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Mothers' Perceptions of the Climate of Their Children's Schools: Covariations With Children's Academic Adjustment in Families of Mexican Origin

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Abstract

Although Latinx parents' perceptions of the climate of their children's schools may play a role in their children's academic adjustment, research examining this idea is sparse. Every 2 years beginning when children were in fifth grade ($M_{\text{age}} = 10.86$ years) until they were in 11th grade, Mexican-origin mothers ($N = 674$) reported on their perceptions of the climate of their children's schools; information on children's academic adjustment was collected from children and mothers. Multilevel modeling indicated that when mothers had more positive school climate perceptions, their children valued school more and performed better in school, but did not necessarily hold higher educational expectations. The findings suggest the importance of schools in creating welcoming environments for Mexican-origin parents.

Educational attainment among students of Latinx background in the United States has increased in recent years (Ryan & Bauman, 2016). However, Latinx students still lag behind compared to their counterparts from other racial and ethnic backgrounds (Musu-Gillette et al., 2016). A key issue in addressing this achievement gap is how schools can better support students as well as their families from different backgrounds. It has been suggested that one reason why parents from Latinx communities are less involved in their children's schools is because they often feel their children's schools do not respect them or their culture (Hill & Torres, 2010; Quiocho & Daoud, 2006; Ramirez, 2003). Although some empirical evidence is in line with this suggestion (e.g., Griffith, 1998; Park & Holloway, 2013), whether Latinx parents' perceptions of the climate of their children's school contribute to children's academic adjustment has not received empirical attention. Thus, in a study of Mexican-origin families, we tested the idea that when parents perceive their children's

school climate positively, children experience gains in their academic adjustment (e.g., the value they place on school and their academic performance).

Conceptualization and Operationalization of Parents' School Climate Perceptions

Investigators have repeatedly made the case that strong family school collaborations are key for children's educational success (e.g., Christenson, 2004; Epstein, 1990). When families and schools have common goals and share responsibility for children's academic development, they can combine their efforts in educating children by creating continuity between home and school such that children receive congruent messages about the value of learning. This emphasis on family school connections builds on ecological systems theory (Bronfenbrenner & Morris, 1998), which proposes that dynamic interactions between children's proximal environments (e.g., home and school) can shape children's development, including that of minority and immigrant children (García Coll et al., 1996). Indeed, the importance of interconnectedness between families and schools has been emphasized in Latinx immigrant communities (e.g., Dearing, Sibley, & Nguyen, 2015; Sibley & Brabeck, 2017), where a variety of forces can make it challenging for parents to connect with schools. Interconnectedness between families and schools may be reflected in part in parents' perceptions of the climate of their children's schools.

For over two decades, parents' school climate perceptions have been of interest to investigators concerned with identifying how schools can foster parents' involvement, with the idea that parents' involvement in children's learning on the school front (e.g., attending parent-teacher conferences and school events such as open houses) is more likely when parents feel the school environment is inviting and welcoming such that it builds interconnectedness between parents and teachers (Hoover-Dempsey & Sandler, 1997). Recently, investigators have begun to conceptually and empirically elaborate on the concept of parents' school climate perceptions (e.g., Schueler, Capotosto, Bahena, McIntyre, & Gehlbach, 2014), which have also been discussed in the context of parents' satisfaction with their children's schools (e.g., Griffith, 1998; Park & Holloway, 2013). Across conceptualizations and operationalizations, there appear to be two common themes in parents' perceptions of school climate: (a) parents' connection to the school and (b) children's well-being at school.

Parents' feelings of connection to their children's school can include parents' view that they are welcomed, valued, and respected by school personnel such as teachers and principals, as well as that schools make the effort to communicate with parents. For example, in addition to assessing parents' views of their children's well-being at school, Griffith (1998) assessed parents' views of their children's schools as providing a welcoming atmosphere for parents, regular communication with parents about their children's progress, and ways for parents to be involved in their children's schooling. Park and Holloway (2013) examined parents' perceptions of schools as providing a welcoming environment as part of a larger measure that also included parents' reports of the school's communication efforts and their general satisfaction with the school.

Children's well-being at school has also figured centrally in conceptualizations and operationalizations of parents' school climate perceptions. In Schueler et al.'s (2014) focus group with parents who were diverse in terms of their native language as well as the age of their children, the issue of children's well-being, particularly as reflected in children's academic and social lives, resonated with parents as a key component of a school's climate. Thus, items about children's well-being figured prominently in these investigators' measure of parents' perceptions of school climate, which also drew on broader work on school climate (Cohen, McCabe, Michelli, & Pickeral, 2009). The bulk of items focused on parents' perceptions of their children's experiences at school in regard to not only children's learning, enjoyment, and safety, but also teachers' respect for children, valuing of diversity in children's background, and fairness in the system for evaluating children.

Parents' school climate perceptions likely matter for most families, but they may be particularly important for families of minority and immigrant backgrounds, such as Latinx families (Kim, 2009). Such families may be less familiar with the inner workings of the American educational system, less able to help with their children's homework due to language barriers, and have rigorous work schedules that prevent them from being involved in their children's education (e.g., Urdan, 2012). In addition, differences in expectations and cultural worldviews when navigating school and home cultures can make it harder for Latinx families to be involved in their children's schools (e.g., Hill & Torres, 2010). For instance, an emphasis on respecting and abiding by teacher authority prevalent in Latinx culture may be incongruent with American schools' value of getting parents involved in their children's education, thereby creating discontinuities in expectations in the role that teachers and parents play in children's education (Ceballo, Jocoson, & Alers-Rojas, 2017).

