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Longitudinal links between maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride in Mexican American youth

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Abstract

This paper used cross-lagged panel models to test the longitudinal interplay between maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride across 5th to 11th grade among Mexican American youth ($N = 674$, $M_{age} = 10.86$; 72% born in the United States; 50% girls; Wave 1 collected 2006–2008). Maternal cultural socialization predicted increases in subsequent youth ethnic-racial pride, and youth ethnic-racial pride prompted greater maternal cultural socialization. However, peer ethnic-racial discrimination was associated with subsequent decreases in ethnic-racial pride. The magnitude of these associations was consistent across 5th to 11th grades suggesting that maternal cultural socialization messages are necessary to maintain ethnic-racial pride across adolescence, thus families must continually support the development of ethnic-racial pride in their youth to counter the effects of discrimination.

As marginalized communities continue to face systemic oppression and discrimination, it is imperative to identify culturally resilient factors that support the psychosocial development of minoritized youth (Neblett et al., 2012). Ethnic-racial pride (i.e., affirmation and positive affect about one's group membership; Umaña-Taylor et al., 2014) serves as a cultural resource for youth as they navigate racially stratified and potentially hostile environments (Garcia Coll et al., 1996). Cultural socialization messages focus on instilling ethnic-racial pride and imparting the history, norms, beliefs, and values of one's ethnic-racial heritage (Hughes et al., 2016). Cultural socialization messages uniformly demonstrate the most consistently positive outcomes relative to other types of ethnic-racial socialization messages (e.g., preparation for bias), including more strongly predicting ethnic-racial

identity (see meta-analysis by Huguley et al., 2019). For Mexican American families (and Latinx families more broadly), this transmission of cultural resilience whereby ethnic-racial cultural socialization supports ethnic-racial identity has been documented longitudinally across the middle school (Hernández et al., 2014; Knight et al., 2011) and high school years (Umaña-Taylor & Guimond, 2010).

At the same time, the development of ethnic-racial identity is also embedded within experiences of ethnic-racial discrimination (i.e., unfair or differential treatment due to ethnicity and race, Spears Brown & Bilger, 2005), as these experiences also serve to foment ethnic-racial identity exploration, resolution, and content in Latinx youth across high school (Cheon & Yip, 2019; Meca et al., 2020). Therefore, experiences of ethnic-racial

discrimination need to be considered in concert with cultural socialization messages as contributing to youth's ethnic-racial pride. Furthermore, the ways in which both cultural socialization and peer ethnic-racial discrimination longitudinally inform ethnic-racial identity across adolescence has not been determined despite theoretical assertions that ethnic-racial socialization and ethnic-racial discrimination experiences may differentially predict ethnic-racial identity at distinct points in development (Douglass & Umaña-Taylor, 2016; Huguley et al., 2019; Wang & Yip, 2020).

To fill these gaps in the literature, this paper tested the relations between maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride from 5th to 11th grade. To best characterize change over time in our sample, we compared different cross-lagged panel models to examine whether maternal cultural socialization and peer ethnic-racial discrimination predicted ethnic-racial pride longitudinally (e.g., at the following time point) and whether these associations differed across three different time points in adolescence.

THEORETICAL UNDERPINNINGS

Transactional theoretical models of ethnic-racial socialization, ethnic-racial discrimination, and ethnic-racial identity highlight a complex and nuanced relationship between these factors across early to late adolescence (Hughes et al., 2016). Adolescence unmistakably serves an important developmental stage where ethnic-racial socialization messages foment ethnic-racial identity, and—not surprisingly—cultural socialization messages support all aspects of ethnic-racial identity including exploration, resolution, and pride (for a recent review see Umaña-Taylor & Hill, 2020 and meta-analysis by Huguley et al., 2019). Theoretically, cultural socialization messages teach youth important aspects of the meaning of their ethnic-racial group membership by providing knowledge about the history of their group, instilling cultural values that are shared by group members, and helping youth understand the contributions of their group to broader society. As such, cultural socialization messages provide a foundation on which youth understand their ethnic-racial group membership contributing to their sense of belonging and pride (Hughes et al., 2006).

Ethnic-racial discrimination also shapes identity by informing youth about how other's construe their group and propels exploration (Umaña-Taylor et al., 2014). As youth move through adolescence, they develop the cognitive capacity to reflect on systemic racial inequalities and engage in social comparison, and at the same time, they are potentially experiencing greater levels of ethnic-racial discrimination that accompany developmentally normative increases in independence and freedom to navigate new and different contexts (Hughes et al., 2016). These cognitive and social changes facilitate

youth embarking on their own identity search, and research has clearly documented that ethnic-racial identity exploration takes shape across adolescence as youth seek to learn more about their group membership and find resolution and clarity about the meaning of their group, contributing to feelings of pride and connection (Umaña-Taylor et al., 2014). Thus, theory suggests that both cultural socialization and ethnic-racial discrimination would be more impactful on ethnic-racial pride later in adolescence as opposed to earlier due to the cognitive shifts and increasing autonomy and independence.

Aligning with past literature examining middle and high school as developmental windows for the relations between ethnic-racial socialization, ethnic-racial identity, and ethnic-racial discrimination (Hughes et al., 2016), we also test whether the magnitude of these associations differ between different time points within the middle school (e.g., from 5th to 7th; 7th–9th grades) and high school periods (9th–11th grades). Our modeling approaches test whether the strength of associations vary during these three time points, and by being able to examine the magnitude of associations at these time points within the same sample, our study is able to test the theoretical assertion that the associations will be stronger in high school relative middle school, which has not been done in prior literature. Furthermore, understanding the developmental windows where youth benefit more from socialization messages or when peer discrimination harms ethnic-racial pride would help practitioners and interventionists identify critical periods for support with tailored interventions meeting the developmental needs of youth.

We focus on three aspects of ethnic-racial socialization, ethnic-racial identity, and ethnic-racial discrimination in this paper. First, we focus on cultural socialization as it is more strongly associated meta-analytically with ethnic-racial identity outcomes relative to other types of ethnic-racial socialization messages including preparation for bias (e.g., warning of future discrimination and coping with mistreatment), promotion of mistrust (e.g., wariness of other racial groups), and egalitarian messages (e.g., focus on treating everyone equally) (Huguley et al., 2019). We also focus only on maternal cultural socialization as some past work has found maternal messages are more predictive of ethnic-racial identity outcomes in Mexican American youth relative to paternal messages (Knight et al., 2011). In Mexican American families, maternal cultural socialization may be most salient due to gender norms surrounding mother's being primarily responsible for child-rearing and socialization around cultural values and practices (Park et al., 2019; Umaña-Taylor & Updegraff, 2013). Furthermore, past work has shown that maternal and paternal processes in Latinx families are differentially related to ethnic-racial identity outcomes (Knight et al., 2011; Hernández et al., 2014). In terms of ethnic-racial identity, we focus on ethnic-racial pride, which encompasses positive

feelings toward one ethnic-racial group, including feelings of attachment and connection (Umaña-Taylor et al., 2014). The affective component of ethnic-racial identity is a robust predictor of well-being and positive adaptation, especially as it contributes to self-esteem and academic outcomes (Rivas-Drake et al., 2014). Finally, we examine peer ethnic-racial discrimination as peer experiences serve as important catalysts for youth understanding of themselves and their social worlds (Brown & Larson, 2009), and peer ethnic-racial discrimination experiences uniquely predict ethnic-racial identity outcomes (Douglass & Umaña-Taylor, 2017; Hughes et al., 2016).

