

Measuring and Testing the Processes Underlying Young Mexican-origin
Children's Ethnic-Racial Identification

by

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ABSTRACT

The overarching goal of this dissertation was to contribute to the field's understanding of young children's development of ethnic-racial identification. In particular, Study 1 presented the adaptation of three measures that are developmentally appropriate for assessing young children's ethnic-racial attitudes, ethnic-racial centrality, and ethnic-racial knowledge, and tested the psychometric properties of each measure. Findings from Study 1 provided limited initial support for the construct validity and reliability of the measures; importantly, there were many differences in the descriptives and measurement properties based on the language in which children completed the measures. In addition to measurement of ethnic-racial identification, Study 2 used the measures developed in Study 1 and tested whether Mexican-origin mothers' adaptive cultural characteristics (i.e., ERI affirmation, ethnic-racial centrality, and involvement in Mexican culture) when children were 3 years of age predicted greater cultural socialization efforts with children at 4 years of age and, in turn, children's ethnic-racial identification (i.e., children's ethnic-racial attitudes, ethnic-racial centrality, ethnic-racial knowledge, and identification as Mexican) at 5 years of age. Furthermore, children's characteristics (i.e., gender and skin tone) were tested as moderators of these processes. Findings supported expected processes from mothers' adaptive cultural characteristics to children's ethnic-racial identification via mothers' cultural socialization across boys and girls, however, relations varied by children's skin tone. Findings highlight the important role of children's individual characteristics in cultural socialization and young children's developing ethnic-racial identification over time. Overall, given the paucity of studies

that have examined ethnic-racial identification among young children, the results from Study 1 and Study 2 have the potential to stimulate growth of knowledge in this area.

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CHAPTER 1

INTRODUCTION

Developing an understanding of ethnicity-race is a normative process among ethnic-racial minority youth (García Coll et al., 1996; Phinney, 1992). Accordingly, a significant body of research has focused on adolescents' ethnic-racial identity (ERI), which refers to the beliefs and attitudes that individuals have regarding their ethnic-racial group membership subsequent to childhood (Umaña-Taylor et al., 2014). Importantly, ERI development has been found to be associated with adolescents' positive adjustment across various ethnic-racial backgrounds (Brittain, Umaña-Taylor, & Derlan, 2013; Derlan & Umaña-Taylor, 2015; Ghavami, Fingerhut, Peplau, Grant, & Wittig, 2011; Phinney, Jacoby, & Silva, 2007). Given that children have more limited cognitive abilities and thus cannot engage in the formation of an ERI in the same manner as adolescents, scholars have reserved a separate term to capture these processes during childhood.

In particular, *ethnic-racial identification*¹ captures ethnic-racial labeling (i.e., individuals' ability to correctly label their own and others' ethnicity-race) and identifications (e.g., ethnic-racial knowledge and ethnic-racial constancy) during childhood. Scholars have suggested that ethnic-racial identification primes and exposes children to ethnicity-race, and is instrumental to ERI formation during adolescence (Umaña-Taylor et al., 2014). Further, prior work has demonstrated that children as young

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

as 4 years of age are aware of ethnicity-race, and use it as a meaningful category to understand individuals (e.g., Lam & Leman, 2009; Pauker, Ambady, & Apfelbaum, 2010; Van Ausdale & Feagin, 2001). Despite this prior work that underscores that young children process information about ethnicity-race, and that their ethnic-racial identification has implications for later ERI formation and adjustment, there are a paucity of studies that have measured ethnic-racial identification among young children and tested the underlying mechanisms that inform its development.

Thus, the overarching goal of this dissertation was to contribute to the field's understanding of young children's development of ethnic-racial identification. In particular, Study 1 contributed to the advancement of the measurement of ethnic-racial identification by presenting the adaptation of three measures that can be used to assess young Mexican-origin children's ethnic-racial identification (i.e., ethnic-racial attitudes, ethnic-racial centrality, and ethnic-racial knowledge), and testing the psychometric properties of each measure. Given that the majority of existing work in this area has tended to focus on school age children (e.g., Knight, Bernal, Garza, Cota, & Ocampo, 1993; Turner & Brown, 2007), Study 1 makes a significant contribution to the literature by presenting three developmentally-appropriate measures for young children that are available in both Spanish and English, and by providing evidence in support of the measures' reliability, validity, and equivalence across languages.

In addition to measurement of ethnic-racial identification, another gap in the literature is that few studies have tested mechanisms underlying the development of children's ethnic-racial identification. Therefore, the goal of Study 2 was to use the measures developed in Study 1 to test a longitudinal process model in which multiple

factors are examined as direct and indirect predictors of Mexican-origin children's ethnic-racial identification. Specifically, based on tenets introduced in the integrative model for the study of developmental competencies in ethnic-racial minority children (García Coll et al., 1996), Study 2 examined whether Mexican-origin mothers' adaptive cultural characteristics (i.e., ERI affirmation, ethnic-racial centrality, and involvement in Mexican culture) when children were 3 years of age predicted greater cultural socialization efforts with children at 4 years of age and, in turn, children's ethnic-racial identification (i.e., children's ethnic-racial attitudes, ethnic-racial centrality, ethnic-racial knowledge, and identification as Mexican) at 5 years of age. Furthermore, guided by tenets of bioecological theory (Bronfenbrenner & Morris, 2006), Study 2 provides a more nuanced examination of the processes that inform children's ethnic-racial identification by testing how children's characteristics (i.e., gender and skin tone) function as moderators of these processes.

Overall, the goals of Study 1 and Study 2 were to present valid and reliable measures with which researchers can assess children's ethnic-racial identification, and to test processes that inform ethnic-racial identification over time. Both studies advance the field by following scholars' (e.g., Cabrera and the SRCD Ethnic/Race Committee, 2013; García Coll et al., 1996; Quintana et al., 2006) recommendations to focus on normative developmental processes among ethnic-racial minority children, rather than on deficits. Both studies used data from a longitudinal study of 204 Mexican-origin young mothers and their children. Given that 23% of children 17 years old and younger are Latino (Pew Hispanic Center, 2011), and by 2050 it is projected that one in three U.S. residents will be Latino (Bernstein, 2012), Study 1 and Study 2 make important contributions by assessing

a normative developmental process that has been promotive of adjustment among a prevalent and growing population in the U.S.

CHAPTER 2

MEASURING YOUNG MEXICAN-ORIGIN CHILDREN'S ETHNIC-RACIAL IDENTIFICATION

Ethnic-racial² identification captures ethnic-racial labeling (i.e., individuals ability to correctly label their own and others' ethnicity-race) and identifications (e.g., ethnic-racial knowledge and ethnic-racial constancy) during childhood (Umaña-Taylor et al., 2014). Although scholars have theorized about components involved in children's ethnic-racial identification (e.g., Bernal, Knight, Garza, Ocampo, & Cota, 1990; Hirschfeld, 1995; Quintana, 1994), there has been much less empirical work that has tested very young children's ethnic-racial identification; particularly Latino children. The limited empirical work that has been conducted has tended to focus on school age children, possibly because early scholars suggested that it was not until this time period that children comprehended concepts related to ethnicity and race (Aboud, 1988; Bernal et al., 1990; Semaj, 1980). However, more recent findings from an ethnographic study of preschoolers indicate that children as young as 4 years of age are aware of ethnicity-race, and the majority of children in the study mentioned ethnicity-race on various occasions (Van Ausdale & Feagin, 2001). Further, results from experimental studies indicate that children as young as 5 years of age use ethnicity-race as a meaningful category for sorting individuals (Bennett & Sani, 2003; Pauker et al., 2010) and use ethnicity-race to make inferences about others' preferences (Lam & Leman, 2009; Waxman, 2010).

²*Ethnicity* refers to individuals' shared cultural heritage (e.g., customs, language) that are passed down through generations, and *race* refers to the socially constructed grouping of individuals based on phenotypic attributes (e.g., skin tone, hair texture; Umaña-Taylor, in press). Given that individuals' experiences in forming an identity often include both ethnic features of heritage and racialized experiences in a sociohistorical context that are often not disentangled in individuals' lived experiences, scholars (Umaña-Taylor et al., 2014) have recommended the terms *ethnic-racial identification* and *ethnic-racial identity* to more accurately capture these processes during childhood and adolescence, respectively.

Additionally, scholars have suggested that processes that occur during childhood are instrumental to ERI formation during adolescence (Umaña-Taylor et al., 2014), which is a normative aspect of development linked with positive adjustment. Therefore, given that young children process information about ethnicity-race, and these processes inform later ERI formation, more work is warranted that examines ethnic-racial identification during this developmental period.

Not only is a focus on young children in general important, but there is a particular lack of studies in this area on Latino children. In the past decade, the number of Latinos in the U.S. reached 16% of the total population, and accounted for over half of the nation's growth (Pew Hispanic Center, 2011). It is expected that by 2050, one in three U.S. residents will be Latino (Bernstein, 2012). Currently, 23% of children 17 years old and younger are Latino (Pew Hispanic Center, 2011) and almost two-thirds of all Latinos are Mexican-origin (Pew Hispanic Center, 2009). Thus, it is imperative for research to focus on young Mexican-origin children's ethnic-racial identification. Given that the majority of prior work in this area has focused on older samples of non-Latino children, the field lacks reliable and valid measures that are available in both Spanish and English, and are developmentally appropriate for young Mexican-origin children. Thus, the overall aim of the present study was to contribute to the advancement of measurement of an important and salient construct in developmental science for a large and rapidly growing segment of the population.

Bernal and colleagues (1990) posited that there are five components involved in Mexican children's ethnic-racial identification that include *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 group). Given the present study's focus on adapting and testing measures to be used with 5-year-old children, ethnic self-labeling and ethnic constancy were not included because they are each assessed with one question and do not require adaptation. In addition, use of ethnic role behaviors was not included because given 5-year-old children's young age, engagement in behaviors involving their culture is a reflection of their parents' provision of opportunities to do so, rather than their own identification and active choice of such behaviors. Therefore, the present study focused on ethnic-racial knowledge and ethnic-racial preferences (i.e., ethnic-racial attitudes) from Bernal and colleagues' (1990) conceptualization. Further, given that other scholars (e.g., Umaña-Taylor et al., 2014) have suggested that ethnic-racial centrality is a construct that begins to form during childhood, and the youngest sample in which it has been assessed is school-age children (e.g., Turner & Brown, 2007), the current study also aimed to adapt a measure of ethnic-racial centrality, and test its psychometric properties among 5-year-old children.

In sum, the goals of the present study were two-fold: (a) to present three adapted measures that can be used to assess aspects of Mexican-origin children's ethnic-racial identification (i.e., ethnic-racial attitudes, ethnic-racial centrality, and ethnic-racial knowledge), and (b) to test the psychometric properties of each measure. Below, the history and adaptation of each of the three measures are reviewed.

Ethnic-Racial Attitudes

Several scholars (e.g., Bernal et al., 1990; Tajfel & Turner, 1986) have theorized about the attitudes that individuals' have regarding their social group membership. For example, Tajfel and Turner (1986) posited that individuals categorize themselves and others to organize their social environments and provide a system of self-reference. As a part of this self-reference, which Tajfel and Turner (1986) identify as social identity, individuals develop attitudes that are negative or positive evaluations of their social group. Although Tajfel and Turner's (1986) social identity theory was not focused on children or ethnicity-race specifically, recent work supports the notion that children as young as 5 years of age use ethnicity-race as a meaningful category for sorting individuals (Bennett & Sani, 2003; Pauker et al., 2010). With a focus on children, Bernal and colleagues (1990) provided a theoretical framework for understanding components that are involved in Mexican children's ethnic-racial identification (the authors referred to this construct as "ethnic identity," but I use the term "ethnic-racial identification" to capture the distinction between this construct during childhood versus adolescence, and to be consistent with terminology used throughout this paper). Bernal and colleagues' (1990) theory posited that an aspect involved in children's ethnic-racial identification was children's *ethnic preferences*, which are feelings and preferences regarding being a member of one's ethnic group.

Although theoretical formulations regarding the attitudes that individuals have toward their social group membership (Tajfel & Turner, 1986), and attitudes that *children* have toward their *ethnic-racial* group membership in particular (Bernal et al., 1990), were not conceptualized until later, measurement of children's ethnic-racial attitudes dates back to the seminal doll studies conducted by Clark and Clark (1939, 1947). In the

original doll test, African American children were presented with four dolls, two that had brown skin tones with brown hair and two that had white skin tones with blond hair. Children were asked to hand the experimenter the doll that indicated their response to each question (i.e., who the child liked to play with best, who was a nice doll, who looked bad, and who was a nice color). Findings indicated that the majority of African American children demonstrated positive attitudes toward the white doll, and negative attitudes toward the brown doll (Clark & Clark, 1939, 1947). Many subsequent studies implemented the doll test methodology to assess children's ethnic-racial attitudes (see Byrd, 2012, for a review).

Another measure that has been instrumental in assessing children's attitudes is the Preschool Racial Attitudes Measure II (PRAM II; Williams, Best, and Boswell, 1975). In the original PRAM II, children were shown a series of 24 colored pictures and related stories. Each story contained a drawn picture of a light-skinned (White) person and a dark-skinned (African American) person, and children selected which person the story was about by selecting one of the two people in the story. Each story featured either a positive adjective (e.g., good, nice) or a negative adjective (e.g., naughty, mean). The following is an example of one of the stories that featured a positive adjective: "Here are two little boys. One of them is a kind boy. Once he saw a kitten fall into a lake and picked up the kitten to save it from drowning. Which is the kind boy?" Children's selection of either the light-skinned (White) figure or a dark-skinned (African American) figure for each positive and negative adjective indicated their positive and negative attitudes toward their own ethnic-racial in-group and toward another ethnic-racial out-group. Although widely used, scholars (e.g., Aboud, 2003; Bigler & Liben, 1993) have

noted that tests such as the doll test (Clark & Clark, 1939; 1947) and the PRAM II (Williams et al., 1975) are problematic because they force children to choose between two groups, whereas children may feel that a particular adjective (e.g., good) applies to *both* their ethnic-racial in-group and comparison out-group, or feel that a particular adjective applies to *neither* group.

Thus, Kowalski (2003) revised the PRAM II to fix the issues noted in the original version. In the revised version, children were shown a doll instead of a drawing, and children were shown only one doll at a time (first the doll that represented children's ethnic-racial in-group, and then a doll that represented an ethnic-racial out-group). Using 14 cards that had either a negative or positive adjective on each (e.g., smart), children were asked: "This card says smart. Some children are smart. Is this child smart or should smart go in the trash?" Children had the option to place the card in front of the doll if they felt it applied, or in the trash if they felt it did not apply. Kowalski (2003) tested children's attitudes using his revised independent choice version of the PRAM II and the original, forced-choice PRAM II, and found that results changed based on the version that was used. Kowalski (2003) showed that children tended to be more positive toward both their in-group and the out-group when assessed with the independent measure, but more negative toward the out-group than their in-group on the forced-choice measure.

Stokes-Guinan (2011) pointed out that although an independent measure was important, the scoring used by Kowalski (2003) was problematic. In particular, Kowalski's (2003) scoring involved creating a composite positive attitudes score by summing the number of positive adjectives assigned to the doll (i.e., positive adjective was endorsed) with the number of negative adjectives that were assigned to the garbage

can (i.e., negative adjective was not endorsed). Given that prior work (e.g., Aboud, 2003) has indicated that endorsing a positive statement is not the same as not endorsing a negative statement, Stokes-Guinan (2011) further improved the PRAM II by changing the scoring so that a sum score was calculated for children's positive attitudes (i.e., assigning the positive adjectives to the doll), and a *separate* sum score was calculated for children's negative attitudes (i.e., assigning the negative adjectives to the doll).

Although both Kowalski's (2003) and Stokes-Guinan's (2011) changes to the methodology and scoring of the PRAM II have propelled forward the measurement of children's ethnic-racial attitudes, there are still limitations that the present study addressed. First, among Latinos there is great variability in physical appearance. For example, a Mexican child may have a light skin tone and blonde hair or may have a dark skin tone and black hair. Thus, instead of presenting a doll to a child and labeling it as "Mexican," we showed children 5 different dolls that ranged in skin tone and hair color, and asked children to hand us the Mexican doll. The doll that children selected was then used as a visual representation of a Mexican child to assess Mexican children's attitudes toward their own ethnic-racial group.

Second, although Stokes-Guinan's (2011) work translated the adjectives of the PRAM II into Spanish, Stokes-Guinan did not test whether the items were equivalent in both languages. Thus, we reviewed the translation of the items, and tested their equivalence in Spanish and English. Specifically, we examined the 14 items used in Kowalski's (2003) revised version of the PRAM II (Williams et al., 1975) in English: *smart, good, mean, ugly, pretty, clean, unfriendly, bad, friendly, nice, stupid, naughty, helpful, and dirty*, and followed recommendations outlined by Knight, Roosa, and

Umaña-Taylor (2009) for translating items into Spanish. Specifically, we translated, back-translated, and followed a process of de-centering to arrive at our final English and Spanish items. During this process, *nice* was changed to *kind* and *stupid* was changed to *dumb* so that the items had the same meaning in both languages. Further, in the translation process, we were unable to find a meaningful equivalent in Spanish that was developmentally appropriate for the words *unfriendly* and *helpful*; thus, these were removed from the measure. Finally, although *pretty* and the Spanish equivalent word were retained for use with girls, *handsome* and the Spanish equivalent word were used with boys (instead of *pretty*). Thus, the final 12 items for the measure included: *smart, good, ugly, pretty/handsome, clean, bad, friendly, kind, dumb, naughty, dirty, and mean* (see Appendices E and F). Final translations were reviewed by Mexican-origin individuals to ensure cultural validity (Knight et al., 2009).

Consistent with Stokes-Guinan's (2011) materials for the measure, each adjective was printed in black bold letters in the center of a large card and laminated. However, given that many adjectives in Spanish are gender-specific (i.e., in English, *bad* can be used to describe boys and girls, but in Spanish *malo* is used to describe boys, and *mala* is used to describe girls), we created a separate set of cards for boys and girls. The English version of each word was printed on one side of each card (e.g., *bad* for girls and *bad* for boys) and the Spanish version of each word was printed on the back of each card (e.g., *mala* for girls and *malo* for boys).

In the current study, I tested the psychometric properties of the items in the revised PRAM II. Specifically, I examined (a) descriptives (e.g., frequencies, distribution), (b) the factor structure of the measure, including testing equivalence across

Spanish and English versions, (c) reliability of the items in each subscale, and (d) convergent and divergent validity (i.e., whether the subscales were correlated with other measures in theoretically expected ways).

To test convergent validity in the current study, I tested whether children's ethnic-racial attitudes were correlated with mothers' cultural socialization of children, children's self-labeling as Mexican, children's Spanish language ability, mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and mothers' ethnic-racial identity affirmation. Theoretically, Knight, Bernal, Garza, Cota and Ocampo (1993) social cognitive model of the development of ethnic identity and ethnically based behavioral styles proposes that families' background (e.g., nativity, parents' ethnic-racial identity) and socialization efforts inform children's ethnic-racial identification and, in turn, children's ethnically-based behaviors (e.g., Spanish language usage). Previous work has provided empirical support for the positive association between families' cultural socialization and children's positive ethnic-racial attitudes (Rivas-Drake, Hughes, & Way, 2009); there has been a negative association between families' nativity (i.e., fewer generations in the U.S.) and children's positive ethnic-racial attitudes (Knight et al., 1993); there has been a positive association between mothers' positive ethnic-racial attitudes and daughters' positive ethnic-racial attitudes (Derlan, Umaña-Taylor, Updegraff, & Jahromi, 2015); a positive association has emerged between mothers' positive ethnic-racial attitudes with Spanish language usage and with self-labeling (Bernal et al., 1990). Thus, based on this conceptual and empirical work, I hypothesized that mothers' cultural socialization of children, children's self-labeling as Mexican, children's Spanish language ability, and mothers' ethnic-racial identity affirmation would

be positively associated with children's positive ethnic-racial attitudes and negatively associated with children's negative ethnic-racial attitudes. Also, I hypothesized that mothers' nativity, grandmothers' nativity, and mother-grandmother nativity (all coded as higher scores reflecting U.S.-born nativity) would be negatively associated with children's positive ethnic-racial attitudes and positively associated with children's negative ethnic-racial attitudes.

Finally, divergent validity is supported when the measure is unrelated to constructs with which there is not a conceptual reason to expect a significant association. To examine divergent validity of the children's ethnic-racial attitudes measure I used a measure of children's effortful control, given that there is no conceptual reason for why this construct should be significantly associated with children's ethnic-racial attitudes.

Ethnic-Racial Centrality

Ethnic-racial centrality is an important component of individuals' ethnic-racial identity (Umaña-Taylor et al., 2014). Scottham, Sellers, and Nguyễn (2008) suggest that individuals have numerous identities that are important to their understanding of themselves, and *ethnic-racial centrality*, specifically, captures the extent to which ethnicity-race is an important part of individuals' overall self-concept. Although scholars (e.g., Umaña-Taylor et al., 2014) have suggested that ethnic-racial centrality is a construct that begins to form during childhood, a majority of the work that has assessed ethnic-racial centrality has tended to focus on the developmental period of adolescence (e.g., Okeke, Howard, Kurtz-Costes, & Rowley, 2009; Rivas-Drake, 2011). Much less work has focused on *children's* ethnic-racial centrality. A focus on how central ethnicity-race is to children's self-concept is important given that that gender and race are

particularly relevant categories that shape development during the period of childhood (Katz & Kofkin, 1997). Therefore, in order for scholars to focus on ethnic-racial centrality during this developmental period, it is essential to have a measure that can be used to assess this construct among young children. Below, the limited work that has assessed ethnic-racial centrality among children is presented, along with the adaptations that were made to create the revised measure of this construct presented in the current study.

An early study assessed kindergarten children's ethnic-racial centrality by asking children to describe who they were using an open-ended question, and coding whether social categories (e.g., ethnicity-race) were mentioned in children's responses (Aboud & Skerry, 1983). Findings indicated that few of the children in the study spontaneously mentioned any social categories to describe themselves; instead children tended to describe themselves in terms of external characteristics (e.g., appearance, possessions, behavior; Aboud & Skerry, 1983).

More recently, Turner and Brown (2007) created an identity ranking task to assess children's ethnic-racial centrality. In the task, 5- to 12-year-old children were given six popsicle sticks that had their name printed on each stick (referred to as "self sticks"), and were shown six small boxes with pictures that represented a category with which children could identify. The categories included the following: each child's specific gender, specific ethnicity-race, specific age, children who like video games and/or computers, children who like pets/animals, and children who like sports. Children were instructed to place the "self-stick" in the box that showed the category that was most important to them. The task was repeated until all sticks had been placed in the boxes, and children

were given a score based on when the self-stick was placed in the ethnicity-race box. Findings indicated that ethnicity-race was least central to children's self-concept in comparison to the other categories, which were chosen first (Turner & Brown, 2007).

