; however, parental acculturation was associated with the prevalence of several clinically significant CBCL elevations, including externalizing problems, anxious/depressed problems, thought problems, rule breaking behavior, and aggressive behavior. Specifically, youth of parents displaying Separated acculturation status

Table 2 Comparison of CBCL/6-18 T-scores between non-referred normative sample^a and current study sample

	CBCL T-scores for nonreferred normative sample ^a		CBCL T-scores for present study	
	Boys N = 387	Girls N = 390	Boys N = 71	Girls N = 51
<i>Broadband behavior scales (M, SD)</i>				
Internalizing	50.2 (9.5)	50.1 (9.7)	49.01* (10.84)	48.30* (9.32)
Externalizing	50.0 (9.6)	50.1 (9.5)	46.85* (10.55)	44.84* (10.70)
Total problems	49.8 (9.9)	49.8 (9.9)	46.31* (11.88)	45.06* (10.64)
<i>Syndrome subscales (M, SD)</i>				
Anxious/depressed	54.1 (5.6)	54.3 (5.6)	54.16* (6.01)	53.18* (5.56)
Withdrawn/depressed	54.4 (5.8)	54.2 (5.5)	54.31* (5.82)	53.18* (4.82)
Somatic complaints	53.6 (5.3)	54.2 (5.4)	53.79* (5.44)	54.60* (5.05)
Social problems	54.4 (5.6)	54.4 (5.6)	54.32* (5.39)	52.72* (4.18)
Thought problems	54.2 (5.5)	54.1 (5.4)	53.04* (5.36)	52.14* (3.86)
Attention problems	54.3 (5.6)	54.6 (5.7)	52.97* (4.46)	52.78* (3.99)
Rule-breaking behavior	54.2 (5.5)	54.3 (5.3)	53.18* (4.87)	52.10* (4.29)
Aggressive behavior	54.2 (5.7)	54.2 (5.8)	53.35* (5.38)	52.76* (5.23)

* Indicates score is within one standard deviation of the nonreferred normative sample

^a As reported in the CBCL/6-18 manual (Achenbach and Rescorla 2001). Normative data includes values rounded to one decimal place

(i.e., high orientation to Latino culture and low orientation towards U.S. mainstream culture) were significantly more represented in the clinically-elevated groups than the functional groups ($p \leq .05$). See Table 3 for significant associations.

Next, multiple binary logistic regressions were computed to determine if significantly associated factors predicted the prevalence of clinically significant CBCL elevations. For the sole logistic regression model examining more than one predictor (i.e., CBCL thought problems), parental acculturation and SES were entered as predictors in a forward, stepwise method. For all other models, the dummy-coded parental acculturation variable was entered as the sole predictor. Every overall model emerged as significant; however, only one model produced a significant individual predictor. Specifically, parental acculturation significantly predicted clinically significant elevations on the anxious/depressed subscale, Wald's $\chi^2 = 4.05$, $p \leq .05$ (see Table 4). Examination of Cox and Snell and Nagelkerke R^2 values demonstrate that between 4 and 8 % of the variability in the presence of clinically significant anxious/depressed problems was explained by parental acculturations status. Examination of odds ratios indicate that Latino youth with parents displaying Separated acculturation status demonstrated increased odds (OR = 4.12) of clinically significant anxious/depressed problems.

Discussion

The current study provides preliminary culturally-sensitive and empirically-driven knowledge regarding rates of psychopathology between Latino and non-Latino youth, as well as associations and predictors of psychopathology within Latino youth in a convenience sample. As predicted, results suggest that Latino youth in this sample demonstrate comparable rates of psychopathology to non-referred, norm-referenced samples. Additionally, current results provide further support for the use of the CBCL as a psychometrically and culturally appropriate measure of child psychopathology with Latino families.