The Role of Parents' School Climate Perceptions in Children's Academic Adjustment

When parents view the climate of their children's schools in a positive light, children may benefit in terms of their academic adjustment. For one, the more parents hold positive perceptions of the school climate, the more comfortable they may feel visiting the school for events such as parent-teacher conferences and open houses (e.g., Hoover-Dempsey & Sandler, 1997; Schueler et al., 2014), which can be key in helping parents align their involvement in their children's learning on the home front with the goals of the school (e.g., Hill & Taylor, 2004; Pomerantz, Kim, & Cheung, 2012). Consistent with this idea, in a large ethnically diverse sample of families with elementary school children, Griffith (1998) found that parents who perceived their children's school climate more positively were more likely to be engaged with their children's schooling. Notably, regardless of families' socioeconomic status or ethnic background, parents' involvement in their children's education has repeatedly been found to predict enhanced academic adjustment among children as reflected in their motivation, engagement, and grades throughout the school years (for a review, see Barger, Kim, Kuncel, & Pomerantz, 2019).

Even when parents' school climate perceptions do not foster their involvement, they may benefit children (Schueler et al., 2014). When parents view the school climate favorably,

they may communicate positive messages about school and the pursuit of education that can enhance children's academic adjustment. For instance, the more positive parents' school climate perceptions, the more they may talk with children about how much they like their teachers, which may lead children to view their teachers in a more positive light. Hearing such messages can enhance children's feelings of relatedness to teachers, which can foster children's learning and ultimately achievement (e.g., Pianta, 1999). Among Latinx middle and high school youth, support from parents and teachers has been linked to better academic adjustment and motivation (e.g., Alfaro, Umaña-Taylor, & Bámaca, 2006; Plunkett, Henry, Houlberg, Sands, & Abarca-Mortensen, 2008). Feelings of school belongingness during high school also appear to facilitate Latinx youth seeking the necessary supportive institutional resources to help them succeed (Conchas, 2001; Stanton-Salazar & Dornbusch, 1995). When parents see the school climate positively, they may also value education more, which they may communicate to their children. Regardless of children's age, such communication appears to heighten children's educational expectations and achievement, including among Mexican-origin children (Carranza, You, Chhuon, & Hudley, 2009; Suizzo et al., 2012; for a review, see Barger et al., 2019). Although parents' school climate perceptions have been linked to parents' engagement in their elementary children's schooling (e.g., Griffith, 1998), the link of their perceptions with children's academic adjustment has not been examined.

Parents' School Climate Perceptions in Developmental Context

Parents' perceptions of the climate of their children's school may change as children progress through school due in part to changes in the school structure and accompanying changes in school personnel's communication with parents. For example, as children transition from elementary to middle to high school, they go from a single teacher to multiple teachers. As a consequence, parents may find it difficult to maintain a connection with the school, making it harder to contact someone when issues arise in regard to their children's well-being. This may be compounded by the tendency for teachers to offer fewer invitations for parents to be involved in children's education as children get older (e.g., Green, Walker, Hoover-Dempsey, & Sandler, 2007). In addition, more challenging homework is coupled with less communication from schools about how to help with such work and parents' role in children's learning (McQuiggan & Megra, 2017). Together, these changes may lead parents to feel less connected to the school and less positively about their children's well-being at school. Consistent with this idea, although there has not been attention specifically to Latinx families, parents' involvement in their children's education declines as children get older in nationally representative samples in the United States (McQuiggan & Megra, 2017).

Despite the potential downward trend in parents' school climate perceptions, it may be particularly important for parents to maintain positive perceptions as children get older. Research with ethnically diverse children (e.g., Benner & Graham, 2009; Eccles et al., 1993; Wang & Eccles, 2012), as well as Mexican-origin children specifically (Castro-Schilo, Ferrer, Hernández, & Conger, 2016), indicates that children tend to become less academically engaged over the middle and high school years, with the latter being a time of risk for school dropout (e.g., Hammond, Linton, Smink, & Drew, 2007). When

parents hold positive school climate perceptions at a time in children's development when children are more prone to be disengaged from school, it may facilitate parents seeking resources from their children's schools to help children navigate these challenging times and support them in planning for the future. For example, the more positive parents' school climate perceptions during the later years of children's schooling, the more likely parents and their children may be to attend school information sessions and meet with school counselors, who can provide useful information (e.g., about course selection, college applications, and college financial aid). Such exposure may not only directly heighten children's educational expectations, but may also do so indirectly by heightening parents' expectations, which they may convey to children. Indeed, Park and Holloway (2013) found that among a nationally representative sample of parents of high school students, welcoming school environments were particularly important for Spanish-speaking parents' heightened educational expectations for their children.

The Current Research

Although there has been increasing attention to the potential importance of parents' school climate perceptions, it is unclear if such perceptions covary with children's academic adjustment over time. To address this gap, we used data from the California Families Project (CFP) to examine whether changes in mothers' perceptions of the climate of their children's school covary with changes in children's academic adjustment over the fifth to eleventh grades in a sample of families belonging to the largest Latinx subgroup in the United States—that is, Mexican-origin families (Flores, 2017). Our key hypothesis was that at times when mothers' school climate perceptions are more positive, children's academic adjustment would be better. We also investigated whether mothers' perceptions of school climate change as their children progress through the school years, with attention to whether in this context such perceptions become more important to children's academic adjustment as children get older. We expected that mothers' school climate perceptions would decline as children got older, but also possibly be of more importance to children's academic adjustment as they got older.

Guided by expectancy-value theory (e.g., Eccles et al., 1983; Wigfield & Eccles, 2000), we focused on three dimensions of children's academic adjustment. First, expectancy-value theory proposes that students' subjective value of school (e.g., importance, usefulness, and interest) plays a role in their academic engagement and performance. Thus, we assessed academic value as manifest in a combination of the importance children place on school, how much they care about school, and how much they like it. Second, given the theory's emphasis on expectancy beliefs as key contributors to academic engagement and performance (e.g., Eccles & Wigfield, 2002; Eccles et al., 1983), we evaluated children's educational expectations as manifest in their predictions and desires for their future attainment in school. Third, we used children's and mothers' reports of children's grades as a proxy for children's academic achievement. Kuncel, Credé, and Thomas' (2005) meta-analysis indicates that such reports are substantially, albeit not perfectly, correlated with actual grades.

