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Psychological and school functioning of Latino siblings of children with intellectual disability

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Abstract

Background—Siblings of children with disabilities are at risk for internalizing psychological disorders; however little is known about how culture influences this effect. This study examined the psychological and school functioning of Latino siblings of children with Intellectual Disability (ID).

Methods—Participants were 100 Latino (L) and nonLatino (NL) siblings (8–15 years) of children with ID (50 LID, 50 NLID) and 100 Latino and nonLatino control siblings (50 LC, 50 NLC). Siblings, parents, and teachers completed standard questionnaires regarding sibling emotional and behavioral functioning; sibling school report cards were obtained. Analyses of variance were conducted, controlling for parent age and family income; planned contrasts compared LID siblings to the other sibling groups.

Results—LID siblings reported significantly more internalizing ($t(1) = 2.41, p < .05$) and emotional ($t(1) = 3.06, p < .05$) symptoms, poorer awareness of ($t(1) = 2.26, p < .01$) and greater reluctance to express ($t(1) = 3.12, p < .01$) their emotions, and more problems in personal adjustment and relationships with parents ($t(1) = -2.50, p < .05$). Significantly higher percentages of LID siblings scored in the at-risk or clinical range for internalizing and emotional symptoms, and were more likely to score above the clinical cut-off for separation anxiety disorder and to endorse global impairment. LID siblings experienced more school absences and lower academic performance. There were no group differences in externalizing behavior problems, somatic symptoms, or teacher-reported internalizing symptoms.

Conclusions—Latino siblings of children with ID are at greater risk for internalizing psychological disorders and greater impairment in personal and school functioning. Results are discussed in terms of their sociocultural significance and clinical implications.

Keywords

Siblings; intellectual disability; Latino; culture

When a child has a disability, all members of the family are affected. Siblings of children with disabilities experience more internalizing problems such as depression and anxiety when compared to siblings of typical children (Barlow & Ellard, 2006; Hastings, 2007). Siblings report worry, embarrassment, resentment, and guilt, extra household and child-care burden, and differential parental attention in favor of the child with the disability (Meyer & Vadasy, 1994; Pit-Ten Cate & Loots, 2000).

What is currently known about disability and siblings is based almost exclusively on families of European-American descent. Minimal attention has been devoted to the influence of cultural factors on sibling functioning; however, understanding the sociocultural context in which siblings are raised is essential for understanding sibling relationships and the potential impact of a child's disability on siblings (Skinner & Weisner, 2007). From a sociocultural perspective, one would expect that children growing up within a culture that values sibling relationships and caretaking would respond differently to a brother or sister's disability than children raised in a culture in which sibling caretaking is perceived as a burden and sibling relationships are secondary to friendships.

Latinos represent the largest minority population in the United States (U.S. Bureau of the Census, 2000). Latino families in the US share higher rates of sociodemographic stress (e.g., poverty, immigration, and minority status) which have been associated with higher rates of anxiety symptoms and disorders among community samples of Latino children (Canino, 2004; Varela et al., 2004). Latinos also share salient familistic cultural values which may heighten the significance of sibling relationships and caretaking responsibilities while discouraging open verbal expression of sibling-related distress (Canino, 2004; Varela, et al., 2004). Relative to European-American youth, Latino siblings' daily activities are highly intertwined and sibling caretaking and companionship are idealized (DeRosier & Kupersmidt, 1991; Updegraff, McHale, Whiteman, Thayer, & Delgado, 2005). For example, Costa Rican children report higher levels of companionship, intimacy, and satisfaction with their siblings, whereas American youth report greater levels of companionship and satisfaction in their relationships with their friends (DeRosier & Kupersmidt, 1991).

