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Longitudinal Relations among Mexican-origin Mothers' Cultural Characteristics, Cultural Socialization, and 5-year-old Children's Ethnic-Racial Identification

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Abstract

The current longitudinal study examined the intergenerational transmission of ethnic-racial identity/identification and cultural orientation among Mexican-origin adolescent young mothers and their children (N= 161 dyads). Findings indicated that mothers' ethnic-racial identity and their cultural involvement were significantly associated with children's ethnic-racial identification via mothers' cultural socialization; however, associations varied significantly by children's gender and skin tone. For example, mothers' ethnic-racial centrality was positively associated with cultural socialization efforts among mothers with sons (regardless of skin tone); but with daughters, a positive association only emerged among those with lighter skin tones. Associations between cultural socialization and children's ethnic-racial identification also varied by children's gender and skin tone. For example, the relation between mothers' cultural socialization and children's ethnic-racial identification also varied by children's gender and skin tone. For example, the relation between mothers' cultural socialization and children's ethnic-racial identification also varied by children's gender and skin tone, For example, the relation between mothers' cultural socialization and children's self-labeling as Mexican was positive for girls regardless of skin tone, and for boys with lighter skin tones, but was not significant for boys with darker skin tones. Findings highlight the critical role of children's own characteristics, mothers' ethnic-racial identity and mothers' adaptive cultural characteristics, and mothers' cultural socialization efforts in the formation of young Mexican-origin children's ethnic-racial identification.

Keywords

ethnic/racial identification/identity; ethnic/racial centrality; involvement in Mexican culture; cultural/ethnic/racial socialization; skin tone/color; Mexican/Mexican-origin/Latino

Developing an understanding of one's ethnicity-race is a critical developmental task for ethnic-racial minority youth. In particular, ethnic-racial¹ *identification* captures ethnic-racial labeling and identifications during childhood, and ethnic-racial *identity* (ERI) refers to the multidimensional, psychological construct that reflects beliefs and attitudes that individuals

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have regarding their ethnic-racial group membership, and the processes through which these beliefs and attitudes develop subsequent to childhood (Umaña-Taylor et al., 2014). Given that individuals experience developmental changes (e.g., cognitive maturity, societal expectations) during adolescence that encourage the development of an identity, a great deal of research has focused on ERI formation during this developmental period. This prior work has found that ERI formation has implications for numerous indices of ethnic-racial minority adolescents' positive psychosocial, academic, and health outcomes (see Rivas-Drake et al., 2014 for a review). Although scholars have suggested that ethnic-racial *identification* during childhood primes and exposes children to ethnicity-race, and is critical to ERI formation during adolescence (Umaña-Taylor et al., 2014), much less is known about the development of *young children's* ethnic-racial identification.

Given the importance of ethnic-racial identification for later ERI formation and positive development, it is essential to understand processes underlying children's ethnic-racial identification, especially among children who are at risk for negative outcomes across development, such as children born to adolescent mothers. Children of adolescent mothers are at increased risk for behavioral problems (Hofferth & Reid, 2002), as well as grade repetition, early sexual initiation, and truancy (Levine, Emery, & Pollack, 2007). Although overall rates of births to teenage mothers have declined by over 30% in recent years for the total population, there has been a decline of only 15% for Latina mothers, and Mexicanorigin adolescents, in particular, face the highest risk for teenage pregnancy among all ethnic and racial groups in the U.S. (Martin et al., 2011). The increased risk for maladjustment among children born to adolescent mothers, coupled with prior findings noting that higher ethnic-racial identity was associated with fewer behavior problems and better adaptive behavior among Mexican-origin children (Serrano-Villar & Calzada, 2016), suggests that examining ethnic-racial identity among Mexican-origin children born to adolescent mothers is an important area of focus. Thus, the present study examined the intergenerational transmission of mothers' ethnic-racial identity to children's ethnic-racial identification via cultural socialization efforts among Mexican-origin adolescent mothers and their five-yearold children.

Theoretical Framework for Children's Ethnic-Racial Identification and Underlying Processes

Little is known about ethnic-racial identification during childhood. Bernal and colleagues (1990) conceived that the overall construct of children's ethnic-racial identification includes five unique but related components: *ethnic self-labeling* (i.e., categorizing oneself correctly as a member of a group), *ethnic constancy* (i.e., knowledge that ethnicity is unchanging), *use of ethnic role behaviors* (i.e., engaging in behaviors involving one's culture), *ethnic knowledge* (i.e., knowledge of culturally-relevant behaviors, customs, and values), and *ethnic preferences* (i.e., feelings and preferences about being a member of one's ethnic

¹*Ethnicity* refers to individuals' shared cultural heritage (e.g., customs, language) that is passed down through generations, and *race* refers to the socially constructed grouping of individuals based on phenotypic attributes (e.g., skin tone, hair texture). Given that individuals' experiences in forming an identity often include both ethnic and racialized experiences that are sometimes not easily disentangled from one another, scholars have recommended the terms *ethnic-racial identification* and *ethnic-racial identity* to more accurately capture these processes during childhood and adolescence, respectively (Umaña-Taylor et al., 2014).

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group; Bernal, Knight, Garza, Ocampo, & Cota, 1990). Early empirical work (Bernal et al., 1990; Knight, Cota, & Bernal, 1993) demonstrated that these five components were correlated, that the majority of children demonstrated self-identification and constancy by school age (6–10 years of age), and that the other three components increased with age (Bernal et al., 1990). This conceptualization of ethnic-racial identification has been replicated by Serrano-Vaillar and Calzada's (2016) study with Mexican and Dominican 4–5 year old children. Serrano-Vaillar and Calzada demonstrated that components of ethnic-racial identification emerged much earlier than found by Bernal and colleagues (1990), such that a majority of children in their study demonstrated self-labeling by preschool and constancy by kindergarten. The authors concluded that because of the current historical and cultural context in the U.S., ethnic-racial identification may emerge earlier than found in previous work.

Another component of ethnic-racial identification that has been examined among school-age children is ethnic-racial centrality (i.e., how central ethnicity/race is to one's self-concept; Sellers et al., 1998; Turner and Brown, 2007). Very few studies have tested this construct during early childhood. Interestingly, however, in a related body of work on gender development, gender schema theorists (Martin, 1991; Martin & Halverson, 1981) posit that gender is a salient social construct during early childhood because children possess the cognitive capabilities to actively internalize information about gender into schemas, which then guide their subsequent attitudes and behaviors. Empirical work has supported these notions, as children as young as 21 months of age self-labeled their gender (Zosuls et al., 2009), and children 3- to 6-years of age demonstrated moderately high gender centrality (Halim et al., 2014). To our knowledge, only one study has tested ethnic-racial centrality among a sample that included children in early childhood (i.e., the full sample included children 5- to 12-years of age), and found that the majority of children did not demonstrate ethnic-racial centrality (Turner & Brown, 2007); however, it is possible that, similar to Serrano-Villar and Calzada's (2016) findings, this component of ethnic-racial identification may also emerge earlier among younger children in today's sociohistorical context relative to almost a decade ago, particularly for ethnic-racial minority children for whom ethnicityrace is a salient social construct (Van Ausdale & Feagin, 2001). No subsequent studies, to our knowledge, have tested ethnic-racial centrality during early childhood. Although the aforementioned components of ethnic-racial identification are qualitatively different than the ethnic-racial identity processes that occur after childhood, it is particularly important to examine their emergence because they serve as the developmental antecedents for later ethnic-racial identity formation (Umaña-Taylor et al., 2014). Further, the present study is the first, to our knowledge, to test the processes underlying ethnic-racial identification using a prospective design during the period of early childhood.

García Coll and colleagues' (1996) integrative model for the study of developmental competencies in minority children is a useful framework for understanding factors that may underlie children's ethnic-racial identification. García Coll et al. (1996) proposed that in response to social stratification experiences (e.g., segregation, discrimination), ethnic-racial minority families build an adaptive culture consisting of goals, attitudes, and behaviors that set them apart from mainstream culture (referred to collectively as mothers' adaptive cultural characteristics in the present study). For example, Mexican-origin mothers' adaptive culture

may include involvement in Mexican culture (Knight, Cota, & Bernal, 1993), ethnic-racial centrality (Sellers et al., 1998), and ERI affirmation (i.e., positive feelings toward their ethnicity-race; Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). The integrative model further proposed that mothers' adaptive culture would positively inform their cultural socialization efforts with their children (i.e., teaching children about their culture; Hughes et al., 2006), which in turn would be associated with children's increased developmental competencies (e.g., ethnic-racial identification).

To our knowledge, only Knight, Cota, and Bernal (1993) have tested this full process from parents' adaptive cultural characteristics to children's ethnic-racial identification via cultural socialization among families with young children. Examining three of the constructs posited to be included in Bernal and colleagues' (1990) conceptualization of children's ethnic-racial identification (i.e., ethnic self-labeling, knowledge, and preferences), Knight and colleagues (1993) found that mothers' ethnic knowledge and preferences were positively associated with mothers' teaching about Mexican culture, which was, in turn, positively associated with 9- to 12-year-old children's ethnic-racial identification.

The present study extended this prior research by (a) moving beyond cross-sectional work and assessing the proposed pathways across three years, (b) testing associations among younger children (i.e., 5-year-old olds), and (c) assessing children's ethnic-racial centrality (i.e., the centrality of being Mexican to children's self-concept; Turner & Brown, 2007) in addition to two constructs examined by Bernal and colleagues' (1990) early work (i.e., ethnic-racial attitudes and self-labeling as Mexican). Given that no studies other than Knight and colleagues (1993) have assessed the full process, prior work that has examined *parts* of this process is reviewed below.

