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Parenting Practices, Interpretive Biases, and Anxiety in Latino Children

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Abstract

A number of factors are believed to confer risk for anxiety development in children; however, cultural variation of purported risk factors remains unclear. We examined relations between controlling and rejecting parenting styles, parental modeling of anxious behaviors, child interpretive biases, and child anxiety in a mixed clinically anxious (n = 27) and non-clinical (n = 20) sample of Latino children and at least one of their parents. Families completed discussion-based tasks and questionnaires in a lab setting. Results indicated that child anxiety was: linked with parental control and child interpretative biases; associated with parental modeling of anxious behaviors at a trend level; and not associated with low parental acceptance. Findings that controlling parenting and child interpretive biases were associated with anxiety extend current theories of anxiety development to the Latino population. We speculate that strong family ties may buffer Latino children from detrimental effects of perceived low parental acceptance.

Keywords

children; anxiety; culture; Latino; Hispanic; parenting; modeling; cognitive bias

1. Introduction

A wealth of literature highlights the importance of familial and cognitive influences in the development of child anxiety (Manassis & Bradley, 1994; Pollock, Rosenbaum, Marrs, Miller, & Biederman, 1995; Vasey & Dadds, 2001). To date, however, theoretical models proposed to explain anxiety development in children have been based on research conducted

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mostly with White, non-Latino populations. Examination of whether such models extend to ethnic minority populations is important for a number of reasons. Some literature is emerging to suggest that such models may not apply to ethnic minorities, including Latino youth (Anderson & Mayes, 2010; Varela & Hensley, 2009). Latinos are the most numerous and fastest growing ethnic minority group in the United States and approximately 15.4 million are under the age of 18 years (U. S. Census Bureau, 2009). In addition, Latino youth are at higher risk for anxiety problems relative to the corresponding risk for White, non-Latino youth (U.S. Department of Health and Human Services, 2001). In this study, we examined associations between parenting practices, children's cognitive biases, and anxiety in Latino youth.

1.1 Parenting Practices and Child Anxiety

Parenting practices indicating control have been associated with child anxiety in several observational studies conducted with White, non-Latino families (Ballash, Leyfer, Buckley, & Woodruff-Borden, 2006; Wood, McLeod, Sigman, Hwang, & Chu, 2003). For instance, during family interactive tasks, parents of children with anxiety disorders grant less autonomy, are more intrusive, and foreclose discussions with their children more often than parents of children without anxiety disorders (e.g., Hudson & Rapee, 2001; Siqueland, Kendall, & Steinberg, 1996). Similarly, parenting practices reflecting rejection of children have been associated with clinical anxiety in children. These parents are less accepting of their children's ideas, display less warmth, and are more judgmental and dismissive (e.g., Dumas, LaFreniere, & Serketich, 1995; Hudson & Rapee, 2001). Additionally, findings from studies employing self-report in lieu of or in addition to behavioral observations are consistent with these results (e.g., Messer & Beidel, 1994; Siqueland et al., 1996; Stark, Humphrey, Crook, & Lewis, 1990).

Theoretically, controlling parenting restricts children from exploring new situations independently and may convey to them that they are incapable of navigating their surroundings successfully. Along these lines, rejection and criticism may thwart children's attempts at self-sufficiency. Both of these parenting practices then likely convey to children that they are not in command of their environment and thus live in an unsafe and threatening world, resulting in increased anxiety (Chorpita & Barlow, 1998).

Relevant to the investigation of parenting practices and anxiety in a cultural context is a large body of literature suggesting that Latino parents may utilize strategies reflecting authoritarian parenting more often than White, non-Latino parents in socializing their children (Knight, Virdin, & Roosa, 1994; Varela et al., 2004a). That is, normative parenting in Latin American cultures emphasizes greater unquestioning obedience and respect for authority and less verbal reasoning and discussion from their children relative to normative parenting among majority White, non-Latino parents. Thus, the possibility exists that Latino children are at greater risk for anxiety disorders through exposure to controlling parenting. However, an alternative hypothesis is that because such parenting is expected in Latino culture, particularly of fathers, it is adaptive and does not produce a sense of insecurity in children that it otherwise does in European American culture, and consequently does not increase the risk for anxiety symptoms in Latino children as it does for White, non-Latino children. Providing some support for this hypothesis within a community sample, Luis, Varela, and Moore (2008) found a positive association between parental commands observed during a parent-child interaction task and child-reported anxiety for White, non-Latino children but not for Mexican American children. Consistent with those results, a follow-up study also with a community sample found that child-reported father control was positively related to anxiety for White, non-Latino children but not for Latino children (Varela, Sanchez-Sosa, Biggs, & Luis, 2009). However, in this latter study, mother control was associated with child anxiety regardless of ethnic background.