The possibility that sociodemographic stress and strong familistic values among Latinos may increase psychological vulnerability among Latino siblings of children with disabilities was explored in a recent study (Lobato, Kao, & Plante, 2005) comparing 20 matched Latino and 20 nonLatino healthy siblings (ages 8–14 years) of children with developmental disabilities. On the Child Behavior Checklist/4–18 (CBCL) (T. Achenbach, 1991), mothers of Latino siblings reported higher sibling internalizing scores than mothers of nonLatino siblings. Nearly twice as many Latino compared to nonLatino siblings (75% v. 40%) were identified as within the clinically at-risk range. There were no clinical or statistical group differences in CBCL externalizing behaviors. Though compelling, this study was limited by its small sample size, heterogeneity in the disability sample, lack of comparison groups of siblings of typical children, and reliance on parent report measures of sibling functioning.

Use of multiple informants is particularly important in sibling research. First, there generally is only modest agreement between parents and children in their reports of children's psychological symptoms, especially for internalizing symptoms which siblings are more likely to experience (Holmbeck, Li, Schurman, Friedman, & Coakley, 2002). Second, parents tend to report more adjustment problems for siblings than siblings report about themselves, which complicates the assessment of sibling risk (Guite, Lobato, Kao, & Plante, 2004). Finally, it is unknown whether elevated sibling psychological distress results in impairment in sibling functioning outside of the family context (i.e., in school). To assess the latter, the perspective of the teacher and assessment of school functioning would be essential.

The current study used multiple informants (sibling, parent, teacher) to examine the psychological and school functioning of Latino and nonLatino siblings of children with intellectual disabilities (ID) in comparison to matched Latino and nonLatino siblings of typically developing children. Based on the Latino sociocultural context of heightened demographic stress and familistic values regarding the sibling relationship, we hypothesized that Latino siblings of children with ID would display higher rates of distress and impairment than siblings in all other groups.

Methods

Participants

Participants were 100 (50 LID and 50 NLID) siblings and parents of children with ID, and 100 (50 LC and 50 NLC) siblings and parents of typically developing children who served as controls. All families met criteria for having one child 8 to 15 years old (the well sibling) and one child 3 to 18 years old (the index child) who were biologically related and lived together. In the ID families, the index child had a documented diagnosis of ID made at least 6 months prior to the study. For the well sibling and for all of the children in control group families, inclusion criteria required that the child had no history of disability or illness requiring special education services, therapy, or inpatient hospitalization or emergency room visit over the past year.

All families lived within a 55 mile radius of our research center in Providence, RI, a small city/metropolitan area in the Northeast. Families were recruited from multiple sources including hospital-based specialty pediatric programs, pediatrician offices, community agencies, public and private schools, and word of mouth. Attempts were made to match the control families to the ID families based on the index child's gender, the well sibling's gender and birth order relative to the index child, and families' economic status. All participants provided consent and assent to participate in this study which was approved by the hospital Institutional Review Board. Families were compensated for study completion. Siblings' teachers were sent a request to complete measures and received a gift certificate for returning the measures. Teacher reports were returned for 86% of participants.

Of the 400 families who were screened, 57% met eligibility criteria (58 LID families, 61 NLID families, 55 LC families, 55 NLC families). The majority (87%) of eligible families agreed to participate and completed the study. The four groups did not differ significantly in rates of study participation.

Demographic characteristics of the groups are presented in Table 1. The participating parent had to be a primary caregiver of the children; the majority were biological mothers. The other participating parents were biological fathers (LID = 1, LC = 1, NLC = 4) and stepmothers (LID = 1, NLC = 1). For a sibling to be considered of Latino descent, one or both parents self-identified as being first or second generation Latino. The majority of Latino siblings were born in the US mainland (LID = 58%, LC = 68%) and lived most of their lives in the US (LID = 76%, LC = 84%). All nonLatino siblings were born in the mainland US and self-identified as Caucasian.