Although Turner and Brown's (2007) introduction of the identity ranking task was important because it provided a tool for assessing young children's ethnic-racial centrality, the present study aimed to improve the measure. First, given that some of the categories in the measure were social (e.g., gender), and others were preferences (e.g., like pets/animals), there may have been a confounding effect of category type. Turner and Brown (2007) found that children were more likely to select preferences instead of social categories to describe themselves; however, different findings may emerge if children choose only from social categories. Thus, the present study adapted the identity ranking task (Turner & Brown, 2007) so that it only included social categories (i.e., daughter/son, five-year-old, friend, Mexican, and girl/boy). This is important because it provides a tool that can be used in future research to test the centrality of ethnicity-race when children only have social categories from which to choose.

To adapt the measure, we first examined the original 5 categories that were used: gender, ethnicity-race, age, children who like video games and/or computers, children who like pets/animals, and children who like sports. Then, we changed the latter 3 preference categories to two relevant social categories: friend and son/daughter. Thus, for children in the current study, the five options were son/daughter, five-year-old, friend, boy/girl, and Mexican. Then, materials for the task were developed by creating and laminating photos of each of the 5 categories using either a boy model or a girl model.

For example, for the “son” card, a young boy was photographed holding the hand of a female posed as his mother (see Appendix G).

Second, we adapted the measure to be developmentally appropriate for a sample that consisted of younger children who were all 5 years of age. To do so, a puppet was used to describe the task to children so that there was a visual reminder of why they were describing themselves. In particular, 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 boxes, given a marble, and instructed to put the marble in the box that represented the most important thing they wanted María/Tomás to know about them. After the marble was placed in the box, the choice was recorded, and the box was removed. Children were then asked to put the marble in the box that represented the next most important thing they wanted María/Tomás to know about them. This was repeated until children had placed a marble in all boxes. The task was scored such that ethnic-racial centrality ranged from 1 to 5, and children’s scores reflected when the child placed the marble in the Mexican box.

In the current study, I tested the psychometric properties of the revised measure by presenting descriptives and testing for convergent and divergent validity. To test the convergent validity of children’s ethnic-racial centrality, I used the following measures: mothers’ cultural socialization of children, children’s self-labeling as Mexican, children’s Spanish language ability, mothers’ nativity, grandmothers’ nativity, mother-grandmother nativity, and mothers’ ethnic-racial centrality. As previously presented, Knight and colleagues’ (1993) social cognitive model of the development of ethnic identity and

ethnically based behavioral styles proposes that family background characteristics (e.g., nativity) and socialization efforts inform children's ethnic-racial identification and, in turn, children's ethnically-based behaviors (e.g., Spanish language usage). Furthermore, previous work has provided empirical support for the association between families' cultural socialization and children's ethnic-racial centrality (Rivas-Drake et al., 2009). Limited empirical work has tested young children's ethnic-racial centrality and, to my knowledge, no studies with young children have included measures of children's self-labeling as Mexican, children's Spanish language ability, mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and mothers' ethnic-racial centrality. However, as an aspect of children's ethnic-racial identification, theoretically, it was expected that ethnic-racial centrality would function similarly to other indices used in the present study to assess children's ethnic-racial identification (e.g., ethnic-racial attitudes). Thus, I hypothesized that mothers' cultural socialization of children, children's self-labeling as Mexican, children's Spanish language ability, and mothers' ethnic-racial centrality would be positively associated with children's ethnic-racial centrality, and that mothers' nativity, grandmothers' nativity, and mother-grandmother nativity (all coded as higher scores reflecting U.S.-born nativity) would be negatively associated with children's ethnic-racial centrality. To test the divergent validity of children's ethnic-racial centrality, I used a measure of children's effortful control, given that there is no conceptual reason that supports a significant association between effortful control and children's ethnic-racial centrality.

Ethnic-Racial Knowledge

The knowledge that individuals develop about their social group membership plays an important role in development. For example, gender-schema theory (Martin, 1991; Martin & Halverson, 1981) proposes that after children learn that they are a boy or girl, they pay attention to their social environments to internalize gender knowledge, which then affects their behaviors and developmental trajectories. Similarly, given that ethnicity-race is also a relevant social category during childhood (Katz & Kofkin, 1997), the knowledge that children have about their ethnicity-race likely informs development. Bernal and colleagues (1990) theorized that ethnic-racial knowledge (i.e., individuals' understanding that certain values, behaviors, and customs are a part of their ethnic-racial group) is an important aspect of children's ethnic-racial identification.

Bernal and colleagues (1990) initially measured this construct by asking preschool-aged Mexican children twenty questions about Mexican behaviors. Researchers said the following to children: "Now let's see what you know about Mexican children. These are things that only Mexican children do, and other children don't do. Which of these are things that only Mexican children do?" Examples of questions included: "eat frijoles or beans at home?" and "have a piñata at their birthday party or at Christmas?" (Bernal et al., 1990). After the first study, researchers revised the task to be shorter and easier to administer (Knight et al., 1993). In the second study, 6- to 10- year old Mexican children were told that there were two towns, one Mexican town and one Anglo town. Children were asked about the likelihood or frequency of 10 events occurring in each town, such as "How many of the people in the Mexican town eat menudo?" Children responded by pointing to a "none" circle that was small with no faces

on it, a “some” circle that was medium and filled halfway with faces, or an “all” circle that was large and entirely filled with faces (Knight et al., 1993).

Bernal and colleagues’ (1990) ethnic-racial knowledge measure and Knight and colleagues’ (1993) revisions to the measure were instrumental because these studies were the first to my knowledge to assess this construct. The current study aimed to further refine the measure. In particular, given that Mexican children who were born, raised, and/or living in the U.S. are also involved in mainstream U.S. American culture, it is possible that children’s knowledge of what it means to be Mexican may include aspects that are traditionally Mexican and traditionally U.S. American. Indeed, in a separate but related body of work on immigrant youths’ cultural orientation, scholars (e.g., see Gonzalez, Fabrett, & Knight, 2009; Padilla, 2006) emphasized that the processes of acculturation (i.e., individuals adapting the values, beliefs, behaviors of the mainstream culture; Berry, 2003) and enculturation (i.e., individuals maintaining the values, beliefs, and behaviors of the heritage culture; Berry, 2003) are independent processes that can occur simultaneously.

Thus, it is possible that the ethnic-racial knowledge that Mexican children in the U.S. possess about Mexican culture includes both traditionally Mexican and traditionally American components. In the present study we expanded on Bernal and colleagues (1990) work by including a third category (i.e., a “both” option) to capture this possibility. In addition, given that our task included three categories, rather than the two categories used in earlier work (i.e., Bernal et al., 1990; Knight et al., 1993), we provided a more concrete assessment tool for young children by providing children with visual options (i.e., cards) from which they could choose their response to each question. One

card depicted something traditionally Mexican (e.g., tacos), another card depicted something traditionally American (e.g., hamburgers), and the last card depicted both (see Figure 1). Children were asked to select the card that represented what they thought about Mexican children. For example, in the above example, children were asked, “What do you think Mexican children eat? This (pointing to the first card), this (pointing to the second card), or this and this (pointing to the third card)?”

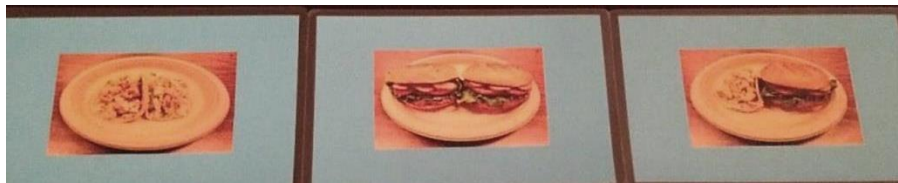


Figure 1. Food-related item that assessed children’s ethnic-racial knowledge.

Children selected one card from three options that included: (a) a picture of tacos, (b) a picture of hamburgers, or (c) a picture of a taco and a hamburger.

To create the items in the ethnic-racial knowledge measure, I consulted with members of our research team, an ethnically diverse team of faculty, graduate students, and postdoctoral scholars to brainstorm developmentally-appropriate Mexican customs that children would understand. As we refined and finalized the 8 items used in the current study, we consulted with Mexican-origin members of the community who had young children. After items were finalized, cards were created for each item using cartoon animations (e.g., sports) or an actual photograph that we took for the purpose of the study (e.g., food). To ensure that children’s selections were not influenced by the order that cards were presented, two versions of the task were created in which the first two cards were counterbalanced for each question (i.e., whether the traditionally Mexican or traditionally American card was presented first or second). The final 8 items (see

Appendix H) included: what Mexican children do at their birthday parties (break a piñata, pin the tail on the donkey, or both); who visits Mexican children and gives them presents (the Three Kings, Santa Claus, or both); what Mexican children eat (tacos, hamburgers, or both); what Mexican children have in their home (Mexican flag, American flag, or both); what holiday Mexican children celebrate (Day of the Dead, Halloween, or both); what sport Mexican children play (soccer, football, or both); what dance Mexican children do (ballet, folklore, or both); and what Mexican children do when they say “Hi” to someone (shake hands, kiss on the cheek, or both).

Given that this is the first time this measure has been used, three different scoring methods were created and tested, which are referred to as “Mexican-only,” “Mexican/Flexible,” and “Bicultural.” By testing the psychometric properties of the measure using each of the 3 different scoring methods, it allows for a more in-depth examination of the data, and enables a detailed analysis to help determine the scoring method that best captures the construct of interest.

With the *Mexican-only* scoring method, children received a score of 1 for each item in which they selected the card that only depicted something that was traditionally Mexican (i.e., Mexican card), a score of 0 when they selected the card that only depicted something that was traditionally American (i.e., American card), and a score of 0 when they selected the card that depicted both something traditionally Mexican and something traditionally American (i.e., both card). Scores were summed across the 8 items, and higher scores using the *Mexican* scoring method indicated that children’s knowledge of Mexican culture was high with respect to being able to identify and select items/practices that depicted traditional Mexican culture. A sum score of 8 would indicate that, for each

question, children always selected the card that only showed a traditionally Mexican object or practice.

With the *Mexican/Flexible* scoring method, children received a score of 1 for each item in which they selected the Mexican card or the both card, and a score of 0 when they selected the American card. Using the *Mexican/Flexible* scoring method, a sum score of 8 would indicate that children's knowledge of Mexican culture always includes identification of Mexican objects, but their responses sometimes reflect traditional Mexican objects paired with American objects.

For *Bicultural* scoring, children received a score of 1 for each item in which they selected the both card, and a score of 0 when they selected the Mexican card or the American card. Higher scores using the *Bicultural* scoring method indicate that children's knowledge of Mexican culture must include *both* traditionally Mexican and traditionally American aspects. A sum score of 8, for example, would indicate that for each question, children always selected a card that showed a traditionally Mexican and a traditionally American object or practice. Whereas the former two scoring methods assess knowledge of Mexican culture, the bicultural scoring method assesses children's bicultural competencies, as they are able to accurately identify Mexican practices but understand them to be accompanied by more mainstream U.S. practices.

In the present study, I tested the psychometric properties of the ethnic-racial knowledge measure separately for each of the three scoring methods by examining descriptives, convergent and divergent validity, the factor structure of the measure, equivalence across Spanish and English versions, and the reliability of the items. To test the convergent validity of children's ethnic-racial knowledge using the 3 scoring

methods, I used the following measures: mothers' cultural socialization of children, children's self-labeling as Mexican, children's Spanish language ability, mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and mothers' involvement in Mexican culture. As previously noted, Knight and colleagues' (1993) social cognitive model of the development of ethnic identity and ethnically based behavioral styles proposes that families' background (e.g., nativity, parents' ethnic-racial identity) and socialization efforts inform children's ethnic-racial identification and, in turn, children's ethnically-based behaviors (e.g., Spanish language usage). Previous work has provided empirical support for the association between parents' cultural socialization and children's ethnic-racial knowledge (Quintana & Vera, 1999); a negative association has emerged between families' nativity (i.e., fewer generations in the U.S.) and children's ethnic-racial knowledge (Knight et al., 1993); a positive association has been found between mothers' involvement in Mexican culture and children's ethnic-racial knowledge (Knight et al., 1993); and a positive association has emerged between children's ethnic-racial knowledge with Spanish language usage and with self-labeling (Bernal et al., 1990). Thus, based on this conceptual and empirical work, I hypothesized that mothers' cultural socialization of children, children's self-labeling as Mexican, and children's Spanish language ability would be positively associated with children's ethnic-racial knowledge using the Mexican-only, Mexican/flexible, and bicultural scoring methods. In addition, I expected that mothers' involvement in Mexican culture would be positively associated with children's ethnic-racial knowledge using the Mexican-only and Mexican/flexible scoring methods, but I expected a negative association between mothers' involvement in Mexican culture and children's ethnic-racial knowledge using

the bicultural scoring method because children whose mothers are less involved in Mexican culture may be more likely to be exposed to traditionally American objects and customs, and more likely to select the bicultural option that reflects more of a bicultural understanding of culture. Similarly, I hypothesized that mothers' nativity, grandmothers' nativity, and mother-grandmother nativity (all coded as higher scores reflecting U.S.-born nativity) would be negatively associated with children's ethnic-racial knowledge using the Mexican-only and Mexican/flexible scoring methods, but I expected a positive association between mothers' nativity, grandmothers' nativity, and mother-grandmother nativity (all coded as higher scores reflecting U.S.-born nativity) and children's ethnic-racial knowledge using the bicultural scoring method because, as noted, children with more U.S.-born mothers and grandmothers are likely more exposed to traditionally American objects, and more likely to select the option that reflects a bicultural understanding of culture. To test the divergent validity of children's ethnic-racial knowledge I used a measure of children's effortful control, given that there is no conceptual reason for why this construct should be significantly associated with children's ethnic-racial knowledge using the Mexican-only, Mexican/flexible, and bicultural scoring methods.

The Current Study

The goal of the current study was to advance the measurement of Mexican-origin children's ethnic-racial identification by introducing three adapted measures: the ethnic-racial attitudes measure, the ethnic-racial centrality measure, and the ethnic-racial knowledge measure. In addition to reviewing the history of these measures and presenting the adapted versions that can be used to assess these constructs among young

Mexican-origin children, the present study tested the psychometric properties of the measures (detailed in the Analytic Approach section below). In particular, for all three measures, I examined descriptives, and convergent and divergent validity. Furthermore, for the multi-item measures (i.e., ethnic-racial attitudes and ethnic-racial knowledge), I examined the factor structure, equivalence across Spanish and English versions, and reliability. I followed an iterative process to determine a final set of items for each measure, and then examined validity for the final versions of the measures.

Method

Participants and Procedure

The current analytic sample included 182 Mexican-origin children from a longitudinal study of Mexican-origin young mothers, their mother figures, and their children. Twenty-two children were excluded from the study because their fathers were not Mexican-origin. In the parent study, pregnant adolescents were recruited from community agencies and high schools in a Southwestern metropolitan area. Initial eligibility criteria included that adolescents had to be of Mexican origin, 15 to 18 years old, currently pregnant, not legally married, and have a mother figure (e.g., biological mother, grandmother) who was willing to participate. Participants were interviewed annually for six years in their homes, and each wave occurred when mothers were in their third trimester of pregnancy (Wave 1; W1), when children were 10 months of age (W2), 2 years of age (W3), 3 years of age (W4), 4 years of age (W5), and 5 years of age (W6).

Considering the developmental salience of the construct, children's ethnic-racial identification was assessed at W6. Thus, the proposed study utilized data from W6. Children's interviews were conducted in the language that mothers indicated as

children's primary language. Mothers received \$60 for their participation at W6, and an additional \$25 for their child's participation. Children received a small gift for their participation (i.e., a book in Spanish and English at W6). All procedures were approved by the university's Human Subjects Review Board. The majority of mothers were U.S.-born and, on average, 21.95 years of age ($SD = 1.00$) at W6. The majority of children in the study were male (59%), and completed their assessments in English (68%). The average family income at W1 was \$27,428 ($SD = \$19,521$), which was calculated by creating a sum of grandmothers' income, additional funds contributed to the household by others, and public financial assistance (i.e., public assistance, food stamps).

Measures

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. The video featured two puppets, María and Tomás. The video begins with Tomás asking María if she knows what the word *Mexican* means. María responds by saying that "Mexican means a person who has a family from Mexico." Tomás asks María if she is Mexican, and María responds by saying "Yes, I am Mexican. A long time ago, my grandma came from Mexico to here, where I live. Some of my family still lives in Mexico, and we go visit them sometimes. It is far away so we have to drive a car for a long time or we have to take an airplane to go see them. All of my family and me are called Mexican because my grandma came from Mexico. Other people can be Mexican because they were born in Mexico and then they moved." Tomás then says, "Oh okay María. But I have another question. None of my family lives in Mexico, they all live in Arizona, but a long, long, LONG time ago, my grandma's grandma came from Mexico. Am I still Mexican?" Maria

responds by saying, “Yes Tomás, you are still Mexican.” Tomás then ends by saying “Oh okay, now I know what Mexican means. Mexican means a person who has family from Mexico, and so I am Mexican. Thanks María, I have to go because my mom is making dinner.” After the video ended, children were shown five dolls, ranging in skin tone from lighter to darker. To avoid the potential confounding effect of gender (Kowalski, 2003), girls were shown five *female* dolls, and boys were shown five *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 then used for the following tasks to provide a visual reminder of what the child identified as *Mexican*, and to provide a concrete object to help the child keep the abstract concept salient.

Children’s ethnic-racial attitudes. To assess how positively or negatively children felt about Mexican culture (i.e., ethnic-racial attitudes) at W6, we adapted the Preschool Racial Attitudes II Measure originally created by Williams and colleagues (1975), and further refined by Kowalski (2003) and Stokes-Guinon (2011). Before the task began children were instructed, “I am going to show you a card, and if the word on the card describes the Mexican girl/boy, then you put it in front of the Mexican girl/boy. If the word on the card does not describe the Mexican girl/boy, then you put the card in front of the garbage can.” Then, children were shown a card with one word printed on it, and told the following: “This card says _____. Some children are _____. Is the Mexican girl/boy _____?” This was repeated for all 12 cards that were used in the current study (i.e., smart, good, mean, ugly, pretty/handsome, clean, bad, friendly, kind, dumb, naughty, and dirty; See Appendices E and F). Using Stokes-Guinon’s (2011) scoring

recommendations for the measure, we created two subscales: a 6-item positive attitudes subscale, and a 6-item negative attitudes subscale. Specifically, for the positive attitudes subscale, each child was given a score of 1 each time that he/she assigned a positive adjective to the Mexican doll. For the negative attitudes subscale, each child was given a score of 1 each time that he/she assigned a negative adjective to the Mexican doll. Scores were summed for each subscale, and ranged from 1-6. Higher scores on the positive attitudes subscale indicated more positive views about Mexican culture and higher scores on the negative attitudes subscale indicated more negative views about Mexican culture.

Children's ethnic-racial centrality. To assess children's ethnic centrality at W6, we adapted Turner and Brown's (2007) task to make it developmentally appropriate for 5-year-old children. In this task, 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 boxes, each with a card in it that had a picture of a social category applicable to children in the study that they could use to describe themselves: son/daughter, five-year-old, friend, boy/girl, and Mexican (see Appendix G). 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 (e.g., that they were a 5-year-old). 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 will be 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 indicate higher ethnic-racial centrality (i.e., if the Mexican box was chosen first, the child will receive a score of 5).

Children’s ethnic-racial knowledge. To assess children’s knowledge of Mexican culture at W6, we built on the construct originally conceptualized by Bernal and colleagues (1990). In the revised task used in the current study, children were asked 8 questions about Mexican culture that focused on holidays, food, and other customs (see Appendix H). For each question, three different cards were presented: one card depicted something traditionally Mexican (e.g., tacos), another card depicted something traditionally American (e.g., hamburgers), and the last card depicted both. Children were asked to select the picture that represented what they thought about Mexican children. To ensure that children’s selections were not influenced by the order that cards were presented, two versions of the task were created in which the first two cards were counterbalanced for each question (i.e., whether the traditionally Mexican or traditionally American card was presented first or second).

As previously noted, three different scoring methods were created and tested in the present study: “Mexican-only,” “Mexican/Flexible,” and “Bicultural.” With the *Mexican-only* scoring method, for each item, children received a score of 1 when they selected the card that only depicted something that was traditionally Mexican (i.e., Mexican card), a score of 0 when they selected the card that only depicted something that was traditionally American (i.e., American card), and a score of 0 when they selected the card that depicted both something traditionally Mexican and something traditionally American (i.e., both card). With the *Mexican/Flexible* scoring method, for each item children received a score of 1 when they selected the Mexican card or the both card, and

a score of 0 when they selected the American card. For *Bicultural* scoring, children received a score of 1 for each item when they selected the both card, and a score of 0 when they selected the Mexican card or the American card. Scores for all three types of scoring methods range from 0-8.

After all three measures were adapted and finalized, two scripts for the researcher conducting the tasks were created in English (one to be used with boys and one to be used with girls). Then, using the same translation process outlined above, two additional scripts were created in Spanish (one script to be used with boys and one to be used with girls).

Convergent validity measures. *Mothers' cultural socialization behaviors* at W6 were measured with the Cultural Socialization Behaviors Measure (CSBM; Derlan, Umaña-Taylor, Toomey, Jahromi, & Updegraff, under review). The 12-item CSBM (e.g., "I buy toys for my child that represent our ethnic/cultural background") was scored on a 5-point Likert scale ranging from *Not at all* (1) to *Very much* (5). Higher scores indicated higher maternal cultural socialization behaviors with children. Cronbach's alpha in the current study was .92 for the English version of the measure and .86 for the Spanish version of the measure.

Mothers' ethnic-racial identity affirmation. The 6-item affirmation subscale of the Ethnic Identity Scale (Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004) was utilized to assess positive feelings that mothers had toward their ethnicity-race at W6. 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*. Higher scores indicate higher ethnic-racial identity affirmation. Cronbach's alpha in the

current study was .83 for the English version and .76 for the Spanish version of the measure.

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 W6. The original MIBI was modified to be applicable to multiple ethnic-racial groups (Fulgini, Witcow, & Garcia, 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 indicate higher ethnic-racial centrality. Cronbach's alpha in the current study was .72 for the English version and .74 for the Spanish version of the measure.

Mothers' involvement in Mexican culture. The Mexican orientation subscale of the Acculturation Rating Scale for Mexican Americans – II (Cuéllar, Arnold, & Maldonado, 1995) was utilized to assess mothers' involvement in Mexican culture at W6. The 17-item Mexican orientation subscale (e.g., "I associate with Mexicans and/or Mexican Americans" and "My family cooks Mexican foods") was scored on a 5-point Likert scale ranging from (1) *Not at all* to (5) *Extremely often or almost always*. Higher scores indicate higher involvement in Mexican culture. Cronbach's alpha in the current study is .86 for the English version and .68 for the Spanish version of the measure.

Mothers' nativity was coded using each mother's report of her country of birth. The variable was coded 0 = foreign-born, 1 = U.S.-born.