We employed multilevel modeling (MLM) to identify the associations between mothers' school climate perceptions and their children's academic adjustment within- and between-families. Parents' perceptions are likely influenced by the practices implemented by the schools their children attend, as well as the individual school personnel with whom they have contact. Thus, their perceptions may fluctuate not only as their children transition from one school to another (e.g., elementary to middle school), but also from 1 year to the next as children's teachers change. To capture such variations, we took a within-family analytic approach in which we examined how changes in mothers' school climate perceptions covaried with concomitant changes in children's academic adjustment over time. A key benefit of this approach is that it allows for the identification of effects over and above variation between families, which can be due to potential confounds such as parents' educational attainment. However, it does not rule out potential within-family fluctuations that may covary with mothers' school climate perceptions. Given that parents' educational expectations are linked to children's academic adjustment (for a review, see Jeynes, 2005) and may lead parents to have more positive school climate perceptions as well, we also included mothers' educational expectations in our analyses at the within-family level.

We supplemented the analyses at the within-family level with analyses at the between-family level examining if mothers' perceptions across their children's schooling are associated with children's academic adjustment trajectories over time. Such analyses can provide a window into whether an accumulation of positive school climate perceptions among parents may support their children's academic adjustment over time. Unlike the within-family analyses, however, the between-family level analyses do not take into account potential confounds that vary between families. To address this issue, we included a number of covariates at the between-family level. As at the within-family level, we included mothers' educational expectations for their children—but averaged across the fifth to eleventh grades. We also controlled for several demographic characteristics that may be related to mothers' school climate perceptions as well as children's academic adjustment: (a) mothers' educational attainment, (b) number of years residing in the United States, and (c) economic hardship.

Method

Participants

We used data from the CFP, an ongoing longitudinal study of 674 Mexican-origin families living in Northern California. Data from families were collected starting when children were in fifth grade. Children were randomly selected through school rosters provided by two school districts located in metropolitan areas in Northern California during the years 2006–2007 and 2007–2008. One district was in an area with a population of 466,488 (23% of Mexican origin) and one with a population of 55,468 (44% of Mexican origin; U.S. Census Bureau, 2010). A small proportion of families (< 3%) were also recruited from Catholic schools in the same areas. Recruitment occurred either by telephone or through home visits if a telephone number was not available. Eligible families were of Mexican-origin descent, as defined by their ancestry and self-identification. To reduce heterogeneity in the family structure across the sample, at the time of recruitment, children had to be living with their

biological mother; for two-parent families, the father had to be the biological father (i.e., mothers residing with a partner who was not the biological father were excluded).

The sample included children and mothers mainly from two-parent (82%) households. At the initial wave of data collection, which took place when children were in fifth grade, children (50% female) were on average 10.86 years old ($SD = 0.51$) and the majority (72%) were born in the United States. Mothers were on average 36.26 years old ($SD = 5.90$), and most (84%) were born in Mexico. They had lived in the United States for an average of 16.85 years ($SD = 11.14$). Reported family annual income at Wave 1 (i.e., when children were in fifth grade) ranged from less than \$5,000 to more than \$95,000, with a median of \$30,001 to \$35,000. Mothers reported a median education of ninth grade, ranging from 0 to 18 years of education.

Procedure

Families were assessed annually beginning when children were in fifth grade until they were in eleventh grade. However, this study uses data from when the children were in the fifth, seventh, ninth, and eleventh grades, because this is when the variables examined in this study were assessed. At each grade, trained bilingual research staff, who were mostly of Mexican heritage, interviewed participants in their homes. Interviews were conducted in English or Spanish, whichever language the participant preferred. Mothers and children were interviewed separately by one of two interviewers and their responses were recorded on laptop computers. Of the original 674 families, 86%, 91%, and 90% were retained in the seventh-, ninth-, and eleventh-grade assessments, respectively. To investigate the potential impact of attrition, we compared individuals who did and did not participate in the seventh, ninth, or eleventh-grade assessments on study variables assessed in fifth grade. In general, there were no significant differences in mothers' educational attainment, number of years mothers lived in the United States, economic hardship, or most of the central variables included in this report. The only exceptions were in ninth grade. Families who participated (vs. did not participate) at this time had mothers with higher educational expectations and children with better school performance in fifth grade, $p < .05$.

Measures

When children were in fifth grade, mothers provided information on the highest level of education they completed and the number of years they had lived in the United States. Mothers and children provided reports on the variables described below at each of the four waves of the study. The means, standard deviations, ranges, and internal reliabilities are presented in Table 1; the intercorrelations are presented in Table 2.

Mothers' School Climate Perceptions—Mothers' perceptions of the climate at their children's schools were assessed at each wave with an adapted version of the scale developed by Epstein and Salinas (1993). The scale consisted of 15 items encompassing various themes of mother's perceptions of the climate of their children's schools, such as children's well-being at school (e.g., "[Child] enjoys attending this school") and school-parent communication (e.g., "The teacher regularly lets you know when [child] has done good things at school"), as well as a welcoming environment (e.g., "You feel welcome at

[child's] school") and feelings of being valued and respected, with a particular emphasis on cultural considerations (e.g., "Teachers at this school treat Mexican American parents with respect"). Mothers indicated how true each item was on a scale from 1 (*not at all true*) to 4 (*very true*). The mean of mothers' responses was taken with higher scores indicating more positive school climate perceptions.