All of the ID index children had developmental disabilities documented in medical or school records and confirmed by research staff. The majority (85%) had been administered a standardized developmental assessment; the remainder had reports describing their diagnoses and developmental delays. Specific cognitive test standard scores were documented for about half of the LID (52%) and NLID (58%) children. There were no significant differences in documented cognitive standard scores of the LID ($M = 61.88$, $SD = 12.83$) and the NLID ($M = 56.17$, $SD = 16.05$) children; cognitive scores averaged 2 or more

standard deviations below the means. Due to potential disparities in the availability and accuracy of diagnoses among language and ethnic/racial minorities, bilingual/bicultural research staff further screened for and confirmed the presence of developmental delay by directly administering the Vineland-II Adaptive Behavior Scales (VABS-II) Daily Living Skills: Personal subdomain (Sparrow, Cicchetti, & Balla, 2005) with parents as informants. There were no significant differences between the mean Personal subdomain ν -scale scores for the LID ($M = 6.4$, $SD = 2.56$) and NLID children ($M = 6.1$, $SD = 2.82$); both groups' mean scores fell more than 2 standard deviations below the mean ($M = 15$, $SD = 3$). Children were only included in the ID sample if their documented evaluations and their Vineland scores were consistent with intellectual disability. Parents reported the following diagnoses in addition to ID: chromosome disorders such as Down syndrome (LID = 30%, NLID = 50%), autism spectrum disorders (LID = 16%, NLID = 24%), neuromuscular disorders such as cerebral palsy (LID = 8%, NLID = 2%), or neurological disorders such as seizure disorder (NLID = 8%).

Measures

All measures and recruitment materials had Spanish translations. The standard, published Spanish translations of questionnaires were used except where noted.

Family information—Parents provided demographic information about all household members. Family per capita income was calculated by dividing parent-reported annual income by the number of people living in the home. To assess acculturation, siblings responded to the 4 items from the Short Acculturation Scale (Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987) regarding language usage on a 5-point Likert scale ranging from 1 (*only Spanish*) to 5 (*only English*). Responses were averaged across the 4 items and higher scores reflect greater acculturation.

Sibling psychological functioning—Sibling emotional and behavioral functioning was assessed via siblings' self report as well as parent and teacher reports. Siblings completed the Behavior Assessment System for Children, Second Edition: Self-Report (BASC2-SR) (Reynolds & Kamphaus, 2004), a self-report measure of child emotional, behavioral, and social functioning. The BASC2-SR yielded five Composite T-scores. Higher T-scores for School Problems, Internalizing Problems, Inattention/Hyperactivity, and Emotional Symptoms Index (a global indicator of emotional disturbance) reflect more problems. Higher T-scores for Personal Adjustment indicate more positive adjustment, while lower scores suggest more problems with one's support system and coping skills.

A portion of the Diagnostic Interview Schedule for Children (DISC) Predictive Scales (DPS), youth informant version 4.32 was used as a diagnostic screen (Lucas et al., 2001). We used the standard Spanish translation developed by the NIMH MECA study (Methods for the Epidemiology of Child and Adolescent Mental Disorders) (Lahey et al., 1996). The Youth-DPS is a series of diagnosis-specific self-report questions with items predictive of each diagnosis. Given our focus on internalizing disorders, siblings were interviewed with the 28 items assessing the six DPS diagnoses of Social Phobia, Panic Disorder, Separation Anxiety Disorder, Agoraphobia, Generalized Anxiety Disorder and Major Depressive Disorder. For the six diagnoses, the clinical cut-offs were used to create dichotomous scores of 1 indicating higher risk for the diagnosis or 0 indicating low risk. The DPS also measures global impairment. Siblings were asked the seven questions about parent and teacher reactions to, and limitations associated with, the youth's reported feelings and behavior. For the Global Impairment score, scores of 1 were an indicator of the presence of impairment and scores of 0 indicated its absence. With two exceptions, we used the clinical cut-offs based on the original standardization (Lucas, et al., 2001). The disorders of panic and

generalized anxiety were not examined in the original sample, so more recent DPS disorder cutoffs from a community sample were used for these two scales (Lucas, personal communication).