Adaptive Cultural Characteristics and Socialization of Children

As noted, García Coll and colleagues' (1996) integrative model posits that ethnic-racial minority families' adaptive culture informs cultural socialization efforts with children. The majority of studies that have examined characteristics associated with cultural socialization have tended to focus on parents' non-cultural characteristics, such as job prestige (Hughes & Chen, 1997), income, and age (Csizmadia, Rollins, & Kaneakua, 2014). The limited work that has focused on *cultural* characteristics has been cross-sectional, but provides support for this association. For example, Mexican parents' values (i.e., familism, respect, religion, and traditional gender role attitudes) were positively correlated with cultural socialization of their fifth-grade early adolescents (Knight et al, 2010), and parents' involvement in Mexican culture was positively associated with cultural socialization (ages of children were not specified; Romero, Cuéllar, & Roberts, 2000). Further, Puerto Rican and Dominican parents' stronger connection and preference for their ethnic-racial group was positively associated with cultural socialization of their children 6 to 17 years of age (Hughes, 2003), and African American mothers' greater ethnic-racial centrality and positive feelings toward culture were associated with more frequent and positive messages about culture with their adolescents (White-Johnson, Ford, & Sellers, 2010).

The current study expanded upon this work by examining these associations over time among a sample of 5-year-old children. Extending these ideas to a younger population is important because, during this developmental period, children are processing information about ethnicity-race (Van Ausdale & Feagin, 2001), using ethnicity-race as a meaningful category for sorting individuals (Bennett & Sani, 2003), and making inferences about others' preferences based on ethnicity-race (Waxman, 2010). Therefore, more work is needed to test how mothers' adaptive characteristics inform their cultural socialization efforts during the developmental period when their children are forming an understanding of ethnicity-race. Based on notions from the integrative model (García et al., 1996), and findings from prior cross-sectional work with school-age children and adolescents, it was hypothesized that mothers' involvement in Mexican culture, ethnic-racial centrality, and ERI affirmation when children were 3 years of age would be positively associated with mothers' cultural socialization efforts when children were 4 years of age.

Cultural Socialization and Children's Ethnic-Racial Identification

Turning to the latter half of the proposed model, bioecological theory (Bronfenbrenner & Morris, 2006) highlights that children's development is informed by multiple contexts, and that the family is an important proximal context in the socialization of children. The integrative model (García et al., 1996) proposes, more specifically, that families shape children's developmental competencies (e.g., ethnic-racial identification) via cultural socialization with children. Some prior work has tested these notions using components identified in Bernal and colleagues' (1990) conceptualization of ethnic-racial identification. For example, cultural socialization has been positively associated with Mexican-origin 7- to 13-year old children's ethnic knowledge (Quintana & Vera, 1999), Mexican-origin 6- to 10-year old children's use of ethnic behaviors (Knight, Bernal et al., 1993), and African American, Puerto Rican, Chinese American, and White sixth grade children's positive ethnic-racial attitudes (Rivas-Drake, Hughes, & Way, 2009).

A focus on whether cultural socialization informs children's ethnic-racial *centrality* is an area that has received scant attention. Turner and Brown (2007) found that ethnicity was less central than other social categories that ethnic-racial minority (i.e., Latino/a, African-American, Asian) and ethnic-racial majority (i.e., White) 5- to 12-year-old children used to identify themselves, but that ethnic-racial minority children considered ethnicity more central than White children. However, given that Turner and Brown (2007) did not assess cultural socialization, it is unclear if ethnicity-race is more central among children who experience greater cultural socialization. Indeed, a link between cultural socialization and ethnic-racial centrality has been found among sixth-grade children from diverse ethnic-racial backgrounds (Rivas-Drake, et al., 2009), and among African American youth 11- to- 17 years old (Neblett, Smalls, Ford, Nguyên, & Sellers, 2009). Grounded in ecological theories (e.g., Bronfenbrenner & Morris, 2006), and this prior empirical work with older youth, it was hypothesized that mothers' cultural socialization when children were 4 years of age would be positively associated with children's self-labeling as Mexican and their ethnicracial centrality, and negatively associated with negative ethnic-racial attitudes when children were 5 years of age.

Moderation by Children's Gender and Skin Tone

Given that bioecological theory (Bronfenbrenner & Morris, 2006) posits that processes vary based on characteristics of the individuals involved, the current study tested whether children's gender and skin tone moderated the process from mothers' adaptive culture to children's ethnic-racial identification via cultural socialization. Consistent with this notion, Umaña-Taylor and Guimond (2010) found that the association between cultural socialization and adolescents' future ERI was stronger among female than male adolescents. The authors noted that because of gendered family experiences, adolescent females may be more attuned to their family's cultural socialization efforts, which then more strongly promotes their ERI. However, it is unknown whether similar patterns emerge among younger Mexican-origin children, although we know that gendered socialization begins early in development (Blakemore, Berenbaum, & Liben, 2009). Regarding the processes tested in the present study, we hypothesized that mothers may perceive their female children to be eventual carriers of their culture; thus, the links between mothers' adaptive cultural characteristics and their cultural socialization efforts were expected to be stronger among mothers with girls versus boys. Furthermore, given that children may internalize these gendered expectations, it was expected that mothers' cultural socialization efforts would have a stronger impact on girls' (relative to boys') ethnic-racial identification.

In addition to gender, another child characteristic that was posited to play a role in the present study was skin tone. Given that children with darker skin tones may be more frequently perceived and labeled as Mexican by others, mothers of children with darker skin tones may be more motivated to transform their adaptive cultural characteristics into actual cultural socialization behaviors than mothers of children with lighter skin tones. In addition, children who are phenotypically darker might be more attuned to mothers' cultural socialization; thus, cultural socialization and children's ethnic-racial identification may be more strongly associated with one another among children with darker relative to lighter skin tones. Findings from a study of Mexican-origin adolescents indicated that skin tone functioned as a moderator, such that socialization was positively associated with ERI affirmation only among youth who appeared more Latino, less European, and who had darker skin (Gonzales-Backen & Umaña-Taylor, 2011). Consistent with this prior work, we hypothesized that the associations among mothers' adaptive cultural characteristics, mothers' cultural socialization efforts, and children's ethnic-racial identification would be stronger among children with darker relative to lighter skin tones.

Method

Participants and Procedure

The current analytic sample included 161 Mexican-origin children from a longitudinal study of 204 Mexican-origin young mothers, their mother figures (e.g., mother, aunt), and their children (Umaña-Taylor, Updegraff, Jahromi, & Zeiders, 2015). The majority of families participated across all six waves (i.e., 96% at W2, and 88% at W3, W4, W5, and W6). Forty-three families were excluded from the larger sample because children's fathers were not Mexican-origin and/or because mothers had a partial interview due to living in Mexico during one of their interviews across the six years. Therefore, we retained data from the 161

families that included mothers and fathers who were both of Mexican origin and who included mothers living in the U.S. during the course of the study. In addition, independent samples t-tests were conducted to test for potential mean level differences in control variables (i.e., mothers' nativity, mothers' age) and demographic variables (i.e., mothers' school status, family income) between participants with complete data (i.e., 137 individuals) versus those with incomplete data (i.e., 24 individuals); results indicated that there were no significant differences on any study variable at W1 (i.e., when all participants provided data).

In the larger study, Mexican-origin pregnant adolescents who were 15 to 18 years old were recruited from community agencies and high schools in a Southwestern metropolitan area. Participants were interviewed annually for six years in their homes and in their preferred language (i.e., Spanish or English). Data collection occurred when mothers were in their third trimester of pregnancy (Wave 1; W1), and when children were 10 months (W2), 2 years (W3), 3 years (W4), 4 years (W5), and 5 years of age (W6). Children's ethnic-racial identification was assessed for the first time at W6. Key maternal predictors of interest were assessed at W4 and W5. Mothers received \$40 for their participation at W4, \$50 at W5, and \$60 at W6. Mothers received an additional \$25 for their child's participation at each wave. All procedures were approved by the Human Subjects Review Board.

At W4, mothers were 19.94 years of age (SD = .97), on average. The majority were U.S. born (66%), and completed their assessments in English (72%). The majority of children in the study were male (53%) and completed their assessments in English (71%). The average family income at W4 was \$23,735 (SD = \$17,506), which was calculated by creating a sum of mother figures' income, additional funds contributed to the household by others, and public financial assistance (i.e., public assistance, food stamps).

Measures

Measures were translated into Spanish and back translated into English by two individuals. Final translations were reviewed by Mexican-origin individuals and discrepancies were resolved by the research team (Knight, Roosa, & Umaña-Taylor, 2009).

Mothers' involvement in Mexican culture—The 17-item Mexican orientation subscale of the Acculturation Rating Scale for Mexican Americans – II (Cuéllar, Arnold, & Maldonado, 1995) was used to assess mothers' involvement in Mexican culture at W4. Items (e.g., "I associate with Mexicans and/or Mexican Americans") were scored on a 5-point Likert scale ranging from (1) *Not at all* to (5) *Extremely often or almost always*. Higher scores indicated higher involvement in Mexican culture. Cronbach's alpha was .84 for the English version and .73 for the Spanish version.

Mothers' ethnic-racial centrality—A revised version of the racial centrality subscale from the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton, & Smith, 1997) was used to assess mothers' ethnic-racial centrality at W4. The MIBI was modified to be applicable to multiple ethnic-racial groups (Fuligni et al., 2005), and further adapted for the current study by rewording two of the negatively worded items that were difficult to understand when translated into Spanish. The final 5 items (e.g.,

"Being a part of my ethnic group is an important reflection of who I am") were scored on a 5-point Likert scale ranging from (1) *Strongly disagree* to (5) *Strongly agree*. Higher scores indicated higher ethnic-racial centrality. Cronbach's alpha was .68 for the English version and .77 for the Spanish version.