Although these serve as our constructs of interests, in the following sections, we review literature on other aspects of these constructs (e.g., familial cultural socialization; identity exploration and resolution, adult ethnic-racial, or broad discrimination scales) as they encompass most of the work on longitudinal relations between these constructs, and thus informs our current questions. We were specifically interested in how cultural socialization and peer ethnic-racial discrimination were associated with ethnic-racial pride, and thus, we do not review theory or research on the longitudinal links between cultural socialization and ethnic-racial discrimination as that is beyond the scope of the current study.

MATERNAL CULTURAL SOCIALIZATION AND ETHNIC-RACIAL PRIDE

There is some emerging support for the claim that cultural socialization is more strongly associated to ethnic-racial identity later in adolescence, as a recent meta-analysis showed that ethnic-racial socialization was most predictive of identity outcomes in the high school years relative to elementary and middle school years (Huguley et al., 2019). However, only a few studies have tackled how ethnic-racial socialization and ethnic-racial identity are longitudinally linked, and none to our knowledge have tested this relation in the same sample across middle and high school in Latinx samples (or other ethnic-racial groups). Two studies using Mexican American samples documented that parental cultural socialization messages delivered in 5th grade supported ethnic-racial identity 2 years later in 7th grade. Knight et al. (2011) found that maternal cultural socialization predicted subsequent ethnic-racial identity (a latent variable consisting of exploration and resolution), and in a previous study employing the same sample used in the current study, Author cite (2014) found that both maternal and paternal cultural socialization predicted increases in ethnic-racial pride at that later 7th grade time point.

Similarly, these longitudinal effects have been noted in high school samples. Familial cultural socialization early in high school predicted both greater exploration and resolution at the end of high school (Umaña-Taylor et al., 2009). Further analysis of this same sample was able to test latent growth curve models of ethnic-racial identity exploration, resolution, and affirmation with familial cultural socialization as a predictor. Familial cultural socialization predicted the intercepts (i.e., 9th grade levels) of all three aspects of ethnic-racial identity, but only predicted growth in resolution for males across the high school period (Umaña-Taylor & Guimond, 2010). Collectively, these studies establish that cultural socialization as early as 5th grade contributes to different aspects of later ethnic-racial identity, including ethnic-racial pride, and that parental cultural socialization messages continue to impact subsequent ethnic-racial identity outcomes, like exploration and resolution, at the end of high school. However, these studies cannot speak to whether the magnitude of the effect changes across development.

To our knowledge, only two studies have attempted to examine concomitant changes in both parental cultural socialization and ethnic-racial identity in Latinx populations. Constante et al. (2020) tested latent growth curve models of family cultural socialization, ethnic-racial identity exploration, and ethnic-racial identity resolution over a three-year period with Latinx late middle schoolers and early high schoolers. Interestingly, there were not sufficient changes across time in family cultural socialization to model longitudinally, and thus analyses only tested cross-sectional relations with cultural socialization at the first time point. Like the findings above, familial cultural socialization primarily predicted the intercept (8th/9th grade) of ethnic-racial identity exploration (although there was a protective effect whereby familial warmth also predicted exploration for youth low in cultural socialization but this buffering effect dissolved overtime) and the intercept for resolution that youth with high cultural socialization reported greater ethnic-racial identity resolution at the first time point. However, this effect attenuated overtime so that by the end of the study period they had similar levels as youth low in cultural socialization. In a study of high school students, a time-varying effects model found that familial cultural socialization was positively associated with ethnic identity exploration across all years of high school, with stronger relations in the latter parts of high school; by contrast, familial cultural socialization was only predictive of resolution earlier in the high school stage (Douglass & Umaña-Taylor, 2016). This suggests that cultural socialization may differentially predict different aspects of ethnic-racial identity across time, but no studies to our knowledge have specifically examined how cultural socialization and ethnic-racial pride relate to each other over time, especially focusing on maternal cultural socialization.

Overall, multiple methods have been used to test how cultural socialization and ethnic-racial identity relate to each other over time, but the majority have only used two time points, have only assessed parental cultural socialization at one time point, and have not spanned

from early to late adolescence, instead focusing on shorter-term changes. Furthermore, only one study has focused specifically on ethnic-racial pride (i.e., ethnic-racial affirmation), an important aspect of identity that serves as a foundation of cultural resilience. Most of the literature focuses on cultural socialization predicting ethnic-identity processes (i.e., exploration and resolution), and given that these processes support clarity about the content of identity (e.g., pride and belonging; Umaña-Taylor et al., 2014), further understanding of how maternal cultural socialization is associated with pride is warranted. Similarly, almost all of the studies reviewed focus on measures of joint youth report of parental cultural socialization (e.g., Constante et al., 2020; Douglass & Umaña-Taylor, 2016), and have not examined the longitudinal interplay of parent-reported maternal cultural socialization and ethnic-racial identity outcomes, including ethnic-racial pride. Given that there has been different pattern of results on paternal and maternal cultural socialization messages in Mexican American families (e.g., see Knight et al., 2011, 2017; Hernández et al., 2014), it would be important to test parental effects independently. Due to the complexity of the modeling, we elected to focus on maternal cultural socialization in this current paper as discussed above.

PEER ETHNIC-RACIAL DISCRIMINATION AND ETHNIC-RACIAL PRIDE

In terms of ethnic-racial discrimination, two theories of how ethnic-racial discrimination and ethnic-racial identity relate over time have been tested with both garnering some support. First, the rejection–identification model suggests that ethnic-racial discrimination prompts further ethnic-racial identity exploration as individuals seek connection and pride with their group to counter the negative effects of ethnic-racial discrimination (Branscombe et al., 1999). The identification–attribution model posits that youth who are more grounded in their ethnic-racial group membership and who understand the ethnic-racial dynamics in the United States, including stigma and stereotypes about their group, are more aware of potential discrimination thereby facilitating the attribution of negative social experiences to discrimination (Gonzales-Backen et al., 2018).

In the burgeoning literature testing these processes across time in Latinx samples, there is support for the fact that ethnic-racial discrimination leads to increases in ethnic-racial identity exploration as suggested by the rejection–identification model (Del Toro et al., 2021; Meca et al., 2020). However, instead of supporting closer connection to one's group, ethnic-racial discrimination tends to be associated with lower positive ethnic-racial affect (e.g., affirmation, private regard) concurrently and longitudinally in Latinx samples (Del Toro et al., 2021;

Umaña-Taylor & Guimond, 2010; Wang & Yip, 2020; Zeiders et al., 2019). At the same time, in support of the identification–attribution model in Latinx samples, ethnic-racial identity has also been linked to subsequent reports of ethnic-racial discrimination with positive ethnic-racial affect and public regard being associated with less ethnic-racial discrimination (Cheon & Yip, 2019; Del Toro et al., 2021; Gonzales-Backen et al., 2018), and greater exploration and belonging also being linked to greater perceptions of discrimination at later time points (Gonzales-Backen et al., 2018; Meca et al., 2020).

Thus, it is evident that there are reciprocal relations between all aspects of ethnic-racial identity and ethnic-racial discrimination and teasing these out has been quite challenging. Furthermore, most longitudinal work in this area has focused on the high school period (see Del Toro et al., 2021 for an exception in middle school), and less is known about how ethnic-racial identity and ethnic-racial discrimination may be differentially related across distinct developmental stages. Wang and Yip (2020) attempted to test this question at the beginning (9th to 10th grade) and middle high school period (10th to 11th grade) using piecewise latent change modeling across these two periods and found a similar overall pattern of results across both periods. However, this 3-year period was too narrow to capture differential processes across middle and high school.