The parenting literature for Latinos suggests that although controlling practices may be common, Latino parents are also warm and accepting with their children (Staples & Mirande, 1980; Varela et al., 2004a). For instance,Varela et al. (2004a) found that although Mexican American parents rated their parenting as more authoritarian than the parenting of White, non-Latinos, all three groups studied (Mexican, Mexican American, and White, non-Latino) rated their parenting as more authoritative than authoritarian. Considering that rejection/criticism is not normative in Latin American cultures, one would expect this type of parenting to exert a similar influence in Latino children as it does in White, non-Latino children. However, contrary to expectations, one study found that more parental warmth and acceptance was linked to higher child anxiety for White, non-Latino and Mexican American children (Luis et al., 2008). Another study found that less father warmth and acceptance was related to more anxiety for White, non-Latino and Latino children, whereas more mother warmth and acceptance was related to more anxiety for both cultural groups (Varela et al., 2009). Thus, the literature is inconsistent on how lack of acceptance and warmth may relate to child anxiety in Latino populations.

The anxiety literature also points to a relationship between parental modeling of anxiety-related verbalizations and increased anxiety in children. Mothers of clinically anxious children have been found to provide more threat-related interpretations of ambiguous situations when discussing these with their children (Barrett, Rapee, Dadds, & Ryan, 1996; Chorpita, Albano, & Barlow, 1996; Dadds, Barrett, Rapee, & Ryan, 1996), and are more likely to discuss problems with their children in a catastrophic manner (Moore, Whaley, & Sigman, 2004; Whaley, Pinto, & Sigman, 1999) than mothers of non-anxious children. Modeling is a potent force in socializing children across cultures (Thyer, 1994). Thus, one could postulate that similar to findings from studies with White, non-Latino youth, parental modeling of threat interpretations is associated with increased child anxiety in Latino families. To date, only one study has examined this relation in a community sample that included mostly Latino children (Varela et al., 2004b). In this study, Varela et al. examined parental interpretations of three ambiguous scenarios during a family discussion task. They did not find an association between the number of anxious interpretations provided by the parents and child anxiety.

1.2 Cognitive Biases and Child Anxiety

Relative to non-anxious children, children with anxiety disorders have been found to provide more interpretations indicative of threat and danger in response to ambiguous scenarios and to provide more responses indicating avoidance (Barrett et al., 1996; Chorpita et al., 1996; Dadds et al., 1996). To date, however, only two studies have examined threat interpretations in a cultural context, and both of these studies employed community samples (Suarez-Morales & Bell, 2006; Varela et al., 2004b). In a study conducted by Suarez-Morales and Bell (2006), African American, Latino, and White, non-Latino children were administered a measure of worry/oversensitivity and a measure of information processing including interpretation, subjective probability in judgments, and problem solving biases in response to ambiguous hypothetical situations. Findings indicated no differences in the manner in which worry related to interpretive biases between Latino and White, non-Latino children. Specifically, worry was a significant predictor of negative spontaneous interpretations and ratings of threat for the ambiguous situations independent of cultural group.Varela et al. (2004b) examined whether Mexican and Mexican American children produced more somatic and anxious interpretations of ambiguous scenarios than White, non-Latino children and whether these interpretations were related to anxiety reporting. The three groups did not differ in the percent of total interpretations generated that indicated anxiety, and interpretations were not related to anxiety for the entire sample.