Siblings completed the Child Somatization Inventory (CSI), a 35-item measure of somatic complaints experienced during a 2-week period (Garber, Walker, & Zeman, 1991; Walker & Greene, 1989). They rated the extent to which they experience each physical symptom on a 5-point scale, with potential total scores ranging from 0 to 175. Siblings completed the 16-item Emotion Expression Scale for Children (EESC) (Penza-Clyve & Zeman, 2002). Higher scores on the Poor Awareness subscale reflect more difficulty with identifying emotions; higher scores on the Expressive Reluctance subscale reflect more reluctance to express emotions. Siblings responded to items using a 5-point Likert scale and subscale scores ranged from 8 to 40. We developed Spanish translations of the CSI and the EESC using a combined back-translation and bilingual translation committee consensus method (Matias-Carrelo et al., 2003).

Parents completed The Child Behavior Checklist for Ages 6 - 18 (CBCL) (T. M. Achenbach & Rescorla, 2001) as a parent report measure of sibling's psychological functioning and competence. The CBCL yielded four Composite T-scores for Internalizing Problems, Externalizing Problems, Total Behavior Problems, and Competence.

Teachers completed the Teacher's Report Form for Ages 6 to 18 (TRF) (T. M. Achenbach & Rescorla, 2001) as a measure of sibling behavior and adaptive functioning in the classroom. The TRF yielded four composite T-scores for Internalizing Problems, Externalizing Problems, Total Behavior Problems, and Adaptive Functioning.

Sibling school functioning—Parents or teachers provided copies of the most recent report card for all siblings. Just over half (60%) were the final or fourth quarter report card for the past school year, and the remaining were evenly distributed across the other quarters. Research assistants recorded information about siblings' grades and the number of school absences. Almost all siblings had grades for math (99.5%), language arts (98.5%), physical education (94%), and science (90.5%). Grades were classified into five categories of Failing (0), Below Average (1), Average (2), Above Average (3), or Excellent (4). The number of days the sibling was absent for the most recent school quarter was reported for 80% of the sample. Parents reported how many sibling school absences were due to the index child using a 5-point scale ranging from *None* to *All of them*.

Procedure—Interviews were completed at the families' homes (74%), research office (24%), or another location (2%) the family chose. Siblings and parents were interviewed separately in the language of their choice. Two bilingual, bicultural research assistants conducted all interviews. The majority of LID (72%) and LC (84%) parents completed the interviews in Spanish; the majority of LID (90%) and LC (96%) siblings completed the interviews in English. The research assistants read all questions aloud to all participants and recorded their responses.

Results

We compared the demographic characteristics of the four groups. There were no significant group differences in characteristics of the siblings and index children. There were significant differences for parents' age ($F(3, 199) = 8.02, p < .01$). Post hoc comparisons indicated that LID parents' mean age was lower than NLID and NLC parents (all $p < .01$), and NLID parents' mean age was higher than LID and LC parents (all $p < .01$). NLID families were more likely to be two-parent households than the other groups ($X^2(3) = 23.29, p < .01$).

There were group differences for parent employment where at least one parent worked part-time or full-time ($X^2(3) = 15.99, p < .01$). NLID families had the highest rate of parent employment and LID families had the lowest rate. Family per capita income differed across groups ($F(3, 193) = 27.57, p < .01$). Post hoc comparisons revealed that the four groups differed significantly from each other (all $p < .05$); LID families had the lowest per capita income and NLID families had the highest.

We conducted analyses of variance with parent age and family per capita income as covariates. To test our hypotheses regarding the particular vulnerability of LID siblings, we used planned contrasts to specifically compare the LID siblings to the other three groups for all dependent measures. Mean scores and results are presented in Table 2 for the sibling report measures, in Table 3 for parent and teacher report measures, and in Table 4 for sibling school functioning.