Mothers' Educational Expectations—At each wave, mothers reported on their educational expectations for children (i.e., "How far do you expect [child] to go in school?" and "How far do you want [child] to go in school?") on a scale ranging from 1 (*eighth grade or less*) to 8 (*Ph.D. or professional degree*). The mean was taken with higher scores reflecting higher expectations for educational attainment.

Children's School Value—The value children place on school was assessed with eight items adapted from the Academic Liking Scale (Lord, Eccles, & McCarthy, 1994), the School is Important Now and in the Future measure (Lord et al., 1994), and the Importance of Education Subscale (Smith et al., 1997). Children reported on the value they place on school in terms of school importance (e.g., "Getting a good education will help when you are older"), school liking, (e.g., "You like school a lot"), and school caring (e.g., "You do not care much for school", reverse scored) by indicating how true each item was of them (1 = *not at all true*, 4 = *very true*). The mean was taken with higher scores indicating greater school value.

Children's Educational Expectations—Children reported on their educational expectations in terms of their predictions and desires for future attainment in school (i.e., "How far do you really think you will go in school?" and "How far would you like to go in school?") on a scale ranging from 1 (*eighth grade or less*) to 5 (*college degree or more*) at each of the four waves. The mean was taken with higher scores reflecting higher expectations for educational attainment.

Children's School Performance—Children and their mothers reported on children's school performance at each wave. First, they reported (1 = *mostly Fs*, 5 = *mostly As*) on children's grades (e.g., "On average, what grades do you get in school?") when children were in 7th, 9th, and 11th grade. At fifth grade, children and mothers reported on children's "grade point average" rather than their "average grades" but the item was also on a scale from 1 (*F*) to 5 (*A*). Second, they reported on children's general academic performance as a student. Mothers reported on how their children's performance compared to other students ("In terms of his/her performance in school, would you say [child] is..."; 1 = *a far below average student*, 5 = *a superior student*). Children reported on how they were doing in their classes ("How are you doing in your classes? Are you..."; 1 = *far behind and it will be hard to catch up*, 5 = *ahead of most classmates in classwork*). The two items were substantially correlated for both children's ($r_s = .44-.64, p_s < .001$) and mothers' ($r_s = .56-.67, p_s < .001$) reports. In addition, children's and mothers' reports overlapped ($r_s = .37-.59, p_s < .001$). Thus, their reports were combined with higher scores indicating better performance in school.

Economic Hardship—At each wave, economic hardship was assessed using 24 items derived from the economic hardship measures developed by Conger and colleagues (Conger & Elder, 1994; Conger et al., 1991). Mothers reported on five dimensions of economic hardship, including being unable to make ends meet (e.g., “Over the past 3 months, how much difficulty [have] you had with paying your bills?”), not having enough money for necessities (e.g., “During the past 3 months, you had enough money to afford the kind of food you needed”), making economic adjustments (e.g., “In the past 3 months, you added another job to make ends meet”), experiencing financial strain (e.g., “In the next 3 months, how often do you expect that you will have to do without the basic things that your family needs?”), and facing financial concern (e.g., “You have trouble sleeping because of your financial problems”). All the subscales used a scale that ranged from 1 to 4 (e.g., 1 = *not at all true*, 4 = *very true*), except for the economic adjustment subscale which used a dichotomous scale (Yes or No). Correlations among subscales were high ($r_s = .39-.67$, $p_s < .001$). Thus, after standardizing each subscale ($\alpha_s = .69-.93$), we took the mean of the five, with higher scores indicating greater economic hardship.

Results

We performed MLM analyses with HLM version 8.00 (Raudenbush, Bryk, Cheong, & Congdon, 2019) with restricted maximum likelihood estimation. MLM allowed us to address our two main sets of questions regarding whether there are (a) covariations between changes in mothers’ school climate perceptions and children’s academic adjustment over time, and (b) developmental trends in mothers’ perceptions and their role in children’s academic adjustment. In line with previous findings on the positive links between parents’ perceptions of school climate and parents’ involvement, our first research question was of a confirmatory nature. In contrast, given the limited extant literature on developmental trends in parents’ perceptions of school climate, our second research question represented a more exploratory effort.

Covariations Between Mothers’ School Climate Perceptions and Children’s Academic Adjustment over Time

Our first goal was to examine links between mothers’ school climate perceptions and children’s academic adjustment over time both within- and between-families. To this end, each dimension of children’s academic adjustment was predicted simultaneously from time (0 = 5th grade, 1 = 7th grade, 2 = 9th grade, 3 = 11th grade) and mothers’ school climate perceptions, which were included as a time-variant variable centered within mothers around their mean over the four waves of the study (i.e., group-mean centered) to capture deviations from their average perceptions. To disentangle within- and between-family effects that can be present when including time-varying predictors (e.g., differences between families may contribute to what are assumed to be effects due to over-time changes within families), following Hedeker and Gibbons (2006), we included the mean of mothers’ perceptions of school climate over the four waves at Level 2, which was grand-mean centered. This also allowed us to examine between-family associations between mothers’ school climate perceptions—taken as a whole over the elementary, middle, and high school years—and children’s academic adjustment. In addition, at Level 1, we included mothers’ educational

expectations, which were group-mean centered, to rule out this potential confound in the within-family associations. At Level 2, we adjusted for mothers' average educational expectations over the four waves, their educational attainment, the number of years they lived in the United States, and their reports of economic hardship averaged over the study, which were all grand-mean centered.

Preliminary Analyses—We first examined the trajectories of children's academic adjustment across the school years. For each of the three dimensions of academic adjustment, we estimated an unconditional growth model with time as the only predictor at the within-family level (i.e., Level 1; see Models 1a, 2a, and 3a in Table 3). Children showed a decrease in school value (Model 1a, γ_{10}) and performance (Model 2a, γ_{10}), but an increase in educational expectations (Model 3a, γ_{10}) across time. There was also significant variability in these trajectories across children (Models 1a, 2a, and 3a, random effect for the linear slope).