Grandmothers' nativity was coded using each grandmother's report of her country of birth. The variable was coded 0 = foreign-born, 1 = U.S.-born.

Mother-grandmother nativity was coded using each mother's report of her country of birth and each grandmother's report of her country of birth. A variable was created from the information provided by mothers and grandmothers and coded as 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother.

Children's Spanish language ability at W6 was measured with the Test de Vocabulario en Imágenes Peabody (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986; Dunn, Lugo, Padilla, & Dunn, 1997), which was designed for Spanish-speaking and bilingual children (ages 2 through 6). The measure includes 125 items in Spanish, and requires children to correctly identify an item after hearing the word by pointing to one of four presented pictures. Children continue the task until they incorrectly identify multiple items. Higher scores indicate higher Spanish language ability.

Children's self-labeling as Mexican was measured at Wave 6 at the end of the interview (to avoid priming before the other measures were completed) by asking children the question: "Are you Mexican?" Children's responses were coded as: 0 = *no*, 1 = *yes*.

Divergent validity measure. Children's effortful control at W6 was measured using mothers' responses to the effortful control subscale from the very short version of the Child Behavior Questionnaire (Putnam & Rothbart, 2006). The 12 items (e.g., "When drawing or coloring in a book, shows strong concentration") were scored on a 7-point Likert scale ranging from *Extremely false* (1) to *Extremely true* (7), and reflected the

extent to which the item described the child's typical behavior in the last 6 months. Higher scores indicated greater effortful control. In the current study, Cronbach's alpha was .66 for the English version of the measure and .72 for the Spanish version of the measure.

Analytic Approach

A multiple-step analytic approach was utilized to test the properties of the ethnic-racial attitudes measure, ethnic-racial centrality measure, and the ethnic-racial knowledge measure with the 3 different scoring methods. For all measures, frequencies and distributions were examined (Step 1). Then, given that the ethnic-racial centrality measure consisted of only one item, Steps 2-4 were only followed for testing the ethnic-racial attitudes measure and ethnic-racial knowledge. In Steps 2-4, each measure was tested separately to examine its factor structure (Step 2), cross-language equivalence (Step 3), and reliability (Step 4). Finally, Step 5 involved validity tests for all measures. Analyses for Steps 1 and 4 were conducted in SPSS version 22.0 (IBM Corporation, 2013). Analyses for Steps 2, 3, and 5 were conducted in *Mplus* version 7.2 (Muthén & Muthén, 1998-2014).

Step 1: Descriptive Statistics

Step 1 was largely descriptive, and involved examining means and standard deviations for all continuous measures, and whether measures were normally distributed, as indicated by skewness less than two and kurtosis less than seven (Tabachnick & Fidell, 2006). In addition, I examined the frequencies of children's responses for each item in all of the measures (i.e., ethnic-racial positive attitudes, ethnic-racial negative attitudes, ethnic-racial centrality, ethnic-racial knowledge using the Mexican-only scoring method,

ethnic-racial knowledge using the Mexican/Flexible scoring method, and ethnic-racial knowledge using the bicultural scoring method). I examined these frequencies separately by mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and child gender.

Steps 2-4: Factor Structure, Reliability, and Language Invariance

Steps 2-4 did not include the ethnic-racial centrality measure because it is a 1-item measure. In Step 2, I conducted two separate confirmatory factor analyses on the ethnic-racial attitudes measure. The first confirmatory factor analysis tested a one-factor solution for all 12 items in the attitudes measure. The second confirmatory factor analysis tested a two-factor solution that included the 6 items that reflected positive attitudes specified on the first factor and the 6 items that reflected negative attitudes specified to load on the second factor. Based on prior work noting that positive and negative attitudes are separate constructs (e.g., Aboud, 2003; Stokes-Guinon, 2011), the 2-factor confirmatory factor analysis was hypothesized to be a better-fitting model than the one-factor confirmatory factor analysis. Two primary fit indices were used to examine whether the 2-factor or 1-factor confirmatory factor analysis was a better-fitting model: the comparative fit index (CFI) and the root-mean-square-error of approximation (RMSEA). Model fit was considered to be good (acceptable) if the CFI was greater than or equal to .95 (.90), and the RMSEA was less than or equal to .05 (.08; Hu & Bentler, 1999).

Given that the scoring system for the ethnic-racial knowledge measure is new, I conducted exploratory factor analyses with varimax rotation on the items from this measure. I explored the three different scoring methods (i.e., Mexican-only,

Mexican/flexible, and bicultural) individually. The purpose of each exploratory factor analysis was to determine the best-fitting factor structure of the 8 items in the ethnic-racial knowledge measure using the 3 different scoring methods. In particular, I examined a scree plot to evaluate the number of factors that should be considered. Within each factor solution that was considered, I examined items and removed any items, one at a time, that did not load significantly ($p < .05$) and above .40 on a factor. In removing items one at a time, the item with the lowest loading value was removed first.

In Step 3, I tested the factorial invariance of each measure across language groups, which indicated whether items functioned similarly in the Spanish and the English versions of each measure. Factorial invariance was tested with a series of nested multigroup confirmatory factor analyses that included survey language as the grouping variable. Given that items for all measures were ordered categorical, all models were estimated using the WLSMV estimator (i.e., weighted least squares with mean and variance adjustment), which includes a probit link and the THETA parameterization (Muthén & Muthén, 1998-2014). Using this estimator, model fit statistics describe the fit of the item factor model to the polychoric correlation matrix among the items for each group. Two primary fit indices were used to examine overall model fit: the CFI and the RMSEA. Model fit was considered to be good (acceptable) if the CFI was greater than or equal to .95 (.90), and the RMSEA was less than or equal to .05 (.08; Hu & Bentler, 1999).

At each level of factorial invariance (i.e., configural, metric, scalar), the tenability of adding constraints to each multigroup nested model was tested using the DIFFTEST command in MPlus, which includes a mean and variance adjusted chi-square statistic. A

nonsignificant change in chi-square indicates that the constraints are tenable (i.e., language versions are equivalent). First, configural invariance was tested. Configural invariance exists if the items within the measure form a similar factor structure across groups (i.e., language version of the measure; Millsap & Yun-Tein, 2004), which is indicated by all items having statistically significant loadings above .40. In the configural invariance model, the factor variance was fixed to 1 and the factor mean was fixed to 0 in each group for identification, so that all item factor loadings (one per item) and thresholds (one per item given that items in all measures had two response options) were estimated. The residual variances were constrained to 1 in both groups, also for identification purposes.

Second, metric invariance was tested. Metric invariance exists if factor loadings can be constrained across groups (Millsap & Yun-Tein, 2004). In the metric invariance model, the factor variance was fixed to 1 in the English-language group and freely estimated in the Spanish-language group, and the factor mean was fixed to 0 in both groups for identification purposes. All factor loadings were constrained to be equal across groups, all item thresholds were estimated, and all residual variances remained constrained to 1 in both groups. The metric invariance model was compared to the configural invariance model using a chi square difference test. If the chi square difference test is not statistically significant it suggests that the factor loadings are not statistically different across language versions. If the chi square difference test is significant it suggests that there are statistically significant differences across language versions, and the factor loadings cannot be constrained to be equal across the two language versions.

Third, scalar invariance was tested. Scalar invariance exists if the factor loadings and thresholds can be constrained across groups (Millsap & Yun-Tein, 2004). In the scalar invariance model, the factor variance remained fixed to 1 and the factor mean was fixed to 0 in the English-language group, and the factor variance and mean were freely estimated for the Spanish-language group for identification purposes. All factor loadings and item thresholds were constrained to be equal across groups, and all residual variances remained constrained to 1 in both groups. The scalar invariance model was compared to the metric invariance model using a chi square difference test. If the chi square difference test is not statistically significant it suggests that the thresholds are not statistically different across language versions. If the chi square difference test is significant it suggests that there are statistically significant differences across language versions, and the thresholds cannot be constrained to be equal across the two language versions.

Step 4 involved testing the reliability of the ethnic-racial positive attitudes measure, the ethnic-racial negative attitudes measure, the ethnic-racial knowledge measure using the Mexican-only scoring method, the ethnic-racial knowledge measure using the Mexican/flexible scoring method, and the ethnic-racial knowledge measure using the bicultural scoring method. The Kuder-Richardson Formula 20 (KR-20) coefficient of reliability was computed for all participants, as well as separately by the language version of each measure (i.e., Spanish and English). The KR-20 was used because the response options for the aforementioned measures were categorical, and a Cronbach's alpha cannot be used when items are categorical. In examining reliability, items were removed, one at a time, if results indicated that the reliability coefficient could be improved for all participants, the participants who completed the measure in Spanish,

or the participants who completed the measure in English. I continued to remove items, one at a time, until results indicated that the reliability coefficient could no longer be improved by removing additional items.

Step 5: Convergent and Divergent Validity of Measures

In Step 5, I examined construct validity for all three measures by testing convergent and divergent validity with bivariate correlations. As previously described, to test convergent validity in the current study, I examined the correlations among all ethnic-racial identification measures and mothers' cultural socialization of children, mothers' nativity, grandmothers' nativity, mother-grandmother nativity, children's self-labeling as Mexican, and children's Spanish language ability. In addition, I examined the correlation between mothers' ethnic-racial identity affirmation and children's positive and negative attitudes; mothers' ethnic-racial centrality and children's ethnic-racial centrality; and mothers' involvement in Mexican culture and children's ethnic-racial knowledge using each of the three scoring methods. Finally, to test divergent validity I examined the bivariate correlation between each measure of children's ethnic-racial identification and a measure of children's effortful control.

Results

Results below are presented for each individual measure separately. First, I present Steps 1-5 for the attitudes measure, then I present the steps for the ethnic-racial centrality measure. Finally, I present the steps that were conducted for the knowledge measure using the Mexican-only scoring method, the Mexican/flexible scoring method, and the bicultural method. Within the presentation of each scoring method, I present Steps 1-5.

Ethnic-Racial Attitudes

As a preliminary step, in an effort to reduce measurement error, I reviewed the raw data to determine whether there were cases in which participants demonstrated a lack of understanding of the task as evidenced by systematic or erratic response patterns. Because the measure includes six items that reflect positive attitudes and six items that reflect negative attitudes, any child who responded uniformly yes or uniformly no across all 12 items did not understand the task. Therefore, 27 children's responses on all 12 items were coded as missing to reduce error.

Next, two confirmatory factor analyses (CFA) were conducted. The first CFA tested a 2-factor solution in which the six positive attitudes were specified on one factor, and the six negative attitudes were specified on the other factor. This 2-factor solution demonstrated good fit: $\chi^2 (df = 53) = 61.47, p = .20$; CFI = .98; RMSEA = .04 (90% CI: .00, .08). Additionally, each of the 6 positively worded items loaded significantly and above .40 on Factor 1, and each of the 6 negatively worded items loaded significantly above .40 on Factor 2 (see Table 1). The correlation between the two factors was $-.64 (p < .01)$. Next, I tested the one-factor solution in which all 12 items were specified to load on one factor. This model did not have acceptable fit: $\chi^2 (df = 54) = 110.15, p < .01$; CFI = .86; RMSEA = .10 (90% CI: .07, .13). In addition, each of the six items that reflected positive attitudes loaded negatively on the factor, and the six items that reflected negative attitudes loaded negatively on the factor (see Table 1). Based on these results, a 2-factor solution was deemed most appropriate for the ethnic-racial attitudes measure.

It was not possible to test configural invariance across language versions of the measure, the model parameter estimates could not be estimated because there were too

few children who completed their interview in Spanish (i.e., $n = 28$). Thus, I could not proceed to test language measurement invariance for this measure.

Positive ethnic-racial attitudes. The mean for the 6-item positive ethnic-racial attitudes measure was 4.57 ($SD = 1.49$) on a 6-point scale, and the measure was normally distributed, with skewness of -1.0 ($SE = .24$) and kurtosis of .28 ($SE = .47$). Frequencies of endorsement of a yes response for each item in the ethnic-racial attitudes were examined for the full sample, as well as separately by mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and child gender (see Table 2). Chi square tests were performed to examine whether there were significant differences in any of the frequencies in the positive ethnic-racial attitudes measure based on mothers' nativity, grandmothers' nativity, mother-grandmother nativity, or child gender, which indicated that there were no significant differences (all $ps > .05$).

Next, I examined the reliability of the positive attitudes subscale for all participants, as well as separately by the language version of each measure. The 6-item positive attitudes measure did not demonstrate good reliability for the full sample of children ($KR-20 = .62$), the children who completed the English version of the measure ($KR-20 = .70$), or children who completed the Spanish version of the measure ($KR-20 = .34$). Results indicated that if Item 4 (i.e., clean) were removed, reliability would improve for the Spanish version of the measure from .34 to .49 and for the full sample of children from .62 to .63 (the reliability for the English version of the measure would decrease from .70 to .67; see Table 3). Given that reliability for the Spanish version of the measure and full sample would increase, and there would only be minimal decrease in reliability for the English version, Item 4 was removed. Without Item 4, results indicated that if

Item 1 (i.e., smart) was removed, reliability would improve for the Spanish version of the measure from .49 to .56 (the reliability for the English version of the measure would remain the same) and for the full sample of children from .63 to .64 (see Table 3); therefore, item 1 was removed from the measure. Without Item 1, the final 4-item measure demonstrated low reliability for the full sample of children (KR-20 = .64), the children who completed the English version of the measure (KR-20 = .67), and for the children who completed the Spanish version of the measure (KR-20 = .56). Results also indicated that there were no further items that could be removed to improve fit for the Spanish version of the measure or English version of the measure (see Table 3). The mean for the final 4-item positive ethnic-racial attitudes measure was 3.03 ($SD = 1.16$) on a 6-point scale, and the measure was reasonable normally distributed, with skewness of -1.0 ($SE = .24$) and kurtosis of .19 ($SE = .47$).

With respect to convergent validity, with the pooled sample, the positive ethnic-racial attitudes measure was significantly and positively correlated with children's self-labeling as Mexican ($r = .21, p < .01$) and marginally positively correlated with children's Spanish language ability ($r = .13, p = .08$), both consistent with hypotheses (see Table 4). However, contrary to expectations, the measure was not significantly correlated with mothers' cultural socialization ($r = -.06, p = .42$), mothers' ERI affirmation ($r = .04, p = .59$), mothers' nativity ($r = -.03, p = .69$), grandmothers' nativity ($r = .07, p = .35$), or mother-grandmother nativity ($r = .02, p = .79$).

With the Spanish version, as expected, the positive ethnic-racial attitudes measure was statistically and positively correlated with mothers' cultural socialization ($r = .15, p = .04$), mothers' ERI affirmation ($r = .16, p = .03$), children's Spanish language ability ($r = .15, p = .04$), and children's self-labeling as Mexican ($r = .21, p < .01$).

= .28, $p < .001$), and significantly and negatively correlated with mothers' nativity ($r = -.55$, $p < .001$), and mother-grandmother nativity ($r = -.54$, $p < .001$). Contrary to expectations, the Spanish version of the measure was not significantly correlated with children's self-labeling as Mexican ($r = -.10$, $p = .18$). The correlation between grandmothers' nativity and positive ethnic racial attitudes could not be computed for the Spanish version of the measure because there was no variance in grandmothers' nativity for the 28 children who completed the positive attitudes measure in Spanish. Specifically, every child who completed this measure in Spanish had a foreign-born grandmother.

In the English version, as expected, the positive ethnic-racial attitudes measure was positively correlated with children's self-labeling as Mexican ($r = .29$, $p < .001$) and children's Spanish language ability ($r = .20$, $p = .01$). Contrary to expectations, the measure was statistically and positively correlated with mothers' nativity ($r = .17$, $p = .02$), and not significantly correlated with mothers' cultural socialization ($r = -.12$, $p = .11$), mothers' ERI affirmation ($r = -.09$, $p = .23$), grandmothers' nativity ($r = .03$, $p = .69$), or mother-grandmother nativity ($r = -.08$, $p = .28$). Finally, analyses provided evidence of divergent validity, as results indicated that the positive ethnic-racial attitudes measure was not correlated with children's effortful control for the full sample ($r = .00$, $p = .99$), the Spanish version ($r = -.01$, $p = .89$), and the English version ($r = .05$, $p = .50$). Correlations for the composite measure and each item for the full sample, Spanish version, and English version are presented in Table 4.

Negative ethnic-racial attitudes. The mean for the 6-item ethnic-racial negative attitudes measure was 1.54 ($SD = 1.90$) on a 6-point scale, and the measure was reasonably normally distributed, with skewness of 1.05 ($SE = .24$) and kurtosis of -.16

($SE = .47$). Frequencies of endorsement of a yes response for each item in the ethnic-racial attitudes were examined for the full sample, as well as separately by mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and child gender (see Table 2). Chi square tests were performed to examine whether there were significant differences in any of the frequencies in the negative ethnic-racial attitudes measure based on mothers' nativity, grandmothers' nativity, mother-grandmother nativity, or child gender, which indicated that there were no significant differences ($p > .05$).

The 6-item negative attitudes measure demonstrated adequate reliability for the full sample of children ($KR-20 = .82$), children who completed the English version of the measure ($KR-20 = .82$), and children who completed the Spanish version of the measure ($KR-20 = .79$). Results indicated that if Item 4 (i.e., naughty) was removed from the measure, reliability would improve from .82 to .83 for the English version of the measure; however, removing this item would decrease reliability for the Spanish version from .79 to .75 (see Table 5). Removing Item 4 would not change the reliability for the full sample (i.e., it would remain .82). Given that the reliability was already acceptable for this measure, and removing Item 4 would only minimally increase reliability for the English version, but would substantially decrease reliability for the Spanish version, the item was not removed from the measure. Thus, the original 6-item negative attitudes measure was accepted as the final version.

With respect to convergent validity, for the full sample, the negative ethnic-racial attitudes measure was significantly and negatively correlated with mothers' ERI affirmation ($r = -.15, p = .04$), positively correlated with mothers' nativity ($r = .17, p = .02$), positively correlated with mother-grandmother nativity ($r = .15, p = .04$), and

negatively correlated with children's Spanish language ability ($r = -.21, p = .00$); all associations were in the hypothesized directions. However, contrary to expectations, the measure was not significantly associated with mothers' cultural socialization ($r = .07, p = .35$), grandmothers' nativity ($r = .12, p = .11$), or children's self-labeling as Mexican ($r = .02, p = .79$).

In the Spanish version, as expected, the negative ethnic-racial attitudes measure was significantly and negatively correlated with mothers' ERI affirmation ($r = -.49, p < .001$), and significantly and negatively correlated with mothers' cultural socialization ($r = -.29, p < .001$). However, contrary to expectations, the negative ethnic-racial attitudes measure was negatively correlated with mother-grandmother nativity ($r = -.13, p = .08$), positively correlated with children's Spanish language ability ($r = .15, p = .04$), and not significantly correlated with mothers' nativity ($r = -.12, p = .11$) or children's self-labeling as Mexican ($r = -.05, p = .50$). The correlation between grandmothers' nativity and negative ethnic racial attitudes could not be computed for the Spanish version of the measure because there was no variance in grandmothers' nativity for the 28 children who completed the positive attitudes measure in Spanish. Specifically, every child who completed this measure in Spanish had a foreign-born grandmother.

In the English version, as expected, the negative ethnic-racial attitudes measure positively correlated with mothers' nativity ($r = .23, p < .01$), and negatively correlated with children's Spanish language ability ($r = -.26, p < .001$). However, contrary to expectations, the measure was significantly and positively correlated with mothers' cultural socialization ($r = .17, p = .02$), and not significantly correlated with mothers' ERI affirmation ($r = .02, p = .79$), grandmothers' nativity ($r = .03, p = .69$), mother-

grandmother nativity ($r = .10, p = .18$) or children's self-labeling as Mexican ($r = .01, p = .89$). Analyses provided evidence of divergent validity, as results indicated that the negative ethnic-racial attitudes measure was not significantly correlated with children's effortful control for the full sample ($r = .03, p = .69$), the Spanish version ($r = .08, p = .28$), and the English version ($r = .01, p = .89$). Correlations for the composite measure and each item for the full sample, Spanish version, and English version are presented in Table 6.

Ethnic-Racial Centrality

The mean for the 1-item ethnic-racial centrality measure was 2.83 ($SD = 1.41$) on a 5-point scale, and the measure was normally distributed, with skewness of .13 ($SE = .22$) and kurtosis of -1.28 ($SE = .43$). Frequencies for children's selection of Mexican as being a central aspect of their identification were examined for the full sample, as well as separately by mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and child gender (see Table 7). Chi square tests were performed to examine whether there were significant differences in any of the frequencies in the negative ethnic-racial attitudes measure based on mothers' nativity, grandmothers' nativity, mother-grandmother nativity, or child gender, which indicated that there were no significant differences ($p > .05$).

With respect to convergent validity, for the full sample, the ethnic-racial centrality measure was significantly and positively correlated with children's self-labeling as Mexican ($r = .33, p < .001$), as expected. However, contrary to expectations, it was marginally negatively correlated with children's Spanish language ability ($r = -.14, p = .06$) in an unexpected direction, and the measure was not significantly associated with

mothers' cultural socialization ($r = -.06, p = .42$), mothers' ethnic-racial centrality ($r = .02, p = .79$), mothers' nativity ($r = .00, p = .99$), grandmothers' nativity ($r = .01, p = .89$), or mother-grandmother nativity ($r = .00, p = .99$).

For the Spanish version, as hypothesized, the ethnic-racial centrality measure was significantly and positively correlated with children's self-labeling as Mexican ($r = .27, p < .001$), marginally, positively correlated with mothers' ethnic-racial centrality ($r = .13, p = .08$), and negatively correlated with grandmothers' nativity ($r = -.19, p = .01$).

However, contrary to expectations, it was significantly negatively correlated with children's Spanish language ability ($r = -.35, p < .001$) in an unexpected direction, and the measure was not significantly associated with mothers' cultural socialization ($r = -.10, p = .18$), mothers' nativity ($r = -.00, p = .99$), or mother-grandmother nativity ($r = -.03, p = .69$).

Regarding the English version, as expected, the measure was significantly and positively correlated with children's self-labeling as Mexican ($r = .37, p < .001$). However, contrary to expectations, it was not significantly associated with mothers' cultural socialization ($r = -.05, p = .50$), mothers' ethnic-racial centrality ($r = -.02, p = .79$), mothers' nativity ($r = .05, p = .50$), grandmothers' nativity ($r = .07, p = .35$), mother-grandmother nativity ($r = .06, p = .42$), or children's Spanish language ability ($r = -.04, p = .59$). Analyses provided evidence of divergent validity, as results indicated that the ethnic-racial centrality measure was not significantly correlated with children's effortful control for the full sample ($r = -.06, p = .42$), the Spanish version ($r = .01, p = .89$), and the English version ($r = .09, p = .23$). Correlations for the composite measure and each item for the full sample, Spanish version, and English version are presented in Table 8.