Preliminary results examining associations between contextual and cultural factors with youth psychopathology suggest that contextual factors are largely unrelated to the prevalence of clinically significant psychopathology in Latino youth in our sample with one exception. Thus, previous (albeit inconsistent) findings suggesting that SES and youth psychopathology may actually be influenced by a contextual factor related to SES, such as parental acculturation. There are several potential explanations for the fact that children with clinically significant thought problems (a domain measuring odd or unusual beliefs consistent with autism spectrum disorders, psychosis, or obsessive-compulsive disorders) displayed disproportionately high SES levels compared to children in the func-

Table 3 Contextual and cultural factors significantly associated with clinically significant elevations on the CBCL/6-18

	SES ^a		Acculturation				χ^2
	M (SD)	T	n ¹ , %	n ² , %	n ³ , %	n ⁴ , %	
<i>Total problems</i>		−1.12	22, 17.89	8, 6.50	71, 57.72	22, 17.89	6.73
Clinically elevated	38.50 (11.82)		2, 33.33	0, 0.00	1, 16.67	3, 50.00	
Functional range	32.00 (11.25)		20, 17.09	8, 6.84	70, 59.83	19, 16.24	
<i>Internalizing</i>		−1.07	22, 17.89	8, 6.50	71, 57.72	22, 17.89	5.67
Clinically elevated	36.38 (8.30)		2, 16.67	0, 0.00	5, 41.67	5, 41.67	
Functional range	31.86 (11.57)		20, 18.02	8, 7.21	66, 59.46	17, 15.32	
<i>Externalizing</i>		−1.12	22, 17.89	8, 6.50	71, 57.72	22, 17.89	9.94*
Clinically elevated	38.50 (11.82)		2, 40.00	0, 0.00	0, 0.00	3, 60.00	
Functional range	32.00 (11.25)		20, 16.95	8, 6.78	71, 60.17	19, 16.10	
<i>Anxious/depressed</i>		−1.25	22, 17.89	8, 6.50	71, 57.72	22, 17.89	8.45*
Clinically elevated	37.43 (8.83)		3, 27.27	0, 0.00	3, 27.27	5, 45.45	
Functional range	31.82 (11.46)		19, 16.96	8, 7.14	68, 60.71	17, 15.18	
<i>Withdrawn</i>		−0.43	22, 17.89	8, 6.50	71, 57.72	22, 17.89	4.64
Clinically elevated	34.75 (11.00)		2, 28.57	0, 0.00	2, 28.57	3, 42.86	
Functional range	32.22 (11.38)		20, 17.24	8, 6.90	69, 59.48	19, 16.38	
<i>Somatic</i>		0.47	22, 17.89	8, 6.50	71, 57.72	22, 17.89	1.01
Clinically elevated	29.33 (6.66)		1, 14.29	0, 0.00	4, 57.14	2, 28.57	
Functional range	32.49 (11.47)		21, 18.10	8, 6.90	67, 57.76	20, 17.24	
<i>Social problems</i>		−0.43	22, 17.89	8, 6.50	71, 57.72	22, 17.89	7.42
Clinically elevated	34.75 (11.00)		2, 50.00	0, 0.00	0, 0.00	2, 50.00	
Functional range	32.22 (11.38)		20, 16.81	8, 6.72	71, 59.66	20, 16.81	
<i>Thought problems</i>		−2.16*	22, 17.89	8, 6.50	71, 57.72	22, 17.89	9.78*
Clinically elevated	41.67 (10.39)		4, 57.14	0, 0.00	1, 14.29	2, 28.57	
Functional range	31.52 (11.07)		18, 15.52	8, 6.90	70, 60.34	20, 17.24	
<i>Attention</i>		−1.40	22, 17.89	8, 6.50	71, 57.72	22, 17.89	−3.65
Clinically elevated	48.00 (0.00)		1, 50.00	0, 0.00	0, 0.00	1, 50.00	
Functional range	32.14 (11.22)		21, 17.36	8, 6.61	71, 58.68	21, 17.36	
<i>Rule-breaking</i>		−1.12	22, 17.89	8, 6.50	71, 57.72	22, 17.89	9.94*
Clinically elevated	38.50 (11.82)		2, 40.00	0, 0.00	0, 0.00	3, 60.00	
Functional range	32.00 (11.25)		20, 16.95	8, 6.78	71, 60.17	19, 16.10	
<i>Aggressive</i>		−1.12	22, 17.89	8, 6.50	71, 57.72	22, 17.89	9.94*
Clinically elevated	38.50 (11.82)		2, 40.00	0, 0.00	0, 0.00	3, 60.00	
Functional range	32.00 (11.25)		20, 16.95	8, 6.78	71, 60.17	19, 16.10	