Main Analyses—We added mothers' school climate perceptions and their educational expectations to the model as within-family (i.e., Level 1) time-varying predictors of children's academic adjustment; the Level 2 predictors outlined above were also added (see Models 1b, 2b, and 3b in Table 3). As anticipated, at the within-family level, when mothers' school climate perceptions were more positive, children valued school more (Model 1b, γ_{20}) and did better in school (Model 2b, γ_{20}), controlling for mothers' time-varying educational expectations as well as their average school climate perceptions, average educational expectations, educational attainment, number of years living in the United States, and average economic hardship. However, there was not an association between changes in mothers' perceptions of school and their children's educational expectations (Model 3b, γ_{20}).

At the between-family level, mothers' average school climate perceptions across the four waves moderated the trajectories of the value children placed on school (Model 1b, γ_{11}) and their performance in school (Model 2b, γ_{11}). As shown in Figure 1, probing of these interactions through simple slopes tests revealed that children with mothers who had relatively more positive perceptions of school climate showed less of a decline in school value (school climate perceptions 1 *SD* above the mean: $b = -.044$, $SE = .009$, $p < .001$; at the mean: $b = -.063$, $SE = .007$, $p < .001$; 1 *SD* below the mean: $b = -.083$, $SE = .012$, $p < .001$) and school performance (school climate perceptions 1 *SD* above the mean: $b = -.033$, $SE = .014$, $p < .05$; at the mean: $b = -.061$, $SE = .01$, $p < .001$; 1 *SD* below the mean: $b = -.089$, $SE = .015$, $p < .001$) over time. Consistent with the within-family level results, mothers' average school climate perceptions over the four waves did not moderate the trajectory of children's expectations over time (Model 3b, γ_{11}).

The Developmental Context of Mothers' School Climate Perceptions

Our second goal was to understand the developmental context of mothers' school climate perceptions. We examined two key issues. First, we investigated whether mothers' school climate perceptions changed as children progress through the school years. To this end, we ran an unconditional growth model in which we predicted mothers' school climate

perceptions from time at the within-family level. Mothers' school climate perceptions declined as children progressed through the school system ($b = -.032$, $SE = .007$, $p < .001$). However, mothers had fairly positive perceptions of their children's school climate when children were in fifth grade (see Table 1). In addition, there was significant between-family variability in the variance component associated with the slope of mothers' school climate perceptions ($u = .008$, $\chi^2(626) = 863.979$, $p < .001$), indicating variance between mothers in the rate at which their perceptions decreased over time.

Second, we examined whether the within-family links between mothers' school climate perceptions and children's school adjustment varied over time as children advanced through the school system. We built on the model in our main analyses by adding an interaction term at Level 1 (i.e., the within-family level) between mothers' school climate perceptions and time to test whether the strength of the association between mothers' school climate perceptions and children's academic adjustment varied as children got older. Time did not moderate the effect of mothers' perceptions of school climate on children's school value ($b = .028$, $SE = .024$, $p = .238$), school performance ($b = .029$, $SE = .039$, $p = .454$), or educational expectations ($b = .063$, $SE = .036$, $p = .082$), indicating that the links between mothers' school climate perceptions and children's adjustment did not vary as children progressed through the school years.

Supplementary Analyses

In this study, there were relatively little missing data with $< 9.8\%$ of observations missing at Level 1 and $< 0.5\%$ at Level 2. To ensure that the results were not biased by missing data, however, we also used multiple imputation (MI). In MI, multiple complete data sets are obtained by imputing missing data points using all the variables in the analyses, as well as any auxiliary variables. Each data set is analyzed separately and then estimates are pooled together using "Rubin's rules" (Rubin, 1987). These steps were handled through the automated MI feature in HLM version 8.00 by specifying 20 imputed data sets, as recommended by Grund, Lüdtke, and Robitzsch (2018). To help the models converge, we included the same variables as in our above analyses except we excluded non-significant predictors that did not improve model fit, as measured by deviance comparisons. All our results for mothers' perceptions of school climate remained similar in size and significance.

Discussion

Families from Latinx backgrounds are particularly likely to face barriers to their children's educational success—for example, they are more likely to live in underserved areas and attend schools that lack adequate resources (Sibley & Brabeck, 2017). As a consequence, connections with schools may be particularly important for such families in supporting their children's academic adjustment (e.g., Dearing et al., 2015). Drawing from ecological systems theory (Bronfenbrenner & Morris, 1998), which proposes that dynamic interactions between children's home and school and school environments can shape children's development, including that of minority and immigrant children (García Coll et al., 1996), the current research examined the idea that when Latinx mothers hold positive views of their children's school climate in that they, for instance, feel they are welcome at the

school and their culture is valued or respected by school personnel, children benefit. Over the fifth to eleventh grades, the more positive mothers' school climate perceptions, the more children valued school and the better they performed academically; however, children did not necessarily hold higher educational expectations. Mothers' school climate perceptions declined as children progressed through school but were not differentially linked to children's academic adjustment across the school years. Taken together, the findings suggest that optimizing Latinx parents' perceptions of the school climate can benefit children.

The Role of Parents' School Climate Perceptions in Children's Academic Adjustment

We took a MLM approach to analyzing the data to capture both within- and between-family processes. Examination of the within-family processes was particularly important because parents' perceptions are likely influenced by the practices implemented by the schools their children attend, as well as the individual school personnel with whom they have contact, which are likely to fluctuate from year to year. Moreover, a key strength of the MLM approach is that it allows for examination of within-family effects over and above potential confounds that may vary between families. At the within-family level, over and above mothers' time-varying educational expectations for their children, when mothers' school climate perceptions were higher than they were on average, children were more likely to see school as valuable and do well in school, but not necessarily hold higher educational expectations.