Ethnic-Racial Knowledge

Ethnic-racial knowledge with the Mexican-only scoring method. The mean for the 8-item ethnic-racial knowledge measure with the Mexican-only scoring method was 2.98 ($SD = 1.43$) on an 8-point scale, and the measure was normally distributed, with skewness of $-.16$ ($SE = .21$) and kurtosis of $-.14$ ($SE = .42$). Frequencies for children who selected the card that only depicted something that was traditionally Mexican were examined for the full sample, as well as separately by mothers' nativity, grandmothers' nativity, mother-grandmother nativity, and child gender (see Table 9). Chi square tests were performed to examine whether there were significant differences in any of the frequencies, which indicated that there were significant differences in the frequencies for Item 6 (i.e., sport) based on mother-grandmother nativity: $X^2(2) = 6.28, p = .04$. Then, three partitioned chi square tests were conducted to identify which of the frequencies were significantly different, including (a) children with a Mexico-born mother and grandmother (i.e., frequency of 34%) compared to children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 51%), (b) children with a Mexico-born mother and grandmother (i.e., frequency of 34%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 26%), and (c) children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 51%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 26%). Results indicated that the only significant difference was that children with one U.S.-born and one Mexico-born mother and grandmother (i.e., 51%) selected the card that depicted something traditionally Mexican significantly more often than children with a U.S.-born mother and grandmother (i.e., 26%): $X^2(1) = 5.83, p = .02$.

The exploratory factor analysis on the 8 items using the ethnic-racial knowledge measure with the Mexican-only scoring method would not converge for any number of factors, indicating that this scoring method did not fit the data well. Given that an exploratory factor analysis could not be conducted, the next step of invariance testing could not be tested. Further, the 8-item ethnic-racial knowledge measure with the Mexican scoring-only method did not demonstrate good reliability for the full sample of children ($KR-20 = .20$), the children who completed the English version of the measure ($KR-20 = .26$), or the children who completed the Spanish version of the measure ($KR-20 = .07$). Results indicated that if Item 8 (i.e., Say Hi) was removed, reliability would improve for the English version of the measure from .26 to .33 (the reliability for the Spanish version of the measure would decrease to -.03) and for the full sample of children from .20 to .24 (see Table 10). In order to test whether there were possibly a few items that would ultimately have good reliability, Item 8 was removed. After removing item 8, results indicated that the measure could be further improved for the Spanish version from -.03 to .11 by removing Item 6 (i.e., sport) and for the full sample of children from .24 to .25 (the reliability for the English version of the measure would decrease from .33 to .30; see Table 11); therefore, Item 6 was removed. Without Item 6, results indicated that the measure could be further improved for the Spanish version by removing Item 3 (i.e., eat) from .11 to .23 (without Item 3 the reliability of the English version decreased from .30 to .21, and for the full sample from .25 to .21; see Table 11). Without Item 3 (i.e., eat), results indicated that the measure could be further improved for the Spanish version by removing Item 4 (i.e., flag) for the Spanish version from .23 to .26, for the English version from .21 to .22, and for the full sample from .21 to .23 (see

Table 11); therefore, Item 4 was removed. Without Item 4, results indicated that the measure could be further improved for the Spanish version by removing Item 2 (gives presents) from .26 to .40 and for the full sample from .23 to .26 (the reliability for the English version decreased from .22 to .19; see Table 11). After Item 2 was removed, the remaining measure consisted of only 3 items (see Table 11), and therefore, no more items could be removed. The resulting 3-item version still did not demonstrate good reliability for the full sample of children ($KR-20 = .26$), children who completed the English version of the measure ($KR-20 = .19$), or children who completed the Spanish version of the measure ($KR-20 = .40$). The mean for the final 3-item measure was 1.62 ($SD = .95$) on an 8-point scale, and the measure was normally distributed, with skewness of $-.11$ ($SE = .21$) and kurtosis of $-.88$ ($SE = .42$).

Regarding convergent validity, for the full sample, the ethnic-racial knowledge measure with the Mexican-only scoring method was significantly and positively correlated with mothers' involvement in Mexican culture ($r = .17, p = .02$), negatively correlated with grandmothers' nativity ($r = -.18, p = .02$), negatively correlated with mother-grandmother nativity ($r = -.15, p = .04$), and marginally negatively correlated with mothers' nativity ($r = .13, p = .08$); all consistent with hypotheses. However, contrary to expectations, the measure was not significantly correlated with mothers' cultural socialization ($r = .09, p = .23$), children's self-labeling as Mexican ($r = -.06, p = .42$), or children's Spanish language ability ($r = -.00, p = .99$).

Regarding the Spanish version, contrary to expectations, the measure was positively correlated with grandmothers' nativity ($r = .19, p = .01$) in an unexpected direction, negatively associated with children's Spanish language ability ($r = -.15, p =$

.04) in an unexpected direction, and not significantly associated with mothers' cultural socialization ($r = .00, p = .99$), mothers' involvement in Mexican culture ($r = .11, p = .14$), mothers' nativity ($r = -.01, p = .89$), mother-grandmother nativity ($r = .02, p = .79$), or children's self-labeling as Mexican ($r = .03, p = .69$). Regarding the English version, as expected, the measure was marginally, positively correlated with mothers' cultural socialization ($r = .13, p = .08$), positively correlated with mothers' involvement in Mexican culture ($r = .17, p = .02$), negatively correlated with mothers' nativity ($r = -.19, p = .01$), grandmothers' nativity ($r = -.23, p < .01$), and mother-grandmother nativity ($r = -.21, p < .01$). However, contrary to expectations, the measure was not significantly correlated with children's self-labeling as Mexican ($r = -.11, p = .14$), or children's Spanish language ability ($r = .11, p = .14$). Analyses provided evidence of divergent validity, as results indicated that the measure was not significantly correlated with children's effortful control for the full sample ($r = .03, p = .69$), the Spanish version ($r = .10, p = .18$), and the English version ($r = -.01, p = .89$). Correlations for the composite measure and each item for the full sample, Spanish version, and English version are presented in Table 12.

Ethnic-racial knowledge with the Mexican/flexible scoring method. The mean for the ethnic-racial knowledge measure with the Mexican/flexible scoring method was 4.65 ($SD = 1.51$) on an 8-point scale, and the measure was normally distributed, with skewness of .21 ($SE = .21$) and kurtosis of -.28 ($SE = .42$). Frequencies for children who selected the card that depicted something that was traditionally Mexican *or* the card that depicted something traditionally Mexican and something traditionally American were examined for the full sample, as well as separately by mothers' nativity, grandmothers'

nativity, mother-grandmother nativity, and child gender (see Table 13). Chi square tests were performed to examine whether there were significant differences in any of the frequencies, which indicated that there were significant differences among children who selected the card that depicted something that was traditionally Mexican *or* the card that depicted something traditionally Mexican and something traditionally American (i.e., were Mexican/flexible) based on grandmothers' nativity, children's gender, and mother-grandmother nativity. First, regarding grandmothers' nativity, children with U.S.-born grandmothers (i.e., frequency of 31%) were significantly more likely than children who had foreign-born grandmothers (i.e., frequency of 16%) to select the Mexican/flexible option on Item 2 (i.e., gives presents): $X^2(1) = 4.17, p = .04$; children who had U.S.-born grandmothers (i.e., frequency of 60%) were more likely to select the Mexican/flexible option than children who had foreign-born grandmothers (i.e., frequency of 40%) on Item 4 (i.e., flag): $X^2(1) = 4.39, p = .04$; and children who had U.S.-born grandmothers (i.e., frequency of 83%) were more likely to select the Mexican/flexible option than foreign-born grandmothers (i.e., frequency of 61%) on Item 5 (i.e., holiday): $X^2(1) = 6.52, p = .01$. Second, regarding children's gender, girls (i.e., frequency of 68%) were more likely to select the Mexican/flexible option than boys (i.e., frequency of 49%) on Item 3 (i.e., eat): $X^2(1) = 4.56, p = .03$. Third, regarding mother-grandmother nativity, there were significant differences on Item 5 (holiday celebrated): $X^2(2) = 9.73, p = .01$. Then, three partitioned chi square tests were conducted to identify which of the frequencies were significantly different, including (a) children with a Mexico-born mother and grandmother (i.e., frequency of 71%) compared to children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 53%), (b) children with a

Mexico-born mother and grandmother (i.e., frequency of 71%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 83%), and (c) children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 53%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 83%). Results indicated that the only significant difference was that children with a U.S.-born mother and grandmother (i.e., 83%) were more likely to select the Mexican/flexible option on Item 5 (i.e., holiday celebrated) than children with one U.S.-born and one Mexico-born mother and grandmother (i.e., 53%): $X^2(1) = 9.38, p < .01$.

The exploratory factor analysis on the 8-item ethnic-racial knowledge measure with the Mexican/Flexible scoring method indicated that four factors had eigenvalues greater than 1 (i.e., 1.91 for Factor 1, 1.53 for Factor 2, 1.43 for Factor 3, and 1.07 for Factor 4); therefore, a 1- 2- 3- and 4-factor solution were considered. Examination of the scree plot did not support a clear solution. In the 1-factor solution, only 3 items loaded significantly ($p < .05$) and above .40 on the factor (see Table 14). In the 2-factor solution, 1 item loaded significantly ($p < .05$) and above .40 on one factor and no items loaded significantly and above .40 on the second factor. Given that a one-item factor is not appropriate, the 2-factor solution was not further considered. In the 3-factor solution, 2 items loaded significantly ($p < .05$) and above a .40 on Factor 1, 1 item loaded significantly ($p < .05$) and above a .40 on Factor 2, and 2 items loaded significantly ($p < .05$) and above .40 on Factor 3. Again, given that no factor can have only one item (i.e., Factor 2), the 3-factor solution was not further considered. Thus, the 1-factor solution was the only potential option that was further tested. Given that only 3 items in the 1-factor solution loaded significantly ($p < .05$) and above .40 on the factor (i.e., Items 2, 5,

and 8), all other items were removed and the exploratory factor analysis was conducted again with only these 3 items. With only three items, results from this second exploratory factor analysis indicated that there was one eigenvalue greater than 1 (i.e., 1.77), and examination of the scree plot supported a 1-factor solution. All items loaded significantly ($p < .05$) and above .40 on the factor. Therefore, a 1-factor solution with 3 items was accepted as the best solution for the ethnic-racial knowledge measure with the Mexican/Flexible scoring method.

Next, in attempting to test configural invariance across language versions of the measure, none of the three items loaded significantly ($p > .05$) or above .40 on the factor for children who completed their interview in Spanish ($n = 132$). Thus, I could not proceed with language measurement invariance testing for this measure because the 1-factor solution was not consistent in the Spanish and English versions of the measure. In addition, the 3-item measure using the Mexican/flexible scoring method did not demonstrate good reliability for the full sample of children ($KR-20 = .44$), children who completed the English version of the measure ($KR-20 = .48$), or children who completed the Spanish version of the measure ($KR-20 = .35$; see Table 15). Additionally, given that the measure only consisted of 3 items, no additional items could be removed from the measure. The mean for the final 3-item measure was 1.40 ($SD = .95$) on an 8-point scale, and the measure was normally distributed, with skewness of .15 ($SE = .21$) and kurtosis of $-.86$ ($SE = .42$).

Regarding convergent validity, for the full sample, the ethnic-racial knowledge measure with the Mexican/flexible scoring method was significantly and positively correlated with children's self-labeling as Mexican ($r = .21, p < .01$), as expected.

However, contrary to expectations, the measure was positively associated with grandmothers' nativity ($r = .32, p < .001$) in the unexpected direction, and positively associated with mother-grandmother nativity ($r = .15, p = .04$) in the unexpected direction, and not significantly associated with mothers' cultural socialization ($r = .05, p = .50$), mothers' involvement in Mexican culture ($r = -.08, p = .28$), mothers' nativity ($r = -.04, p = .59$), or children's Spanish language ability ($r = -.06, p = .42$).

For the Spanish version, the measure was significantly and positively correlated with children's self-labeling as Mexican ($r = .18, p = .02$). However, contrary to expectations, the measure was marginally, positively associated with mothers' nativity ($r = .14, p = .06$) in the unexpected direction, grandmothers' nativity ($r = .34, p < .001$) in the unexpected direction, positively associated with mother-grandmother nativity ($r = .17, p = .02$) in the unexpected direction, negatively associated with children's Spanish language ability ($r = -.29, p < .001$) in the unexpected direction, and not significantly associated with mothers' cultural socialization ($r = .05, p = .50$) or mothers' involvement in Mexican culture ($r = .04, p = .59$).

For the English version, the measure was significantly and positively correlated with children's self-labeling as Mexican ($r = .23, p < .01$). However, contrary to expectations, the measure was negatively associated with mothers' involvement in Mexican culture ($r = -.16, p = .03$) in the unexpected direction, positively associated with grandmothers' nativity ($r = .42, p < .001$) in the unexpected direction, positively associated with mother-grandmother nativity ($r = .23, p < .01$) in the unexpected direction, and not significantly associated with mothers' cultural socialization ($r = .05, p = .50$), mothers' nativity ($r = -.10, p = .18$), or children's Spanish language ability ($r = -$

.10, $p = .18$). Analyses provided evidence of divergent validity for the full sample, as results indicated that the measure was not significantly correlated with children's effortful control for the full sample ($r = .10, p = .18$); however, the measure was significantly correlated with effortful control for the Spanish version ($r = -.24, p < .01$), and the English version ($r = .26, p < .001$). Correlations for the composite measure and each item for the full sample, Spanish version, and English version are presented in Table 16.

Ethnic-racial knowledge measure with the bicultural scoring method. The mean for the 8-item ethnic-racial knowledge measure with the bicultural scoring method was 1.67 ($SD = 1.94$) on an 8-point scale, and the measure was normally distributed, with skewness of 1.66 ($SE = .21$) and kurtosis of 2.79 ($SE = .42$). Frequencies for children who selected the card that depicted both something traditionally Mexican and something traditionally American were examined for the full sample, as well as separately by parental nativity status and child gender (see Table 17). Chi square tests were performed to examine whether there were significant differences in any of the frequencies, which indicated that there were significant differences among children who selected the card that depicted both traditionally Mexican and traditionally American objects (i.e., were bicultural) based on grandmothers' nativity and mother-grandmother nativity. First, regarding grandmothers' nativity, children with U.S.-born grandmothers (i.e., frequency of 26%) were significantly more likely to select the bicultural option than children who had foreign-born grandmothers (i.e., frequency of 10%) on Item 4 (i.e., flag): $X^2(1) = 5.84, p = .02$; children who had U.S.-born grandmothers (i.e., frequency of 36%) were more likely to select the bicultural option than children who had foreign-born

grandmothers (i.e., frequency of 10%) on Item 5 (i.e., holiday): $X^2(1) = 12.73, p < .001$; children who had U.S.-born grandmothers (i.e., frequency of 33%) were more likely to select the bicultural option than children who had foreign-born grandmothers (i.e., frequency of 17%) on Item 7 (i.e., dance): $X^2(1) = 4.64, p = .03$; and children who had U.S.-born grandmothers (i.e., frequency of 38%) were more likely to select the bicultural option than children who had foreign-born grandmothers (i.e., frequency of 17%) on Item 8 (i.e., say Hi): $X^2(1) = 7.32, p = .01$.

Second, regarding mother-grandmother nativity, there were significant differences on Item 5 (i.e., holiday): $X^2(2) = 12.97, p < .01$ and Item 8 (i.e., Say hi): $X^2(2) = 11.65, p < .01$. Then, three partitioned chi square tests were conducted for Item 5 to identify which of the frequencies were significantly different, including (a) children with a Mexico-born mother and grandmother (i.e., frequency of 12%) compared to children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%), (b) children with a Mexico-born mother and grandmother (i.e., frequency of 12%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 36%), and (c) children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 36%). Results indicated that two comparisons were significant for Item 5: children with a U.S.-born mother and grandmother (i.e., 36%) were more likely to select the bicultural option on Item 5 than children with one U.S.-born and a Mexico-born mother and grandmother (i.e., frequency of 12%): $X^2(1) = 6.28, p = .01$; and children with a U.S.-born mother and grandmother (i.e., frequency of 36%) were more likely to

select the bicultural option on Item 5 than children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%): $X^2(1) = 10.39, p < .01$.

Third, three partitioned chi square tests were conducted for Item 8 (i.e., Say hi) to identify which of the frequencies were significantly different, including (a) children with a Mexico-born mother and grandmother (i.e., frequency of 27%) compared to children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%), (b) children with a Mexico-born mother and grandmother (i.e., frequency of 27%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 38%), and (c) children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%) compared to children with a U.S.-born mother and grandmother (i.e., frequency of 38%). Results indicated that two comparisons were significant for Item 8: children with a Mexico-born mother and grandmother (i.e., frequency of 27%) were more likely to select the bicultural option on Item 8 than children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%): $X^2(1) = 5.60, p = .02$; and children with a U.S.-born mother and grandmother (i.e., frequency of 38%) were more likely to select the bicultural option on Item 8 than children with one U.S.-born and one Mexico-born mother and grandmother (i.e., frequency of 8%): $X^2(1) = 11.82, p < .01$.

The exploratory factor analysis on the 8 items using the ethnic-racial bicultural scoring for the knowledge measure indicated that there was one eigenvalue greater than 1, which was 4.29, and examination of the scree plot supported a 1-factor solution. All items loaded significantly ($p < .05$) and above a .40 on the factor, therefore, 1-factor solution was accepted for the measure (see Table 18).

Next, factorial invariance across language versions of the measure was tested. Configural invariance indicated that all items loaded above .40 across both language versions of the measure. The chi-square difference test examining metric invariance was not significant [$\Delta \chi^2 (\Delta df) = 9.36 (7), p = .23$], and the chi-square difference test examining scalar invariance was not significant [$\Delta \chi^2 (\Delta df) = 2.85 (7), p = .90$], suggesting that measurement properties did not vary based on language of the 8 items using the ethnic-racial bicultural scoring for the knowledge measure.

Finally, the 8-item measure demonstrated good reliability for the full sample of children (KR-20 = .75), the children who completed the English version of the measure (KR-20 = .75), and for the children who completed the Spanish version of the measure (KR-20 = .74). Results also indicated that 8 items in the measure were all positively correlated, and that there were no items that could be removed to improve fit for the full sample, Spanish version of the measure, or English version of the measure (see Table 19).

Regarding convergent validity, for the full sample, the ethnic-racial knowledge measure with the bicultural scoring method was significantly and positively correlated with children's self-labeling as Mexican ($r = .20, p < .01$), negatively correlated with mothers' involvement in Mexican culture ($r = -.16, p = .03$), positively correlated with grandmothers' nativity ($r = .29, p < .001$), and positively correlated with mother-grandmother nativity ($r = .17, p = .02$); all in the expected directions. However, contrary to expectations, the measure was not significantly correlated with mothers' cultural socialization ($r = -.00, p = .99$), mothers' nativity ($r = .02, p = .79$), or children's Spanish language ability ($r = -.06, p = .42$).

For the Spanish version of the measure, as expected the measure was positively associated with mothers' cultural socialization ($r = .16, p = .03$). However, contrary to expectations, the measure was positively correlated with mothers' involvement in Mexican culture ($r = .18, p = .02$) in the unexpected direction, marginally, negatively correlated with children's Spanish language ability ($r = -.13, p = .08$) in the unexpected direction, and not significantly associated with mothers' nativity ($r = .02, p = .79$), grandmothers' nativity ($r = .11, p = .14$), mother-grandmother nativity ($r = .04, p = .59$), or children's self-labeling as Mexican ($r = .06, p = .42$).

For the English version of the measure, as expected the measure was significantly and negatively correlated with mothers' involvement in Mexican culture ($r = -.21, p < .01$), and positively associated with grandmothers' nativity ($r = .40, p < .001$), mother-grandmother nativity ($r = .26, p < .001$), and children's self-labeling as Mexican ($r = .26, p < .001$). However, contrary to expectations, the measure was not significantly correlated with mothers' cultural socialization ($r = -.07, p = .35$), mothers' nativity ($r = -.01, p = .89$), or children's Spanish language ability ($r = -.07, p = .35$). Analyses provided evidence of divergent validity for the full sample and English version, as results indicated that the ethnic-racial knowledge measure with the bicultural scoring method was not significantly correlated with children's effortful control for the full sample ($r = -.06, p = .42$) or for the English version ($r = .04, p = .59$); however, effortful control was significantly correlated with the Spanish version ($r = -.26, p < .001$). Correlations for the composite measure and each item for the full sample, Spanish version, and English version are presented in Table 20.

Finally, after all measures were finalized, a correlation table was created to examine bivariate correlations among all final child ethnic-racial identification measures for the full sample, Spanish version, and English version (see Table 21). Results for the full sample indicated that there was a negative correlation between the positive attitudes measure and the negative attitudes measure ($r = -.21, p < .01$); and a marginally negative correlation between the positive attitudes measure and centrality measure ($r = -.13, p = .08$). Further, there was a negative correlation between the knowledge measure with the bicultural scoring method and the knowledge measure with the Mexican-only scoring method ($r = -.52, p < .001$); and a positive correlation between the knowledge measure with the bicultural scoring method and the knowledge measure with the Mexican/flexible scoring method ($r = .54, p < .001$).

Results for the Spanish version indicated that there was a positive correlation between the positive attitudes measure and the negative attitudes measure ($r = .26, p < .001$); and a positive correlation between the positive attitudes measure and knowledge measure with the Mexican-only scoring method ($r = .17, p = .02$). Further, there was a negative correlation between the negative attitudes measure and the knowledge measure with the Mexican/Flexible scoring method ($r = -.16, p = .03$); and a negative correlation between the negative attitudes measure and the knowledge measure with the bicultural scoring method ($r = -.15, p = .04$). Finally, there was a marginally significant negative correlation between the knowledge measure with the bicultural scoring method and the centrality measure ($r = -.13, p = .08$); a negative correlation between the knowledge measure with the bicultural scoring method and the knowledge measure with the Mexican-only scoring method ($r = -.44, p < .001$); and a positive correlation between the

knowledge measure with the bicultural scoring method and the knowledge measure with the Mexican/flexible scoring method ($r = .55, p < .001$).

Results for the English version indicated that there was a negative correlation between the positive attitudes measure and the negative attitudes measure ($r = -.36, p < .001$); a marginal, negative correlation between the positive attitudes measure and centrality measure ($r = -.14, p = .06$); and a marginal, positive correlation between the positive attitudes measure and the knowledge measure with the Mexican/flexible scoring method ($r = .14, p = .06$). In addition, there was a marginal, negative correlation between the negative attitudes measure and the knowledge measure with the Mexican-only scoring method ($r = -.13, p = .08$). Further, there was a marginal, negative correlation between the centrality measure and the knowledge measure with the Mexican-only scoring method ($r = -.13, p = .08$); and a marginal, positive correlation between the centrality measure and the knowledge measure with the bicultural scoring method. Finally, there was a negative correlation between the knowledge measure with the bicultural scoring method and the knowledge measure with the Mexican-only scoring method ($r = -.56, p < .001$); and a positive correlation between the knowledge measure with the bicultural scoring method and the knowledge measure with the Mexican/flexible scoring method ($r = .54, p < .001$).