1.3 Present Study

The literature dealing with mechanisms of child anxiety has largely neglected potential culture-specific effects on such mechanisms. A universal approach to this area of research would call for uniform effects across cultures; however, on theoretical grounds, some known risk factors for child anxiety (e.g., parental control) may be expected to have variable effects depending on the cultural context in which they are embedded. On the other hand, other risk factors (e.g., cognitive biases) are expected to produce similar results independent of the cultural environment. Unfortunately, the literature focusing on child anxiety in Latinos is limited and has lacked a clear pattern of results. One possible reason for inconsistent findings in this area may be that such literature has focused on community samples, thus failing to replicate or refute existing associations found in the broader child anxiety literature, which has focused mostly on youth diagnosed with anxiety disorders or compared clinically anxious youth to non-clinical controls. Another reason that inconsistent findings may exist in the literature regarding risk factors for anxiety among Latino children may be that this literature has not considered or has neglected to account for the effect of basic demographic variables known to affect child anxiety levels. For example, some studies incorporating Latino youth in their samples indicate that girls report higher levels of anxiety than boys (Ginsburg & Silverman, 1996; Silverman, La Greca, & Wasserstein, 1995; Weems & Costa, 2005). In addition, failure to account for global parent anxiety levels may also obscure relations between more concrete parental behaviors such as modeling of interpretation biases, and children's anxiety. In this study, we include a mixed sample of clinically anxious Latino youth and Latino youth with no psychiatric conditions, focus on a restricted age range (7–13 year olds), and account for potential gender effects in all analyses and for potential effects of parent anxiety in analyses dealing with parent interpretation biases. Moreover, as reflected in the discussion above (1.1), the majority of research regarding the effects of parenting practices on child anxiety among Latinos has focused on mothers; however, the limited available research also examining effects of fathers' parenting has demonstrated differential effects based on parent gender. Therefore, in this study, we examine effects of parenting style separately for mothers and fathers.

Based on theory and the scant empirical literature in this area, we expected that: (a) mother controlling parenting would be positively associated with child anxiety; (b) father controlling parenting would not be associated with child anxiety; (c) mother and father warmth and acceptance would be negatively associated with child anxiety; (d) parental modeling of threat interpretations would be positively associated with child anxiety; and (e) child interpretation bias for anxious responses would be positively associated with child anxiety.

2. Materials and Methods

2.1 Recruitment and Procedure

We employed a multifaceted recruitment and screening process in order to obtain a mixed clinically anxious and non-anxious sample of Latino children and their caregivers. Clinically anxious children were recruited through the local school system ($n = 18$) or were referred for the study by local mental health clinics ($n = 9$). Children from the schools were recruited in two steps. First, letters were sent to parents of Latino children informing them they could be eligible to participate in a study if their children experienced anxiety symptoms on a regular basis (e.g., nervousness, fearfulness, or worries). Parents who returned the letters along with phone numbers were then further screened by phone using the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001) to gauge if their child might meet criteria for an anxiety disorder. Parents endorsing symptoms for their children in the clinical range of any internalizing subscale of the CBCL were invited to participate. This method has been used

successfully in recruiting youth from the community with psychiatric disorders (e.g., Bird, Gould, Rubio-Stipec, Staghezza, & Canino, 1991). Parents of children referred by mental health clinics were also administered the CBCL and only those who scored in the clinical range of any internalizing subscale were invited to participate.

Non-anxious children did not meet criteria for any psychiatric disorder and were recruited through the school system in a similar manner as the clinically anxious children ($n = 10$) and by word of mouth ($n = 10$). To recruit non-anxious children from the schools, first, letters were sent to parents of Latino children informing them they could be eligible to participate in a study focusing on children without mental health problems if their children did not exhibit anxiety symptoms on a regular basis. Parents who returned the letters along with phone numbers were then further screened by phone using the CBCL to gauge if their child might not meet criteria for any disorder. Parents of children whose scores were below the clinical cut-off for all clinical subscales were invited to participate. Similarly, parents of children referred by word of mouth were invited to participate if their children's scores on the CBCL were below the cut-off for the borderline clinical range.

All qualifying families participated in a data collection session lasting approximately three and a half hours. After consent and child assent forms were signed, participants completed the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions (ADIS-C/P; Silverman & Albano, 1996), followed by brief interviews with the child, a parent-child discussion task, and questionnaires below (2.3). Participating families were compensated $100.00.