Mothers' ERI affirmation—The 6-item affirmation subscale of the Ethnic Identity Scale (Umaña-Taylor et al., 2004) was utilized to assess positive feelings that mothers had toward their ethnicity-race at W4. Items (e.g., "If I could choose, I would prefer to be of a different ethnicity") were scored on a 4-point Likert scale ranging from (1) *Does not describe me at all* to (4) *Describes me very well*. Negatively worded items were reverse coded so that higher scores indicated higher ERI affirmation. Cronbach's alpha was .83 for the English version and .83 for the Spanish version.

Mothers' cultural socialization—The 12-item Cultural Socialization Behaviors Measure (Derlan, Umaña-Taylor, Updegraff, & Jahromi, 2016) was used to assess mothers' cultural socialization at W5. Items (e.g., "I buy toys for my child that represent our ethnic/ cultural background") were scored on a 5-point Likert scale ranging from (1) *Not at all* to (5) *Very much*. Higher scores indicated higher maternal cultural socialization efforts with children. Cronbach's alpha was .89 for the Spanish version and .90 for the English version.

Demographics—Maternal nativity at W1 (0 = Foreign-born, 1 = U.S.-born) was based on self-reported country of birth. Mothers' age was also self-reported at W1. Child gender was recorded at W2 (0 = Male, 1 = Female).

Children's skin tone—Children's skin tone was independently assessed by two researchers in-person after children were interviewed and before researchers left the families' home. As part of the interview, children selected a doll from a group of five dolls that ranged in skin tone (this process is described below). As children selected the doll, the two researchers independently rated children's skin tone by examining the child's right arm, and rating which of the five dolls best matched the child's skin tone. Children's skin tone was coded on scale of 1 (lighter skin tone) to 5 (darker skin tone), corresponding to the skin tone of the best-matching doll. Any discrepancies between the skin tone ratings were discussed (at the end of the interview but before leaving the families' home) until a consensus was reached and one value was assigned.

Children's ethnic-racial identification—To orient children to the term *Mexican*, we showed them a brief 2-minute puppet show video that we designed. After the video ended, children were shown five dolls, ranging from lighter to darker skin tones. To avoid the potential confounding effect of gender (Kowalski, 2003), girls were shown *female* dolls, and boys were shown *male* dolls. Children were asked, "Now I would like you to look at these girls/boys, and please give me the girl/boy doll that you think is the Mexican girl/boy." The doll that was selected by the child was used for subsequent tasks to provide a concrete object to help the child keep the abstract concept of 'Mexican' salient. Three indicators of children's ethnic-racial identification were assessed in the current study: ethnic-racial attitudes, ethnic-racial centrality, and self-labeling as Mexican.

Children's negative ethnic-racial attitudes: To assess children's attitudes toward Mexican culture at W6, we adapted the Preschool Racial Attitudes II Measure originally created by Williams, Best, and Boswell (1975), and further refined by Kowalski (2003) and Stokes-Guinon (2011). In Williams and colleagues' (1975) measure, children were shown a series of 24 pictures and related stories that featured either a positive adjective (e.g., good) or a negative adjective (e.g., naughty). Each story contained a drawn picture of a White person and an African American person, and children selected which person the story was about. The measure was revised by Kowalski (2003) so that children were not forced to choose between the two groups. Instead of pictures, dolls were used and children completed the task separately for each doll. In Kowalski's (2003) adaptation, children were presented a series of 14 positive and negative adjectives read aloud by the experimenter and printed on cards, one at a time, and had the option of saying "yes" or "no" to whether each adjective applied to each of the two dolls. Kowalski's (2003) revised measure was used in the present study, but because of our interest in children's attitudes toward their *own* ethnic-racial group, we only assessed children's attitudes toward the doll that they chose as Mexican. In addition, during the Spanish translation process we omitted two adjectives (i.e., unfriendly and helpful) and reworded two adjectives (i.e., kind and dumb) so that the English and Spanish adjectives would be equivalent. The final 12 adjectives used in the study included: smart, good, mean, ugly, pretty, clean, bad, friendly, kind, dumb, naughty, and dirty (see author citation).

Before the task began, children were given instructions that corresponded to their gender. For example, girls were instructed "I am going to show you a card, and if the word on the card describes the Mexican girl, then you put it in front of the Mexican girl. If the word on the card does not describe the Mexican girl, then you put the card in front of the garbage can." Consistent with Kowalski's (2003) procedure for this task, and because we anticipated variability in children's reading abilities, all children were told what word was on the card. Specifically, children were shown a card with one word printed on it, and girls were told the following: "This card says . Some children are . Is the Mexican girl ?" This was repeated for all 12 cards. Using Stokes-Guinon's (2011) scoring recommendations, we created a 6-item positive attitudes subscale and a 6-item negative attitudes subscale. However, given that prior testing of psychometric properties indicated that the positive attitudes subscale did not demonstrate adequate reliability or validity (Derlan, Umaña-Taylor, Updegraff, & Jahromi, 2017), only the negative attitudes measure was used in the present study. For the negative attitudes subscale, a score of 1 was given each time the child assigned a negative adjective to the Mexican doll. Scores were summed across the 6 items, and ranged from 1-6. Reliability was .82 for children who completed the English version and .78 for children who completed the Spanish version. Higher scores indicated more negative attitudes about Mexican culture.

<u>Children's ethnic-racial centrality:</u> To assess children's ethnic centrality at W6, we adapted Turner and Brown's (2007) identity ranking task to make it developmentally appropriate for 5-year-old children. In the current study, children were shown a puppet (girls were shown María, and boys were shown Tomás) and told: "This is María/Tomás. María/ Tomás has this blindfold over her/his eyes and cannot see you, but we are going to teach her/him about you." Children were then shown five clear acrylic boxes, each with a card in it

that had a picture of a social category that they could use to describe themselves: daughter/ son, five-year-old, friend, Mexican, and girl/boy. Children were given a marble and instructed to put it in the box that represented the most important thing they wanted María/ Tomás to know about them. After the child placed the marble in a box, the box was removed, and the child was instructed to put the marble in the box that represented the *next* most important thing he/she wanted María/Tomás to know about him/her. This was repeated until all boxes were removed. The task was scored based on when the child put the marble in the Mexican box (i.e., 1st, 2nd, 3rd, 4th, 5th choice). This assigned value was reverse-coded so that higher scores indicated higher ethnic-racial centrality (i.e., if the Mexican box was chosen first, the child received a score of 5).

<u>Children's self-labeling as Mexican</u>: Children's self-labeling as Mexican was measured at the end of the interview (to avoid priming before the other measures were completed) by asking children: "Are you Mexican?" Children's responses were coded as: 0 = no, 1 = yes.

Analytic Approach

Path analyses were conducted in *Mplus* version 7.2 (Muthén & Muthén, 1998–2014). Three primary fit indices were used to examine model fit: the comparative fit index (CFI), the root-mean-square-error of approximation (RMSEA), and the standardized root-mean-square residual (SRMR). Model fit was considered to be good (acceptable) if the CFI was greater than or equal to .95 (.90), the RMSEA was less than or equal to .05 (.08), and the SRMR was less than or equal to .05 (.08; Hu & Bentler, 1999).

To test the hypothesized associations, a multigroup model was specified that included child gender as the grouping variable. Given that prior work has indicated differences in cultural socialization processes based on caregivers' nativity status (e.g., Knight, Bernal et al., 1993), mothers' nativity was included as a control predicting mothers' cultural socialization and children's ethnic-racial identification variables, and because cultural socialization efforts vary by parents' age (Csizmadia et al., 2014), mothers' age was included as a control predicting cultural socialization. Missing data were handled using full information maximum likelihood, which included constrained covariances across boys and girls that did not decrease model fit (Enders, 2013). To test whether children's skin tone functioned as a moderator, we included interaction terms between children's skin tone and mothers' adaptive cultural characteristics predicting mothers' cultural socialization, and interaction terms between mothers' cultural socialization and children's skin tone predicting children's ethnic-racial identification. As recommended by Aiken and West (1991), exogenous variables were mean-centered prior to the creation of interactions terms. Simple slopes analysis was used to decompose significant interactions (Preacher, Curran, & Bauer, 2006), and significant interactions were graphed and probed at one standard deviation above and below the mean of the moderator (i.e., skin tone).

Alternative model—Based on the integrative model (García Coll et al., 1996), it was hypothesized that mothers' adaptive cultural characteristics would indirectly inform children's ethnic-racial identification via mothers' cultural socialization. However, given the possibility that individuals vicariously learn attitudes that they internalize for themselves by

modeling others (Bandura, 1986), an alternative model was tested that included additional direct paths from: (a) mothers' W4 involvement in Mexican culture to children's W6 self-labeling as Mexican (b) mothers' W4 ethnic-racial centrality to children's W6 ethnic-racial centrality, and (c) mothers' W4 ERI affirmation to children's W6 negative ethnic-racial attitudes. Children's gender and skin tone were tested as moderators of the associations in both the hypothesized and alternative models.