Only factors with significant associations were included in the table

Acculturation: ¹ = Integrated, ² = Marginalized, ³ = Separated, ⁴ = Assimilated

N = 123

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

^a Indicates missing data for some participants

tional range in the current study. First, given the preliminary nature of the association analyses, the lack of relations between SES and any other psychopathology domain, as well as the lack of theoretical support for the finding, this result may be spurious. Alternatively, it may be that Latino youth with higher SES are more likely to develop thought problems, perhaps due to decreased time spent with parents who are more involved in their education and/or careers than parents of low SES families, or increased feelings of

cultural isolation from the majority of the Latino community who are not represented in high SES levels.

Additionally, preliminary results suggest that parental acculturation may be associated with an increased prevalence of clinically significant psychopathology across several domains in our sample of Latino youth. The prediction that bicultural acculturation status (i.e., high orientation to both Latino culture of origin and U.S. mainstream culture) would be associated with and

Table 4 Logistic regression model with parental acculturation predicting anxious/depressed problems

	Anxious/depressed problems				
	β	<i>SE</i>	Wald	Odds ratio	<i>p</i>
Parental acculturation	1.42	.70	4.05	4.12	.04

Prevalence of anxious/depressed problems was defined such that elevated T-scores ≥ 65 were coded (1) and T-scores < 65 were coded (0). Predictors were z-scored to standardize the interpretation of odds ratios. Parental acculturation was dummy-coded such that parents reporting Separated acculturation status were coded (1) and parents displaying all other levels of acculturation coded (0)

predictive of lower prevalence of Latino youth psychopathology compared to non-bicultural acculturation status was not supported. In fact, findings suggest that Separated status (i.e., parents reporting high orientation to Latino culture of origin and low orientation to U.S. mainstream culture) was associated with the prevalence of clinically significant youth psychopathology across several domains compared to non-Separated parents (i.e., Integrated, Marginalized, and Assimilated parents) in the current study. These findings, while not predicted, seem plausible. For example, children of Separated parents may be the least likely to receive and benefit from appropriate mental health prevention and treatment, thus enhancing risk for experiencing and/or maintaining problems with anxiety and depression. Specifically, Separated parents may be least likely to speak English, have familiarity with and exposure to the mental health field, and feel comfortable seeking help from professionals outside of their community. Additionally, it may be that families of Separated parents experience the highest levels of discrimination, prejudice, and/or acculturation gap between parents and children, all of which theoretically contribute to a cumulative load of hardship and increased mental health risk for children (Turner and Lloyd 2004).

Finally, parental acculturation (Separated acculturation status, in particular) served as a significant individual predictor for the prevalence of clinically significant anxious/depressed problems in our sample of Latino youth, accounting for 4–8 % of the variance in anxious/depressed problems. These results generally support previous research with Latino preschoolers suggesting that parental cultural processes predict a small but significant amount of variance in the prevalence of youth psychopathology, and particularly internalizing problems such as depression and withdrawal (e.g., Calzada et al. 2009 demonstrating that acculturation predicted 12 % of the variance in child internalizing problems). Given the modest amount of variance in child psychopathology accounted for by parental acculturation in the current study, it is likely that socioecological factors outlined in the integrative model

proposed by García Coll et al. (1996), such as experience of discrimination and prejudice and level and quality of available resources, function alongside parental acculturation in the development or protection of psychopathology in Latino youth (García Coll et al. 1996).