2.2 Participants

Participants were 47 Latino children (27 clinically anxious, 20 non-anxious) aged 7–13 years ($M = 9.98$; $SD = 1.70$) and at least one of their caregivers (85% mothers only, 9% mothers and fathers, and 6% fathers only). Parents were immigrants to the United States (U.S.) from Mexico ($n = 8$; i.e., both parents for 8 children), Central America ($n = 24$), South America ($n = 3$), and combinations of Caribbean and Central America ($n = 5$), and South America and Central America ($n = 1$). Four children had one parent born in the U.S. of Latino ancestry (i.e., both parents from a Latin American country) in combination with one immigrant parent, and data regarding place of birth were missing for two couples. Twenty-five of the children were born in the U.S. and 19 were immigrants from Mexico ($n = 5$), Central America ($n = 11$), and South America ($n = 3$). Three children did not indicate their place of birth. The clinically anxious group did not differ from the non-anxious group in gender composition (χ^2 (1) = 5.82, p = ns), children's age, children's number of years in the U.S., and mothers' or fathers' years in the U.S.; however, the two groups differed in household income (Table 1).

Clinically anxious children met criteria for primary diagnoses of Separation Anxiety Disorder (SAD; $n = 4$), Social Phobia (SoP; $n = 8$), Generalized Anxiety Disorder (GAD; $n = 5$), Specific Phobia (SP; $n = 3$), Posttraumatic Stress Disorder (PTSD; $n = 2$), and Selective Mutism (SM; $n = 1$) based on results of the ADIS-C/P. Four children with a secondary diagnosis of SAD ($n = 1$), SoP ($n = 2$) or GAD ($n = 1$) were included in this group. We included these children because the clinician severity ratings for their anxiety diagnoses were within one point of the severity rating of the primary disorder. Primary diagnoses for these four children were Dysthymia (DY; $n = 1$), Oppositional Defiant Disorder (ODD; $n = 2$), and Attention Deficit Hyperactivity Disorder-Combined Type (ADHD; $n = 1$). Eighty-five percent of the children in the clinically anxious group met criteria for more than one anxiety diagnosis.

2.3 Measures

2.3.1 The Child Behavior Checklist for Ages 6–18 (CBCL; Achenbach & Rescorla, 2001)—The CBCL is a 112-item multidimensional parent-report measure that assesses children's functioning across several domains. Items are presented as statements and parents are asked to rate how descriptive each item is of his or her child's behavior within the past six months on a three-point scale ranging from '*not true (as far as you know)*' to '*very true or often true*.' The CBCL is widely used as a screening measure of child emotional and behavior problems and shows good internal consistency and good construct validity, with higher scores being associated with more maladjustment in Latino youth (Rubio-Stipec, Bird, Canino, & Gould, 1990).

2.3.2 Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Versions (ADIS-C/P; Silverman & Albano, 1996)—The ADIS-C/P was administered by doctoral students who had been trained to 100% diagnostic agreement. The ADIS-C/P is a semi-structured diagnostic interview based on DSM-IV criteria designed to assess major psychiatric disorders of childhood, including anxiety disorders. The ADIS-C/P is widely used in both research and clinical settings and has demonstrated good test-retest reliability for both English (Silverman, Saavedra, & Pina, 2001) and Spanish (Pina & Silverman, 2004) versions. Consistent with guidelines established by the developers of the ADIS-C/P, diagnoses were determined on the basis of composite between parent and child reports (i.e., diagnoses resulting from either parent or child interview were aggregated), and the diagnosis yielding the highest severity rating was established as the primary diagnosis. All interviews were videotaped and a reliability check for diagnostic accuracy of 6 randomly selected cases yielded excellent agreement for primary and secondary diagnoses, Cohen's kappa = 1.00.

2.3.3 The Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978)—The RCMAS is a 37-item self-report measure that assesses anxiety in youth aged 6 to 19 years. Participants are instructed to choose '*yes*' or '*no*' to indicate whether each statement describes themselves. The RCMAS has well established psychometric properties and is a valid indicator of anxiety among Latino samples (Pina, Little, Knight, & Silverman, 2009; Varela & Biggs, 2006; Varela, Sanchez-Sosa, Biggs, & Luis, 2008). In this study, the total anxiety score was used as a continuous measure of anxiety. Cronbach's alpha for this study was .88.

2.3.4 Children's Report of Parenting Behavior Inventory-Short Form (CRPBI-SF; Schaefer, 1965)—Parenting strategies reflecting control and acceptance were measured using the Hostile Control (8 items) and Acceptance (8 items) subscales of the CRPBI-SF. The CRPBI-SF uses a three-choice response scale ('*not like my parent*;' '*somewhat like my parent;' 'like my parent'*) designed to assess various aspects of parenting behavior from a child's perspective. Children completed separate CRPBIs for mothers and for fathers. These two subscales have been shown to be valid with Latin American families (Knight, Tein, Shell, & Roosa, 1992; Varela et al., 2009). Cronbach's alphas for this study were .75 and .83 for control, and .77 and .77 for acceptance for reports of mother and father behavior, respectively.