Unlike the research on cultural socialization and ethnic-racial identity, all of the aforementioned studies examined longitudinal changes in both ethnic-racial discrimination and ethnic-racial identity. A set of studies relied on cross-lagged panel models to test how ethnic-racial identity and ethnic-racial discrimination relate to each other over time by modeling the autoregressive paths of both variables (e.g., stability over time) and then estimating the associations between the variables at consecutive time points (e.g., Cheon & Yip, 2019; Del Toro et al., 2021; Del Toro & Wang, 2021). Importantly, the cross-lagged pattern of associations did not vary across the study period and typically are constrained to be equal (Cheon & Yip, 2019; Del Toro et al., 2021; Gonzales-Backen et al., 2018; Meca et al., 2020), suggesting that these associations do not change in magnitude over time. However, like the literature on cultural socialization, these studies tend to focus on short developmental windows just middle school (Del Toro et al., 2021) or high school (Cheon & Yip, 2019; Gonzales-Backen et al., 2018) and leaves an unanswered question of whether these longitudinal patterns would be different across both middle and high school within the same sample.

Methodological advances have allowed for cross-lagged panel models to disaggregate within- and between-person effects with the advent of the random-intercepts cross-lagged panel model (RI-CLPM; Hamaker et al., 2015). In this model, random intercepts can provide estimates of the time invariant between-person differences in the variables of interest while the cross-lagged paths model within-person changes in the

relation between the variables from one time-point to the next. Indeed, in the cross-lagged work on discrimination and identity processes, RI-CLPMs tend to fit the data better than do CLPMs (e.g., Cheon & Yip, 2019; Del Toro et al., 2021; Del Toro & Wang, 2021), underscoring the need to disaggregate within- and between-person effects.

Together the reviewed studies point to the fact that facets of ethnic-racial identity continue to respond to contextual experiences, but no studies to our knowledge have applied this newer methodology to maternal cultural socialization and peer ethnic-racial discrimination, nor have they tested this relation across 5th to 11th grade to tease out whether the pattern of results differs across in middle school versus high school. There is only one study to our knowledge with a Latinx sample that examined concurrent prediction of cultural socialization and ethnic-racial discrimination to longitudinal patterns of identity discussed above (Umaña-Taylor & Guimond, 2010). Using both cultural socialization and ethnic-racial discrimination at only one time point, both were most consistently predictive of the intercepts such that cultural socialization supported ethnic-racial identity exploration, resolution, and affirmation as described above and ethnic-racial discrimination served as risk predicting less affirmation.

CURRENT STUDY

Across both the cultural socialization and ethnic-racial discrimination literatures on predicting changes in ethnic-racial identity, it clear that consistent with theory both cultural socialization and ethnic-racial discrimination inform changes in ethnic-racial identity exploration, resolution, and the affective components of ethnic-racial identity (e.g., affirmation, pride). Yet, much remains unknown, including an understanding of how cultural socialization and ethnic-racial discrimination operate concurrently across early to late adolescence (i.e., middle vs. high school) to influence ethnic-racial pride. The current study sought to fill these gaps in the literature by testing how maternal cultural socialization and peer ethnic-racial discrimination informed ethnic-racial pride across 5th to 11th grade. Specifically, we were interested in answering the following research question: *How do year to year changes in exposure to peer discrimination and receipt of maternal cultural socialization messages relate to Mexican American youth's feelings of ethnic pride from early (5th grade) to late adolescence (11th grade)*? In answering this question, we were also interested in whether the effects of maternal cultural socialization and peer discrimination on youth's ethnic-racial pride differed in strength depending on the period of development (e.g., middle school vs. high school).

We hypothesized that maternal cultural socialization would predict increases in ethnic-racial pride (e.g., Knight et al., 2011; Hernández et al., 2014), but that, given the negative association between ethnic-racial affect and ethnic-racial discrimination, peer discrimination would predict decreases in ethnic-racial pride and greater ethnic-racial pride would predict less subsequent peer discrimination. We also hypothesized that maternal cultural socialization and peer discrimination would predict greater relative changes in ethnic-racial pride in later adolescence (high school period changes from 9th to 11th grades) relative to earlier in adolescence (middle school periods 5th–7th and 7th–9th grades). Given past work suggesting the association of cultural socialization and ethnic racial identity may differ by nativity status (Umaña-Taylor et al., 2013), we controlled for nativity status of mothers and child generation status. We also controlled for family income and child gender as this is typical for these studies due to potential differences in ethnic-racial socialization, peer discrimination, and ethnic-racial identity (e.g., Cheon & Yip, 2019; Del Toro et al., 2021; Douglass & Umaña-Taylor, 2016; Knight et al., 2011).

To appropriately answer our primary research questions, it was paramount to model ethnic-racial pride, maternal cultural socialization, peer ethnic-racial discrimination, and their interrelations longitudinally in an appropriate way that provided a good fit to the data. Given the mixed literature as to whether and how these variables change over time and how they influence one another at specific points in development, we first conducted a principled comparison of competing CLPMs that tested the stability of longitudinal effects. Then, we assessed whether any of our constructs of interest were better represented by adding a random intercept (e.g., Cheon & Yip, 2019; Del Toro et al., 2021; Del Toro & Wang, 2021). This inclusion would imply that any construct under investigation had significant stable between-person variability; pulling that variability into the random intercept is intended to give more accurate estimates of within-person change over time in that construct (Hamaker et al., 2015). The fit of RI-CLPMs were compared against the fit of our best-fitting CLPM to determine which model most accurately represented the change and interrelations among these variables across time (Grimm et al., 2021). After selecting a final model, we examined and interpreted specific path coefficients in detail. We did not make hypotheses as to which CLPM or RI-CLPM model would best fit the data.

METHOD

Sample and procedure

Data were obtained from the California Families Project, a yearly longitudinal study of 674 Mexican-origin youth and their parents (e.g., Cruz et al., 2018). All of the constructs for the current study were

assessed at Waves 1, 3, 5, and 7 because not all of the variables were collected every year to ease participant burden. Data for the first wave of this study were collected in the 2006–2007 and 2007–2008 school years with youth who were in 5th grade at the time (M_{age} = 10.86, SD = .51; 50.0% boys; 50.0% with minimal change across waves). To recruit families, children were drawn at random from rosters of students from the Sacramento and Woodland, CA school districts, both of which have high proportions of Latinx students. To be eligible for the study, the focal child had to be in the 5th grade, of Mexican origin, and living with their biological mother. Seventy-three percent of the eligible families agreed to participate in the study, including both two-parent (82%) and single-parent (18%) families. Full assessment data were collected biennially at Waves 1, 3, 5, and 7 when youth were in 5th, 7th, 9th, and 11th grade respectively. The youth and their parents were interviewed by trained staff members in their homes in Spanish or English, depending on their preference. Interviewers were all bilingual and almost all were of Mexican heritage. Of the original sample of 674 families, 86%, 91%, and 90% were retained at Waves 3, 5, and 7, respectively, and no additional families were recruited after Wave 1. For youth specifically, 86%, 90%, and 89% were retained at Waves 3, 5, and 7. Furthermore, 80% of youth participated in all four waves, 90% in three or more waves, and 94% in two or more waves. The sample consisted of families who had an average income of $32,500 (range = $5000 to > $90,000) with a mean household size of 5.56 at Wave 1. Sixty-four percent of parents had less than a high school education (median = 9th grade). The majority of parents (86%) were born in Mexico, and most children were born in the United States (72%). Participants were compensated for their time (e.g., at Wave 1, each parent was compensated $75, and youth were compensated $50).

Measures

For measures that did not already exist in Spanish, forward and backward translation was used to ensure the accuracy of the translations (see Robins et al., 2010) by Mexican American bilingual staff on the project.