To test whether the alternative multigroup model (with additional direct paths) was a better fitting model than the originally hypothesized multigroup model (with no direct paths), we used the Satorra-Bentler scaled (mean-adjusted) chi-square difference test, which adjusts for non-normality (Satorra, 2000), and examined the change in CFI (i.e., CFI; Cheung & Rensvold, 2002). In this nested model comparison approach, when the Satorra-Bentler chi-square difference test between the two nested models was significant, or the CFI between the two nested models was greater than .01, it suggested that the models differed significantly from one another. Then, model fit indices were examined to determine which model had better fit.

Afterwards, the model was tested for significant gender differences by comparing two nested models, and examining the difference between them using the Satorra-Bentler chi-square difference test, the CFI, and model fit. In this method, the first model allowed all path estimates to be freely estimated across boys and girls (i.e., an unconstrained model), and the second model constrained the path estimates to be equal across boys and girls (i.e., a fully constrained model). If the Satorra-Bentler chi-square difference test was significant or the

CFI was greater than .01, it suggested that there were significant differences based on gender; in this case, subsequent models sequentially constrained paths and tested which paths differed between boys and girls. Unstandardized regression coefficients are reported in the results section below, and standardized regression coefficients are reported in Figure 1.

To formally test for mediation, the RMediation web application was utilized to compute confidence intervals for the mediated effects (Tofighi & MacKinnon, 2011). Using this method, mediation is significant if the confidence interval does not contain zero.

Results

Correlations, means, and standard deviations were computed for all study variables separately for boys and girls (see Table 1). Skewness and kurtosis were examined, which indicated that all measures were normally distributed (i.e., skewness less than two and kurtosis less than seven; Tabachnick & Fidell, 2006), except for mothers' ERI affirmation, which had skewness of -3.94 (SE = .21) and kurtosis of 18.10 (SE = .42). Given the non-normality of this variable, the robust maximum likelihood estimation (i.e., MLR) was used for analyses, which provides estimates that are robust to non-normal data (Enders, 2013). When the initial alternative and hypothesized models were compared, the alternative model did not converge and an error message was received indicating an issue with one of the paths (i.e., the interaction between mothers' ERI affirmation and child skin tone predicting children's ethnic-racial negative attitudes). Descriptives indicated that there was little variance for boys in this interaction, which contributed to model nonconvergence; thus, the

path was removed in all subsequent hypothesized and alternative models. Results indicated that the adjusted chi-square difference test comparing the alternative model to the hypothesized model was significant [χ^2 (df=6) = 13.46, p=.04], and the change in CFI was greater than .01 (CFI = .04). Model fit indices indicated that the hypothesized model demonstrated worse fit [χ^2 (df=76) = 79.82, p=.36; CFI = .96; RMSEA = .03 (90% CI: .00, .07); SRMR = .08] than the alternative model [χ^2 (df=70) = 66.97, p=.58; CFI = 1.00; RMSEA = .00 (90% CI: .00, .06); SRMR = .08]. Thus, the alternative model that included the direct paths and interactions was used for further model testing.

Then, to test for gender differences, this unconstrained model was compared to a fully constrained model, and results indicated that the adjusted chi-square difference test was significant [χ^2 (df = 26) = 59.65, p < .001], and the change in CFI was greater than .01 (CFI = .23). Model fit indices indicated that the fully constrained model demonstrated worse fit $[\chi^2 (df = 96) = 117.29, p = .07; CFI = .77; RMSEA = .05 (90\% CI: .00, .08);$ SRMR = .09] than the unconstrained model [χ^2 (df = 70) = 66.97, p = .58; CFI = 1.00; RMSEA = .00 (90% CI: .00, .06); SRMR = .08]. Thus, the unconstrained model was used to test paths in the model sequentially to examine which paths differed significantly by gender. Findings indicated that almost every path in the model was significantly different across boys and girls; 7 paths did not differ significantly by gender: mothers' age predicting mothers' W5 cultural socialization; mothers' W5 cultural socialization, children's skin tone, mothers' nativity, and the interaction of children's skin tone by mothers' W5 cultural socialization predicting children's W6 negative attitudes; and mothers' nativity predicting children's W6 ethnic centrality and children's W6 self-labeling. For all of these paths the change in CFI was less than .01, and the adjusted chi-square difference tests were not significant (all p values > .05). The final partially constrained model (see Figure 1) had good model fit [χ^2 (*df* = 77) = 72.00, *p* = .64; CFI = 1.00; RMSEA = .00 (90% CI: .00, .06); SRMR = .08].

Regarding significant paths, first, for girls, mothers' W4 ERI affirmation was positively associated with mothers' W5 cultural socialization (b = .49, p = .03); however, this main effect was significantly moderated by girls' skin tone (b = -.40, p = .04). Simple slopes analysis revealed that there was a significant, positive association between mothers' W4 ERI affirmation and mothers' W5 cultural socialization among girls with lighter skin tones (b = .84, p = .04), and this association was not significant (b = .14, p = .75) among girls with darker skin tones (see Figure 2). Additionally, skin tone moderated the association between mothers' W4 ethnic-racial centrality and mothers' W5 cultural socialization (b = -.19, p = .04). Simple slopes analysis revealed that there was a significant, positive association between mothers' W4 ethnic-racial centrality and W5 cultural socialization (b = -.19, p = .04). Simple slopes analysis revealed that there was a significant, positive association between mothers' W4 ethnic-racial centrality and W5 cultural socialization among girls with lighter skin tones (b = .37, p = .00), but this association was not significant (b = .07, p = .72) among girls with darker skin tones (see Figure 3). Further, two main effects emerged, such that mothers' W5 cultural socialization was positively associated with girls' W6 self-labeling (b = .21, p = .01), and girls' skin tone was positively associated with girls' ethnic-racial centrality (b = .56, p = .01).

Overall, for girls, there were two mediation pathways (see Figure 4a). Mothers' W4 ERI affirmation was positively associated with mothers' W5 cultural socialization among girls

with lighter skin tones and, in turn, positively associated with girls' W6 self-labeling; mediation was significant (95% confidence interval for the mediated effect = .01, .42). In addition, mothers' W4 ethnic-racial centrality was positively associated with W5 cultural socialization among girls with lighter skin tones and, in turn, positively associated with girls' W6 self-labeling; mediation was significant (95% confidence interval for the mediated effect = .02, .16).

Turning to findings for boys, there were two significant main effects. Mothers' W4 involvement in Mexican culture (b = .64, p < .001) and mothers' W4 ethnic-racial centrality (b = .45, p < .001) were positively associated with mothers' W5 cultural socialization. Additionally, regarding direct effects, mothers' W4 ethnic-racial centrality was negatively associated with boys' W6 ethnic-racial centrality (b = -.76, p = .00). Further, skin tone moderated the association between mothers' W4 involvement in Mexican culture and boys' W6 self-labeling (b = .42, p = .00). Simple slopes analysis revealed that the association between mothers' involvement in Mexican culture and boys' self-labeling was significant and negative (b = -.34, p = .01) among boys with lighter skin tones, and significant and positive (b = .33, p = .01) among boys with darker skin tones (see Figure 5). Finally, skin tone moderated the association between mothers' cultural socialization and two indices of boys' ethnic-racial identification. First, skin tone moderated the relation between mothers' W5 cultural socialization and boys' W6 self-labeling (b = -34, p = .00). Simple slopes analysis indicated that this relation was significant and positive (b = .29, p = .01) among boys with lighter skin tones, and not significant (b = -.21, p = .06) among boys with darker skin tones (see Figure 6). Second, the interaction between mothers' W5 cultural socialization and boys' skin tone predicting boys' W6 ethnic-racial centrality was significant (b = -.75, p = .00). Simple slopes analysis indicated that this relation was significant and positive (b = .73, p = .00) among boys with lighter skin tones, and not significant (b = -.50, p = .09) among boys with darker skin tones (see Figure 7).

Overall, there were four mediation pathways among boys (see Figure 4b). First, mothers' W4 involvement in Mexican culture was positively associated with mothers' W5 cultural socialization, and was in turn associated with W6 self-labeling among boys with lighter skin tone; mediation was significant (95% confidence interval for the mediated effect = .03, .37). Second, mothers' W4 involvement in Mexican culture was positively associated with W5 cultural socialization, and was in turn positively associated with W6 ethnic-racial centrality among boys with lighter skin tone; mediation was significant (95% confidence interval for the mediated effect = .11, .91). Third, mothers' W4 ethnic-racial centrality was positively associated with W6 self-labeling among boys with lighter skin tone; mediation, and was in turn positively associated with W6 self-labeling among boys with lighter skin tone; mediation, and was in turn positively associated with W6 self-labeling among boys with lighter skin tone; mediation, and was in turn positively associated with W6 self-labeling among boys with lighter skin tone; mediation was significant (95% confidence interval for the mediated effect = .02, .28). In addition, mothers' W4 ethnic-racial centrality was positively associated with mothers' W5 cultural socialization, and was in turn positively associated with W6 self-labeling among boys with lighter skin tone; mediation was significant (95% confidence interval for the mediated effect = .02, .28). In addition, mothers' W4 ethnic-racial centrality was positively associated with W6 self-labeling among boys with W6 self-labeling among boys with lighter skin tone; mediation, and was in turn positively associated with W6 self-labeling among boys with lighter skin tone; mediation was significant (95% confidence interval for the mediated effect = .07, .68).

Discussion

Ethnic-racial identification during childhood is theorized to serve as the developmental *antecedent* to ERI formation during adolescence (Umaña-Taylor et al., 2014), which has been linked with numerous indicators of adolescents' positive adjustment (Rivas-Drake et al., 2014). Although prior work has indicated that children as young as 4 years of age are aware of ethnicity-race (Van Ausdale & Feagin, 2001), less is known about the factors that inform young children's ethnic-racial identification over time. Thus, the current study addressed this gap. Expectations regarding the process from mothers' ethnic-racial identify and cultural involvement to children's ethnic-racial identification via mothers' cultural socialization was supported; however, consistent with tenets of ecological theory and the integrative model, relations varied by children's gender and skin tone.