2.3.5 Children's Interpretive Bias: The Ambiguous Situations Questionnaire (ASQ; Barrett et al., 1996; Chorpita et al., 1996)—The ASQ was used to tap interpretation biases. Here, one situation from the ASQ that evokes a range of possible causal interpretations ("on the way to school, you begin to feel funny in your stomach") was presented to the child. Children generate as many explanations as possible for the scenario, select a most likely explanation and course of action, and explain their reasoning. An example of an interpretation indicating anxiety is, "I might get kidnapped." All interviews

were audio recorded and transcribed. Children's interpretive biases were measured by the number of interpretations generated for the situation that indicate anxiety (e.g., threat or danger).

Two independent raters blind to the group status of the child were trained to code interpretations as anxious or non-anxious until they reached 90% agreement based on coding systems developed byChorpita et al. (1996) andDadds et al. (1996). These raters coded all interpretations, and inter-rater agreement was high (Cohen's kappa = .89).

2.3.6 Family Discussion Task—To obtain an indicator of parental modeling of threat bias, parents and children discussed the ASQ situation for 5 minutes. All family discussions were audio recorded and transcribed. The number of new interpretations produced by the parents during this 5 minute segment that indicate threat or danger was used as an index of parental modeling of anxious behavior. Coding of the family discussions occurred in the same manner as coding for the ASQ. Cohen's kappa for inter-rater agreement on parental anxious vs. non-anxious interpretations was .93.

2.3.7 The State-Trait Anxiety Inventory–Trait Scale (STAI-T; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1977)—The STAI-T was used in this study to gauge mother trait anxiety. Because very few fathers participated in the study, only mother self-reports were considered here. The STAI-T is a 20-item adult self-report measure that assesses relatively enduring anxiety experienced by the respondent. Participants are asked to rate the frequency at which they experience the thought or feeling described via a 4-point Likert scale ('*almost never;*' '*sometimes*;' '*often*;' and '*almost always*'). Responses are summed to yield a total anxiety score, which was used as an indicator of anxiety in this study. The STAI-T has demonstrated excellent test-retest reliability and good concurrent validity (Metzger, 1976). Cronbach's alpha for the current study was .61.

3. Results

Zero order correlations among variables are presented in Table 2. To test our hypotheses, we conducted five hierarchical regressions in which child gender and total annual household income were entered in each first step and each variable of interest in the second step (mother control, father control, mother acceptance, father acceptance, interpretation bias; Table 3). A sixth hierarchical regression was conducted to examine the potential effect of parental modeling of anxious verbalizations on children's anxiety (Table 3). For this latter regression, mother trait anxiety was entered in the first step in addition to gender and annual household income, and mothers' number of anxious interpretations was entered in the second step.

Results showed that mother control, $\beta = .41$, $p = .004$, father control, $\beta = .41$, $p = .008$, and children's interpretive bias, $\beta = .32$, $p = .032$, predicted variance in children's anxiety scores beyond demographic variables. There was a trend in the prediction of children's anxiety scores by the number of anxious interpretations generated by the parents during the family discussions, $\beta = .34$, $p = .074$. Mother acceptance, $\beta = .18$, $p = .25$, and father acceptance $\beta = .18$, $p = .24$, were not associated with child anxiety.

4. Discussion

A number of risk factors for anxiety development have been identified among samples of White, non-Latino youth; however, it remains unclear whether these models of risk apply similarly to Latino youth. The present findings suggest that, consistent with the current state of the literature, paternal and maternal control and child interpretive biases are associated

with anxiety in Latino youth. However, parental lack of warmth and acceptance was not associated with anxiety in our sample.

4.1 Parenting Style and Child Anxiety

Our findings that paternal and maternal control were associated with child anxiety in Latino youth are consistent with research conducted with White, non-Latino samples including clinically anxious youth and help extend theories of anxiety development to Latino youth (Manassis & Bradley, 1994; Pollock et al., 1995; Siqueland et al., 1996; Vasey & Dadds, 2001). However, these results are in contrast with findings from community samples in which combined mother and father commands (Luis et al., 2008) and father control (Varela et al., 2009) were associated with anxiety for White, non-Latino children, but not for Latino children.