On the BASC-SR, the ANOVA revealed significant group differences in Internalizing Symptoms, Emotional Symptoms Index, and Personal Adjustment. Planned comparisons revealed that LID siblings had significantly higher BASC-SR Internalizing and Emotional Symptom Index mean T-scores than the other three groups. LID siblings reported poorer awareness of their emotions and more reluctance to express their emotions than the other groups. There were significant differences in the number of siblings scoring in the clinically at-risk range. We used a cut-off of one standard deviation from the mean to designate T-scores in the at-risk and clinical range. On the BASC-SR Internalizing Composite, 14% of LID and LC siblings and 2% of NLID and NLC siblings scored in the at-risk or clinical range ($X^2(3) = 9.92, p < .02$). LID siblings reported lower BASC-SR Personal Adjustment mean T-scores, indicating more problems. 20% of the LID siblings scored in the at-risk or clinical range, compared to 6% of NLID siblings and 4% of LC and NLC siblings ($X^2(3) = 11.51, p < .01$). Parents also reported significantly higher CBCL Internalizing T-scores for LID siblings. Almost half (46%) of LID siblings had CBCL Internalizing T-scores in the at-risk or clinical range, compared to 28% of LC siblings and 26% of NLID and NLC siblings ($X^2(3) = 6.56, p < .09$).

On the DPS, the planned comparisons indicated that LID siblings reported higher Separation Anxiety Disorder and Global Impairment scores. They were more likely to score above the clinical cut-off for Separation Anxiety (34%) compared to 10% of NLC control siblings and 18% of NLID and LC siblings ($X^2(3) = 9.50, p < .02$). LID siblings were also more likely to endorse the presence of Impairment (20%) than NLID siblings (8%), LC siblings (4%), and NLC siblings (6%) ($X^2(3) = 8.79, p < .03$). Both groups of Latino siblings reported higher rates of agoraphobia (LID=38%; LC=39%) than nonLatino siblings (NLID=21%; NLC=10%). The LID siblings did not differ significantly from the other groups for their report of somatic symptoms, or for teacher reports of internalizing problems. Although we did not hypothesize siblings to be at risk for behavior problems, we examined externalizing behaviors and found no group differences based on sibling, parent, or teacher reports.

There were no group differences for parent and teacher report of sibling adaptive functioning. There were few significant differences in school functioning. LID siblings scored significantly lower report card grades in language arts. They were less likely (48%) to have above average or excellent grades in this subject than the NLID (86%), NLC (84%), and LC (67%) siblings ($X^2(3) = 22.6, p < .01$). This appeared unrelated to language proficiency as there were no significant differences between the LID ($M = 3.71, SD = 0.98$) and LC ($M = 3.81, SD = 0.58$) siblings for the Short Acculturation Scale score, and the Acculturation scores were not significantly correlated with the language arts/literacy grades for the LID ($r = .13, p < .35$) or the LC ($r = -.12, p < .41$) siblings.

LID siblings had more school absences than the other groups. They were more likely to miss 3 or more school days during the most recent quarter (41.5%) than the NLID (16%), LC (23%), and NLC (19.5%) siblings ($X^2(3) = 8.41, p < .04$). There were group differences in parent report of reasons for the sibling school absences. Parents of LID siblings (36%) were more likely to report that at least a few of the siblings' school absences were because of the index child than parents of NLID siblings (2%), LC siblings (4.5%), and NLC siblings (11%) ($X^2(3) = 26.26, p < .01$).

Discussion

This study examined the psychological and school functioning of Latino siblings of children with ID in comparison to nonLatino siblings of children with ID and Latino and nonLatino siblings of typical children. LID siblings were found to be at heightened risk. They experienced significantly more internalizing symptoms and impairment than other siblings, reported more difficulty in personal adjustment and relationships, and greater reluctance to express their emotions. Both groups of Latino siblings reported higher rates of internalizing symptoms and agoraphobia, which is consistent with literature indicating that Latino children, in general, experience more anxiety problems and neighborhood stress, than nonLatino children (Canino, 2004; Varela, et al., 2004). Only among the LID siblings were there also significantly higher emotional symptoms, impairment, and *parent*-reported internalizing symptoms. Parent reports yielded double the rates of scores above the clinical cut-offs compared to LC siblings.