Mothers' Adaptive Cultural Characteristics and Cultural Socialization of Children

Based on the integrative model (García Coll et al., 1996), mothers' adaptive cultural characteristics were expected to inform their cultural socialization efforts, and these associations were expected to be stronger for mothers with girls (compared to mothers with boys) and for mothers with phenotypically darker children (compared to mothers with phenotypically lighter children). However, among girls, results were contrary to expectations because, although mothers' ethnic-racial centrality and ERI affirmation were positively associated with their cultural socialization efforts a year later, these relations existed solely among mothers of daughters with *lighter* skin tones, and were not significant among mothers of daughters with darker skin tones. It is possible that because females are viewed as the primary carriers of Latino culture (Phinney, 1990; Umana-Taylor & Guimond, 2010), mothers may be concerned that their daughters with lighter skin tones may not be easily identified as Mexican by others, may not understand that they are Mexican, and therefore, may not learn about their culture adequately enough to carry it onto future generations. Indeed prior work has suggested that individuals with lighter skin tones often have to prove their ethnic group membership with other characteristics (e.g., language, knowledge) because others question whether they are ethnically legitimate and authentic (see Hunter, 2007 for a review). Thus, when mothers have greater ERI affirmation and ethnic-racial centrality, they may be more motivated to socialize their girls with lighter skin tones so they (and others) will know that they are Mexican, and can pass on their culture.

In addition, considering the notion of colorism, which suggests that there is an allocation of privilege and preference to lightness of skin, and a disadvantage to darkness of skin (Quiros & Dawson, 2013), it is also possible that mothers recognize that their daughters with lighter skin tones will be afforded increased levels of power and privilege, and that they will represent their culture well in future generations. Thus, mothers may be more motivated to turn their feelings toward their culture (i.e., ERI affirmation and ethnic-racial centrality) into actual socialization behaviors with their daughters who have lighter skin tones. Scholars have noted that there is a critical need in the field for more work focused on colorism among Latinos (Chavez-Dueñas, Adames, & Organista, 2014) and that skin tone variations *within* Latino families are likely to impact family dynamics (Adames, Chavez-Dueñas, & Organista, 2016); however, no research to our knowledge has examined whether colorism

impacts mothers' cultural socialization efforts. It will be important for future qualitative work to examine these notions to better understand whether mothers (a) have heightened concerns about their daughters not carrying on their culture when daughters have lighter skin tones, and/or (b) believe daughters with lighter skin tones are better able to represent their culture in future generations.

It is unclear whether mothers' differential cultural socialization of daughters based on skin tone is intentional or unintentional. Indeed, scholars have highlighted that parents' cultural socialization efforts with children can be purposeful and deliberate, or so woven into everyday life that efforts are unintentional (Hughes et al., 2006). A better understanding of mothers' reasons for socializing daughters based on their skin tones will be important given that cultural socialization has been associated with young children's positive adjustment (e.g., greater pre-academic skills, greater receptive language, and less problem behaviors a year later; Caughy, O'Campo, Randolph, & Nickerson, 2002) and with developing components of ethnic-racial identification, as demonstrated in the present study.

Turning to findings for boys, mothers' involvement in Mexican culture and ethnic-racial centrality were associated with mothers' greater cultural socialization of their 5-year-old boys a year later. These findings were as hypothesized, and consistent with prior cross-sectional work with school-age children and early adolescents (e.g., Romero et al., 2000; White-Johnson et al., 2010). The present study builds on our knowledge in this area by demonstrating that the links between aspects of mothers' adaptive culture and their cultural socialization with sons exist prospectively during the developmental period of early childhood.

Mothers' Cultural Socialization and Children's Ethnic-Racial Identification

Grounded in ecological theories (e.g., Bronfenbrenner & Morris, 2006), it was expected that mothers' cultural socialization would be positively associated with children's ethnic-racial centrality and self-labeling as Mexican, and negatively related to children's negative ethnic-racial attitudes a year later. Further, it was hypothesized that links would be stronger among girls, and among children with darker skin tones; however, results were contrary to expectations.

First, as mothers reported greater cultural socialization, girls demonstrated greater selflabeling as Mexican a year later regardless of skin tone. This finding suggests that even during this young developmental period, girls are tuned into their mothers' socialization efforts to teach them about their culture, and the messages mothers transmit inform children's self-labeling as belonging to their ethnic-racial group. An important next step will be to test the role that girls' self-labeling plays in development and adjustment. Mothers' cultural socialization did not emerge as a predictor of girls' attitudes toward their culture or ethnic-racial centrality, and skin tone did not play a role in these relations. This finding is inconsistent with previous work with adolescents that found that families' cultural socialization was positively associated with ERI affirmation among adolescents with darker skin tones (Gonzales-Backen & Umaña-Taylor, 2011). It is possible that the disparate finding emerged because the current study focused solely on cultural socialization from mothers, and prior work that found a relation focused on cultural socialization from multiple

family members. It may be that it is the cumulative effect of numerous family members' socialization efforts that impact children's attitudes toward their culture. Future work should assess cultural socialization from numerous individuals in children's proximal environments (e.g., mothers, fathers, grandparents, siblings), and examine whether skin tone plays a role in this relation when the cumulative effect of cultural socialization is assessed.

Interestingly, a finding that emerged in the present study involving skin tone was that girls rated as having *darker* skin tones also demonstrated greater ethnic-racial centrality. This finding is important because prior work with ethnic-racial minority (i.e., Latino/a, African-American, Asian, and ethnic-racial majority (i.e., White) children indicated that children rated ethnicity-race as less central to their self-concept than other categories (e.g., after school activities; Turner & Brown, 2007); however, our findings suggest that ethnicity-race is central to girls with darker skin tones, a novel contribution of this study. Thus, future research focused on children's ethnic-racial centrality should consider skin tone and gender.

Turning to results for boys, as mothers reported greater cultural socialization, boys with *lighter* skin tones had greater ethnic-racial knowledge and greater self-labeling a year later. It is possible that these findings were not significant for boys with darker skin tones because, although they may be attuned to cultural socialization messages, boys with darker skin tones may also be more attuned to negative stereotypes about males of color. This exposure to negative stereotypes may prevent them from focusing on and benefitting from mothers' socialization efforts to teach them about their culture. On the other hand, boys with lighter skin tones may be less attuned to messages about race and ethnicity in general, including the negative stereotypes about males of color. Therefore, when mothers teach boys with lighter skin tones about their culture, they may be more receptive to learn about their culture and self-label, which could explain why findings indicated that mothers' cultural socialization informed ethnic-racial identification a year later among boys with lighter (but not darker) skin tones.

Although no prior research has tested these notions directly, or examined differences by skin tone, related findings provide support for these ideas. For example, McKown and Weinstein (2003) found that children as young as 6 years of age demonstrated awareness of broadly held stereotypes about ethnicity-race, and African American and Latino children had more awareness than White and Asian children (McKown & Weinstein, 2003). It will be important for future work to *directly* assess whether (a) young Latino boys are aware of negative stereotypes regarding males of color, (b) whether this awareness varies based on their skin tone, and (c) whether the association between mothers' cultural socialization and boys' ethnic-racial identification is moderated by boys' knowledge of stereotypes.

Mothers' Adaptive Cultural Characteristics and Children's Ethnic-Racial Identification

Based on tenets of social cognitive theory (Bandura, 1986), an alternative model was tested to examine modeling, and whether mothers' adaptive cultural characteristics would *directly* inform children's ethnic-racial identification. Results indicated that the model that included these direct paths was better fitting; however, the direct effects were only significant among boys. Further, only one path was consistent with modeling, such that mothers' involvement

in Mexican culture was positively associated with self-labeling two years later among boys with darker skin tones.

On the other hand, among boys with lighter skin tones, mothers' involvement in Mexican culture was associated with less self-labeling two years later. It is possible that as boys with lighter skin tones are exposed to Mexican culture through mothers' involvement, they simultaneously receive stereotypical messages that Mexicans have darker skin tones, and that they are different because they have lighter skin tones. Consistent with this notion, as previously noted, mothers' active cultural socialization efforts was linked with greater self-labeling among boys with lighter skin tones, possibly because during this process of socialization, boys learn that they belong to the group. Findings emphasize the importance of mothers' socialization, particularly among boys with lighter skin tones, who may not easily understand their cultural group membership based solely on the messages they receive from their mothers' involvement in Mexican culture.

In addition, contrary to expectations regarding modeling, mothers' ethnic-racial centrality was associated with boys' *lower* ethnic-racial centrality two years later. This association is consistent with the possibility that boys may be de-identifying or establishing themselves as different from their mothers. Such a process is theorized to occur in adolescence as part of separation-individuation from parents (Koepke & Denissen, 2012), but may occur in this family and cultural context for different reasons. As Mexican culture places a strong emphasis on the distinct roles of men and women (Cauce & Domenech-Rodriguez, 2002), sons may be encouraged to differentiate themselves from their same-sex parent. Indeed, children are more likely to imitate same-gender role models (Bandura, 1986), therefore, perhaps boys model fathers' ethnic-racial centrality as they de-identify with mothers. Given that the present study was unable to test this notion because data were not gathered from fathers, it will be important for future work to examine the role that fathers play in children's ethnic-racial identification and other possible explanations for the inverse association that emerged in the current study between mothers' ethnic-racial centrality and boys' ethnic-racial centrality.