Discussion

Although children as young as 4 years of age have been found to be aware of ethnicity and race (Van Ausdale & Feagin, 2001), and use ethnicity-race as a meaningful category to understand others (e.g., Bennett & Sani, 2003; Lam & Leman, 2009; Waxman, 2010), prior work that has examined ethnic-racial identification has primarily

focused on school-age and older children. It is especially important to focus on young children's ethnic-racial identification given that scholars have noted that these processes during childhood are instrumental to ERI formation during adolescence (Umaña-Taylor et al., 2014), which is linked with youths' positive adjustment. Thus, grounded in scholars' conceptualizations of ethnic-racial identification (i.e., Bernal et al., 1990; Umaña-Taylor et al., 2014), the first goal of the present study was to provide the field with measures in Spanish and English that are developmentally appropriate for assessing young children's ethnic-racial attitudes, ethnic-racial centrality, and ethnic-racial knowledge. The second goal was to test the psychometric properties of each of the three measures. Overall, our findings provided limited initial support for the construct validity and reliability of the measures; importantly, there were many differences in the descriptives and measurement properties based on the language in which children completed the measures. Below, findings are reviewed for each of the three measures of ethnic-racial identification, and limitations and future directions are presented.

Ethnic-Racial Attitudes

Ethnic-racial attitudes, which have been posited to be an important aspect of children's ethnic-racial identification (Bernal et al., 1990), have been commonly assessed with the PRAM II (Williams et al., 1975). The present study built on Kowalski's (2003) and Stokes-Guinan's (2011) changes to the methodology and scoring of the PRAM II (Williams et al., 1975) by allowing Mexican children to select their own representation of a Mexican doll, translating the measure into Spanish, and testing the psychometric properties of both versions of the measure. First, consistent with Stokes-Guinan's (2011) contention that endorsing a positive statement is not the same as not endorsing a negative

statement, our findings supported a two-factor solution for positive and negative attitudes. Together, these findings suggest that indeed future work should use separate subscales to assess children's positive attitudes and negative attitudes about their ethnicity-race.

Findings also indicated that the 6-item negative attitudes measure reliably assessed the construct in Spanish and English. However, the 6-item positive attitudes measure only demonstrated adequate reliability for the children who completed the measure in English. Item reduction was completed in an attempt to increase the reliability to acceptable for children who completed the measure in Spanish and for the full sample. Even though removing Item 4 (i.e., clean) and Item 1 (i.e., smart) slightly improved reliability for the Spanish version, and full sample, the final 4-item reduced positive attitudes measure still did not demonstrate acceptable reliability. Thus, our findings suggest that the 6-item positive attitudes measure is acceptable in studies that include only children who complete the measure in English. However, the Spanish version requires further investigation. Although we followed recommendations for translating items into Spanish (Knight et al., 2009), the translators were adults, and results suggest that some of the items may not have been developmentally appropriate in Spanish for 5-year-old children. Future work should test whether there are additional positive words that are more developmentally appropriate in Spanish that can be added to the measure to improve reliability, given that the 6 items we translated from Kowalski's revised PRAM-II did not demonstrate acceptable reliability in Spanish.

Our findings provided some initial support for the construct validity of positive and negative attitudes. First, divergent validity was supported in the current study for

positive attitudes and negative attitudes across both language versions of the measure because neither measure was associated with effortful control. However, regarding convergent validity, findings were different across the Spanish and English versions. For example, consistent with theoretical expectations (Knight, et al., 1993), with the pooled sample and with the sample of children who completed the measure in English, the positive ethnic-racial attitudes measure was positively associated with children's self-labeling as Mexican and children's Spanish language ability; and with the Spanish version, the measure was positively associated with mothers' cultural socialization, mothers' ERI affirmation, children's Spanish language ability, and negatively correlated with mothers' nativity and mother-grandmother nativity. Similar findings emerged for the negative attitudes measure, and varied across language versions. It is possible that the small sample size limited our ability to detect significant correlations between attitudes and the other constructs that we hypothesized. Indeed, the correlation between grandmothers' nativity and children's attitudes could not be computed for the Spanish version because every child who completed the measure in Spanish had a foreign-born grandmother. Future work with larger samples of children is needed to examine whether additional associations emerge that were expected in the present study, but were not significant. If future work with larger samples indicates that the expected associations emerge, scholars can have more confidence in the validity of this measure.

Although planned, invariance testing was unable to be conducted for the negative and positive attitudes measures because the sample size for the Spanish version was too small. In addition to future work testing validity of the measures with larger samples, it will also be necessary to have larger samples of children so that invariance testing can be

completed. Given that many Latino children in the U.S. are raised in households that speak mainly Spanish or both Spanish and English (Krogstead & Gonzalez-Barrera, 2015), it is critical to have two versions of the attitudes measure that can be administered by researchers in Spanish and English equivalently.

Ethnic-Racial Centrality

Ethnic-racial centrality is proposed to form during childhood (e.g., Umaña-Taylor et al., 2014), however, the majority of prior work has focused on this construct during the developmental period of adolescence (e.g., Okeke et al., 2009; Rivas-Drake, 2011). Thus, the current study used an identity ranking task from one of the few studies that have examined this construct among school age children (Turner & Brown, 2007).

Specifically, we adapted Turner and Brown's (2007) task to be more developmentally appropriate for young children by showing children a blindfolded puppet at the beginning of the task and explaining that they would be describing themselves to the puppet who could not see them. In addition, we also adapted the task by only showing children social categories (i.e., boy/girl, Mexican, son/daughter, friend, and five-year-old). Using both social (e.g., gender, ethnicity-race, age), and preference (e.g., pets, sports, computers) options, Turner and Brown (2007) found that children rated ethnicity-race as least central to them out of the 6 options. However, results from the present study, in which only social categories were used, indicated that there was a lot of variability in children's ethnic-racial centrality. For example, 16% of children indicated that being Mexican was the most central out of the 5 options, while 24% indicated that being Mexican was the least central. Thus, findings suggest that there is an effect of category type on children's

responses, such that there is more variability in children's responses when only social categories are used.

This finding moves the field forward by demonstrating that when interested in assessing children's ethnic-racial centrality, a social construct, scholars should use assessments that only include social categories. Additionally, this finding provides initial support for scholars' contention that ethnic-racial centrality begins to form during childhood (e.g., Umaña-Taylor et al., 2014), by demonstrating that even as early as 5 years of age, some children are already beginning to rate ethnicity-race as an important aspect of their self-concept. However, given that other children in the study rated ethnicity-race as less central, it will be important for future work to investigate predictors that may inform this variability.

Another aspect of the present study involved testing the validity of the ethnic-racial centrality measure, but findings only provided limited support of construct validity. Divergent validity was supported across both language versions of the measure because ethnic-racial centrality was not associated with effortful control. However, regarding convergent validity, the only construct that was consistent with expectations across the pooled sample, children who completed the measure in English, and children who completed the measure in Spanish was children's self-labeling as Mexican. Grandmothers' nativity and mothers' ethnic-racial centrality were the only other constructs that were associated with children's ethnic-racial centrality in the expected direction, but these associations were only significant among children who completed the measure in Spanish. The other constructs (i.e., children's Spanish language ability, mothers' cultural socialization, mothers' nativity, and mother-grandmother nativity) were

either associated with mothers' centrality in an unexpected direction or not significantly associated with children's ethnic-racial centrality.

Although little work has assessed ethnic-racial centrality among children, expectations regarding validity were based on theoretical expectations (i.e., Knight et al., 1993) and prior empirical work with other aspects of ethnic-racial identification, such as ethnic-racial attitudes (Bernal et al., 1990; Rivas-Drake et al., 2009). However, findings suggest that ethnic-racial centrality was not associated with the same constructs as other components of children's ethnic-racial identification because it was only associated with children's self-labeling. It is possible that during this developmental period, children are learning to self-label, and ethnic-racial centrality may emerge as children become older. In other words, ethnicity and race may not become central to the majority of children until after they self-label. Indeed, in related gender literature, scholars have posited that after children self-label their gender, they develop more detailed schemas that contain scripts and information their gender, which affects their feelings about their gender (Martin, 1991; Martin & Halverson, 1981). It is possible that among an older sample of 6 and 7 year old children, in which more children would self-label their ethnicity-race, ethnic-racial centrality may become a more important construct to assess that may be related with expected constructs. It will be important for future studies to test this notion empirically by assessing children's ethnic-racial centrality among 6 and 7 year old children in both Spanish and English.

Ethnic-Racial Knowledge

Ethnic-racial knowledge, which involves understanding that certain values, behaviors, and customs are a part of children's ethnic-racial group, is posited to be an

important aspect of ethnic-racial identification (Bernal et al., 1990). Prior work (e.g., Bernal et al., 1990; Knight et al., 1993) assessed ethnic-racial knowledge by asking children to report the likelihood that particular events (e.g., eating menudo) would occur in a hypothetical Mexican town. However, given that children who were born, raised, and/or living in the U.S. are also involved in mainstream U.S. American culture, children's knowledge of Mexican culture may include both traditionally Mexican and traditionally American components. Thus, the present study adapted the measure by not only including a response option that depicted something traditionally Mexican and a response option that depicted something traditionally American, but we also included a third response option that depicted both. Further, given that this was the first time that the measure was used, we created and tested the psychometric properties of three different scoring methods (i.e., Mexican-only, Mexican/Flexible, and Bicultural). The findings varied based on which scoring method was used.

First, using the Mexican-only scoring method (i.e., children received a score only when the traditionally Mexican card was selected), the exploratory factor analysis and measurement invariance could not be conducted, indicating that that this scoring method did not work well in the present study. Initial reliability for the 8-item measure was poor, and even after reducing the measure to three items that were the most reliable, reliability was still unacceptable. Further, although some initial support for construct validity was provided because ethnic-racial knowledge was associated with expected constructs for the full sample (i.e., mothers' involvement in Mexican culture, grandmothers' nativity, mother-grandmother nativity, and mothers' nativity) and the children who completed the English version (i.e., mothers' cultural socialization, mothers' involvement in Mexican

culture, mothers' nativity, grandmothers' nativity, and mother-grandmother nativity), support for construct validity was not found for the Spanish version because all expected constructs were associated with ethnic-racial knowledge in unexpected directions or were insignificant. Although this scoring method did not fit the data well in the present study, it is possible that our findings emerged due to the small number of children who completed the Spanish version of the measure. It will be important for future studies to test whether different findings emerge for the measure using the Mexican-only scoring method among larger samples of children, particularly children who complete the measure in Spanish.

Additionally, the Mexican-only scoring method (and also the Mexican-flexible scoring method that was also problematic, as discussed below) may have resulted in different findings if the both card had not been used. Specifically, our goal in the present study was to revise the ethnic-racial knowledge measure to capture Mexican-origin children's lived experiences in the U.S. by including a card that depicted both traditionally Mexican and traditionally American images (i.e., the both card), however, this card may have created confusion for children. It was our expectation that children would select the both card to indicate that their ideas about Mexican culture involved aspects of traditionally Mexican and traditionally American culture. However, it is possible that children did not understand the task and chose the both card to indicate a response of Mexican-only or American-only because the card featured both pictures. In other words, the findings could have been due to the developmental period (in which 5-year-old children in general are still developing their ethnic-racial knowledge), or due to measurement issues with the both card. In order to disentangle this possibility, future

work could include a sample of 5 to 7 year old children, but provide half of the children with only the Mexican card and the American card (i.e., exclude the both card), and provide the other half of the sample with all 3 cards; if children select the third (both) card, that card could be removed, and children could be instructed to indicate which of the *remaining* two cards they would choose (i.e., Mexican card or American card) if they had to choose one. Children could be told, “Okay, but if you can only pick one of these two cards, which of these two choices do you think Mexican children would like the most” or “...which of these two choices do you think Mexican children would be most likely to do at birthday parties?” Then, researchers could examine whether younger children understand the task when only two response options are used, and whether more support for construct validity and reliability are provided for the measure using the Mexican-only scoring method among older children.

As noted, similar to results regarding the Mexican-only scoring method, problematic findings emerged for the Mexican/flexible scoring method (i.e., children received a score when the traditionally Mexican card or the both card was selected). Results from the exploratory factor analysis supported a one-factor solution, but only 3 items fit well on the factor. Additionally, in attempting to test measurement invariance, none of the three items loaded significantly on the factor for children who completed their interview in Spanish, therefore, measurement invariance testing was unable to be completed. Further, reliability was unacceptable for the full sample of children, children who completed the English version, and children who completed the Spanish version of the measure. Finally, divergent validity was unsupported for the English and Spanish versions, and minimal evidence was provided for convergent validity because across the

full sample, the English version, and the Spanish version, the ethnic-racial knowledge measure was only associated with one hypothesized construct, which was children's self-labeling as Mexican. It is possible that this scoring system is too complicated for 5-year-old children, and only children who have developed the ability to self-label as Mexican select the Mexican or both card. Similar to the previously noted recommendation for the Mexican-only scoring method, future work needs to test this notion by testing this measure with the Mexican/flexible scoring method among older children who are all able to self-label.

Finally, measurement properties were tested for the bicultural scoring method (i.e., children received a score only when the both card that depicted something traditionally Mexican and traditionally American was selected). Findings indicated that an 8-item version of the measure reliably assessed the construct of ethnic-racial knowledge. In addition, results provided initial empirical support for construct validity. In particular, consistent with theoretical expectations (Knight, et al., 1993), ethnic-racial knowledge with the bicultural scoring method was associated with constructs in the expected directions for the full sample (i.e., children's self-labeling as Mexican, mothers' involvement in Mexican culture, grandmothers' nativity, and mother-grandmother nativity), the Spanish version of the measure (mothers' cultural socialization), and the English version of the measure (mothers' involvement in Mexican culture, grandmothers' nativity, mother-grandmother nativity, and children's self-labeling as Mexican). Additionally, in support of divergent validity, the measure was not significantly associated with children's effortful control. Further, regarding measurement invariance, results indicated that the ethnic-racial knowledge measure using the bicultural scoring

method was statistically equivalent in Spanish and English, suggesting that the measure can be administered to linguistically diverse samples of 5-year-old children.

Collectively, findings for the ethnic-racial knowledge measure in the present study only supported the bicultural scoring method, and not the Mexican-only or Mexican/flexible scoring methods. It is important to note, however, that although the bicultural scoring method demonstrated acceptable reliability and validity, the items using this scoring method were the least endorsed, compared to the items that were endorsed by children when the other two scoring methods were used (i.e., a mean of 1.67 for bicultural scoring compared to a mean of 2.98 for Mexican-only scoring and 4.65 for Mexican/flexible scoring). Further, using the bicultural scoring method, the item that was endorsed the most was still only endorsed by 27% of children in the sample, but using the Mexican/flexible and Mexican-only scoring methods, the most highly endorsed items were endorsed by 62% and 85% of children, respectively. Together, this finding coupled with the convergent validity results (i.e., children who scored higher on the bicultural scoring method tended to have grandmothers and mothers who were U.S.-born and mothers who were less involved in Mexican culture), suggest that the bicultural scoring method is useful for assessing a meaningful, yet small, group of children who tend to think of their culture in strictly bicultural ways (i.e., always involving both Mexican and American aspects). In sum, the present study provided useful preliminary information regarding the ethnic-racial knowledge measure among 5-year-old Mexican origin children, but findings highlight that the measure requires future research.

Limitations and Future Directions

The present study has various limitations to acknowledge. First, all three adapted measures were tested among children born to adolescent mothers. Given increased challenges and stress within families, children born to adolescent mothers have demonstrated increased risk for developmental delays (Lehr et al., 2015). It is possible that increased validity and reliability of the measures may be provided by a sample of 5-year-old children who are not at risk for increased developmental delays. Second, measures were tested only among Mexican-origin families. The psychometric properties of the measures will need to be examined with members of other ethnic-racial groups, including Latino populations from other national origin groups, to determine generalizability. Further, the present study only assessed the three measures at one time point when children were 5 years of age, but it will be important for longitudinal work to be conducted with children to assess whether the measures are equivalent across time. Finally, given the relatively small sample size in the present study, the exploratory factor analysis and invariance testing across language versions (i.e., a multigroup confirmatory factor analysis that included language as the grouping variables) was conducted on only one sample for the ethnic-racial knowledge measure with the bicultural scoring system. Therefore, future work needs to conduct confirmatory factor analyses using independent samples to examine whether a similar factor structure exists with different samples of children.

Despite these limitations, the present study makes a valuable contribution to the field. First, although findings from prior research indicated that children as young as 4 years of age are aware of ethnicity-race (Van Ausdale & Feagin, 2001), existing work on

ethnic-racial identification has tended to focus on older children. The current study provided initial data on the potential feasibility of using the three adapted assessment tools among children as young as 5 years of age. Importantly, all three measures involve direct assessment with children, and are therefore not subject to the bias of parent report. During this age, children are transitioning to school and spending more time outside of the family context, therefore, these assessment tools will be particularly beneficial for scholars to examine the links between children's ethnic-racial identification and adjustment.

Another strength of the present study was that it provided important descriptive data for three components of 5-year-old Mexican-origin children's ethnic-racial identification, and highlighted numerous directions for future research. Although limited in our ability to test measurement equivalence across the Spanish and English versions of the measures, our findings suggest that there are important differences between the language versions that require future testing. Testing language invariance of the measures in both Spanish and English in future work will enable scholars to administer these measures equivalently in both languages, which is particularly important given that Latinos in the U.S. are prevalent and rapidly growing, and often are raised in bilingual households. Overall, given the paucity of studies that have examined ethnic-racial identification among young children, the results from the proposed study have the potential to stimulate growth of knowledge in this area.

CHAPTER 3

EXAMINATION OF PROCESSES THAT INFORM MEXICAN-ORIGIN CHILDREN'S ETHNIC-RACIAL IDENTIFICATION OVER TIME

An important and normative developmental process that facilitates positive outcomes for ethnic-racial minority youth is their understanding of their ethnicity-race. In particular, ethnic-racial³ *identification* captures ethnic-racial labeling (i.e., individuals' ability to correctly label their own and others' ethnicity-race) and identifications (e.g., ethnic-racial knowledge and ethnic-racial constancy) during childhood, and ethnic-racial *identity (ERI)* refers to the multidimensional, psychological construct that reflects beliefs and attitudes that individuals have regarding their ethnic-racial group membership subsequent to childhood (Umaña-Taylor et al., 2014). Given that individuals experience developmental changes (e.g., puberty, cognitive advancement, and societal expectations) during adolescence that encourage the development of an identity (Roland, 1994), a great deal of research has focused on ERI formation during this developmental period. Thus, prior work has found that ERI formation has implications for numerous indices of ethnic-racial minority adolescents' adjustment, such as self-esteem (Schwartz, Zamboanga, & Jarvis, 2007), positive attitudes toward education (Fulgini, Witkow, & Garcia, 2005), positive attitudes toward peers from other ethnic-racial backgrounds (Phinney, Jacoby, & Silva, 2007), and satisfaction with life (Ghavami, Fingerhut, Peplau, Grant, & Wittig, 2011), to name a few. Although scholars have suggested that ethnic-racial identification

³*Ethnicity* refers to individuals' shared cultural heritage (e.g., customs, language) that are passed down through generations, and *race* refers to the socially constructed grouping of individuals based on phenotypic attributes (e.g., skin tone, hair texture; Umaña-Taylor, in press). Given that individuals' experiences in forming an identity often include both ethnic features of heritage and racialized experiences in a sociohistorical context that are often not disentangled in individuals' lived experiences, scholars (Umaña-Taylor et al., 2014) have recommended the terms *ethnic-racial identification* and *ethnic-racial identity* to more accurately capture these processes during childhood and adolescence, respectively.

during childhood primes and exposes children to ethnicity-race, and is instrumental 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. Prior work has suggested that children with adolescent mothers are at increased risk for higher 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 (Martin et al., 2011). Further, Mexican-origin 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 makes it especially important to examine ethnic-racial *identification*, a process that promotes positive outcomes, among Mexican-origin children. Thus, the goal of the present study was to examine processes underlying ethnic-racial identification among Mexican-origin 5-year-old children born to adolescent mothers.

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

García Coll and colleagues' (1996) integrative model for the study of developmental competencies in ethnic-racial minority children is a useful guiding framework for understanding factors that may underlie children's ethnic-racial

identification. García Coll et al. (1996) propose that in response to social stratification experiences (e.g., segregation, discrimination, differential access to healthcare), 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 increased involvement in Mexican culture (Knight, Cota, & Bernal, 1993), increased ethnic-racial centrality (i.e., ethnicity-race serving as a central aspect of their self-concept; Sellers et al., 1998), and increased ERI affirmation (i.e., positive feelings toward their ethnicity-race; Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). The integrative model further proposes that mothers' adaptive culture is positively associated with their cultural socialization behaviors with children (i.e., teaching children about their culture; Hughes et al., 2006), which is, in turn, positively associated with children's increased developmental competencies (e.g., ethnic-racial identification).

To my knowledge, only Knight, Cota, and Bernal (1993) have tested this full pathway from parents' adaptive cultural characteristics to cultural socialization, and then to children's ethnic-racial identification. Bernal, Knight, Garza, Ocampo, and Cota (1990) posited that there are five components involved in Mexican children's ethnic-racial identification that include *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

group). Using three of these aspects to measure ethnic-racial identification (i.e., ethnic self-labeling, ethnic knowledge, and ethnic preferences) among Mexican-origin children 9- to 12- years of age, they found that mothers' greater ethnic knowledge and ethnic preferences were associated with mothers' greater teaching about Mexican culture, which was, in turn, associated with children's greater ethnic-racial identification (Knight, Cota, and Bernal, 1993).

The present study aimed to build on this prior research by (a) moving beyond cross-sectional work by assessing the proposed pathway across three years, (b) testing associations among young 5-year-old children, and (c) assessing three aspects involved in Bernal and colleagues' (1990) conceptualization of ethnic-racial identification (i.e., ethnic-racial preferences or attitudes, ethnic-racial self-labeling as Mexican, and ethnic-racial knowledge), as well as a measure of children's ethnic-racial centrality (i.e., the centrality of being Mexican to children's self-concept; Turner & Brown, 2007; see Figure 1 for a conceptual model). Given that no studies, other than Knight, Cota, and Bernal (1993), have assessed the proposed process from parents' adaptive cultural characteristics to young children's ethnic-racial identification via parents' cultural socialization efforts, below I review prior work that has examined *parts* of this proposed process and present hypotheses for the current study based on theory and this limited prior research.