Demographic covariates

The control variables used in our analyses were collected at Wave 1 when the children were in 5th grade. We controlled for child gender (0 = girl, 1 = boy; no data on non-binary youth), child nativity (0 = born in Mexico; 1 = born in the United States), mother reported total annual household income, and mother nativity (0 = born in Mexico; 1 = born in the U.S.).

Ethnic-racial pride

At Waves 1, 3, 5, and 7, we assessed ethnic-racial pride using an 8-item scale that assesses self-reported positive affirmations by adolescents towards their racial-ethnic background. Six of the scale items are from the widely used Multigroup Ethnic Identity Measure (Phinney, 1992) (e.g., "You are happy that you are Mexican American," "You feel a strong attachment toward your own ethnic group"). The other two items ("You feel proud to see Latino actors, musicians, and artists being successful," "You like people to know that your family is Mexican American") are from an ethnic pride scale that has been used successfully in other studies with Mexican-American adolescents (Berkel et al., 2010; Knight et al., 2010; Thayer et al., 2002). These items were created based on focus groups with Mexican American families to add ethnically relevant content and pilot tested and validated with sample of 162 Mexican American adolescents (Thayer et al., 2002). Items were rated on a 4-point scale from 1 (*not at all true*) to 4 (*very true*) and a higher score on this measure indicated a higher level of ethnic-racial pride. Past work supports the validity of this scale, including its association with theoretically relevant variables such as self-esteem (Hernández et al., 2014, 2017). Reliability was good to excellent across the waves (Wave 1 w = .84, Wave 3 w = .91, Wave 5 w = .92, and Wave 7 w = .92.).

Maternal cultural socialization

Cultural socialization was assessed using the mean score of nine items collected using the Ethnic Socialization Scale which was completed by mothers at all four waves of the study. Five of the items were adopted from the Ethnic Identity Questionnaire developed by Bernal and Knight (Knight, Bernal, et al., 1993; Knight, Cota, et al., 1993) (e.g., How often do you tell child about successful Mexican Americans who live in your community; Talk to child about the importance of extended family members such as someone's godparents?). The other four items were created by the research group based on a scale by Knight et al., 2011 on familial socialization (e.g., Talk to child about how important it is to respect one's elders; Tell child that he/she has an obligation to help members of the family). Items were rated on a 4-point Likert-type scale from 1 (*almost never or never*) to 4 (*almost always or always*). Together, these two scales assess cultural socialization of ethnic-racial pride and familial cultural values central to Mexican origin families. Previous research supports the validity of this scale (Author cite, 2014). This scale also demonstrated good reliability across all four waves (Wave 1 ω = .84, Wave 3 ω = .87, Wave 5 ω = .88, and Wave 7 ω = .89).

Peer ethnic-racial discrimination

Ethnic-racial discrimination was assessed using the mean score of all five peer discrimination items on the Adolescent's Perceptions of Discrimination measure (Johnston et al., 2004). The items assessed the extent to which youth perceived their peers to harbor discriminatory and prejudiced attitudes directed towards them and/or their ethnic-racial group, or witnessed discriminatory behavior (e.g., kids at school think bad things about Mexicans/Mexican Americans). These items were rated on a 4-point Likert-type scale from 1 (*not at all true)* to 4 (*very true*) and have been used to assess peer discrimination in other samples of Mexican-origin youth (Delgado et al., 2011). This measure was collected at all four waves of the study and the omega values for all four waves were the following: Wave 1 $\omega = .86$, for Wave 3 $\omega = .88$, for Wave 5 $\omega = .91$, and Wave 7 $\omega = .87$.

Data analysis

Preliminary steps

We fit three confirmatory factor analysis (CFA) models to each of the four waves of data, for a total of 12 CFA models, with mean and variance adjusted weighted least squares estimation (WLSMV) in Mplus version 8.5 (Muthén & Muthén, 2017). We fit these CFA models with a WLSMV estimator because the items for the constructs under investigation were all ordinal with four categories. We used the estimates of the CFA models to estimate omega reliability coefficients for each of the latent variables at each time point (see above). Then, for the main analyses, we created mean composite scores of the observed data for ethnic-racial pride, maternal cultural socialization, and peer ethnic-racial discrimination, specified one-indicator latent variables for each mean score, and used the reliability estimates to account for the unreliability of the mean scores. That is, we fixed the unique-factor variance of each composite to $\sigma^2_{composite} \times (1 - \omega)$. These preliminary analyses allowed us to fit parsimonious, yet sophisticated, multivariate models where we leveraged the mean composite scores and their reliabilities to model error-free latent variables using full information maximum likelihood (FIML). We also conducted longitudinal measurement invariance tests on ethnic-racial pride, maternal cultural socialization, and peer ethnic-racial discrimination to ensure variables were measured appropriately across time. The main analyses and visualizations, described next, were done in both Mplus and JMP® Pro v16.1 (SAS Institute, 2021).

All models were run using the maximum likelihood (ML) estimator and missing data were handled using FIML. Missingness across the four waves of data was minimal (maximum missingness on any variable was 13.8% missingness for Ethnic-racial pride at Wave 3).

Analyses of selective attrition did not reveal any differences between those who did not have data on major study variables at Wave 7 (11.0%, $N = 74$) and those who did contribute data based on any parent or child socio-demographic variables assessed at Wave 1 (all p's $\geq .388$).

Plan for primary analyses

We fit a cross-lagged panel model (CLPM), the most commonly used model of the reviewed studies, and a model that addresses our research questions, to the four waves of data to explore the inter-relations across maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride over time. Specifically, we were interested in investigating the autoregressive (AR; i.e., construct predicting itself at a later time point) and cross-lagged (CL; i.e., construct prospectively predicting a different construct) effects of maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride over time. We were also interested in whether maternal cultural socialization and peer ethnic-racial discrimination have stable or changing effects on ethnic-racial pride over the four time points. We formulated a systematic approach for testing the stability of AR and CL effects:

1. We estimated an initial CLPM with all AR and CL effects freely estimated.
2. For each construct, we tested whether equality constraints on the AR effects were tenable. If they were, the magnitude of relations between a variable and itself at a later time point was held equal across the four time points.
3. For each construct, we tested whether equality constraints on the CL effects were tenable. If they were, the magnitude of association between one construct and another was thus, held to be equal across all time points, meaning that there were not periods in development where constructs were particularly strongly or weakly related (i.e., different magnitude of association between 5th–7th grades and 9th–11th grades). Any time equality constraints were appropriate, these were retained in ensuing models.

After fitting the CLPM, which addressed our research questions and was consistent with existing applications for exploring linkages within and across constructs of interest, we ensured accurate characterization of change over time in ethnic-racial pride, maternal cultural socialization, and peer ethnic-racial discrimination by adding a random intercept to each construct, one at a time, and comparing against our best fitting CLPM. In comparing these models, we examined changes in χ^2, and in CFI and RMSEA because of our relatively large sample size and the fact that the χ^2 statistic is sensitive to sample size (Bollen, 1989). We deemed a change in CFI and RMSEA of .01 or

greater as a substantial change in model fit (Cheung & Rensvold, 2002). These comparisons allowed us to determine which constructs warranted having a random intercept and modified our CLPM accordingly.

RESULTS

Means and correlations for our variables of interest across each wave may be seen in Table 1. After examining descriptive statistics, we conducted longitudinal invariance testing on ethnic-racial pride, maternal cultural socialization, and peer ethnic-racial discrimination. Longitudinal invariance testing suggested that the conceptualization and measurement of these constructs were invariant over time (see Supplemental Materials for additional information). Therefore, we proceeded to create single-indicator latent factors to estimate the CLPM.