Limitations and Future Directions

The current study has important strengths and implications, but there are also limitations to acknowledge. First, although mothers' adaptive cultural characteristics were expected to positively inform children's ethnic-racial identification via mothers' cultural socialization efforts, support for this mediational process only emerged for children with lighter skin tones. Given that numerous interactions were significant by gender and skin tone, it is possible that there was limited power to detect significant mediation for children with darker skin tones. Thus, it will be important to test this mediation model with a larger sample of mothers and children.

Second, all children in the present study were shown a puppet video before any tasks were conducted to orient them to the term "Mexican." Children were shown this video because it was expected that although children may have been learning about Mexican culture, they may have not heard the term "Mexican." Given that the term "Mexican" was used throughout the ethnic-racial identification tasks, we did not want children who knew about

their culture but did not yet know the term to be confused during tasks, thus confounding results. One possibility to consider in future research, however, is that the puppet video may have primed children and unintentionally increased the likelihood that children self-labeled as Mexican. Our results suggest that this possibility is unlikely because there was variability in children's self-labeling (i.e., about 40% of children did not label themselves as Mexican), despite all children viewing the puppet show. Further, no puppet video (or similar orienting strategy) was used in Serrano-Villar and Calzada's (2016) study, and a larger percentage of 4- to 5-year-old children self-labeled as Mexican (i.e., 75% of girls and 74% of boys) compared to children in the present study (61% of girls and 59% of boys). However, a future experimental design should test this possibility in an effort to understand the utility of the puppet video as a tool to orient children to the term Mexican, without having unintended effects on children's self-labeling.

Additional limitations pertain to the sample. Because we focused on mothers in the current study, it is unclear if similar findings would emerge for fathers. Indeed, cultural socialization has been found to be different for mothers and fathers (e.g., Knight et al., 2011), and children are more likely to imitate same-gender role models (Bandura, 1986). In the present study, there existed a same-gender pairing of mothers and daughters that may have affected results, and given that fathers were not included, we were unable to examine the effects of the same-gender pairing of fathers and sons in our models. Conducting studies that test these processes and include both mothers and fathers (and families with both daughters and sons) will enable disentangling whether the effects we found were due to the same-gender pairing of mothers and daughters, or whether there is something unique about mothers' socialization efforts with daughters, even after fathers' characteristics and socialization efforts are accounted for in models.

Further, the current study focused exclusively on Mexican-origin families in a specific geographic context. Findings highlighted that there are important processes underlying Mexican-origin children's ethnic-racial identification, but these processes will need to be examined with members of other ethnic-racial groups, including Latino populations from other national origin groups who live in various regions, to determine generalizability.

Despite its limitations, the current study builds on our understanding of the mechanisms underlying young children's ethnic-racial identification, and offers important insight for further investigation. First, the present study moves the field forward by focusing on factors that inform a normative developmental process (i.e., children's ethnic-racial identification), rather than focusing on deficits and maladjustment, as has been the tendency in much prior work with ethnic-racial minority children (Cabrera and the SRCD Ethnic/Race Committee, 2013). In addition, building on prior cross-sectional studies, the current study used a rigorous, prospective longitudinal design that included both mother and child assessments. Findings highlighted that mothers play a critical role in the intergenerational transmission of ethnic-racial identity/identification via their adaptive cultural characteristics and cultural socialization efforts. Finally, findings demonstrated that when investigating children's ethnic-racial identification, it is necessary to include children's own characteristics. Findings indicated that processes were different for boys with lighter skin tones, boys with darker skin tones, girls with lighter skin tones, and girls with darker skin tones. Recently, scholars (e.g.,

Adames et al., 2016) have recommended that skin tone and colorism are important aspects that need to be considered in research with Latinos. Our findings support this recommendation and also suggest that ideas regarding colorism, which have typically been discussed with respect to Latino adults, may apply at younger developmental periods. In conclusion, the present study identifies that taking a nuanced approach and investigating how factors such as colorism, skin tone, and gender play a role in young children's ethnic-racial identification is an important and fruitful area for future research.

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References

- Adames HY, Chavez-Dueñas NY, Organista KC. Skin color matters in Latino/a communities: Identifying, understanding, and addressing mestizaje racial ideologies in clinical practice. Professional Psychology: Research and Practice. 2016; 47:46–55. DOI: 10.1037/pro0000062
- Aiken, LS., West, SG. Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage; 1991.
- Bandura, A. Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall; 1986.
- Bennett M, Sani F. The role of target gender and race in children's encoding of category-neutral person information. British Journal of Developmental Psychology. 2003; 21(1):99–112. DOI: 10.1348/026151003321164645
- Bernal ME, Knight GP, Garza CA, Ocampo KA, Cota MK. The development of ethnic identity in Mexican American children. Hispanic Journal of Behavioral Sciences. 1990; 12(1):3–24. DOI: 10.1177/07399863900121001
- Blakemore, JE., Berenbaum, SA., Liben, LS. Gender development. New York, NY: Psychology Press; 2009.
- Bronfenbrenner, U., Morris, PA. The bioecological model of human development. In: Damon,W.Lerner, RM (Series Eds), Lerner, RM (Vol Ed), editors. Handbook of child psychology: Vol. 1.Theoretical models of human development. 6th. Hoboken, NJ: Wiley; 2006. p. 793-828.

Cabrera NJ, the SRCD Ethnic and Racial Issues Committe. Positive development of minority children. Social Policy Report. 2013; 27:1–30. Retrieved from http://www.srcd.org/sites/default/files/ documents/washington/spr_272_final.pdf.

- Cauce, AM., Domenech-Rodríguez, M. Latino families: Myths and realities. In: Contreras, JM.Kerns, KA., Neal-Barnett, AM., editors. Latino children and families in the United States: Current research and future directions. Westport, CT: Praeger/Greenwood; 2002. p. 3-25.Praeger series in applied psychology
- Caughy MO, O'Campo PJ, Randolph SM, Nickerson K. The influence of racial socialization practices on the cognitive and behavioral competence of African American preschoolers. Child Development. 2002; 73:1611–1625. DOI: 10.1111/1467-8624.00493 [PubMed: 12361322]
- Chavez-Dueñas NY, Adames HY, Organista KC. Skin-color prejudice and within-group racial discrimination: Historical and current impact on Latino/a populations. Hispanic Journal of Behavioral Sciences. 2014; 36:3–26. DOI: 10.1177/0739986313511306
- Cheung GW, Rensvold RB. Evaluating goodness-of-fit indexes for testing measurement invariance. Structural Equation Modeling: A Multidisciplinary Journal. 2002; 9:233–255. DOI: 10.1207/ S15328007SEM0902_5

- Csizmadia A, Rollins A, Kaneakua JP. Ethnic-racial socialization and its correlates in families of Black-White biracial children. Family Relations: An Interdisciplinary Journal of Applied Family Studies. 2014; 63:259–270. DOI: 10.1111/fare.12062
- Cuéllar I, Arnold B, Maldonado R. Acculturation Rating Scale for Mexican Americans-II: A Revision of the Original ARSMA Scale. Hispanic Journal of Behavioral Sciences. 1995; 17:275–304. DOI: 10.1177/07399863950173001
- Derlan, CL. Measuring and testing the processes underlying young Mexican-origin children's ethnicracial identification. Doctoral dissertation. 2016. Retrieved from https://repository.asu.edu/ attachments/170612/content/Derlan_asu_0010E_15890.pdf
- Derlan CL, Umaña-Taylor AJ, Toomey RB, Jahromi LB, Updegraff KA. Measuring cultural socialization attitudes and behaviors of Mexican-origin mothers with young children: A longitudinal investigation. Family Relations. 2016; 65:477–489. DOI: 10.1111/fare.12196 [PubMed: 27990040]
- Enders CK. Dealing with missing data in developmental research. Child Development Perspectives. 2013; 7:27–31. DOI: 10.1111/cdep.12008
- Fuligni AJ, Witcow M, Garcia C. Ethnic identity and the academic adjustment of adolescents from Mexican, Chinese, and European backgrounds. Developmental Psychology. 2005; 41:799–811. DOI: 10.1037/0012-1649.41.5.799 [PubMed: 16173876]
- García Coll CT, Lamberty G, Jenkins R, McAdoo HP, Cronic K, Wasik BH, Vazquez Garcia H. An integrative model for the study of developmental competencies in minority children. Child Development. 1996; 67:1891–1914. DOI: 10.2307/1131600 [PubMed: 9022222]
- Gonzales-Backen MA, Umaña-Taylor AJ. Latino adolescents' familial ethnic socialization and ethnic identity: Examinin physical appearance as a moderator. Journal of Adolescence. 2011; 34:151– 162. DOI: 10.1016/j.adolescence.2010.01.002 [PubMed: 20167356]
- Halim ML, Ruble DN, Tamis-LeMonda CS, Zosuls KM, Lyrye LE, Greulich FK. Pink frilly dresses and the avoidance of all things"girly": Children's appearance rigidity and cognitive theories of gender development. Developmental Psychology. 2014; 50:1091–1101. DOI: 10.1037/a0034906 [PubMed: 24274727]
- Hofferth SL, Reid L. Early childbearing and children's achievement and behavior over time. Perspectives on Sexual and Reproductive Health. 2002; 34:41–49. DOI: 10.2307/3030231 [PubMed: 11990638]
- Hu L, Bentler PM. Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling. 1999; 6:1–55. DOI: 10.1080/10705519909540118
- Hughes D. Correlates of African American and Latino parents' messages to children about ethnicity and race: A comparative study of racial socialization. American Journal of Community Psychology. 2003; 31:15–33. DOI: 10.1023/A:1023066418688 [PubMed: 12741687]
- Hughes D, Chen L. When and what parents tell children about race: An examination of race-related socialization among African American families. Applied Developmental Science. 1997; 1:200– 214. DOI: 10.1207/s1532480xads0104_4
- Hughes D, Rodriguez J, Smith EP, Johnson DJ, Stevenson HC, Spicer P. Parents' ethnic-racial socialization practices: A review of research and directions for future study. Developmental Psychology. 2006; 42:747–770. DOI: 10.1037/0012-1649.42.5.747 [PubMed: 16953684]
- Hunter M. The persistent problem of colorism: Skin tone, status, and inequality. Sociology Compass. 2007; 1(1):237–254. DOI: 10.1111/j.1751-9020.2007.00006.x
- Knight GP, Berkel C, Umaña-Taylor AJ, Gonzales NA, Ettekal I, Jaconis M, Boyd BM. The familial socialization of culturally related values in Mexican American Families. Journal of Marriage and Family. 2011; 75:913–925. DOI: 10.1111/j.17413737.2011.00856.x
- Knight GP, Bernal ME, Garza CA, Cota MK, Ocampo KA. Family socialization and the ethnic identity of Mexican American children. Journal of Cross Cultural Psychology. 1993; 24:99–114. DOI: 10.1177/0022022193241007
- Knight GP, Cota MK, Bernal ME. The socialization of cooperative, competitive, and individualistic preferences among Mexican American children: The mediating role of ethnic identity. Hispanic Journal of Behavioral Sciences. 1993; 15:291–309. DOI: 10.1177/07399863930153001