Limitations and Future Directions

It is important to note several limitations of the current study. First, the current investigation was part of a larger study in which parents recruited from local schools were asked to complete behavior rating scales for one of their children without an ADHD diagnosis; thus, the sample is one of convenience rather than replication of results in a representative sample is needed to ensure generalization of findings. Additionally, the current study relied solely on parental reports of the prevalence of child psychopathology and did not assess child or teacher ratings. Therefore, it is possible that results suggesting that Separated parental acculturation status may serve as a risk factor for youth psychopathology could be alternatively explained as a tendency for parents of Separated status to over-pathologize their children on rating scales such as the CBCL. As previous research highlights variations between reports among multiple informants (e.g., Achenbach et al. 1987), future studies should aim to gather information from multiple informants and consider using an observational measure or comprehensive assessment to include a more objective measure of the prevalence of child psychopathology. Additionally, although the current study examines cross-sectional prediction, causal prediction cannot be determined without longitudinal data. Future research should examine if parental acculturation status indeed predicts development of youth psychopathology over time.

Although the current study aimed to recruit both mothers and fathers, fathers were underrepresented in the final sample. It may be beneficial to employ recruitment strategies specifically designed to maximize father participation to ensure paternal-inclusion in future research on the prevalence of Latino youth psychopathology. Additionally, due to the demographics of Latinos in the Midwestern U.S., the majority of participants in the current study immigrated to the U.S. after birth and were of Mexican descent. Given the heterogeneity of the Latino population within the U.S., future studies should aim to examine the current study's predictions with samples that are more representative of other Latino subpopulations across the U.S. to promote the results' generalizability.

The current study assessed parental acculturation using a measure that primarily focuses on the behavioral aspects of one's acculturation status (e.g., language use and

preference, engagement in cultural activities, and affiliation with social groups). Although the measure consists of several items that assessed ethnic identification and classification, additional information focused on cognitive acculturation would contribute to a more comprehensive measure of parental acculturation status, especially since modern acculturation theory highlights both the behavioral and cognitive changes that are associated with individual acculturation processes (Marín 1992). Additionally, future studies should aim to assess youth acculturation status in addition to parental acculturation status in order to evaluate whether they are discrepant or differentially related to prevalence of child psychopathology. Furthermore, while the study was unique in that it integrated examination of acculturation and socioeconomic status, other related contextual factors were not able to be included. For example, it may have been beneficial to include a measure of immigration status; however, researchers refrained from inquiring about immigration status due to potential participation hesitance for undocumented Latino parents. Future research should attempt to replicate current findings in the context of other eco-developmental factors, such as immigration status, experience of discrimination and prejudice, and level and quality of available resources, given these factors' theoretical connectedness in influencing psychosocial expression, child development, and family processes among minority families (García Coll et al. 1996).

Implications and Conclusions

Several implications can be made from the study's findings. First, the current results suggesting comparable rates of psychopathology between Latino and non-Latino youth in the context of previous inconclusive research highlight the importance of utilizing culturally-appropriate research methodology when conducting cross-cultural research. Additionally, results suggest the importance of examining socioecological factors, such as SES, simultaneously with multidimensional, orthogonal measures of acculturation capturing multiple processes of orientation to both Latino culture of origin and U.S. mainstream culture. Finally, as preliminary results suggest that Separated parental acculturation is associated with Latino youth psychopathology across domains and predicts the prevalence of anxious/withdrawn problems in a convenience sample of school-aged Latino youth, greater mental health outreach to Latino youth of parents maintaining Latino orientation but not Anglo orientation in the U.S. appears warranted. This may be accomplished in part by ensuring availability of mental health services in Spanish, offering services in practical, trusted, and convenient locations, and utilizing community member "gatekeepers" to

bridge the gap between staff and parents. It also may be beneficial to develop interventions for Latino parents and their communities focused on a positive, bidirectional acculturation adjustment and its relation to child/family functioning. It is important to note that any outreach and/or intervention should be linguistically valid, culturally competent, and easily accessible to promote retention rates and positive mental health outcomes for Latino parents and their children.

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