Estimating a CLPM

Consistent with our analysis plan, we estimated and compared the fit of a number of CLPMs that differed based on which constructs had equality constraints on their auto-regressive (AR) effects, and which cross-lagged (CL) effects could be constrained to equality across time. Additional detail of this model fitting (see Table S2 for fit of competing models) and comparison process is outlined in the supplemental materials (see Table S3 for model comparisons). In the best-fitting CLPM model, the AR effects of maternal cultural socialization were constrained to equality, while the AR effects of peer ethnic-racial discrimination and ethnic-racial pride were allowed to vary across time. Each set of CL effects (i.e., socialization→pride, socialization→discrimination, discrimination→pride, discrimination→socialization, pride→socialization, and pride→discrimination) could be constrained to equality with itself across waves. This suggests that cross-lagged relations between maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride have stable influences on each other over time, after accounting for the AR effects and controlling for covariates.[1] This model provided a good overall fit to the data $\chi2 = 200.74$, $p < .001$, CFI = .929, RMSEA = .049, SRMR = .046). Having established an appropriate CLPM, we next tested whether any of our three constructs of interest would be better represented

TABLE 1 Means and correlations for all study variables across waves.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Child Boy Gender	1.00															
2	Child US Born	−.08	1.00														
3	Family Income	.03	.23	1.00													
4	Mother Mexico Born	.02	−.25	−.19	1.00												
5	Ethnic-racial Pride Grade 5	−.04	−.16	−.09	.15	1.00											
6	Ethnic-racial Pride Grade 7	−.16	−.03	.05	.10	.25	1.00										
7	Ethnic-racial Pride Grade 9	−.11	−.11	.04	.15	.27	.46	1.00									
8	Ethnic-racial Pride Grade 11	−.19	−.11	−.07	.15	.19	.35	.56	1.00								
9	Peer Ethnic-racial Discrimination Grade 5	−.04	−.07	−.10	.03	−.03	−.07	−.02	.00	1.00							
10	Peer Ethnic-racial Discrimination Grade 7	−.04	.07	−.02	−.05	.04	.02	.00	−.04	.28	1.00						
11	Peer Ethnic-racial Discrimination Grade 9	−.05	.02	.05	−.04	.02	−.01	.00	−.08	.14	.35	1.00					
12	Peer Ethnic-racial Discrimination Grade 11	.03	−.01	.03	−.01	−.02	−.02	−.05	−.07	.12	.23	.44	1.00				
13	Maternal Cultural Socialization Grade 5	−.07	.03	.03	.06	.14	.14	.10	.10	.00	.02	−.02	−.12	1.00			
14	Maternal Cultural Socialization Grade 7	.05	−.06	−.03	.20	.13	.11	.16	.12	.02	−.01	−.01	−.09	.59	1.00		
15	Maternal Cultural Socialization Grade 9	−.03	−.03	−.01	.13	.14	.17	.19	.14	−.02	−.04	−.06	−.13	.47	.58	1.00	
16	Maternal Cultural Socialization Grade 11	.04	−.02	−.01	.14	.13	.14	.16	.14	.02	−.01	.01	−.10	.50	.56	.65	1.00
	Mean	0.50	0.71	0.00	0.84	3.48	3.47	3.39	3.23	1.37	1.21	1.30	1.30	2.88	3.07	3.06	2.97
	SD	0.50	0.45	4.26	0.37	0.44	0.48	0.50	0.56	0.49	0.33	0.36	0.32	0.55	0.55	0.55	0.60
	N	674	666	603	665	640	574	605	600	663	576	596	577	640	572	598	586

by adding a random intercept to model stable, between-person change.

Estimating models with a random intercept

To disaggregate within- from between-person effects in the CLPM (Hamaker et al., 2015), we followed recommendations of testing whether a random intercept would be appropriate for each of our three constructs of interest. We used the CLPM model as a baseline for comparison and, to each construct—one at a time—we added a random intercept and conducted chi-square difference tests. These tests revealed that peer ethnic-racial discrimination ($\Delta\chi^2(1) = 6.57$, $p = .01$, $\Delta\text{CFI} = -.003$, $\Delta\text{RMSEA} < .001$) and ethnic-racial pride ($\Delta\chi^2(1) = 5.71$, $p = .02$, $\Delta\text{CFI} = -.003$, $\Delta\text{RMSEA} < .001$) did not require a random intercept to be modeled adequately. Note that despite a significant change in the chi-square statistic, the changes in CFI and RMSEA are less than .01, supporting our conclusion to not include random intercepts for these constructs. In contrast, maternal cultural socialization was better characterized by adding a random intercept ($\Delta\chi^2(1) = 35.59$, $p < .001$, $\Delta\text{CFI} = -.020$, $\Delta\text{RMSEA} = .007$), suggesting that there are stable individual differences in the level of cultural socialization Mexican-origin youth receive from their mothers across 5th to 11th grade. Therefore, a CLPM with a random intercept for maternal cultural socialization was treated as our final analytical model. The model provided good fit to the data ($\chi^2(76) = 165.15$, $p < .001$, CFI = .949, RMSEA = .042 (90% CI: .033–.050), SRMR = .048).

Interpreting the final model: CLPM With a random intercept for maternal cultural socialization

The results for the final CLPM with a random intercept for maternal cultural socialization and covariates (child gender, child nativity status, family income, and maternal nativity status) are shown in the path diagram for the model in Figure 1. The AR effect for maternal cultural socialization, which was constrained to equality, was positive and significant ($b = .23$, $SE = .05$, $p < .001$, $\beta = .22$), meaning that socialization predicted itself over time. The AR effects of ethnic-racial pride and peer ethnic-racial discrimination, which were freely estimated, were positive, significant, and generally increased across time. This means that the impact of these constructs on themselves 2 years later increased in strength later in adolescence.

In terms of CL effects (See Table 2), which were all constrained to equality across time, maternal cultural socialization predicted increases in youth's

ethnic-racial pride 2 years later ($b = .08$, $SE = .02$, $p < .001$, $\beta = .09$). Peer ethnic-racial discrimination, by contrast, predicted decreases in youth's ethnic-racial pride 2 years later ($b = -.06$, $SE = .03$, $p = .04$, $\beta = -.04$). Youth's ethnic-racial pride also elicited greater maternal cultural socialization 2 years later ($b = .10$, $SE = .03$, $p = .0003$, $\beta = .08$). Effects of youth's ethnic-racial pride on later peer ethnic-racial discrimination and effects of maternal cultural socialization on later peer ethnic-racial discrimination were nonsignificant.

In terms of significant covariates impacting variables at Wave 1 (5th grade), greater family income was weakly associated with less exposure to peer ethnic-racial discrimination ($b = -.01$, $SE = .00$, $p = .022$, $\beta = -.10$), children being born in the United States was associated with less youth ethnic-racial pride ($b = -.12$, $SE = .04$, $p = .003$, $\beta = -.13$), and having a mother born outside of the United States was associated with greater youth ethnic-racial pride ($b = .14$, $SE = .05$, $p = .003$, $\beta = .13$). Gender was associated with maternal cultural socialization, such that being a boy was linked to fewer cultural socialization messages ($b = -.09$, $SE = .04$, $p = .013$, $\beta = -.09$). No other effects of covariates were significant (p's > .05).