This pattern was also evident at the between-family level when we examined mothers' perceptions over the entire four waves of the study by taking the mean of their school climate perceptions over this time. Adjusting for mothers' educational expectations, educational attainment, economic hardship, and the years they lived in the United States, when mothers had more positive school climate perceptions across the duration of the study, children were less likely to decline over time in terms of the value they placed on school and their performance in school than were their counterparts whose mothers had less positive perceptions. Thus, it appears that when mothers hold positive school climate perceptions over time, they may protect children against the normative declines in school value and performance documented in prior research (e.g., Benner & Graham, 2009; Eccles et al., 1993; Wang & Eccles, 2012).

Consistent with previous research finding declines in children's school climate perceptions across the middle school years (e.g., Wang & Dishion, 2012; Way, Reddy, & Rhodes, 2007), there was a decline in mothers' school climate perceptions such that although mothers' perceptions were generally positive, they were least positive by the high school years. Although additional research is needed to identify why mothers' school climate perceptions become less positive, it is possible that normative changes in the school structure and school personnel's communication with parents as children get older are instrumental. For instance, as children move from elementary school to middle school to high school, they generally go from a single teacher to multiple teachers. In addition, invitations from teachers for parents to be involved also decline as children get older (e.g., Green et al., 2007). Together, these

changes can make it harder for parents to maintain a connection with the school, leading them to see their children's school climate less positively.

It remains unclear why mothers' school climate perceptions covaried with children's school value and performance over time but not their educational expectations. Interestingly, there was a normative decrease in school value and performance but a normative *increase* among children in educational expectations. It may be that parents' school climate perceptions serve a protective function in that they shield children from normative pressures that may lead children to devalue and disengage from school, which may undermine their performance. Given the normative increase in children's educational expectations, such a protective function may not be relevant for this dimension of children's academic adjustment. It is also possible that we did not fully capture children's expectations with the measure we used. We assessed children's expectations with an item about their expectations and an item about their aspirations given that both focus on future attainment in school. Although the two items were substantially correlated ($r_s = .41-.75$), it is possible that they each capture distinct facets of future attainment (e.g., what one is capable and what one desires) and neither comprehensively captures the facet it represents.

The findings of the current research extend those revealing a link between parents' school climate perceptions and their involvement in their children's schooling. For example, Griffith (1998) found that parents with more positive school climate perceptions were more likely to be engaged in their children's schooling. Welcoming school environments have also been linked to Spanish speaking parents' educational expectations for their children during high school (Park & Holloway, 2013). Our findings suggest that mothers' school climate perceptions contribute to not only their parenting, but also their children's academic adjustment. An important future direction will be to identify the process by which parents' school climate perceptions support children's academic adjustment. For instance, it may be that when parents hold positive perceptions, they are more comfortable visiting their children's schools for open-houses, parent-teacher conferences, and other events that allow them to better align their involvement at home with the aims of the school, which ultimately enhances children's learning. It is also possible that when parents hold positive perceptions, they talk more positively to their children about school and school personnel, leading children to feel a greater sense of connection to school, as well as to value it more.

Contrary to what has been suggested by some previous qualitative research with Latinx families (Quiocho & Daoud, 2006; Ramirez, 2003), mothers in this sample had relatively positive perceptions of their children's school climate at all waves. Specifically, on a four-point scale, the average was 3.29 at fifth grade with small declines through the school years such that by eleventh grade the average was 3.21. Similar levels of relatively welcoming school environments for Spanish-speaking parents were reported by Park and Holloway (2013) who also had parents respond with a rating scale. It remains unclear why quantitative and qualitative studies yield a somewhat different picture of parents' school climate perceptions. One possibility is that in the context of open-ended interviews, parents focus on the school practices with which they are unhappy or that they see as most important in the hope that their views will be taken into account. In contrast, survey measures like the one used in the current research present parents with a host of practices many with

which they may be satisfied; there is also not an option to give more weight to practices parents view as more important as may be the case in qualitative research. Because this is the first time the measure of parents' school climate perceptions has been used, it will be important to obtain additional information about how it reflects the actual school climate as well as how it fits into parents' belief systems. A deeper understanding of parents' school climate perceptions is likely to come from research using quantitative and qualitative methods together.

Although more research is needed to understand the discrepancy between quantitative and qualitative assessments of parents' perceptions of their children's schools, the results from the current research are promising in suggesting that schools are not necessarily creating unwelcoming environments for Latinx families. However, there was significant variation around the mean. It is also unclear how Latinx parents compare to parents from other racial and ethnic backgrounds or whether the threshold for school climate perceptions to confer benefits on children is quite high, with even small decrements having costs. Given our findings that positive school climate perceptions among mothers are linked to better academic adjustment among children, identifying how to optimize Latinx parents' school climate perceptions is likely important. This may be particularly true in high school when such perceptions are at their lowest. During the high school years, school personnel's communications with parents are also at their lowest (McQuiggan & Megra, 2017), likely in part because children are expected to take responsibility for their learning. However, finding a way to also connect with parents may be important at this time as well.

Limitations and Future Directions

Although the current research provides new insights into the potential importance of mothers' perceptions of the climate of their children's school, several limitations warrant interpreting the findings with caution and set the way for future research. First, although a key strength of the research is the within-family analytic approach we took to capture whether variation in parents' school climate perceptions from year to year are linked to concomitant changes in children's academic adjustment, this approach does not allow for a window into the direction of effects. The models guiding our analyses are theoretically and empirically grounded, but it is possible that when children are relatively well adjusted academically, parents come to view the climate of their children's school in a positive light. Indeed, a key aspect of parents' school climate perceptions is that the school supports children's well-being. Although the MLM approach rules out potential between-family confounds, it will be important for future research to more directly identify the direction of effects along with the timeline of the unfolding of such effects. One possibility would be to examine the effects on children's academic adjustment of interventions that change parents' school climate perceptions. It will also be important to control for other possible confounding variables at the within-family level. Although we took into account mothers' educational expectations, we did not take into account other potential confounds, such as the value mothers place on their children's education—it is possible that mothers who value education more may come to perceive their schools more positively.