One explanation for the differences in results may be that our current sample included children with extreme and impairing anxiety (i.e., anxiety disorders) and the association between parental control and anxiety may look different for these children than for children with normative levels of anxiety. Although only children's perceptions of the amount of parental control they experience were assessed in the current study, it is possible that children who ascribe negative attributions to this type of parenting are more likely to develop severe anxiety independent of cultural affiliation. Negative attributions theoretically may lead to schemas that put children at risk for processing biases that elicit anxious affect and behaviors (Chorpita & Barlow, 1998; Creveling, Varela, Weems, & Corey, 2010). In contrast, when children expect discipline and control from their parents, this type of parenting may be associated with lower levels of anxiety for them. Although the majority of children in both cultural groups expect discipline and some control from parents, fathers in particular, this expectation may be stronger for Latino children (Varela et al., 2004a). Therefore, Latino children may interpret strict parenting from fathers as an expression of care and concern because this is a culturally sanctioned rearing style.

Our finding that child-reported parental acceptance was not associated with anxiety was unexpected, as previous literature has demonstrated a link between child anxiety and parents' rejecting behaviors (McLeod, Wood, & Weisz, 2007; Wood et al., 2003). Theoretically, parental rejection teaches children that positive outcomes (i.e., parental warmth and approval) are rare and not dependent on one's actions, and this uncertainty leads to anxiety (Rapee, 1997). Latino culture emphasizes the importance of family in an individual's life (Marin & Marin, 1991) and perception of strong family cohesion has been found to relate negatively to children's anxiety (Varela et al., 2009). It is possible that Latino children who do not perceive warmth and acceptance from one or both parents may have a sufficient number of positive and rewarding interactions with other family members so that lack of parental warmth and acceptance does not have a detrimental effect.

4.2 Cognitive Biases and Child Anxiety

There was evidence to support an association between children's interpretive biases and child anxiety. Specifically, responses indicative of threat or danger to a scenario describing a child experiencing a funny feeling in his or her stomach on the way to school were associated with increased anxiety. Previous studies with Latino youth in community samples were inconsistent in their findings of such an association (Suarez-Morales & Bell, 2006; Varela et al., 2004b). It is possible that interpretive biases are only relevant in predicting anxiety in samples with wide ranging degrees of anxiety including severe forms, as was the case here. Interpretive biases are believed to be proximal influences on children's behavior (Crick & Dodge, 1994) and research points to a clear link between cognitive biases and

child anxiety (Vasey & MacLeod, 2001; Watts & Weems, 2006). The present findings help extend theoretical models of anxiety development based on such research to Latino youth.

4.3 Parental Modeling and Child Anxiety

Results from this study provide some evidence for an association between parental modeling of anxious behaviors (i.e., more interpretations related to threat or danger) and anxiety among Latino children. Although the finding here was only a trend, there was no theoretical reason to postulate that Latino mothers of anxious children would differ in generating interpretations indicative of anxiety from White, non-Latino mothers as documented in the literature (e.g., Barrett et al., 1996; Chorpita et la., 1996; Dadds et al., 1996; Moore et al., 2004; Whaley et al., 1999). Of interest is that mothers' level of trait anxiety was not associated with children's anxiety. This finding suggests that mothers' anxiety may influence children's anxiety through more specific forms of modeling (e.g., providing negative interpretations of ambiguous situations) than through a global anxious disposition.

4.4 Limitations and Conclusions

Although the present findings are informative, they must be considered in the context of the study's limitations. The sample was relatively small, and therefore it is uncertain how well findings generalize to other Latino populations. However, that most of the findings were theoretically consistent gives us some confidence that these results are not idiosyncratic. In addition, the study used a cross-sectional design, which limits any conclusions about causality. Furthermore, unfortunately, we did not assess interpretive biases by the children pre and post family discussions, which would have more directly tested the effect of parent modeling of anxious behaviors on children's anxiety. Moreover, we examined child-reported level of parental control but did not assess children's interpretations or attributions of their parents' controlling behaviors, which may have clarified discrepancies between our current findings and those of past research employing community samples. Finally, our goal was to examine whether basic mechanisms purported to influence children's anxiety development and maintenance were applicable to Latino youth. As such, we limited our analyses to examine main effects of the variables of interest and did not examine potential interactive effects.