Sensitivity analysis: Estimating a LCM-SR for maternal cultural socialization

Despite its advantages, the RI-CLPM has also faced recent criticism for modeling stable between-person differences (Grimm et al., 2021; Orth et al., 2020), as a significant random intercept would imply that individuals do not differ in how they change over time. The latent curve model with structured residuals (LCM-SR; Curran et al., 2014) provides yet another alternative for separating between- and within-person effects while allowing individuals to differ in their change patterns and thus may provide insight as to how ethnic-racial pride, maternal cultural socialization, and peer ethnic-racial discrimination influence one another across time. A univariate LCM-SR was thus conducted on maternal cultural socialization across time and compared to a model where maternal cultural socialization had AR effects with a random intercept. Because maternal cultural socialization was the only construct for which a random intercept was justified, these sensitivity analyses did not include youth ethnic-racial pride or peer ethnic-racial discrimination. The AR model with a random intercept for maternal cultural socialization fit better than the model where maternal cultural socialization was expressed as a LCM-SR ($\Delta\chi^2(6) = 14.28$, $p = .030$, $\Delta\text{CFI} = -.008$, $\Delta\text{RMSEA} = -.001$). This means that the random intercept for maternal cultural socialization in the RI-CLPM was tenable and that maternal cultural socialization remained stable and did not demonstrate any systematic growth or decline across time. Therefore, no adjustments to our RI-CLPM model were necessary.
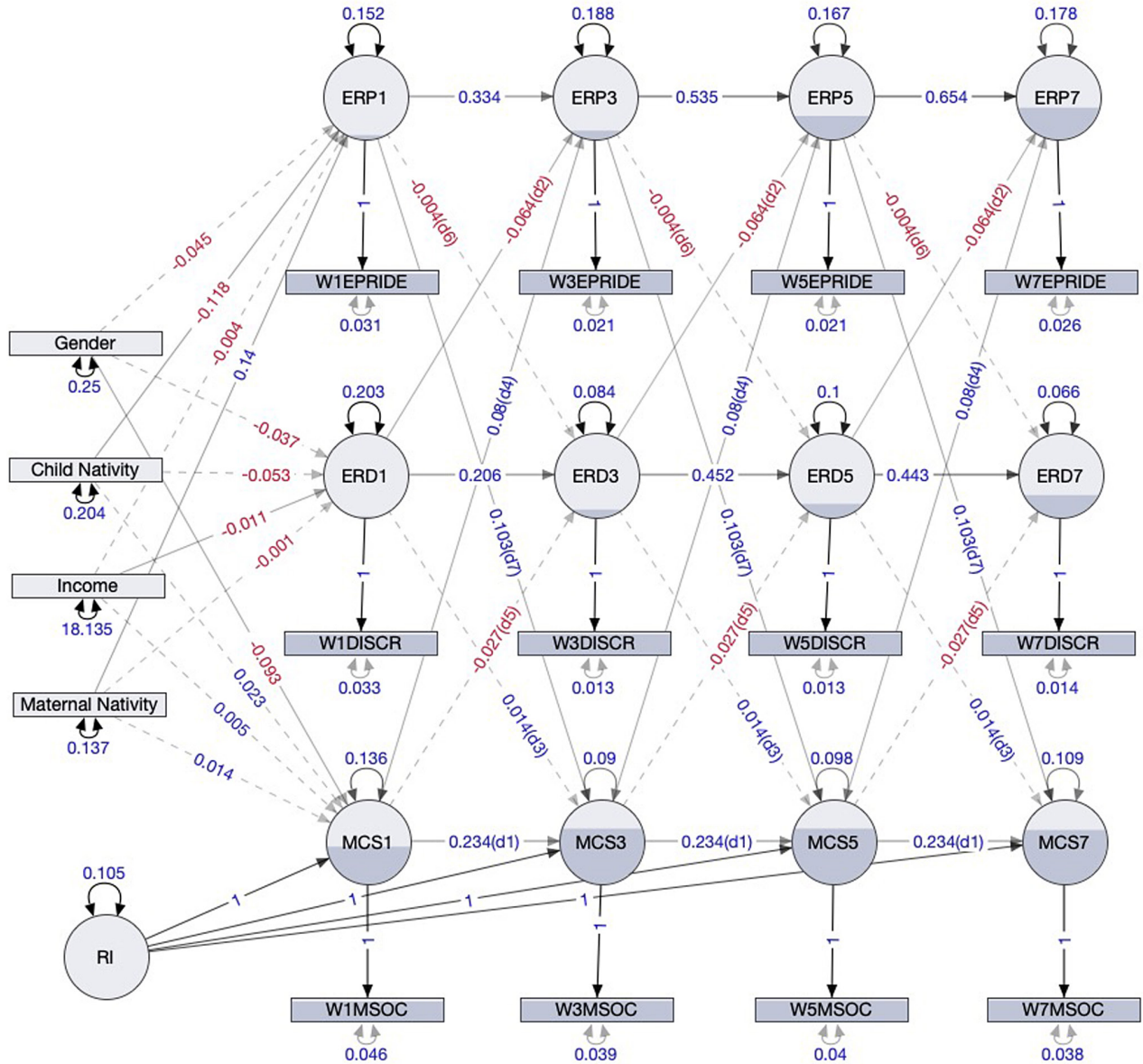
FIGURE 1 Final model: CLPM with a random intercept for maternal cultural socialization. Within-time covariances and means for all manifest variables, including exogenous variables, were estimated but are omitted to avoid cluttering. Alphanumeric labels identify effects set to equality. Fixed values are displayed below unique-factor variances paths. Dashed arrows represent non-significant effects ($p > .05$). Dark shading of variable nodes represent the proportion of variance explained in the corresponding endogenous variable. Estimates are unstandardized.

DISCUSSION

Mexican American youth must navigate environments that due to segregation, discrimination, and racism can result in psychosocial risk, but cultural socialization and ethnic-racial identity can promote positive adaptation as youth draw on these cultural resources to combat the negative effects of potentially inhibiting environments (Garcia Coll et al., 1996). As such, identifying how these developmental resources (i.e., cultural socialization, ethnic-racial pride) and risks (i.e., ethnic-racial discrimination) influence each other throughout adolescence is imperative to understanding psychosocial adaptation. This study tested the

longitudinal links between these factors across 5th and 11th grade. Consistent with hypotheses, maternal messages of cultural traditions, values, and knowledge predicted later increases in ethnic-racial pride from 5th to 11th grades, but counter to our expectations, youth ethnic-racial pride also influenced greater maternal cultural socialization messages at subsequent time points. Unfortunately, but as hypothesized, experiences of peer ethnic-racial discrimination resulted in decreases ethnic-racial pride in the following years. Furthermore, the patterns of these associations were similar in magnitude from middle school to high school contrary to our expectations that these associations would be stronger in later adolescence.

TABLE 2 Path estimates for final CLPM with random intercept for maternal cultural socialization.