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 prestigious jobs (Hughes & Chen, 1997), higher income and younger age (Csizmadia, Rollins, & Kaneakua, 2014), and higher education (McHale et al., 2006). Although there is a dearth of research on how Mexican-origin parents' *cultural* characteristics inform cultural socialization with their young children, available work with parents of older children and from diverse ethnic-racial backgrounds (e.g., African American) provides support for this association. For example, Knight and colleagues (2010) found that Mexican-origin mothers' and fathers' overall Mexican values (i.e., familism, respect, religion, and traditional gender role attitudes) were positively correlated with their cultural socialization of their fifth-grade early adolescents. Similarly, Romero, Cuéllar, and Roberts (2000) found that Mexican-origin parents' involvement in Mexican culture was positively associated with greater cultural socialization efforts with children (ages of children were not specified).

Although more work with Mexican parents is needed, a small body of research with other groups of Latino or African American parents supports links between parents' adaptive cultural characteristics and cultural socialization efforts. For example, Hughes (2003) found that African American and Latino (i.e., Puerto Rican and Dominican) parents who felt more strongly connected to their culture and reported a stronger preference for their ethnic-racial group also reported higher levels of cultural socialization of their children. In addition, White-Johnson, Ford, and Sellers (2010) found that African American mothers who reported that their African American identity was highly central to them, and reported more positive feelings toward other African Americans, reported communicating more frequent and positive messages to their children about their culture (White-Johnson et al., 2010).

Collectively, prior cross-sectional studies have provided support for an association between parents' adaptive cultural characteristics and cultural socialization efforts with children. The current study extended this work by examining these associations over time. Based on findings that parents' positive connection to their ethnicity-race (i.e., Hughes, 2003), ethnic-racial centrality (i.e., White-Johnson et al., 2010), and involvement in Mexican culture (i.e., Romero et al., 2000) informed cultural socialization, it was hypothesized in the present study that Mexican-origin mothers' involvement in Mexican culture, ethnic-racial centrality, and ERI affirmation (i.e., positive affect toward one's ethnicity), when children were 3 years of age would be positively associated with mothers' cultural socialization when children were 4 years of age (see Figure 2).

Cultural Socialization and Children's Ethnic-Racial Identification

Turning to the next part of the proposed model, bioecological theory (Bronfenbrenner & Morris, 2006) highlights that children's development is informed by a multitude of contexts, and that more proximal contexts, such as family, are important in the socialization of children. More specifically, the integrative model (García et al., 1996) proposes that families shape children's developmental competencies (e.g., ethnic-racial identification) via their *cultural* socialization behaviors with children. Similarly, Knight, Bernal, and colleagues' (1993) socialization model also posits that families socialize children regarding their heritage culture, which informs children's development of an ethnic-racial identification. Indeed, some prior work has tested these notions using components identified in Bernal and colleagues' (1990) conceptualization of ethnic-racial identification to assess whether cultural socialization predicts ethnic-racial knowledge

and preferences (i.e., positive attitudes). For example, Quintana and Vera (1999) found that Mexican-origin parents' cultural socialization was positively associated with *children's ethnic knowledge*. Similarly, Knight, Bernal et al. (1993) found that Mexican-origin mothers' greater cultural socialization of their children 6- to 10-years of age was positively associated with children's use of ethnic behaviors. Regarding children's positive attitudes, Rivas-Drake, Hughes, and Way (2009) found that African American, Puerto Rican, Chinese American, and White parents' cultural socialization was positively associated with their sixth grade *children's positive ethnic-racial attitudes*.

A focus on the way in which cultural socialization impacts children's *ethnic-racial centrality* is an area that has received relatively scant attention in the literature. In a study of ethnic-racial centrality among Latino and White children 5- to-12 years of age, Turner and Brown (2007) found that ethnicity was less central than other categories that children used to identify themselves (such as by their after school activities), but that the Latino children considered ethnicity more central to self-concept than White children (25% of the Latino children said it was among the most central while no White children said it was central). However, this study did not assess cultural socialization that children received from their parents; therefore, it is possible that ethnicity-race may be more central among children who experience higher levels of cultural socialization. Studies with older children and adolescents indeed support this notion. For example, Rivas-Drake and colleagues (2009) found that parents' greater cultural socialization efforts were positively associated with *ethnic-racial centrality* among sixth-grade children from diverse ethnic-racial backgrounds. Similarly, in a longitudinal study that included African American children 11- to- 17 years of age, youth who reported that they received

frequent, positive messages from their parents about being African American reported that race was more central to their self-concept one year later (Neblett, Smalls, Ford, Nguyễn, & Sellers, 2009). The current study extended this prior work by examining the association between mothers' cultural socialization and children's ethnic-racial identification over time among 5-year-old Mexican-origin children. Grounded in ecological theories that emphasize the importance of the family context in children's development (e.g., Bronfenbrenner & Morris, 2006; García et al., 1996), and empirical work that found links between families' cultural socialization efforts and ethnic-racial identity among older children (e.g., Quintana & Vera, 1999; Rivas-Drake et al., 2009), it was hypothesized that mothers' cultural socialization efforts when children were 4 years of age would be positively associated with children's ethnic-racial centrality, ethnic-racial bicultural knowledge, and self-labeling as Mexican when children were 5 years of age, and negatively related to children's negative ethnic-racial attitudes during the same time period.

Moderation by Children's Gender and Skin Tone

In addition to testing mechanisms underlying ethnic-racial-identification, the proposed study aimed to examine whether children's gender moderated this process. Bioecological theory (Bronfenbrenner & Morris, 2006) posits that processes vary based on characteristics of the individuals involved in that particular process. Therefore, it is possible that an individual characteristic of children that may moderate the association between mothers' adaptive culture and children's ethnic-racial identification via the process of cultural socialization is gender. Indeed, consistent with this notion, Umaña-Taylor and Guimond (2010) found that cultural socialization predicted female and male

adolescents' future ERI; however, the association was *stronger* among female adolescents 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. Grounded in the notion that females are the primary carriers of culture (Phinney, 1990; Umana-Taylor & Guimond, 2010), it is possible that mothers may perceive their young *female* children versus male children, to be eventual carriers of their culture; thus, the links between adaptive cultural characteristics and cultural socialization efforts may be stronger among mothers with girls versus boys. Furthermore, given these increased socialization efforts, female children's ethnic-racial identification may, in turn, be more impacted over time. It is also possible that children internalize these gendered expectations and, thus, mothers' cultural socialization efforts have a stronger impact on girls than boys because girls may be being primed to be carriers of culture. Therefore, the present study tested whether the association between mothers' adaptive culture and children's ethnic-racial identification via mothers' cultural socialization was stronger among families in which the child was female, compared to families in which the child was male.

As aforementioned, guided by bioecological theory (Bronfenbrenner & Morris, 2006), another child characteristic that was posited to play a role in the present study was skin tone. Specifically, it is possible that the association between (a) mothers' adaptive culture and mothers' cultural socialization and (b) mothers' cultural socialization and children's ethnic-racial identification varies by children's skin tone. Given that children

with darker skin tones may be more frequently perceived and labeled as Mexican by others, mothers may be more motivated to transform their adaptive cultural characteristics into actual cultural socialization behaviors than mothers with children with lighter skin tones. In addition, children who are phenotypically darker might be more attuned to mothers' cultural socialization efforts, which might more strongly inform children's ethnic-racial identification among children with darker relative to lighter skin tones. Indeed, in one study with Mexican-origin adolescents, the association between families' cultural socialization efforts and adolescents' ERI affirmation varied by adolescents' appearance, 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). Thus, I hypothesized that (a) the positive association between mothers' adaptive cultural characteristics and mothers' cultural socialization behaviors, and (b) the positive association between mothers' cultural socialization and 5-year-old children's ethnic-racial identification would be stronger among children with darker skin tones relative to those with lighter skin tones.

The Current Study

The current study tested a prospective, longitudinal process model of factors underlying ethnic-racial identification among Mexican-origin five-year old children. Based on tenets of the integrative model for the study of developmental competencies in ethnic-racial minority children (García Coll et al., 1996), the proposed study examined whether Mexican-origin mothers' adaptive cultural characteristics (i.e., involvement in Mexican culture, ethnic-racial centrality, ERI affirmation) when children were 3 years of age predicted greater cultural socialization efforts with children at 4 years of age and, in

turn, children's ethnic-racial identification (i.e., children's ethnic-racial negative attitudes, ethnic-racial centrality, ethnic-racial knowledge, and self-labeling as Mexican) at 5 years of age. Furthermore, guided by tenets of bioecological theory (Bronfenbrenner & Morris, 2006), I tested whether the proposed process (i.e., from mothers' adaptive cultural characteristics to children's ethnic-racial identification via mothers' cultural socialization) varied by child gender or skin tone.

Further, prior work has indicated differences in cultural socialization based on caregivers' nativity status (e.g., Knight, Bernal et al., 1993; Umaña-Taylor & Fine, 2004). Relevant to the present study, foreign-born mothers may be more motivated to turn their adaptive cultural characteristics into actual socialization efforts, and the higher levels of socialization might, in turn, more strongly inform children's ethnic-racial identification because youth in immigrant families may be relatively more exposed to Mexican culture by the family context. Because the proposed model tested children's gender and skin tone as moderators, and there were not enough participants to also test mothers' nativity as a moderator (i.e., the model would include more parameters than the number of participants), mothers' nativity was included as a control in all associations in the present study. In addition, given that differences in cultural socialization based on parents' age has been found in prior work (Csizmadia et al., 2014), the present study included mothers' age as a control on cultural socialization efforts.

Method

Participants and Procedure

The current analytic sample included 182 Mexican-origin children from a longitudinal study of Mexican-origin young mothers, their mother figures, and their children. Twenty-two children were excluded from the study because their fathers were not Mexican-origin. In the parent study, pregnant adolescents were recruited from community agencies and high schools in a Southwestern metropolitan area. Eligibility criteria included that adolescents had to be of Mexican origin, 15 to 18 years old, currently pregnant, not legally married, and have a mother figure (e.g., biological mother, grandmother) who was willing to participate. Participants were interviewed annually for six years in their homes, and interviews were conducted in participants' preferred language (i.e., Spanish or English). The majority of mothers (61%) participated in English at Wave 1. Each wave occurred when mothers were in their third trimester of pregnancy (Wave 1; W1), when children were 10 months of age (W2), 2 years of age (W3), 3 years of age (W4), 4 years of age (W5), and 5 years of age (W6). Considering the developmental salience of the construct, children's ethnic-racial identification was assessed at W6. Working backwards from W6 to consider the key maternal predictors of interest, the proposed study utilized data from W4, W5, and W6. Mothers received \$40 for their participation at W4, \$50 at W5, and \$60 for their participation 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 Arizona State University. At W1, mothers were, on average, 16.80 years of age ($SD = 1.00$). The majority were attending school (58%) and were U.S. born (64%). The majority of children in the study were male (59%), and the majority completed their assessments in English (71%). The average family income at W1 was \$27,353 ($SD = \$20,097$), which was calculated by

creating a sum of grandmothers' 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 Mexican orientation subscale of the Acculturation Rating Scale for Mexican Americans – II (Cuéllar, Arnold, & Maldonado, 1995) was utilized to assess mothers' involvement in Mexican culture at W4. The 17-item Mexican orientation subscale (e.g., “I associate with Mexicans and/or Mexican Americans” and “My family cooks Mexican foods”) was 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. Support for construct validity has been demonstrated in previous work with Latinos (i.e., Cuéllar & Roberts, 1997). Cronbach's alpha in the current study was .86 for the English version and .68 for the Spanish version of the measure.

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 original 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 in the current study was .72 for the English version and .74 for the Spanish version of the measure.

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*. Higher scores indicated higher ERI affirmation. Support for construct validity has been demonstrated in previous work with Latinos (Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). Cronbach’s alpha was .83 for the English version and .76 for the Spanish version of the measure.

Mothers’ cultural socialization. The Cultural Socialization Behaviors Measure was used to assess mothers’ cultural socialization at W5 (Derlan, Umaña-Taylor, Toomey, Jahromi, & Updegraff, under review). The 12-item measure (e.g., “I buy toys for my child that represent our ethnic/cultural background”) was 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 in the current study was .90 for the Spanish and English versions of the measure.

Demographics. Maternal nativity at W1, which was coded as 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 and was coded as 0 = *Male*, 1 = *Female*.

Children's skin tone. Children's skin tone was independently assessed by two researchers after children were interviewed. Researchers rated skin tone based on the five skin tones of the dolls that were presented to children. Children's skin tone was coded on scale of 1 (lighter skin tone) to 5 (darker skin tone). Any discrepancies among the two researchers in skin tone ratings were discussed 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. The video featured two puppets, María and Tomás. The video begins with Tomás asking María if she knows what the word *Mexican* means. María responds by saying that "Mexican means a person who has a family from Mexico." Tomás asks María if she is Mexican, and María responds by saying "Yes, I am Mexican. A long time ago, my grandma came from Mexico to here, where I live. Some of my family still lives in Mexico, and we go visit them sometimes. It is far away so we have to drive a car for a long time or we have to take an airplane to go see them. All of my family and me are called Mexican because my grandma came from Mexico. Other people can be Mexican because they were born in Mexico and then they moved." Tomás then says, "Oh okay María. But I have another question. None of my family lives in Mexico, they all live in Arizona, but a long, long, LONG time ago, my grandma's grandma came from Mexico. Am I still Mexican?" María responds by saying, "Yes Tomás, you are still Mexican." Tomás then ends by saying "Oh okay, now I know what Mexican means. Mexican means a person who has family from

Mexico, and so I am Mexican. Thanks María, I have to go because my mom is making dinner.” After the video ended, children were shown five dolls, ranging in skin tone from lighter to darker. To avoid the potential confounding effect of gender (Kowalski, 2003), girls were shown five *female* dolls, and boys were shown five *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 then used for the following tasks to provide a visual reminder of what the child identified as *Mexican*, and to provide a concrete object to help the child keep the abstract concept salient.

Children’s negative ethnic-racial attitudes. To assess how positively or negatively children felt about Mexican culture (i.e., ethnic-racial attitudes) 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-Guion (2011). In Williams and colleagues’ (1975) measure, children were shown a series of 24 colored pictures and related stories. Each story contained a drawn picture of a light-skinned (White) person and a dark-skinned (African American) person, and children selected which person the story was about by selecting one of the two people in the story. Each story featured either a positive adjective (e.g., good, nice) or a negative adjective (e.g., naughty, mean). The following is an example of one of the stories that featured a positive adjective: “Here are two little boys. One of them is a kind boy. Once he saw a kitten fall into a lake and picked up the kitten to save it from drowning. Which is the kind boy?” Children’s selection of either the light-skinned (White) figure or a dark-skinned (African American) figure for each positive and negative adjective indicated their positive and

negative attitudes toward their own ethnic-racial in-group and toward another ethnic-racial out-group.

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 adjectives (i.e., smart, good, mean, ugly, pretty, clean, unfriendly, bad, friendly, nice, stupid, naughty, helpful, and dirty) printed on cards, one at a time, and had the option of saying "yes" or "no" to whether the card applied to the doll by placing the card in front of the doll (indicating a response of "yes") or in front of a miniature trash receptacle beside the doll (indicating a response of "no"). 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 identified as Mexican. In addition, during the Spanish translation process we dropped two words (i.e., unfriendly and helpful) and reworded two words (i.e., kind and dumb) so that the English and Spanish words used in the study would be equivalent. The final 12 cards used in the study included: smart, good, mean, ugly, pretty, clean, bad, friendly, kind, dumb, naughty, and dirty.

Before the task began, children were given instructions that corresponded to their gender (i.e., when referring to the doll, the term "Mexican girl" was used for girls, and the term "Mexican boy" was used for boys). 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." The instructions were

identical for boys except “Mexican boy” was used instead of “Mexican girl.” Then, 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 _____?” Boys were told: “This card says _____. Some children are _____. Is the Mexican boy _____?” This was repeated for all 12 cards that were used in the current study. Using Stokes-Guinon’s (2011) scoring recommendations for the measure, we created two subscales: a 6-item positive attitudes subscale and a 6-item negative attitudes subscale. However, results from Study 1 indicated that the positive attitudes measure did not demonstrate adequate reliability or validity; therefore, only the negative attitudes measure was used in the present study. For the negative attitudes subscale, each child was given a score of 1 each time that he/she assigned a negative adjective to the Mexican doll. Scores were summed for across the 6 items, and ranged from 1-6. Higher scores on the negative attitudes measure indicated more negative views about Mexican culture.

Children’s ethnic-racial centrality. To assess children’s ethnic centrality at W6, we adapted Turner and Brown’s (2007) task to make it developmentally appropriate for 5-year-old children. In this task, 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 boxes, each with a card in it that had a picture of a social category applicable to children in the study 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 (e.g., that they were a 5-year-old).

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 will be 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 indicate higher ethnic-racial centrality (i.e., if the Mexican box was chosen first, the child received a score of 5).

Children’s ethnic-racial bicultural knowledge. To assess children’s knowledge of Mexican culture at W6, we drew from the construct originally conceptualized by Bernal and colleagues (1990), and the task used by Knight, Bernal, and colleagues (1993). In particular, ethnic-racial knowledge involves individuals’ understanding that certain values, behaviors, and customs are a part of their ethnic-racial group (Bernal et al., 1990), which Knight, Bernal, and colleagues (1993) tested by explaining to 6- to 10-year old Mexican children that there were two towns, one Mexican town and one Anglo town. Children were asked about the frequency of 10 events occurring in each town, such as “How many of the people in the Mexican town eat menudo?” Children responded by pointing to a “none” circle that was small with no faces on it, a “some” circle that was medium and filled halfway with faces, or an “all” circle that was large and entirely filled with faces (Knight, Bernal et al., 1993).

The current study adapted this measure as follows. Instead of asking children to imagine hypothetical towns, we provided a more concrete assessment tool for young children by creating three cards for each question. One card depicted something traditionally Mexican (e.g., tacos), another card depicted something traditionally

American (e.g., hamburgers), and the last card depicted both items. Children were asked to select the card that represented what they thought about Mexican children. For example, in the above example, children were asked, “What do you think Mexican children eat? This (pointing to the first card), this (pointing to the second card), or this and this (pointing to the third card)?” Given that Mexican children who were born, raised, and/or living in the U.S. are involved in American culture, it is possible that children’s knowledge of what it means to be Mexican may include something that is traditionally Mexican and traditionally American; therefore, we added the “both” option to capture this possibility. The task involved a total of 8 questions that focused on holidays, food, and other customs, and asked children to select the picture that represented what they thought about Mexican culture.

Based on results from prior work (Derlan et al., in preparation), the bicultural scoring method demonstrated good reliability and validity; therefore, it was used to score the measure in the present study. In this scoring method, children received a score of 1 for each item if they selected the both card, and a score of 0 if they selected the card that depicted only the traditionally Mexican item, or the card that depicted both the traditionally Mexican and traditionally American objects. Higher scores indicated that children’s bicultural knowledge included *both* traditionally Mexican and traditionally American aspects. A score of 8, for example, reflected that for each question, children always selected a card that showed both a traditionally Mexican and a traditionally American object. Scores ranged from 0-8, with higher scores indicating greater bicultural knowledge.

Children's self-labeling as Mexican. Children's self-labeling as Mexican was measured at Wave 6 at the end of the interview (to avoid priming before the other measures were completed) by asking children the question: "Are you Mexican?" Children's responses were coded as: 0 = *no*, 1 = *yes*.

Analytic Approach

I first examined the distribution of scores to check whether all continuous measures were normally distributed, as indicated by skewness less than two and kurtosis less than seven (Tabachnick & Fidell, 2006). Second, correlations, means, and standard deviations were computed for all study variables.

Path analyses were conducted using a structural equation modeling framework in *Mplus* version 7.2 (Muthén & Muthén, 1998-2014). To examine model fit, three primary fit indices were utilized: 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). Missing data were handled using full information maximum likelihood (Arbuckle, 1996; Enders, 2013), and the percentage of missing data across all variables ranged from 0% to 32%.

To test the hypothesized associations, a multigroup structural equation model that included child gender as the grouping variable was specified that included mothers' adaptive cultural characteristics at W4 (i.e., involvement in Mexican culture, ethnic-racial centrality, and ERI affirmation) predicting mothers' cultural socialization efforts with children at W5 and, in turn, predicting children's ethnic-racial identification (i.e., ethnic-

racial negative attitudes, ethnic-racial centrality, ethnic-racial knowledge, and self-labeling as Mexican) at W6 (see Figure 2). Further, to test whether the links between mothers' adaptive cultural characteristics and mothers' cultural socialization were modified by children's skin tone, I included interaction terms between children's skin tone and mothers' adaptive cultural characteristics predicting mothers' cultural socialization. In addition, to test whether the links between mothers' cultural socialization and children's ethnic-racial identification were modified by children's skin tone, I included interactions between mothers' cultural socialization and children's skin tone predicting children's ethnic-racial identification in this model.

As recommended by Aiken and West (1991), exogenous variables (i.e., children's skin tone, mothers' adaptive cultural characteristics, and mothers' cultural socialization) were mean-centered prior to the creation of interactions terms (Aiken & West, 1991). Simple slopes analysis was used to decompose any significant interactions (Preacher, Curran, & Bauer, 2006), and any significant interactions were graphed and probed at one standard deviation above and below the mean of the moderator (i.e., skin tone).

Alternative model. In addition to testing the hypothesized model, I also tested an alternative model. Based on the integrative model of developmental competencies (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, because social cognitive theory (Bandura, 1986) posits that individuals vicariously learn attitudes that they internalize for themselves by modeling others in their environment, I tested an alternative model that included additional direct paths from: (a) mothers' involvement in Mexican culture at Wave 4 to

children's self-labeling as Mexican and ethnic-racial knowledge at Wave 6 (b) mothers' ethnic-racial centrality at Wave 4 to children's ethnic-racial centrality at Wave 6, and (c) mothers' ERI affirmation at Wave 4 to children's negative ethnic-racial attitudes at Wave 6 (see Figure 3). Similar to the hypothesized model, I tested children's gender and skin tone as moderators of each association in the alternative model.

When I tested this full hypothesized model and the alternative model, a warning indicated that there were more parameters than the sample size in one of the groups in both models. Thus, I proceeded to test three different models (one for each indicator of the maternal adaptive culture (i.e., maternal involvement in Mexican culture, maternal ethnic-racial centrality, and maternal ERI affirmation; see Figure 4), instead of one full model with all paths. For each indicator of the maternal adaptive culture, I tested the hypothesized multigroup model (with no direct paths), and compared it to the alternative multigroup model (with additional direct paths). To compare these two nested models I 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., Δ CFI; Cheung & Rensvold, 2002), and directly tested whether the alternative multigroup model was a better fitting model than the originally hypothesized multigroup model. In this nested model comparison approach, when the Satorra-Bentler chi-square difference test between the two nested models was significant, or the Δ CFI between the two nested models was greater than .01, it suggested that the null hypothesis of invariance (i.e., equality) should be rejected because the models differed significantly from one another. Then, model fit indices were examined to determine which multigroup model was a better fitting model.