The elevation in parental perception of sibling internalizing symptoms is important to consider in light of sibling reports on the BASC 2 Personal Adjustment scale. The Personal Adjustment scale consists of four subscales assessing Relations with Parents, Interpersonal Relations, Self-Esteem, and Self-Reliance. Low scores indicate deficiencies in the child's social supports, relationships, and coping skills. LID siblings scored significantly lower on the Personal Adjustment scale of the BASC 2 Self-Report than other siblings, with more than three times the percentage scoring below the cut-off compared to LC siblings. LID siblings were also significantly more likely to score above the clinical cut-off for Separation Anxiety, although not for other forms of anxiety or depressive disorders. The Separation Anxiety Disorder items of the DPS inquire about a child's functioning in relation to their mother or father (e.g., "Has there been a time when you often wanted to stay at home and not go to school or other places without your mother or father?"). This cluster of elevated scores for sibling and parent-reported internalizing and emotional symptoms, separation anxiety, and problems in personal adjustment and relationships, suggests the possibility of more insecure relationships between the LID siblings and their parents. Thus, there may be both direct (e.g., sibling worry about their brother or sister) as well as indirect (disruptions in the parent-sibling relationship) pathways through which a child's disability affects Latino siblings. Previous observational studies with nonLatino families have demonstrated that healthy siblings receive less maternal attention, and that the maternal attention they do receive is more critical or demanding than the attention received by the index child (Lobato, Miller, Barbour, Hall, & Pezzullo, 1991; Quittner & Oipari, 1994). Why the Latino ID siblings, in particular, evidenced more disruption in their relationship with their parents is unclear from the current data. However, based on the group differences in annual income and maternal age, one possible explanation is that the disruption in the LID sibling-parent relationship may, in part, reflect greater maternal distress and socioeconomic hardship.

There were few significant differences in sibling school functioning. There were no significant group differences in externalizing behavior problems, somatic symptoms, or in teacher-reported internalizing symptoms. These results suggest that during the course of their school day teachers may not recognize that LID siblings are more distressed. Given

cultural sanctions against discussing family problems to outsiders coupled with their greater reluctance to express emotion, Latino ID siblings may be less likely to share family-related distress with their teachers who also may be less able to communicate directly with parents to learn about significant events at home. LID siblings had significantly more school absences which their parents were more likely to attribute to the index child. Greater family obligations (e.g., providing translations for parents at appointments) as well as siblings' anxiety regarding separation from their parents may have influenced LID siblings' school attendance. This combination of greater anxiety, worse attendance, and lower performance may place Latino ID siblings at risk for poor academic outcomes.

We did not want to confound culture/ethnicity and socioeconomic status and made every effort to minimize the income disparities between Latino and nonLatino families. However, given our multiple eligibility and matching criteria, it was difficult to recruit families with a range of SES, especially for the ID groups who had the most eligibility criteria. Despite these efforts, the Latino families, especially the LID families, reported very impoverished living conditions. Unexpectedly, our nonLatino ID families were disproportionately two-parent homes with the highest rates of employment and highest income level. Thus, despite our attempt to diminish the effects of group SES differences via recruitment strategies and statistical covariation for income, the more adverse outcomes among the LID siblings in our sample still may reflect the dual effects of sociodemographic stress and disability.

One limitation worth noting includes the heterogeneity of diagnoses in the ID group. Previous literature has suggested that siblings of children with autism may be at greater risk than siblings of children with other diagnoses, such as Down syndrome (Orsmond & Seltzer, 2007; Rodrigue, Geffken, & Morgan, 1993), however, the study design and small diagnostic subgroups did not allow meaningful comparisons. Additionally, although families tracing their origins to Mexico comprise the largest Latino group in the US, the families in our study were representative of Latino families in the US Northeast – the majority of whom are from the Dominican Republic and Puerto Rico. Families from different regions may have different understandings and experiences of a child's disability and immigration. For example, as US citizens, Puerto Rican families can migrate back and forth with ease. This may affect the availability and delivery of services to the child, which has implications for siblings.

To the best of our knowledge, this is the first controlled study of the psychological and school functioning of Latino siblings of children with intellectual disability. LID siblings appear to be at greater risk for adverse outcomes than other children. In addition to having a brother or sister with a developmental disability, the LID siblings experienced impoverished socioeconomic conditions and more difficulties in their personal adjustment and relationships. They reported experiencing more internalizing emotional symptoms which they were more reluctant to express and which were not evident to their teachers.