Regression paths	*b*	*SE*	*p*	*b* lower 95%	*b* upper 95%	*β*
Auto-regressive effects						
ERD1 → ERD3	.21	.03	<.001	.14	.27	.31
ERD3 → ERD5	.45	.05	<.001	.35	.55	.40
ERD5 → ERD7	.44	.04	<.001	.37	.52	.51
ERP1 → ERP3	.33	.05	<.001	.23	.44	.29
ERP3 → ERP5	.54	.04	<.001	.45	.62	.51
ERP5 → ERP7	.65	.04	<.001	.57	.74	.59
MCS1 → MCS3	.23	.05	<.001	.14	.33	.23
MCS3 → MCS5	.23	.05	<.001	.14	.33	.23
MCS5 → MCS7	.23	.05	<.001	.14	.33	.23
Cross-lagged effects*						
ERD → ERP	−.06	.03	.041	−.12	.00	—
ERD → MCS	.01	.03	.665	−.05	.08	—
ERP → ERD	.00	.02	.816	−.04	.03	—
ERP → MCS	.10	.03	<.001	.05	.16	—
MCS → ERP	.08	.02	<.001	.04	.12	—
MCS → ERD	−.03	.02	.092	−.06	.00	—
Covariates						
Child Gender → ERP1	−.04	.03	.185	−.11	.02	−.06
Child Gender → ERD1	−.04	.04	.335	−.11	.04	−.04
Child Gender → MCS1	−.09	.04	.013	−.17	−.02	−.09
Child Nativity → ERP1	−.12	.04	.003	−.20	−.04	−.13
Child Nativity → ERD1	−.05	.04	.236	−.14	.03	−.05
Child Nativity → MCS1	.02	.04	.601	−.06	.11	.02
Income → ERP1	.00	.00	.402	−.01	.00	−.04
Income → ERD1	−.01	.00	.023	−.02	.00	−.10
Income → MCS1	.00	.00	.323	.00	.01	.04
Maternal Nativity → ERP1	.14	.05	.003	.05	.23	.13
Maternal Nativity → ERD1	.00	.05	.980	−.11	.10	.00
Maternal Nativity → MCS1	.01	.05	.799	−.09	.12	.01

Note: *Cross-lagged paths are constrained to equality across waves. Unstandardized betas are omitted for cross-lagged paths because they differ between waves due to different sample variances by wave. Child Gender coded boy = 1; Child Nativity coded Born in United States = 1; Mother Mexico = Maternal nativity coded Mother Born in Mexico = 1.

Abbreviations: ERD, ethnic-racial discrimination from peers, ERP, ethnic-racial pride; MCS, maternal cultural socialization.

Maternal cultural socialization and ethnic-racial pride

Mothers lay the foundation for the cultural resilience of their youth by teaching them about the history of Mexican and Mexican Americans leaders (e.g., teaching them about Benito Juarez and Cesar Chavez), sharing with them Mexican cultural folktales and stories (e.g., la Llorona), celebrating Mexican American cultural traditions with them (e.g., Quinceañeras), and exposing them to cultural role models and leaders in their communities. These messages are further fortified as mothers explicitly teach youth about the cultural values that organize Mexican American family life (e.g., respect, familism). This deep cultural knowledge and culturally embedded values serve as the scaffolding for youth's emerging sense of ethnic-racial pride in their Mexican roots. Our findings illustrate that these are not one-off conversations or that socialization crystalizes into ethnic-racial pride early in adolescence, but instead, as mothers continue to deliver these messages throughout the length of adolescence, these messages serve to promote further increases in ethnic-racial pride. Our findings are in line with past literature demonstrating this link in shorter developmental windows (e.g., Hughes, 2010; Knight et al., 2011), but extends previous work by showing that these effects are consistent throughout adolescence, and by establishing the specific longitudinal connection across adolescence between maternal cultural socialization and ethnic-racial pride (one of the most protective aspects

of identity; Rivas-Drake et al., 2014). Our findings also suggest that mothers differ in their delivery of these messages (i.e., between-person effects), but the impact of increases in these messages continue predicting greater racial-ethnic pride as youth age. Most of the past work examining longitudinal byproducts of ethnic-racial socialization has focused on ethnic-racial identity resolution and/or exploration, and thus our study extends these finding to another important aspect of ethnic-racial identity content.

Although we were surprised that across-process associations remained constant across early to late adolescence, our findings suggest that due to the assaults on ethnic-racial pride that exist in the environment resulting from discrimination and racism, mothers need to counter these assaults with continuous delivery of these messages throughout adolescence. The consistent delivery of messages reminding youth of their Mexican cultural traditions and legacies, instills and maintains youth's pride in their Mexican/Mexican American heritage starting in 5th grade and consistently throughout high school. It may be that other aspects of identity are more responsive to parental messages later in development (e.g., exploration and resolution; Umaña-Taylor et al., 2014), but feelings of ethnic-racial pride emanate from the cultural knowledge that starts to get passed on much earlier in development forming the foundation of ethnic-racial pride. It is likely that the content of these maternal messages provides the cultural and ethnic knowledge that serves as the content aspect of their identity (i.e., what they are proud of) (Williams et al., 2020). Indeed, our measure of ethnic-racial pride specifically tapped into participating in cultural traditions and feeling proud of successful Latinxs and Mexican Americans as well as general feelings of connection and pride in their Mexican American heritage. Recent lifespan models of ethnic-racial identity highlight that ethnic-racial knowledge in middle childhood may serve to help youth reflect on their ethnicity, contribute to feelings of pride, and help youth gain an understanding of their identity (Williams et al., 2020); this may be particularly important earlier in development as this knowledge is likely more established by adolescence.

Our findings suggest that this knowledge passed down through maternal cultural socialization in late childhood does in fact not only influence ethnic-racial pride, but also continues to do so across adolescence. Because the auto-regressive path was constant across adolescence, this suggests that mothers' messages remain consistent, but the as mothers provide more messages relative to themselves, they continue to contribute to growth in ethnic-racial pride. Furthermore, ethnic-racial pride continued to grow in adolescence demonstrating stronger associations across time (e.g., stronger auto-regressive paths), and this suggests that the seeds of ethnic-racial pride planted and tended to across adolescence by maternal cultural socialization, indeed, grow stronger as youth age.

Maternal messages predicted greater ethnic-racial pride, but reciprocal effects were evident such that greater ethnic-racial pride promoted more maternal cultural socialization messages. This runs counter to the only published study testing this question that found this effect only for U.S.-born Mexican American youth (Umaña-Taylor et al., 2013), but it is consistent with an unpublished study of diverse youth in middle school that showed reciprocated effects of youth reported cultural socialization and ethnic-racial identity exploration and affirmation (Hughes, 2010). Our finding supports transactional models of the bidirectional relations of ethnic-racial identity and socialization in adolescence (Hughes et al., 2016). Importantly, both our study and Hughes tested this question in middle school developmentally earlier than Umaña-Taylor et al. (2013), whose follow-up time frame was in 2-year post-high school. These evocative effects may be more universal in early adolescence, but then become more contextually driven later in development. It could be that for U.S.-born Mexican American youth, they drive cultural socialization messages due to exposure to college in early adulthood, while in Mexican-born families, parents continue to drive conversations due to their more recent direct connection to Mexico. Regardless, our results suggest that maternal cultural socialization and ethnic-racial pride are mutually reinforcing as youth and mothers together engage in conversations about the meaning and significance of their ethnic-racial group membership, and these relations are likely further strengthened by familial engagement in cultural behaviors and enactment of cultural values (Hughes et al., 2016). Our findings underscore the importance of examining cultural socialization processes in a bidirectional manner to fully explicate how youth influence these processes either by initiating these conversations as they explore their identity or by eliciting messages from parents.

It is important to note that our study only focused on maternal cultural socialization, and future work should consider incorporating youth report as well as cultural socialization messages from other sources, including fathers. Indeed, a recent analysis by Knight et al. (2017) found that maternal cultural socialization messages in 5th grade and paternal cultural socialization messages in 7th grade were predictive of ethnic-racial identity exploration in 10th grade hinting that parents' impact may be dependent on developmental stage. The authors argue that maternal messages may be more key earlier in development when youth spend more time at home, but paternal messages become increasingly salient as youth explore other environments. More work is needed to parse out these unique parental effects and their contextual salience. Nevertheless, our analyses suggest that maternal messages foster continued growth in ethnic-racial pride in adolescence and youth's pride elicits more frequent cultural socialization messages.