After the original multigroup model (with no direct paths) or the alternative multigroup model (with additional direct paths) was accepted as the better fitting model, I then tested whether there were significant gender differences in any of the path coefficients. To do so, two nested models were compared and the difference between them was examined using the Satorra-Bentler chi-square difference test, examining the Δ CFI, and examining model fit. In this method, the first model allowed all path estimates to be freely estimated across gender groups (i.e., an unconstrained model), and the second model constrained the path estimates to be equal across gender groups (i.e., a fully constrained model). If the Satorra-Bentler chi-square difference test was significant or the Δ CFI was greater than .01, it suggested that there were significant differences in the model based on gender; in this case, subsequent models sequentially constrained paths and tested which paths differed between boys and girls. In this process, each main effect path, moderator path, and interaction path were constrained at the same time, and the Satorra-Bentler chi-square difference test, Δ CFI, and model fit were examined for the *group* of constrained paths. This approach was necessary rather than testing for gender differences one path at a time because it was not possible to probe an interaction that had no gender differences (i.e., path was constrained across boys and girls) if the main effect *did* have gender differences (i.e., path was freely estimated across boys and girls). Thus, paths that included interactions were tested in groups. However, all control paths (e.g., mothers' nativity predicting children's ethnic-racial centrality) were tested one path at a time. If the Satorra-Bentler chi-square difference test was significant, the Δ CFI was less than .01, or model fit did not decrease, it suggested that there were no significant gender differences in the path (or group of paths), and the path (or group of paths) could be

constrained to be equal across groups. I repeated this process for all paths in all three models (each including a different indicator of the maternal adaptive culture).

Unstandardized regression coefficients are reported in the results section below, and standardized regression coefficients are reported in Figures 5, 9, and 12.

Finally, I formally tested significant mediation for any pathways that were significant from mothers' adaptive cultural characteristics to children's ethnic-racial identification via mothers' cultural socialization. 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 for testing mediation, mediation is significant if the confidence interval does not contain zero.

Results

First, correlations, means, and standard deviations were computed for all study variables for the full sample (see Table 22) and separately for boys and girls (see Table 23). Second, skewness and kurtosis were examined, which indicated that all measures were normally distributed (i.e., demonstrated skewness less than two and kurtosis less than seven; Tabachnick & Fidell, 2006), except for mothers' ERI affirmation, which had skewness of -3.88 ($SE = .20$) and kurtosis of 18.04 ($SE = .40$). 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).

Model with mothers' involvement in Mexican culture as a predictor of cultural socialization and children's ethnic-racial identification. First, I compared an alternative model (i.e., with direct paths) to the hypothesized model that did not include direct paths (i.e., direct paths were set to zero). Results indicated that the adjusted chi-

square difference test comparing these two models was significant [$\Delta \chi^2 (\Delta df = 8) = 17.12, p = .03$], and the change in CFI between these two models was greater than .01 ($\Delta CFI = .16$). Model fit indices were examined, which indicated that the hypothesized model that did not include the direct paths demonstrated worse fit: $\chi^2 (df = 26) = 48.13, p = .01$; CFI = .59; RMSEA = .10 (90% CI: .05 - .14); SRMR = .06 than the alternative model that included the direct paths: $\chi^2 (df = 18) = 31.510, p = .03$; CFI = .75; RMSEA = 0.09 (90% CI: .03 - .14); SRMR = .05. Thus, the alternative model (with direct paths) was used for further model testing. Although the alternative model fit better than the hypothesized model, it still did not demonstrate acceptable fit; therefore, modification indices were examined. Modification indices indicated that including a path from mothers' age to children's ethnic-racial bicultural knowledge for both boys and girls would significantly increase model fit; therefore, this path was added to the model, and the resulting model demonstrated good fit: $\chi^2 (df = 16) = 17.62, p = .91$; CFI = .97; RMSEA = .03 (90% CI: .00 - .11); SRMR = .04. Thus, all subsequent models (including the model with mothers' ethnic-racial centrality as a predictor and the model with mothers' ERI affirmation as a predictor) included this path.

Then, I tested whether gender functioned as a significant moderator by comparing this model (with the direct paths included) that allowed all estimates to vary across boys and girls (i.e., an unconstrained model) to a model in which estimates were constrained to be equal across groups (i.e., a fully constrained model). Results indicated that the adjusted chi-square difference test comparing the two models was not significant [$\Delta \chi^2 (\Delta df = 47) = 60.37, p = .09$]; however, the change in CFI between the two models was greater than .01 ($\Delta CFI = .25$). Further, model fit indices were examined, which indicated

that the fully constrained model demonstrated worse fit [$\chi^2 (df = 63) = 78.37, p = .09$; CFI = .72; RMSEA = .05 (90% CI: .00 - .09); SRMR = .13] than the unconstrained model [$\chi^2 (df = 16) = 17.62, p = .91$; CFI = .97; RMSEA = .03 (90% CI: .00 - .11); SRMR = .04]. Thus, the unconstrained model was used to test which paths differed significantly by gender by constraining each group of paths to be equal across boys and girls, and examining which paths were significantly different across boys and girls. See Table 24 for model fit information, the adjusted chi-square difference test, and the change in CFI for all models that were compared in testing gender differences. The final partially constrained model (see Figure 5) had excellent model fit [$\chi^2 (df = 25) = 23.62, p = .54$; CFI = 1.00; RMSEA = 0.00 (90% CI: .00 - .08); SRMR = .05].

The processes within the final model were considerably different for boys and girls. First, for boys, there was one main effect, such that mothers' involvement in Mexican culture at W4 was positively associated with mothers' cultural socialization behaviors at W5 ($b = .61, p < .001$). Further, skin tone significantly moderated two paths between mothers' involvement in Mexican culture and children's ethnic-racial identification. First, skin tone significantly moderated the association between mothers' involvement in Mexican culture and children's ethnic-racial bicultural knowledge ($b = 1.77, p = .03$). Simple slopes analysis revealed that there was a significant, negative association between mothers' involvement in Mexican culture and boys' ethnic-racial bicultural knowledge among boys with lighter skin tones ($b = -2.42, p = .02$), and not significant ($b = .97, p = .33$) among boys with darker skin tones (see Figure 6a). Second, skin tone moderated the association between mothers' involvement in Mexican culture and boys' self-labeling as Mexican ($b = .39, p < .001$). Simple slopes analysis revealed

that there was a significant, negative association between mothers' involvement in Mexican culture and boys' self-labeling as Mexican among boys with lighter skin tones ($b = -.30, p = .02$), and a significant, positive association ($b = .34, p = .01$) among boys with darker skin tones (see Figure 6b).

Finally, for boys, skin tone moderated the association between mothers' cultural socialization behaviors and two indices of children's ethnic-racial identification. First, skin tone significantly moderated the relation between mothers' cultural socialization behaviors at W5 and boys' ethnic-racial bicultural knowledge at W6 ($b = -1.18, p = .02$). Simple slopes analysis indicated that there was a significant, positive association between mothers' cultural socialization behaviors at W5 and boys' ethnic-racial bicultural knowledge at W6 among boys with *lighter* skin tones ($b = 1.39, p = .02$), and not significant ($b = -.35, p = .51$) among boys with darker skin tones (see Figure 7a). Second, the interaction between mothers' cultural socialization behaviors at W5 and children's skin tone predicting boys' self-labeling as Mexican at W6 was significant ($b = -.30, p < .01$). Simple slopes analysis indicated that there was a positive association that was approaching significance between mothers' cultural socialization behaviors at W5 and boys' self-labeling at W6 among boys with *lighter* skin tones ($b = .21, p = .09$); this association was not significant ($b = -.16, p = .19$) among boys with darker skin tones (see Figure 7b).

Overall, there were two possible mediation pathways among boys. First, maternal involvement in Mexican culture at W4 was positively associated with maternal cultural socialization behaviors at W5 among mothers with boys, and maternal cultural socialization behaviors at W5 was positively associated with lighter skin tone boys' self-

labeling as Mexican at W6. Statistical tests of mediation, however, indicated that there was no significant mediation (95% confidence interval for the mediated effect = $-.02, .31$). Second, maternal involvement in Mexican culture at W4 was positively associated with maternal cultural socialization behaviors at W5 among mothers with boys, and this was, in turn, positively associated with lighter skin tone boys' ethnic-racial bicultural knowledge at W6. In this case, mediation was significant (95% confidence interval for the mediated effect = $-1.74, -.14$).

Moving to findings for girls, one main effect emerged, such that skin tone was positively associated with girls' ethnic-racial centrality at W6 ($b = .39, p < .01$). In addition, mothers' cultural socialization behaviors at W5 was positively associated with self-labeling as Mexican at W6 ($b = .19, p = .01$); however, this main effect was significantly moderated by skin tone ($b = .19, p = .01$). Simple slopes analysis revealed that there was a significant, positive association between mothers' cultural socialization behaviors at W5 and self-labeling as Mexican at W6 among girls with darker skin tones ($b = .36, p < .01$); this association was not significant ($\beta = -.01, p = .90$) among girls with lighter skin tones (see Figure 8a).

The second interaction that emerged for girls indicated that skin tone moderated the association between mothers' cultural socialization behaviors at W5 and children's ethnic-racial bicultural knowledge at W6 ($b = 1.16, p = .01$). Simple slopes analysis revealed that there was a significant, positive association between mothers' cultural socialization behaviors at W5 and girls' ethnic-racial bicultural knowledge at W6 among girls with darker skin tones ($b = 1.33, p < .01$); this association was not significant ($b = -.47, p = .26$) among girls with lighter skin tones (see Figure 8b).

In the final model, one path involving a control variable emerged as significant. Specifically, mothers' age was positively associated with ethnic-racial bicultural knowledge at W6 among both boys and girls ($b = .68, p < .01$).

Mothers' ethnic-racial centrality as a predictor of cultural socialization and children's ethnic-racial identification. First, I compared an alternative model with direct paths to the hypothesized model that did not include direct paths (i.e., direct paths were set to zero). Results indicated that the adjusted chi-square difference test comparing these two models was significant [$\Delta \chi^2 (\Delta df = 4) = 10.41, p = .03$], and the change in CFI between these two models was greater than .01 ($\Delta CFI = .14$). Model fit indices were examined, which indicated that the hypothesized model that did not include the direct paths demonstrated worse fit [$\chi^2 (df = 24) = 36.59, p = .05$; CFI = .74; RMSEA = .08 (90% CI: .01, .12); SRMR = .05] than the alternative model that included the direct paths [$\chi^2 (df = 20) = 26.01, p = .17$; CFI = .88; RMSEA = .06 (90% CI: .00, .11); SRMR = .04]. Thus, the alternative model (with direct paths) was used for further model testing.

Then, I tested whether gender functioned as a significant moderator by comparing this model (with the direct paths included) that allowed all estimates to vary across boys and girls (i.e., an unconstrained model) to a model in which estimates were constrained to be equal across groups (i.e., a fully constrained model). Results indicated that adjusted chi-square difference test comparing these two models was significant [$\Delta \chi^2 (\Delta df = 45) = 65.09, p = .03$], and the change in CFI between these two models was greater than .01 ($\Delta CFI = .42$). Model fit indices were examined, which indicated that the fully constrained model demonstrated worse fit [$\chi^2 (df = 65) = 91.30, p = .02$; CFI = .46; RMSEA = .07 (90% CI: .03, .10); SRMR = .05] than the unconstrained model [$\chi^2 (df = 20) = 26.01, p =$

.17; CFI = .88; RMSEA = .06 (90% CI: .00, .11); SRMR = .04]. Thus, the unconstrained model was used to test which paths differed significantly by gender by constraining each path to be equal across boys and girls, and examining which paths were significantly different across boys and girls. See Table 25 for model fit information, the adjusted chi-square difference test, and the change in CFI for all models that were compared in testing gender differences. The final partially constrained model (see Figure 9) had good model fit [$\chi^2 (df = 29) = 28.92, p = .47$; CFI = 1.00; RMSEA = .00 (90% CI: .00, .08); SRMR = .05].

Similar to findings for mothers' involvement in Mexican culture, processes within the final model were considerably different for boys and girls. First, for boys, there were two significant main effects, such that mothers' ethnic-racial centrality at W4 was positively associated with mothers' cultural socialization behaviors at W5 ($b = .45, p < .01$), and mothers' ethnic-racial centrality at W4 was negatively associated with boys' ethnic-racial centrality at W6 ($b = -.86, p < .01$). Further, skin tone moderated the association between mothers' cultural socialization behaviors at W5 and boys' ethnic-racial centrality at W6 ($b = -.65, p = .01$). Simple slopes analysis revealed that there was a significant, positive association between mothers' cultural socialization behaviors at W5 and children's ethnic-racial centrality at W6 among boys with lighter skin tones ($b = .75, p = .01$); this association was not significant ($b = -.23, p = .48$) among boys with darker skin tones (see Figure 10).

Overall, in the model with mothers' ethnic-racial centrality as the predictor of children's ethnic-racial identification, there was one possible mediation pathway among boys. Specifically, maternal ethnic-racial centrality at W4 was positively associated with

maternal cultural socialization behaviors at W5 and, in turn, positively associated with lighter skin tone boys' ethnic-racial centrality at W6. Mediation was significant (95% confidence interval for the mediated effect = $-.74, -.05$).

Turning to the findings for girls, several main effects emerged, such that skin tone was positively associated with children's ethnic-racial centrality at W6 ($b = .65, p < .01$), and mothers' cultural socialization behaviors at W5 was positively associated with children's self-labeling as Mexican at W6 ($b = .20, p = .01$). In addition, mothers' cultural socialization behaviors at W5 was positively associated with ethnic-racial bicultural knowledge at W6 ($b = .50, p = .04$); however, this main effect was significantly moderated by skin tone ($b = .85, p = .01$). Simple slopes analysis revealed that there was a significant, positive association between mothers' cultural socialization behaviors at W5 and ethnic-racial bicultural knowledge at W6 among girls with darker skin tones ($b = 1.19, p < .01$), and this was not significant ($b = -.21, p = .52$) among girls with lighter skin tones (see Figure 11a). In addition, findings indicated that there was another significant interaction, such that skin tone significantly moderated the association between mothers' ethnic racial centrality at W4 and mothers' cultural socialization behaviors at W5 ($b = -.20, p = .01$). Simple slopes analysis revealed that there was a significant, positive association between mothers' ethnic-racial centrality and mothers' cultural socialization behaviors among girls with lighter skin tones ($b = .36, p < .01$), and this was not significant ($b = .04, p = .80$) among girls with darker skin tones (see Figure 11b).

Overall, in the model with mothers' ethnic-racial centrality as the predictor of girls' ethnic-racial identification, there was one possible mediation pathway. Specifically,

maternal ethnic-racial centrality at W4 was positively associated with maternal cultural socialization behaviors at W5 among mothers with lighter skin tone girls, and, in turn, positively associated with girls' self-labeling as Mexican at W6; this mediation was significant (95% confidence interval for the mediated effect = -.02, -.44). Additionally, in the final model, one path involving a control variable emerged as significant.

Specifically, mothers' age was positively associated with ethnic-racial bicultural knowledge at W6 among both girls and boys ($b = .62, p < .01$).

Model with mothers' ERI affirmation as a predictor of cultural socialization and children's ethnic-racial identification. First, I compared an alternative model with direct paths to the hypothesized model that did not include direct paths (i.e., direct paths were set to zero). In this test, however, the hypothesized model did not converge and an error message was received indicating an issue with one of the direct paths (i.e., the interaction between mothers' ERI affirmation and child skin tone predicting mothers' ethnic-racial negative attitudes). Descriptives indicated that there was no variance for boys in this interaction, which contributed to model nonconvergence; thus, the path was removed for all subsequent models so that models would converge and could be tested. Results indicated that the adjusted chi-square difference test comparing these two models was not significant [$\Delta \chi^2 (\Delta df = 2) = 5.48, p = .06$]; however, the change in CFI between these two models was greater than .01 ($\Delta CFI = .10$). Further, model fit indices indicated that the hypothesized model that did not include the direct path demonstrated worse fit [$\chi^2 (df = 24) = 33.83, p = .09$; CFI = .76; RMSEA = .07 (90% CI: .00, .12); SRMR = .05] than the alternative model that included the direct path [$\chi^2 (df = 22) = 27.56, p = .19$; CFI

= .86; RMSEA = .05 (90% CI: .00, .11); SRMR = .04]. Thus, the alternative model (with direct paths) was used for further model testing.

Then, I tested whether gender functioned as a significant moderator by comparing this model (with the direct paths included) that allowed all estimates to vary across boys and girls (i.e., an unconstrained model) to a model in which estimates were constrained to be equal across groups (i.e., a fully constrained model). Results indicated that adjusted chi-square difference test comparing the two models was significant [$\Delta \chi^2 (\Delta df = 24) = 49.26, p < .001$], and the change in CFI between the two models was greater than .01 ($\Delta CFI = .62$). Model fit indices were examined, which indicated that the fully constrained model demonstrated worse fit [$\chi^2 (df = 66) = 330.52, p < .001$; CFI = .00; RMSEA = .21 (90% CI: .19, .23); SRMR = .41] than the unconstrained model [$\chi^2 (df = 22) = 27.56, p = .19$; CFI = .86; RMSEA = .05 (90% CI: .00, .11); SRMR = .04]. Thus, the unconstrained model was used to test which paths differed significantly by gender by constraining each path to be equal across boys and girls, and examining which paths were significantly different across boys and girls. See Table 26 for model fit information, the adjusted chi-square difference test, and the change in CFI for all models that were compared in testing gender differences. The final partially constrained model (see Figure 12) had good model fit [$\chi^2 (df = 31) = 31.14, p = .46$; CFI = 1.00; RMSEA = .01 (90% CI: .00, .08); SRMR = .05].

As with the two prior indicators of maternal adaptive culture, the processes within the final model were considerably different for boys and girls. First, for boys, there was one main effect, such that boys' skin tone was negatively associated with mothers' cultural socialization behaviors at W5 ($b = -.33, p = .02$). Further, there was one

significant interaction, such that skin tone moderated the association between mothers' ERI affirmation at W4 and mothers' cultural socialization behaviors at W5 ($b = 3.19, p = .01$). Simple slopes analysis indicated that the relation between mothers' ERI affirmation at W4 and mothers' cultural socialization behaviors at W5 was positive among boys with *darker* skin tones ($b = 2.16, p < .001$), and negative among boys with lighter skin tones ($b = -2.71, p < .001$) (see Figure 13).

Turning to the findings for girls, two main effects emerged that were not moderated by skin tone, such that mothers' cultural socialization behaviors at W5 was positively associated with children's self-labeling as Mexican at W6 ($b = .50, p = .01$), and skin tone was positively associated with girls' ethnic-racial centrality ($b = .68, p < .01$). In addition, two main effects emerged that were significantly moderated by skin tone. First, mothers' ERI affirmation at W4 was positively associated with mothers' cultural socialization at W5 ($b = .54, p < .01$); however, this main effect was significantly moderated by skin tone ($b = -.47, p = .02$). Simple slopes analysis revealed that there was a significant, positive association between mothers' ERI affirmation at W4 and mothers' cultural socialization behaviors at W5 among girls with lighter skin tones ($b = .94, p = .02$), and this association was not significant ($b = .14, p = .78$) among girls with darker skin tones (see Figure 14a). Second, mothers' cultural socialization behaviors at W5 was positively associated with ethnic-racial bicultural knowledge at W6 ($b = .50, p = .04$); however, this main effect was significantly moderated by skin tone ($b = .88, p = .01$). Simple slopes analysis revealed that there was a significant, positive association between mothers' cultural socialization behaviors at W5 and girls' ethnic-racial bicultural knowledge at W6 among girls with darker skin tones ($b = 1.19, p < .01$), and this

association was not significant ($b = -.21, p = .51$) among girls with lighter skin tones (see Figure 14b).

Overall, regarding the model with mothers' ERI affirmation as the predictor of girls' ethnic-racial identification, there was one possible mediation pathway. Maternal ERI affirmation at W4 was positively associated with mothers' cultural socialization behaviors at W5 among mothers with lighter skin tone girls, and, in turn, positively associated with girls' self-labeling as Mexican at W6. This mediation was significant (95% confidence interval for the mediated effect = $-.22, -.01$).

In the final model, there were several control variables that emerged as significant. Specifically, mothers' age was positively associated with mothers' cultural socialization behaviors ($b = .18, p = .04$) among girls, but was not significant among boys ($b = -.16, p = .10$); mothers' nativity (i.e., U.S.-born) was positively associated with ethnic-racial negative attitudes at W6 among both girls and boys ($b = .70, p = .03$); and children's age was positively associated with children's ethnic-racial bicultural knowledge among both girls and boys ($b = .62, p < .01$).

Discussion

Ethnic-racial identification during childhood serves 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, such as self-esteem (Schwartz et al., 2007) and positive attitudes toward education (Fuligni et al., 2005). Further, 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,

grounded in notions posited by García Coll and colleagues (1996), the proposed study examined whether Mexican-origin mothers' adaptive cultural characteristics when children were 3 years of age predicted mothers' greater cultural socialization efforts with children at 4 years of age and, in turn, children's ethnic-racial identification at 5 years of age. Furthermore, guided by tenets of bioecological theory (Bronfenbrenner & Morris, 2006), I tested whether associations were modified by children's gender and skin tone. Although expectations regarding the process from mothers' adaptive cultural characteristics to children's ethnic-racial identification via mothers' cultural socialization were supported across boys and girls, relations varied by children's skin tone. Below, findings are discussed for associations between (a) mothers' adaptive cultural characteristics and cultural socialization, (b) mothers' cultural socialization and children's ethnic-racial identification, and (c) mothers' adaptive cultural characteristics and children's ethnic-racial identification, with a focus on differences by children's gender and skin tone.

Mothers' Adaptive Cultural Characteristics and Cultural Socialization of Children

Factors such as mothers' involvement in Mexican culture, ethnic-racial centrality, and ERI affirmation were expected to be positively associated with mothers' efforts to socialize children a year later, given that these adaptive cultural characteristics are expected to inform cultural socialization (García Coll et al., 1996). In addition, 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). Overall, expectations were partially supported, but varied by children's skin tone and gender. Specifically, for 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 are not 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. 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 that their daughters 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 no research to my knowledge has examined whether colorism impacts mothers' cultural socialization efforts. However, scholars have recommended that skin tone

variations within Latino families are likely to impact family dynamics (Adames, Chavez-Dueñas, & Organista, 2016). Further, in support of the notion that colorism played a role in the present study, prior qualitative research indicated that Latina women were aware of colorism and recalled many experiences in which Latinas with lighter skin tones (e.g., the study participants themselves, family members, or friends) were afforded advantages based on their lighter skin tones, while Latinas with darker skin tones experienced disadvantages and discrimination (Quiros & Dawson, 2013).

Overall, the two aforementioned possibilities are speculative, and warrant future investigation. It will be important for future work to conduct focus groups with mothers who have high ERI affirmation and high ethnic-racial centrality 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.