- Knight GP, Gonzales NA, Saenz DS, Bonds DD, Germán M, Deardorff J, Roosa MW, Updegraff KA. The Mexican American Cultural Values Scale for adolescents and adults. Journal of Early Adolescence. 2010; 30:444–481. DOI: 10.1177/0272431609338178 [PubMed: 20644653]
- Knight, GK., Roosa, MW., Umaña-Taylor, AJ. Studying ethnic minority and economically disadvantaged populations. Washington D.C: APA; 2009.
- Koepke S, Denissen JJA. Dynamics of identity development and separation–individuation in parent– child relationships during adolescence and emerging adulthood – A conceptual integration. Developmental Review. 2012; 32(1):67–88. DOI: 10.1016/j.dr.2012.01.001
- Kowalski K. The emergence of ethnic and racial attitudes in preschool-aged children. The Journal of Social Psychology. 2003; 143:677–690. DOI: 10.1080/00224540309600424 [PubMed: 14658745]
- Levine JA, Emery CR, Pollack H. The well-being of children born to teen mothers. Journal of Marriage and Family. 2007; 69(1):105–122. DOI: 10.1111/j.1741-3737.2006.00348.x
- Martin CL, Halverson CF. A schematic processing model of sex typing and stereotyping in children. Child Development. 1981; 52:1119–1134. DOI: 10.2307/1129498
- Martin, JA., Hamilton, BE., Ventura, SJ., Osterman, MJK., Kirmeyer, S., Mathews, TJ., Wilson, EC. Births: Final data for 2009. National Vital Statistics Reports. Vol. 60. Hyattsville, MD: National Center for Health Statistics; 2011.
- Martin CL, Little JK. The relation of gender understanding to children's sex-typed preferences and gender stereotypes. Child Development. 1990; 61(5):1427–1439. DOI: 10.2307/1130753 [PubMed: 2245735]
- McKown C, Weinstein RS. The development and consequences of stereotype consciousness in middle childhood. Child Development. 2003; 74:498–515. DOI: 10.1111/1467-8624.7402012 [PubMed: 12705569]
- Muthén, LK., Muthén, BO. Mplus: Statistical analysis with latent variables. User's guide (Version 7.31). Muthén and Muthén; 1998–2014.
- Neblett EW, Smalls CP, Ford KR, Nguyên HX, Sellers RM. Racial socialization and racial identity: African American parents' messages about race as precursors to identity. Journal of Youth and Adolescence. 2009; 38:189–203. DOI: 10.1007/s10964-008-9359-7 [PubMed: 19636717]
- Phinney JS. Ethnic identity in adolescents and adults: Review of research. Psychological Bulletin. 1990; 108:499–514. DOI: 10.1037/0033-2909.108.3.499 [PubMed: 2270238]
- Preacher KJ, Curran PJ, Bauer DJ. Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis. Journal of Educational and Behavioral Statistics. 2006; 31:427–448. DOI: 10.3102/10769986031004437
- Quintana SM, Vera EM. Mexican American children's ethnic identity, understanding of ethnic prejudice, and parental ethnic socialization. Hispanic Journal of Behavioral Sciences. 1999; 21:387–404. DOI: 10.1177/0739986399214001
- Quiros L, Dawson BA. The color paradigm: The impact of colorism on the racial identity and identification of Latinas. Journal of Human Behavior in the Social Environment. 2013; 23(3):287– 297. DOI: 10.1080/10911359.2012.740342
- Rivas-Drake, Hughes, Way. A preliminary analysis of associations among ethnic-racial socialization, ethnic discrimination, and ethnic identity among urban sixth graders. Journal of Research on Adolescence. 2009; 19:558–584. DOI: 10.1111/j.1532-7795.2009.00607.x
- Rivas-Drake D, Seaton EK, Markstrom C, Quintana S, Syed M, Lee RM, Yip T. Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. Child Development. 2014; 85:40–57. DOI: 10.1111/cdev.12200 [PubMed: 24490891]
- Romero AJ, Cuéllar I, Roberts RE. Ethnocultural variables and attitudes toward cultural socialization of children. Journal of Community Psychology. 2000; 28:79–89. DOI: 10.1002/ (SICI)1520-6629(200001)28:1<79::AID-JCOP8>3.3.CO;2-E
- Satorra, A. Scaled and adjusted restricted tests in multi-sample analysis of moment structures. In: Heijmans, RDH.Pollock, DSG., Satorra, A., editors. Innovations in multivariate statistical analysis. A Festschrift for Heinz Neudecker. London: Kluwer Academic Publishers; 2000. p. 233-247.
- Sellers, RM., Shelton, JN., Cooke, DY., Chavous, TM., Rowley, SAJ., Smith, MA. A multidimensional model of racial identity: Assumptions, findings, and future directions. In: Jones, RL., editor.

African American identity development: Theory, research, and intervention. Hampton, VA: Cobb & Henry; 1998. p. 275-302.

- Sellers RM, Rowley SAJ, Chavous TM, Shelton JN, Smith MA. Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. Journal of Personality and Social Psychology. 1997; 73:805–815. DOI: 10.1037/0022-3514.73.4.805
- Stokes-Guinan K. Age and skin tone as predictors of positive and negative racial attitudes in Hispanic children. Hispanic Journal of Behavioral Sciences. 2011; 33:3–21. DOI: 10.1177/0739986310389303
- Tabachnick, BG., Fidell, LS. Using multivariate statistics. 5th. Boston, MA: Allyn and Bacon; 2006.
- Tofighi D, MacKinnon DP. RMediation: An R package for mediation analysis confidence intervals. Behavior Research Methods. 2011; 43:692–700. DOI: 10.3758/s13428-0110076-x [PubMed: 21487904]
- Turner KL, Brown CS. The centrality of gender and ethnic identities across individuals and contexts. Social Development. 2007; 16:700–719. DOI: 10.1111/j.1467-9507.2007.00403.x
- Umaña-Taylor AJ, Guimond AB. A longitudinal examination of parenting behaviors and perceived discrimination predicting Latino adolescents' ethnic identity. Developmental Psychology. 2010; 46:636–650. DOI: 10.1037/a0019376 [PubMed: 20438176]
- Umaña-Taylor AJ, Quintana SM, Lee RM, Cross WE Jr, Rivas-Drake D, Schwartz SJ, Seaton E. Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. Child Development. 2014; 85:21–39. DOI: 10.1111/cdev.12196 [PubMed: 24490890]
- Umaña-Taylor AJ, Updegraff KA, Jahromi LB, Zeiders KH. Trajectories of ethnic-racial identity and autonomy among Mexican-origin adolescent mothers in the U.S. Child Development. 2015; 6:2034–2050. DOI: 10.1111/cdev.12444
- Umaña-Taylor AJ, Yazedjian A, Bámaca-Gómez MY. Developing the Ethnic Identity Scale using Eriksonian and Social Identity perspectives. Identity: An International Journal of Theory and Research. 2004; 4:9–38. DOI: 10.1207/S1532706XID0401_2
- Van Ausdale, D., Feagin, JR. The first R: How children learn race and racism. United Kingdom: Rowman & Littlefield Publishers, Inc; 2001.
- Waxman SR. Names will never hurt me? Naming and the development of racial and gender categories in preschool-aged children. European Journal of Social Psychology. 2010; 40(4):593–610. DOI: 10.1002/ejsp.732
- White-Johnson R, Ford KR, Sellers RM. Parental racial socialization profiles: Association with demographic factors, racial discrimination, childhood socialization, and racial identity. Cultural Diversity and Ethnic Minority Psychology. 2010; 16:237–247. DOI: 10.1037/a0016111 [PubMed: 20438162]
- Williams JE, Best DL, Boswell DA. The measurement of children's racial attitudes in the early school years. Child Development. 1975; 46:494–500. DOI: 10.2307/1128147
- Zosuls KM, Martin CL, Ruble DN, Miller CF, Gaertner BM, England DE, Hill AP. 'It's not that we hate you': Understanding children's gender attitudes and expectancies about peer relationships. British Journal of Developmental Psychology. 2011; 29(2):288–304. DOI: 10.1111/j.2044-835X. 2010.02023.x [PubMed: 21592150]