Peer ethnic-racial discrimination and ethnic-racial identity

Consistent with other work that has found that ethnic-racial peer discrimination serves to erode ethnic-racial commitment and private regard across the middle (Del Toro et al., 2021) and high school period (Wang & Yip, 2020; Zeiders et al., 2019), we extend this work by demonstrating that peer ethnic-racial discrimination led to decreases in ethnic-racial pride as well, and this negative effect was consistent across 5th–11th grade. However, we did not find support for either the rejection–identification model (i.e., greater discrimination leads to more connection and pride in the group) or the identification–attribution model (i.e., greater ethnic-racial pride associated with more discrimination), and instead, our findings suggest that as youth experience their peers as devaluing their ethnic-racial group through discriminatory attitudes and statements, this undermines their developing sense of pride and connection with other Mexican Americans. Because peers serve as an increasingly important source of socialization in adolescence (Brown & Larson, 2009), it is not surprising that peers' stereotyped attitudes and beliefs about Mexicans influence how Mexican American youth connect to their ethnic-racial group. Supporting this notion, peer ethnic-racial discrimination has uniquely predicted ethnic-racial commitment and private regard relative to adult ethnic-racial discrimination (Del Toro et al., 2021). Although our study did not include adult ethnic-racial discrimination, it does suggest that these peer effects remain when considering maternal cultural socialization in the model further supporting the damaging effects of peer racial-ethnic discrimination on identity.

Ethnic-racial identity processes like pride and private regard support positive youth assets in minoritized youth like self-esteem and prosocial behavior as well as greater academic efficacy, motivation, engagement, and achievement (Rivas-Drake et al., 2014). Thus, the damaging impact of ethnic-racial discrimination on ethnic-racial identity that has now been shown in multiple studies across all of adolescence underscores the need for schools to develop strategies that disrupts these damaging peer processes. Although maternal cultural socialization may support the development of ethnic-racial pride, this negative link suggests that changes to the inhibiting environments where youth experience the daily toll of discrimination need more attention. Interventions that focus on building intergroup contact and solidarity as well as helping youth understand the far-reaching negative impact of peer-racial-ethnic discrimination should be enacted in school settings to foster the growth and development of all youth (Beelmann & Heinemann, 2014). School-wide teacher training decreases the odds of middle school African American and Latinx youth experiencing school discrimination (Marraccini et al., 2022).

Finally, maternal cultural socialization processes were not impacted by youth experiences of peer ethnic-racial discrimination nor did maternal cultural socialization predict greater peer ethnic-racial discrimination. Although parental experiences of ethnic-racial discrimination influence ethnic-racial socialization messages (Hughes et al., 2016), in our study, youth's experiences did not elicit additional cultural socialization. It may be that Latinx youth do not share their discriminatory experiences with their parents in an effort to shield and protect them (Martin Romero et al., 2021). It may also be that ethnic-racial discriminatory experiences predict preparation for bias messages rather than cultural socialization. In fact, preparation for bias messages alerting youth to potential discrimination in their environment have been associated with greater reports of ethnic-racial discrimination by Latinx youth (Kulish et al., 2019). Furthermore, Hughes (2010) found reciprocal links between preparation for bias messages and ethnic-racial discrimination in middle school youth. Thus, more research is needed to test how ethnic-racial discrimination, parental messages about race and ethnicity, and ethnic-racial identity processes transactionally influence each other across adolescence (Hughes et al., 2016), and there should be greater focus on how these processes confer promotive and protective effects together at specific developmental periods.

Limitations, future directions, and implications

Although this study contributes to our understanding of the links between maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride across adolescence among Mexican-origin youth, it is not without its limitations. First, we did not test whether the interrelations among ethnic-racial pride, maternal cultural socialization, and peer ethnic-racial discrimination varied across gender and youth nativity status due to sample size limitations. These differences may be meaningful, and very large sample sizes may be needed to test for differences using these complex, multivariate models. Yet, nativity and gender did demonstrate some main effects suggesting that these factors need to be considered in future work. Families with more recent ties to Mexico reported greater cultural resilience such that U.S.-born youth reported lower ethnic-racial pride and children of foreign-born mothers reported greater ethnic-racial pride. This implies that interventions supporting ethnic-racial pride need to target second generation youth specifically. Furthermore, mothers of girls reported greater cultural socialization messages confirming that gender plays a role in how families provide these messages (Umaña-Taylor & Updegraff, 2013), and interventions may need to target how parents deliver messages across gender. Finally, youth from families with higher incomes reported less peer racial-ethnic

discrimination. This suggests that we need to consider more fully the intersectional experience of classism and racism for Mexican American youth and that targeted interventions should also focus on schools with youth from lower income families.

Second, our study was collected in area that has large Latinx (and Mexican American) communities and that likely influenced how parents were able to provide a context for cultural socialization rich with the history of California. Areas with larger Mexican American populations may be able to provide more community-level support for the reciprocated links between maternal cultural socialization and youth ethnic-racial pride as families can attend community events at libraries, museums, parks, schools, and in their neighborhood that celebrate Mexican culture. Third, and relatedly, our study only included Mexican Americans, the largest Latinx sub-group in the United States and may not extend to Latinx youth from other countries that may have less scaffolding for cultural socialization and ethnic-racial pride specific to their country of origin. Thus, future work should test if these links are similar in other areas with less density in Mexican American populations and with other Latinx sub-groups. Fourth, while our longitudinal design spanning following youth from 5th to 11th grade allows us to make inferences over longer swaths of development, the 2-year spacing between our waves of data collection might obscure more short-term, proximal changes in our constructs of interest. Closer spacing between waves, along with alternative modeling strategies such as the time-varying effects model (e.g., Douglass & Umaña-Taylor, 2016), may give scholars a greater insight into how these constructs covary with each other. Fifth, we were only able to account for one dimension of ethnic-racial identity. While our examination of the longitudinal effects of ethnic-racial pride in tandem with maternal cultural socialization and peer racial-ethnic discrimination is novel, ethnic-racial pride develops through positive experiences exploring one's identity. Understanding the interplay among discrimination, socialization, and multiple aspects of identity (including pride) will be necessary for a more complete understanding of psychosocial well-being among Latinx youth.

In conclusion, the current study utilizes a large sample of Mexican-origin youth followed from 5th to 11th grade to examine longitudinal associations between maternal cultural socialization, peer ethnic-racial discrimination, and ethnic-racial pride across adolescence. Although we did not find support for the notion that effects of socialization and peer discrimination are more potent later in adolescence, cultural socialization and peer discrimination predicted later levels of youth ethnic-racial pride. Furthermore, the endorsement of ethnic-racial pride elicited subsequent cultural socialization from mothers across adolescence. Finally, the significant random intercept for maternal cultural socialization provides evidence that there are stable between-person differences in the frequency of messages one receives regarding their group's values and traditions and that the level of socialization youth receive remains largely the same across adolescence. Overall, our findings highlight the importance of examining these factors longitudinally across broad swaths of adolescence and reaffirms the importance of cultural socialization in fostering positive psychosocial outcomes. Targeted interventions starting in elementary school supporting cultural socialization processes are imperative, but these need to be maintained through high school to continue to support the deepening of ethnic-racial pride and counter the harmful assaults of peer discrimination on identity development. For Mexican American families, there is a risk with generational time in the United States that these cultural resilient factors will diminish, and policies that prevent these lessons from being taught at school suggest that there is an urgency to continue to build this resilience in Mexican American youth as they may not get these lessons in their schools. Community-based organizations can help bridge this gap by celebrating Mexican and Mexican American heritage to give families space to celebrate and enjoy their culture supporting pride.

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ENDNOTE

[1] Although we do not interpret paths here because the CLPM was not our final analytical model, descriptions of these effects, including a table of path estimates and a figure of this CLPM model, may be found in the Supplemental Materials.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.