Despite these limitations, the study provides evidence for the applicability of some components of current models of child anxiety to Latino youth while highlighting cultural variations for other components. One clinical implication is that anxiety in Latino youth may be addressed with current cognitive behavioral approaches that target maladaptive cognitions and controlling parenting practices (Pina, Silverman, Fuentes, Kurtines, & Weems, 2003). For instance, controlling parenting and cognitive biases may serve to maintain anxiety for children who are suffering from anxiety disorders. Parental rejection or lack of warmth and acceptance may also not be as relevant for anxiety development in Latino culture, in which strong family cohesion may mitigate the potential negative effects of parental rejection. However, whether family cohesion indeed buffers the effects of lack of warmth and acceptance on the part of parents needs to be examined in future research.

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Highlights

- We examine parenting, interpretive biases, and child anxiety in Latino families.
- Child anxiety was linked with parental control and child interpretative biases.
- Child anxiety was linked with parent modeling of anxious behavior at a trend level.
- Child anxiety was not associated with perceived lack of parental acceptance.

Table 1

Mean Scores and Standard Deviations of Demographic Variables by Group Status

	Group Status				
	Non-Clinical		Clinical		
Variables	***M(SD)***	***n***	***M(SD)***	***n***	***F***
Child's Age	10.15(1.84)	20	9.93(1.62)	27	0.20
Years Father in U.S.	16.05(9.14)	19	11.18(7.50)	17	3.02
Years Mother in U.S.	14.47(8.36)	19	15.25(10.90)	22	0.06
Years Child in U.S.	8.00(3.48)	19	7.34(3.80)	22	0.33
Household Income	42,841(24,420)	20	26,512(15,224)	27	7.94**

** $p < .01$

Table 2

Correlations Among Study Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Gender	--									
2. Income	.01	--								
3. Anxiety	.18	−.15	--							
4. Mother Control	−.04	.07	.39**	--						
5. Mother Acceptance	−.01	.14	.15	.31*	--					
6. Father Control	−.17	−.04	.37*	.59**	−.30†	--				
7. Father Acceptance	−.13	.07	.15	.14	.64**	.53**	--			
8. Anxious Interpretation	.07	−.10	.34*	.32*	.16	.20	−.06	--		
9. Parent Modeling	.08	−.14	.33†	.11	−.18	.21	−.11	.35†	--	
10. Mother Anxiety	.08	−.05	−.02	−.08	.00	−.16	−.19	.15	−.03	--
n	47	47	47	47	46	42	43	45	33	41

Note. Gender was coded as boys = 0 and girls = 1.

* $p < .05$;

** $p < .01$;

† $p \leq .06$

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Table 3

Summary of Hierarchical Regressions Predicting Child Anxiety from Each Variable of Interest

	Mother Control		Father Control		Mother Acceptance		Father Acceptance		Anxious Interpretation		Parent Modeling	
Variables	**β (*SE*β)**	**ΔR^2**	**β (*SE*β)**	**ΔR^2**	**β (*SE*β)**	**ΔR^2**	**β (*SE*β)**	**ΔR^2**	**β (*SE*β)**	**ΔR^2**	**β (*SE*β)**	**ΔR^2**
Step 1		.05		.06		.06		.05		.05		.16
Child Gender	.18 (.15)		.20 (.16)		.18 (.15)		.20 (.15)		.20 (.15)		.39*(.19)	
Income	−.15 (.15)		−.13 (.16)		−.15 (.15)		−.13 (.15)		−.11 (.15)		−.15 (.19)	
Mother Anxiety	--		--		--		--		--		−.06 (.19)	
Step 2		.17**		.16**		.03		.03		.10*		.11†
Variable of Interest	.41**(.14)		.41**(.15)		.18 (.15)		.18 (.16)		.32*(.15)		.34†(.15)	
Total Statistics	R^2 = .22, F(3, 43) = 4.07, p = .012		R^2 = .22, F(3, 38) = 3.51, p = .024		R^2 = .09, F(3, 42) = 1.29, p = ns		R^2 = .09, F(3, 39) = 1.24, p = ns		R^2 = .15, F(3, 41) = 2.47, p = .076		R^2 = .27, F(4, 23) = 2.17, p = ns	

Note. Controlling for the presence of a father in the family discussion task yielded the same result as the analysis above in which Parent Modeling predicts child anxiety.

$^{*}p < .05$,

$^{**}p < .01$,

$^{\dagger}p = .074$