These results have implications for clinical service delivery for children with developmental disabilities, especially among Latino families where siblings appear to be most vulnerable. A truly family-based, culturally-sensitive service model would acknowledge the importance of siblings at all steps of service delivery. Sibling-focused strategies would include explicit inquiries as to how siblings are functioning at home or school at the time of assessment, as well as active consideration of siblings' perspectives and needs when treatment plans are developed and reviewed.

It is important to acknowledge that many LID siblings were functioning within normal limits despite heightened vulnerability and the challenges their families faced. Thus, future studies should examine the predictors of healthy and unhealthy functioning among Latino and

nonLatino siblings so that intervention can be directed towards those siblings at greatest risk.

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Abbreviations

L	Latino
NL	NonLatino
ID	Intellectual Disability
C	Control

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Table 1

Demographic Characteristics by Group

	ID		Control	
	Latino (n = 50)	nonLatino (n = 50)	Latino (n = 50)	nonLatino (n = 50)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Sibling age in years	11.70 (2.41)	11.38 (2.19)	12.05 (2.51)	11.81 (2.30)
% Male	48%	38%	48%	42%
% Older than child	82%	74%	72%	84%
Sibling ethnicity				
% nonLatino		100%		100%
% Dominican	38%		46%	
% Puerto Rican	20%		8%	
% Central American	24%		18%	
% South American	4%		16%	
% Other Latino	14%		12%	
Child's age in years	8.39 (3.59)	9.19 (4.35)	9.90 (4.51)	8.72 (4.05)
% Male	72%	74%	70%	68%
Parent age in years	36.49 (5.51)	42.02 (5.18)	38.67 (5.94)	40.22 (6.74) **
% two-parent home	66%	98%	74%	58% **
% parent(s) employed	70%	96%	92%	80% **
Per capita income	\$6,148.8 (4474.3)	\$15,706.43 (6071.3)	\$8,492.5 (4881.2)	\$11,325.4 ** (5993.1)
% Biological mothers	96%	100%	98%	90%

Note. ID = Intellectual Disability.

**
 $p < .01$

Table 2

Mean Scores on Sibling Report Measures by Group

Measures	ID		Control		Analyses of Variance	Contrast: Latino ID siblings versus the other three groups
	Latino (n = 50)	nonLatino (n = 50)	Latino (n = 50)	nonLatino (n = 50)		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	F (3)	t (1)
Behavior Assessment System for Children, Second Edition: Self-Report (BASC-2 SR) T-scores						
School Problems	49.19 (10.06)	46.49 (8.92)	47.31 (7.47)	46.69 (9.22)	0.21	0.60
Internalizing	49.62 (10.11)	44.51 (6.82)	47.22 (9.22)	42.98 (7.19)	3.50 *	2.41 *
Inattention/Hyperactivity	49.92 (11.16)	46.89 (8.80)	48.39 (11.33)	45.84 (9.59)	0.74	1.03
Emotional Symptom Index	49.67 (9.75)	43.98 (7.10)	45.90 (7.96)	42.62 (7.19)	4.18 **	3.06 *
Personal Adjustment	49.56 (10.45)	54.42 (9.20)	54.31 (7.17)	55.90 (7.29)	2.99 *	-2.50 *
Emotion Expression Scale for Children (EESC)						
Poor Awareness	19.85 (7.24)	16.75 (6.12)	18.22 (7.10)	15.34 (6.45)	2.98 *	2.26 *
Expressive Reluctance	21.96 (6.53)	18.34 (5.48)	19.37 (6.54)	17.52 (6.21)	3.84 *	3.12 **
Child Somatization Inventory (CSI)						
Total Score	20.15 (21.30)	14.49 (13.88)	16.22 (19.58)	14.12 (14.04)	0.33	0.74
Diagnostic Predictive Scales (DPS)						
Social Phobia	.21 (0.41)	.17 (0.38)	.22 (0.42)	.20 (0.40)	0.10	0.16
Panic Disorder	.06 (0.25)	.06 (0.25)	.06 (0.24)	.04 (0.20)	0.23	-0.32
Agoraphobia	.38 (0.48)	.21 (0.41)	.39 (0.49)	.10 (0.30)	3.90 **	1.51
Separation Anxiety	.35 (0.48)	.19 (0.40)	.18 (0.39)	.10 (0.30)	2.43	2.23 *
Generalized Anxiety	.10 (0.31)	.09 (0.29)	.12 (0.33)	.18 (0.39)	0.86	-1.02
Major Depression	.10 (0.31)	.07 (0.25)	.06 (0.24)	.12 (0.33)	0.53	-0.23
Global Impairment	.21 (0.41)	.09 (0.28)	.04 (0.20)	.06 (0.24)	2.24	2.11 *