Second, by relying solely on children's and mothers' reports of children's academic adjustment, we may have been limited in the breadth of our assessments. Although children's reports of school values and educational expectations are suitable methods for tapping into children's values and beliefs, mothers and children reported on children's grades, which, despite being correlated with children's actual grades, may not be optimally accurate (Kuncel et al., 2005). Future studies could benefit from more objective measures of children's academic achievement (e.g., standardized test scores). Studying additional dimensions of children's academic adjustment—for example, their high school course selection and academic engagement—would be fruitful as well. In addition, the study focused on mothers' school climate perceptions but fathers also appear to contribute to children's academic adjustment (for a review, see Kim & Hill, 2015); thus, future research needs to examine the links between fathers' school climate perceptions and children's academic adjustment. Broadening the research on parents' school climate perceptions may lead to a more comprehensive and nuanced understanding of such perceptions.

Third, it remains unclear whether the positive associations we identified between mothers' perceptions of school climate and children's academic adjustment are specific to the sample of Mexican-origin families living in Northern California in this study. It is possible that the relatively high proportion of residents of Mexican origin in this area (i.e., 23% in one school district and 44% in the other) contribute to parents' positive school climate perceptions, raising the interesting question of whether the role of parents' perceptions in children's academic adjustment varies with the racial and ethnic diversity of their children's school. Indeed, examining whether the school context moderates the links between parents' school climate perceptions and children's academic adjustment is a promising direction for future research. For instance, research could investigate whether parents' perceptions may be particularly important in schools that have less racially and ethnically diverse teachers and students, and thus where the minority status of Latinx families may be more salient.

Fourth, to the extent that parents' perceptions of the climate of their children's schools are influenced by the practices implemented by their children's schools, as well as the individual school personnel with whom parents and their children have contact, a key future direction will be to understand the school practices that contribute to parents' perceptions. Previous research has documented that Latinx parents and their children frequently face institutional barriers (e.g., discrimination) and acculturative stress (e.g., language barriers; e.g., Brown, 2015; García Coll et al., 1996; Martinez, DeGarmo, & Eddy, 2004). These barriers can influence parents' school climate perceptions, and consequently their involvement in their children's schooling. For example, if teachers talk down to parents who face language barriers (Jones, 2003), parents may perceive their children's schools less positively and feel there are walls between them and the schools, ultimately leading them to be less involved (Hill & Torres, 2010; Ramirez, 2003). Promising practices for fostering parents' positive school climate perceptions could include creating culturally inclusive environments and improving lines of communications, such as by having bilingual staff that can aid in conveying basic school information at parent-teacher conferences, informing parents about school expectations and practices, and familiarizing them with school policies to which families from immigrant backgrounds may be less accustomed.

Conclusion

Our findings make inroads into understanding the contribution of parents' school climate perceptions to children's academic adjustment among Mexican-origin families. From elementary to high school, the more positive mothers' perceptions of their children's school climate, the more children valued school and the better their school performance, but their educational expectations were not necessarily higher. Given the increasingly ethnically diverse landscape of the American educational system, schools may need to be mindful of providing support for families from diverse cultural backgrounds. Findings from the current research have the potential to inform policy aimed at optimizing Mexican-origin children's academic adjustment by targeting their parents' perceptions of the school climate.

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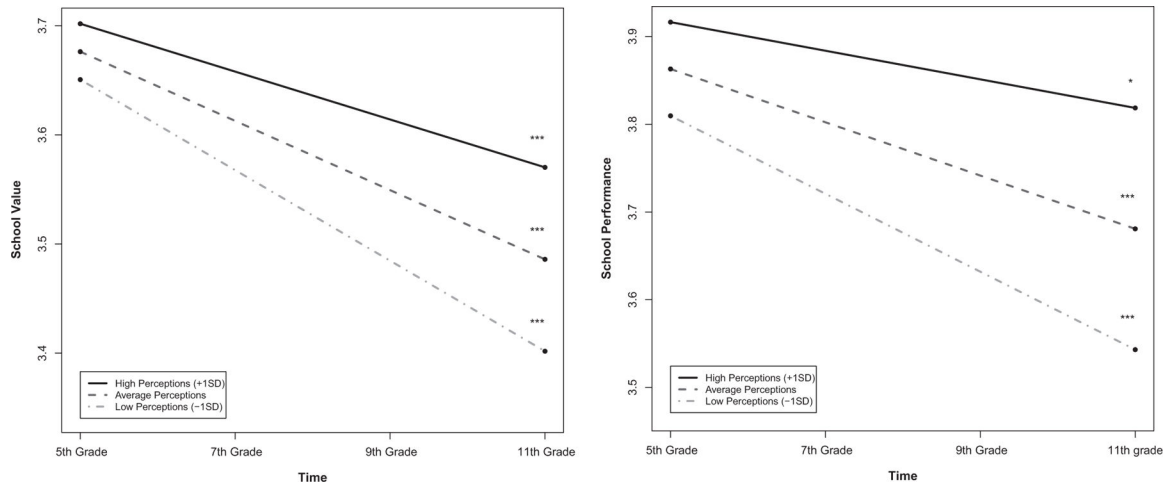


Figure 1. Mothers’ average school climate perceptions moderated the trajectories of children’s school value (left) and school performance (right) across time.

Note. The figure depicts children’s school value and school performance across time separately for mothers who had average school climate perceptions, and 1 *SD* above and below average school climate perceptions.

* $p < .05$. *** $p < .001$.