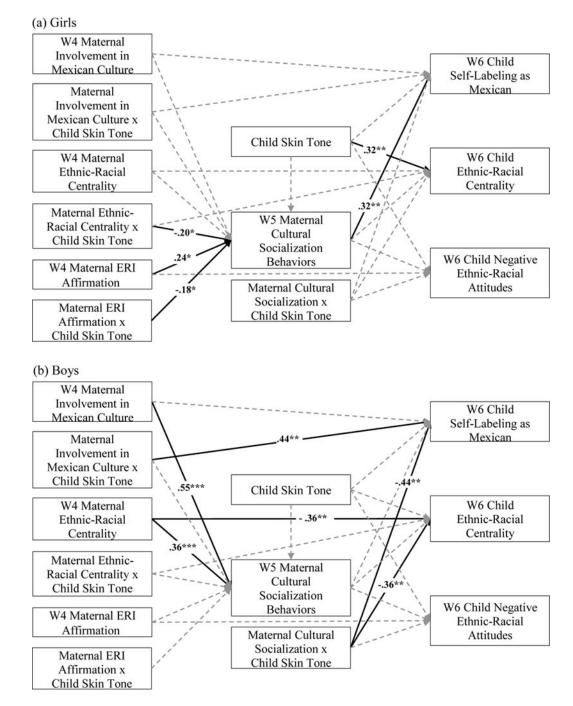


Figure 1.

Final partially constrained multigroup model predicting children's ethnic-racial identification shown separately for (a) girls and (b) boys. W = Wave, ERI = ethnic-racial identity. Significant paths are solid black and nonsignificant paths are dashed grey. No control paths are displayed for ease of illustration. Standardized coefficients are displayed and all exogenous variables are mean-centered. * p < .05. ** p < .01. *** p < .001.

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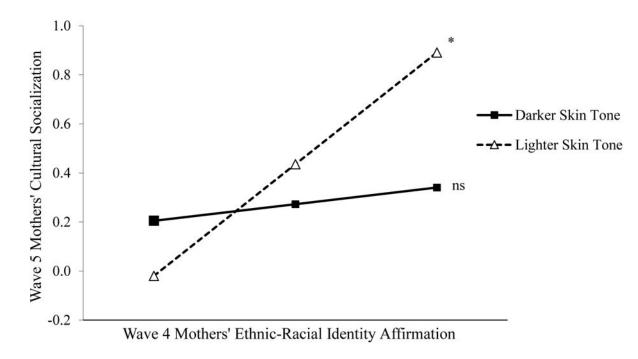


Figure 2.

Moderation effects of girls' skin tone on the association between mothers' ethnic racial identity affirmation and mothers' cultural socialization.

Note. *Denotes significant slope at p < .05. ns = non-significant slope

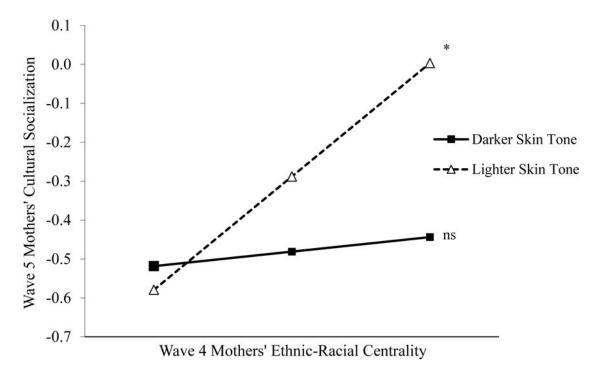


Figure 3.

Moderation effects of girls' skin tone on the association between mothers' ethnic racial centrality and mothers' cultural socialization.

Note. *Denotes significant slope at p < .05. ns = non-significant slope

(a) Girls

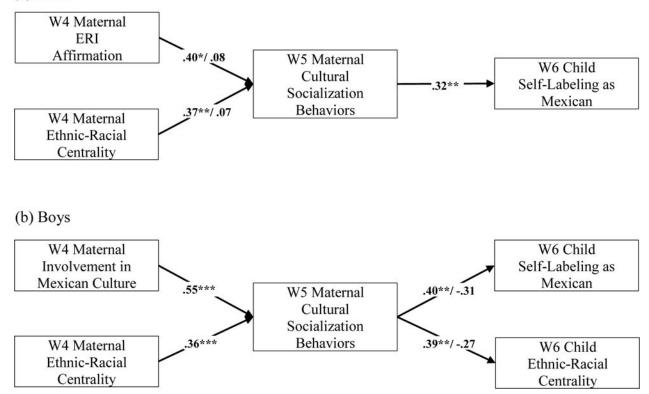


Figure 4.

Significant mediation pathways shown separately for (a) girls and (b) boys. For paths that were significantly different by children's skin tone: coefficients for children with lighter skin tones (-1SD below the mean) are shown to left, and coefficients for children with darker skin tones (+1SD above the mean) are shown to the right. Standardized coefficients are displayed. W = Wave, ERI = ethnic-racial identity. * p < .05. ** p < .01. *** p < .001.

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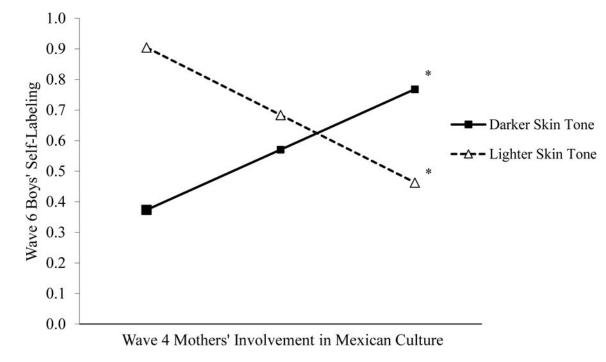


Figure 5.

Moderation effects of boys' skin tone on the association between mothers' involvement in Mexican culture and boys' self-labeling.

Note. *Denotes significant slope at p < .05.

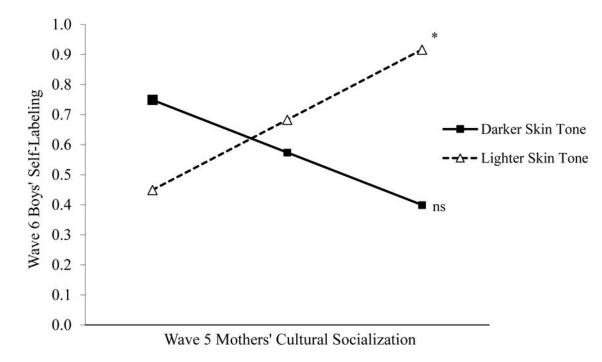


Figure 6.

Moderation effects of boys' skin tone on the association between mothers' cultural socialization and boys' self-labeling.

Note. *Denotes significant slope at p < .05. ns = non-significant slope cultural socialization

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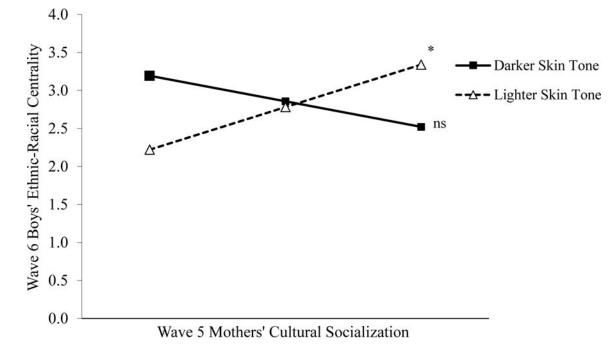


Figure 7.

Moderation effects of boys' skin tone on the association between mothers' and boys' ethnicracial centrality.

Note. *Denotes significant slope at p < .05. ns = non-significant slope

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1.Mothers' Age	I	.07	.13	05	34 ^{***}	-00	15+	07	.19*	16*
2.Mothers' Nativity	.15+	I	21 **	35 ***	01	04	.06	.01	02	04
3.Children's Skin Tone2	.26 ***	03		.12	05	.01	.08	.01	.10	14+
4.W4 Mothers' Involvement in MX Culture	01	43 ***	.01	I	.14+	22 **	.50***	.05	.01	.01
5.W4 Mothers' E-R Centrality	.30 ***	12	.24 **	60.	I	10	.42	05	27 ***	$.16^*$
6.W4 Mothers' E-R Identity Affirmation .	.10	.12	15+	00.	.10	I	25 **	90.	.12	90.
7.W5 Mothers' Cultural Socialization	.21 **	-00	.02	.15+	.33 ***	.21 **	I	.04	06	00.
8.W6 Children's Negative E-R Attitudes	.04	.21 **	.23 **	07	.03	30 ***	.13	I	.01	01
9.W6 Children's E-R Centrality	.18*	.04	.31 ***	15	.03	.08	-00	03	I	.21 **
10.W6 Children's Self-Labeling as MX	03	04	.04	02	.18*	.04	.30 ^{***}	.07	.32 ***	I
Boys										
Mean	16.74	.72	3.02	3.87	3.54	3.91	3.07	1.78	2.79	.59
SD	.93	.45	.76	.66	.63	.35	.79	1.90	1.31	.49
Girls										
Mean	16.91	.58	3.12	3.98	3.58	3.83	2.94	1.24	2.78	.62
SD	1.01	.49	.87	.66	.80	.36	.78	1.88	1.47	.49

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p < .001.