Note. ID = Intellectual Disability. BASC2-SR = Behavior Assessment System for Children, Second Edition: Self-Report. EESC = Emotion Expression Scale for Children. CSI = Child Somatization Inventory. DPS = Diagnostic Predictive Scales.

*
p < .05.

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p < .01

Table 3

Mean Scores on Parent and Teacher Report Measures by Group

Measures	ID			Control		Analyses of Variance	Contrast: Latino ID siblings versus the other three groups
	Latino	nonLatino	Latino	nonLatino	F (3)		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)			t (1)
CBCL	(n = 50)	(n = 50)	(n = 50)	(n = 50)			
Internalizing	57.46 (11.85)	53.09 (10.17)	53.35 (8.95)	51.22 (11.12)	2.62		2.55 *
Externalizing	52.46 (11.16)	50.13 (9.09)	47.71 (10.03)	50.08 (11.11)	1.58		1.01
Total Behavior	54.08 (12.54)	51.13 (9.91)	50.31 (8.90)	49.16 (12.15)	1.38		1.62
Competence	44.33 (9.99)	54.79 (8.79)	43.35 (7.79)	49.06 (8.18)	5.24 **		-0.97
TRF	(n = 42)	(n = 43)	(n = 43)	(n = 44)			
Internalizing	52.61 (4.01)	52.20 (4.43)	52.93 (6.88)	51.48 (3.50)	0.55		0.14
Externalizing	48.76 (9.50)	50.12 (9.14)	46.93 (8.76)	46.93 (10.09)	0.86		0.67
Total Behavior	49.83 (8.68)	48.51 (8.48)	45.57 (10.26)	45.07 (8.94)	2.58		0.12
Adaptive Functioning	46.34 (8.43)	49.71 (7.89)	51.14 (8.43)	40.71 (8.70)	2.11		-1.81

Note. ID = Intellectual Disability. CBCL = Child Behavior Checklist for Ages 6 – 18. TRF = Teacher's Report Form for Ages 6 to 18.

*
p < .05.

**
p < .01

Table 4

Mean Scores for Sibling School Functioning by Group

Measures	ID			Control			Analyses of Variance) F (3)	Contrast: Latino ID siblings versus the other three groups t (1)
	Latino	nonLatino	Latino	nonLatino	Latino	nonLatino		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
Report Card								
Grades								
Math	2.54 (0.89)	3.15 (1.02)	2.88 (1.08)	3.04 (1.05)	0.80	-1.52		
Language Arts	2.48 (0.95)	3.30 (0.83)	2.64 (1.15)	3.14 (0.74)	3.31 *	-2.17 *		
Science	2.65 (0.92)	3.27 (0.90)	2.91 (0.98)	3.00 (1.03)	0.38	-0.92		
Physical Education	3.11 (.068)	3.46 (0.82)	3.33 (0.73)	3.43 (00.74)	0.50	-1.78		
Days absent most recent school quarter	2.43 (2.52)	1.08 (1.46)	1.61 (2.03)	1.46 (1.55)	1.39	1.98 *		

Note. ID = Intellectual Disability.

*
 $p < .05$.