Table 1
 Descriptives for Mothers' School Climate Perceptions and Children's Academic Adjustment

Variable	<i>M</i> (<i>SD</i>)	Range	Internal reliability	<i>n</i>
Wave 1: 5th grade				
Mothers' school climate perceptions	3.29 (0.44)	1.73–4.00	$\alpha = .87$	663
Children's school value	3.68 (0.35)	1.75–4.00	$\alpha = .61$	668
Children's educational expectations	4.61 (0.65)	1.00–5.00	$r = .41$	667
Children's school performance	3.85 (0.71)	1.50–5.00	$\alpha = .71$	671
Wave 2: 7th grade				
Mothers' school climate perceptions	3.26 (0.45)	1.88–4.00	$\alpha = .80$	573
Children's school value	3.64 (0.36)	2.25–4.00	$\alpha = .71$	578
Children's educational expectations	4.65 (0.60)	2.00–5.00	$r = .70$	577
Children's school performance	3.88 (0.69)	1.25–5.00	$\alpha = .80$	579
Wave 3: 9th grade				
Mothers' school climate perceptions	3.23 (0.45)	1.60–4.00	$\alpha = .86$	597
Children's school value	3.52 (0.43)	1.75–4.00	$\alpha = .80$	604
Children's educational expectations	4.73 (0.54)	1.50–5.00	$r = .66$	603
Children's school performance	3.75 (0.77)	1.00–5.00	$\alpha = .83$	608
Wave 4: 11th grade				
Mothers' school climate perceptions	3.21 (0.44)	1.80–4.00	$\alpha = .88$	578
Children's school value	3.50 (0.41)	1.25–4.00	$\alpha = .78$	586
Children's educational expectations	4.68 (0.56)	2.00–5.00	$r = .75$	599
Children's school performance	3.69 (0.73)	1.00–5.00	$\alpha = .81$	596

Note. For children's educational expectations, there were only two items; thus, correlations (*r*) rather than Cronbach alphas (α) are reported. All correlations were significant ($p < .001$).

Correlations at Wave 1 (5th Grade)

Table 2

Variables	1	2	3	4	5	6	7
1. Mothers' perceptions of school climate	—						
2. Children's school value	.13**	—					
3. Children's educational expectations	.05	.26***	—				
4. Children's school performance	.23***	.24***	.26***	—			
5. Mothers' educational attainment	.05	.08*	.12**	.11**	—		
6. Mothers' years living in the United States	.01	.05	.11**	.03	.42***	—	
7. Economic hardship	-.10*	-.12**	-.09*	-.13**	-.25***	-.24***	—
8. Mothers' educational expectations	.15***	.12**	.08*	.30***	.11**	-.00	-.06

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3
Estimates From Multilevel Modeling Predicting Children's Academic Adjustment Over Time

	School value			School performance			Educational expectations	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b		
Fixed effects								
Initial level								
Intercept (γ00)	3.684 (.013)***	3.676 (.013)***	3.875 (.025)***	3.863 (.024)***	4.616 (.022)***	4.604 (.022)***		
Ave. climate perceptions (γ01)	—	0.073 (.047)	—	0.153 (.078)	—	0.020 (.078)		
Educational attainment (γ02)	—	-0.001 (.004)	—	-0.000 (.008)	—	0.004 (.007)		
Years living in the U.S. (γ03)	—	0.001 (.001)	—	-0.004 (.002)	—	0.002 (.002)		
Ave. economic hardship (γ04)	—	-0.070 (.022)**	—	-0.125 (.041)**	—	-0.100 (.038)**		
Ave. mother's expectations (γ05)	—	0.047 (.015)**	—	0.217 (.026)***	—	0.098 (.024)***		
Linear slope								
Intercept (γ10)	-0.068 (.007)***	-0.063 (.007)***	-0.061 (.010)***	-0.061 (.010)***	0.031 (.011)**	0.033 (.011)**		
Ave. climate perceptions (γ11)	—	0.056 (.023)*	—	0.080 (.031)*	—	0.013 (.034)		
Educational attainment (γ12)	—	0.004 (.002)	—	-0.003 (.003)	—	0.004 (.004)		
Years living in the U.S. (γ13)	—	-0.001 (.001)	—	0.001 (.001)	—	-0.002 (.001)		
Ave. economic hardship (γ14)	—	0.030 (.011)**	—	0.001 (.017)	—	0.000 (.018)		
Ave. mother's expectations (γ15)	—	-0.002 (.008)	—	0.012 (.012)	—	0.030 (.013)*		
Perceptions of school								
Intercept (γ20)	—	0.059 (.024)*	—	0.210 (.038)***	—	0.016 (.036)		
Ave. climate perceptions (γ21)	—	-0.085 (.093)	—	0.272 (.125)*	—	0.036 (.116)		
Educational attainment (γ22)	—	0.005 (.008)	—	0.014 (.013)	—	0.009 (.011)		
Years living in the U.S. (γ23)	—	0.002 (.002)	—	0.008 (.004)*	—	0.004 (.003)		
Ave. economic hardship (γ24)	—	0.059 (.041)	—	0.007 (.059)	—	0.039 (.057)		
Ave. mother's expectations (γ25)	—	0.009 (.029)	—	0.075 (.051)	—	-0.013 (.050)		
Random effects								
Initial level	.040***	.037***	.254***	.206***	.167***	.160***		
Linear slope	.009***	.007***	.018***	.010*	.025***	.024***		

	School value			School performance			Educational expectations		
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b			
School climate perceptions slope	—	.040*	—	.077	—	.023			
Level 1 residual	.091***	.085***	.244***	.227***	.227***	.225***			

Note. Estimates are unstandardized; standard errors are reported in parentheses. Mothers' educational expectations were included in all models as a covariate.

* $p < .05$.

** $p < .01$.

*** $p < .001$.