Turning to findings for mothers of boys, consistent with notions from the integrative model (García Coll et al., 1996), mothers' greater involvement in Mexican culture and greater ethnic-racial centrality were associated with mothers' greater cultural socialization of their 5-year-old boys a year later, regardless of skin tone. These findings are consistent with prior cross-sectional work with school-age children and early adolescents that found links between Mexican-origin parents' involvement in Mexican culture and cultural socialization (Romero et al., 2000) and between African American mothers' ethnic-racial centrality and cultural socialization (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 efforts with sons exist prospectively during the developmental period of early childhood.

In addition to significant associations for mothers' involvement in Mexican culture and ethnic-racial centrality, results were also significant for mothers' ERI affirmation, but varied by boys' skin tone. Specifically, mothers who reported greater ERI affirmation engaged in greater cultural socialization a year later when their boys were rated as having darker skin tones, and less cultural socialization when their boys were rated as having lighter skin tones. It is possible that this finding emerged based on mothers' awareness of the negative stereotypes that exist regarding boys of color (e.g., lazy, dumb, criminals, gang members, and drug lords; López, 2003). Mothers who report higher ERI affirmation and who have sons with darker skin tones may believe that their sons with darker skin tones are more likely to be perceived and labeled by others as Mexican and more likely to encounter negative stereotypes; therefore, mothers may be more motivated to teach their boys with darker skin tones about their culture in order to combat some of these negative stereotypes that sons may encounter. On the other hand, mothers who have sons with lighter skin tones may decrease their socialization to avoid making ethnicity and race salient to their sons who may not yet be labeled as Mexican because of their lighter skin tones, in order to protect them from the negative stereotypes about boys of color. Although no work to my knowledge has tested whether mothers base their cultural socialization efforts on their thoughts regarding their sons experiences, support for this notion is provided by a prior study that indicated that parents were more likely to engage in cultural socialization when parents perceived that their children might be targets of stereotyping and discrimination (Lalonde, Jones, & Stroink, 2008). It will be

useful for scholars to use qualitative approaches with mothers who have sons with darker skin tones and those whose sons have lighter skin tones in which participants are asked about their reasons for engaging (or not) in cultural socialization based on sons' skin tones to better understand this process within families.

Overall, findings with both boys and girls indicated that many aspects of mothers' adaptive cultural characteristics and cultural socialization efforts varied by their children's gender and skin tone. It is unclear whether mothers' differential cultural socialization of sons and daughters based on skin tone is intentional or unintentional, which is an important area for future research. 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; 2008). Our findings that varied by children's skin tone are consistent with prior work that found that parents differentially socialized their Black-White biethnic-racial children based on how parents perceived children's appearance, and how parents labeled children (i.e., as Black, White or mixed; Csizmadia et al., 2014). A better understanding of mothers' reasons for socializing differently based on children's skin tones, specifically, will provide the field with valuable information regarding the nuances involved in the process of cultural socialization, which is 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 developing components of ethnic-racial identification, as demonstrated in the present study.

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

Turning to the associations between mothers' cultural socialization and children's ethnic-racial identification, grounded in ecological theories (e.g., Bronfenbrenner & Morris, 2006; García et al., 1996), it was expected that mothers' cultural socialization efforts when children were 4 years of age would be positively associated with children's ethnic-racial centrality, ethnic-racial bicultural knowledge, and self-labeling as Mexican, and negatively related to children's negative ethnic-racial attitudes a year later. Further, similar to the aforementioned expectations, it was hypothesized that findings would be stronger among girls, and among children with darker skin tones; results provided partial support of hypotheses, as findings were consistent with expectations for girls, but contrary to expectations for boys.

First, consistent with hypotheses, as mothers reported greater cultural socialization, girls with darker skin tones had greater ethnic-racial bicultural knowledge and greater self-labeling as Mexican a year later; these findings were not significant among girls with lighter skin tones. As previously noted, because girls with darker skin tones may be more often perceived and labeled as Mexican by others, girls with darker skin tones may be more attuned to cultural socialization messages from mothers than girls with lighter skin tones, which is linked with greater bicultural knowledge and self-labeling among girls with darker skin tones. This finding was consistent with the only other study to my knowledge that examined skin tone as a moderator of the association between mothers' cultural socialization efforts and aspects of adolescents' ethnic-racial identity (Gonzales-Backen & Umaña-Taylor, 2011). Together, Gonzales-Backen and Umaña-Taylor's (2011) findings (i.e., a positive association between families' cultural socialization and adolescents' ERI affirmation) that only emerged among adolescents

with darker skin tones, and the present study's findings (i.e., a positive association between mothers' cultural socialization and girls' bicultural knowledge and self-labeling) that only emerged among 5-year old girls with darker skin tones highlight the need for future work in this area that takes a nuanced approach when examining the links between socialization and ethnic-racial identification or identity processes.

Mothers' cultural socialization did not emerge as a predictor of girls' ethnic-racial centrality; however, a robust finding across all of the models tested in the present study was that girls rated as having darker skin tones also demonstrated greater ethnic-racial centrality. This finding is important because prior work with Latino and White children indicated that children rated ethnicity and race as less central to their self-concept than other categories (e.g., children's after school activities; Turner & Brown, 2007); however, our findings suggest that ethnicity-race is central to girls with darker skin tones (which was not assessed in this prior work). Thus, research focused on children's ethnic-racial centrality should consider children's skin tone and gender. It will be valuable for scholars to assess the role that ethnic-racial centrality plays in children's development, especially among girls with darker skin tones for whom ethnicity-race may be more central.

Turning to results for boys, findings were in the opposite direction, compared to the findings with girls. Specifically, as mothers reported greater cultural socialization, boys with *lighter* skin tones had greater ethnic-racial knowledge and greater self-labeling a year later, and these associations were not significant for boys with darker skin tones. It is possible that these findings were not significant for boys with darker skin tones because although they may be more attuned to cultural socialization messages, boys with darker skin tones may also be more attuned to negative stereotypes about males of color,

which 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 do not experience the same reluctance 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.

Indeed, prior work has noted that children as young as 5 years of age are aware of stereotypes about ethnicity-race, but the depth of children's knowledge and ability to communicate about ethnic-racial stereotypes increases with age (Bigler & Wright, 2014). For example, one study found that 5 to 7 year old African American children were aware of stereotypes about ethnicity-race, such that they demonstrated better memory for stereotypic stories that depicted African Americans with darker skin tones in a negative manner (and African Americans with lighter skin tones in a positive manner) than counter-stereotypic stories that depicted the opposite (Averhart & Bigler, 1997). Further, findings from a study that included children 6 to 10 years of age from diverse backgrounds indicated that some of the 6-year-old children had awareness of broadly held stereotypes about ethnicity-race (i.e., children's awareness that a stereotype about ethnicity-race is broadly held by many individuals) and African American and Latino children had more knowledge of broadly held stereotypes about ethnicity-race than White and Asian children in the study (McKown & Weinstein, 2003).

Although this prior work suggests that some 5 year old children are aware of stereotypes, no prior work has tested whether young boys' awareness (or lack of awareness) of stereotypes hinders (or promotes) mothers' cultural socialization from informing ethnic-racial identification processes. Related qualitative work with middle school children found that children's knowledge about stereotypes informed the construction of their ethnic-racial identities (Way, Hernández, Rogers, & Hughes, 2013); however, it is unclear whether similar findings would emerge among younger children. It will be important for future work to directly assess whether (a) young Latino boys are aware of negative stereotypes regarding males of color, and whether this awareness varies based on their skin tone; and (b) whether the association between mothers' cultural socialization and boys' ethnic-racial identification is moderated by boys' knowledge of stereotypes. By investigating young boys' understanding of stereotypes more thoroughly, and how this understanding informs boys' attunement (or lack of attunement) to mothers' cultural socialization messages, and subsequent ethnic-racial identification, scholars will be able to make empirically supported recommendations for caregivers. For example, if findings from future work indicate that awareness of stereotypes prevents boys from benefitting from mothers' socialization efforts, scholars could recommend to mothers to address specific messages about negative stereotypes and to focus more specifically on combatting them.

In sum, although no prior work has tested the moderating role of skin tone, the associations that emerged in the present study between mothers' cultural socialization and children's ethnic-racial identification among some of the children (i.e., girls with darker skin tones and boys with lighter skin tones) map onto related work with school-

age children and early adolescents more broadly. In particular, Quintana and Vera (1999) found links between caregivers' cultural socialization efforts and children's ethnic knowledge, and Rivas-Drake and colleagues (2009) found links between caregivers' cultural socialization efforts and children's positive ethnic-racial attitudes. Findings highlight that mothers are important in promoting children's ethnic-racial identification, and that children's individual characteristics, such as gender and skin tone, impact these associations during early childhood.

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

Based on tenets of social cognitive theory (Bandura, 1986), the alternative model tested whether there would be evidence of modeling, such that mothers' adaptive cultural characteristics would directly and positively inform children's ethnic-racial identification. Results indicated that the models that included these direct paths were better than models that did not include these direct paths, but the direct effects were only significant among boys. Furthermore, only one direct effect was consistent with notions of modeling; specifically, among boys with darker skin tones, mothers' greater 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' greater involvement in Mexican culture was associated with decreased self-labeling and bicultural knowledge two years later among boys with lighter skin tones. It is possible that as boys with lighter skin tones are exposed to Mexican culture through mothers' involvement, they 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 of boys with lighter skin tones was linked with greater self-labeling and bicultural knowledge 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 to the direct effects regarding mothers' involvement in Mexican culture, another significant direct effect emerged, but it was in the opposite direction than expected based on social cognitive theory (Bandura, 1986). Specifically, mothers' greater ethnic-racial centrality was associated with boys' lower ethnic-racial centrality two years later. It is possible that this finding emerged because there was a third, confounding variable that was not measured in the present study that is linked with both mothers' and children's ethnic-racial centrality. For example, fathers' ethnic-racial centrality may be one such variable. It is possible that when fathers have lower ethnic-racial centrality, mothers may report higher ethnic-racial centrality because they are concerned that children may not have a strong cultural role model. However, because children are more likely to imitate same-gender role models (Bandura, 1986), boys may imitate their fathers and, therefore, boys may demonstrate lower ethnic centrality by 5 years of age. In other words, although findings appear to suggest that mothers' ethnic-racial centrality is inversely associated with boys' ethnic-racial centrality, this association could be a function of fathers' ethnic-racial centrality informing both mothers' and children's

ethnic-racial centrality independently. 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.

Limitations and Future Directions

The current study has important strengths and implications, but there are also limitations to acknowledge. First, although I hypothesized a mediation model in which mothers' adaptive cultural characteristics were expected to positively inform children's ethnic-racial identification via mothers' cultural socialization efforts, I found limited empirical support for this idea. However, given that numerous interactions were significant by gender and skin tone, it is possible that there was limited power in the models to detect significant mediation. Thus, it will be important to test this mediation model with a larger sample of mothers and children. By identifying cultural socialization as a significant mechanism through which mothers' transmit their own cultural characteristics to children's ethnic-racial identification, this work could identify important targets for interventions focused on promoting positive adjustment among an important group of at-risk children and families.

Second, moving beyond prior work that presented a doll as African American or White and asked children questions about the doll (e.g., Stokes-Guinon, 2011), a strength in the present study was that we acknowledged the diversity in skin tone that exists among Latinos, and allowed children to select their own Mexican doll. However, given our focus on other processes that required testing a large number of paths, we did not assess the role that children's doll selection played in the present study. It is possible that children's doll selection may be influenced by their own skin tone. It will be important

for future work to examine whether the discrepancy between children's skin tone and the skin tone of the doll they selected as Mexican plays a role in children's ethnic-racial identification.

Further, because we focused on mothers in the current study, it is unclear if similar findings would emerge for fathers. Indeed, cultural socialization efforts with children have 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). Therefore, future work should examine the direct and indirect prospective associations between fathers' adaptive cultural characteristics and cultural socialization efforts in informing children's ethnic-racial identification.

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., Mexican-origin children's ethnic-racial identification), rather than the prior tendency in much prior work to focus on deficits and maladjustment, which has been criticized by numerous scholars (e.g., Cabrera and the SRCD Ethnic/Race Committee, 2013; García Coll et al., 1996; Quintana et al., 2006). 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 build on prior work that has focused solely on mothers' non-cultural characteristics (e.g., prestigious jobs; Hughes & Chen, 1997; and higher education, McHale et al., 2006) as predictors of cultural socialization, by demonstrating that

mothers' adaptive *cultural* characteristics also inform socialization efforts with children, and children's subsequent ethnic-racial identification. Thus, results suggest that mothers play a critical role in the formation of young children's ethnic-racial identification over time via their adaptive cultural characteristics and cultural socialization efforts.

Finally, the current study emphasized that children's own characteristics, in terms of gender and skin tone, are important to examine when trying to understand the development of young children's ethnic-racial identification. Recently, scholars have recommended that skin tone and colorism are important aspects that need to be considered in research with Latinos despite the complexity and difficulty in discussing these often sensitive topics (Adames et al., 2016; Chavez-Dueñas et al., 2014). Our findings support the importance of this recommendation, and further suggest that ideas regarding colorism, which has typically been discussed with respect to Latino adults (see Adames et al., 2016 for a review) may apply at younger developmental periods. Results highlight numerous areas for future research that investigate topics of colorism and the role of skin tone in mothers' socialization and children's ethnic-racial identification.

CHAPTER 4

OVERALL DISCUSSION

Collectively, the two studies involved in this dissertation contribute to the field's understanding of young children's ethnic-racial identification. Study 1 presented three measures that can be further adapted and tested among young children. Given that existing work in this area has tended to focus on school age children (e.g., Turner & Brown, 2007), Study 1 addresses an important, understudied developmental period of ethnic-racial identification. Study 1 provided initial reliability and validity for ethnic-racial attitudes and ethnic-racial centrality, and provided future directions for further refining ethnic-racial knowledge. Additionally, findings highlighted that there were differences in the descriptives and measurement properties of the measures based on children's language, which needs to be further explored in future work.

Study 2 highlighted that mothers play an important role in young children's ethnic-racial identification via their adaptive cultural characteristics and cultural socialization processes. Study 2 expanded upon prior cross-sectional work (e.g., Knight et al., 1993), to demonstrate that the family context plays a role in children's ethnic-racial identification over time. Findings highlighted that additional factors that were not directly assessed in the present study, such as children's and mothers' knowledge of stereotypes and colorism, may play a role in the processes that underlie children's ethnic-racial identification and need to be tested in future studies.

Overall, findings demonstrated that in investigating children's ethnic-racial identification, it is necessary to examine this process through an intersectional lens (Crenshaw, 1993), which refers to a consideration of the multiple, intersecting

characteristics of individuals that inform their lived experiences. In both studies, ethnic-racial identification was not the same across all Mexican-origin children. In Study 1, the three components of ethnic-racial identification varied based on children's language (i.e., Spanish or English). In Study 2, gender and skin tone were important, such that experiences were different for boys with lighter skin tones, boys with darker skin tones, girls with lighter skin tones, and girls with darker skin tones. Thus, examination of this process requires that researchers assess and examine intra-group differences (e.g., language, skin tone, and gender) as an important source of variability. In conclusion, the present study identifies that taking a nuanced approach to understanding children's ethnic-racial identification is a fruitful area for future research.

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APPENDIX A
FIGURES

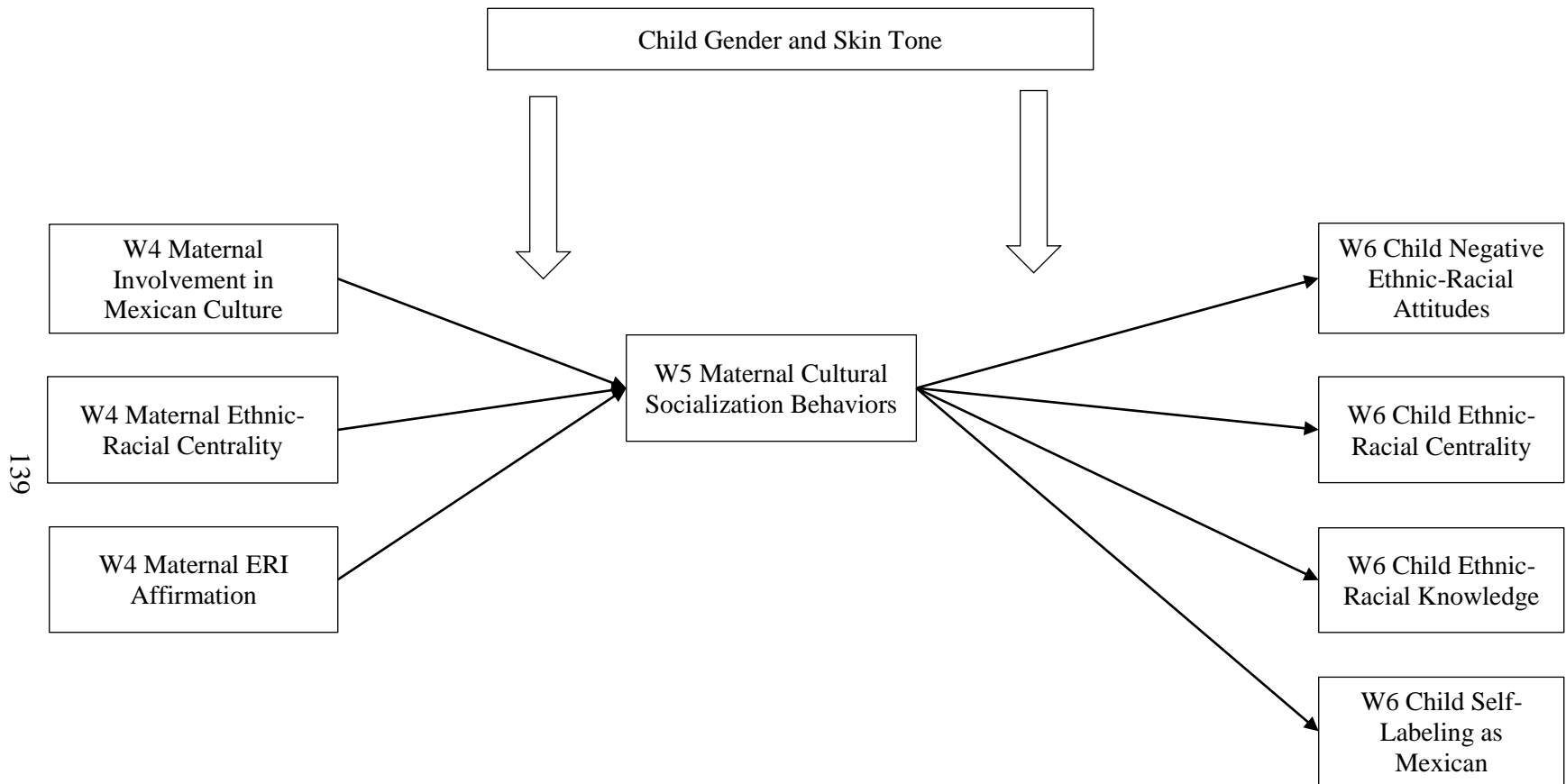


Figure 1. Conceptual model with child gender and skin tone included as moderators. W = Wave, ERI = Ethnic-Racial Identity.

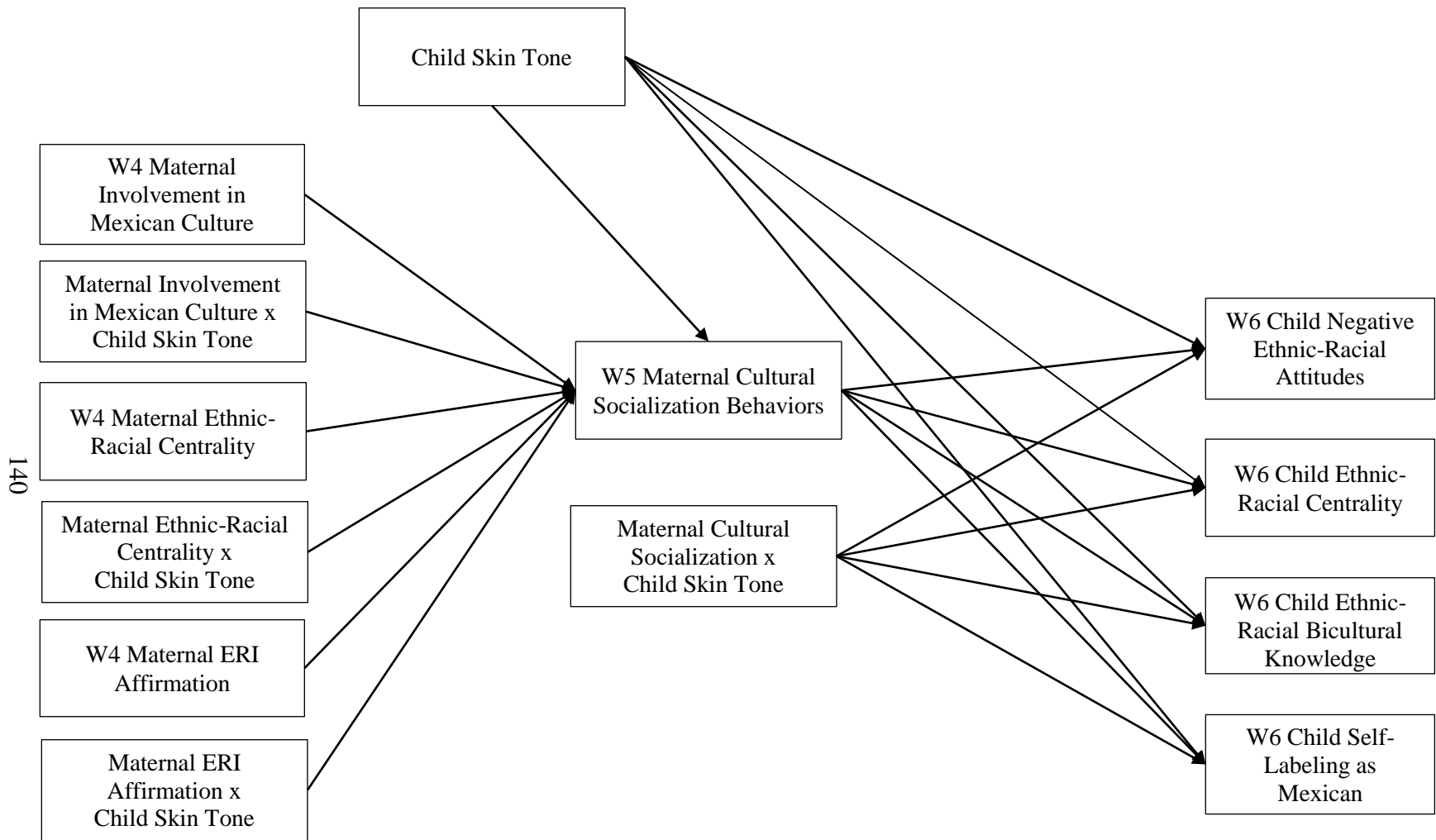


Figure 2. Hypothesized multigroup model with child gender as a grouping variable. W = Wave, ERI = Ethnic-Racial Identity. Mothers' age and nativity were included as controls but are not displayed for ease of illustration.

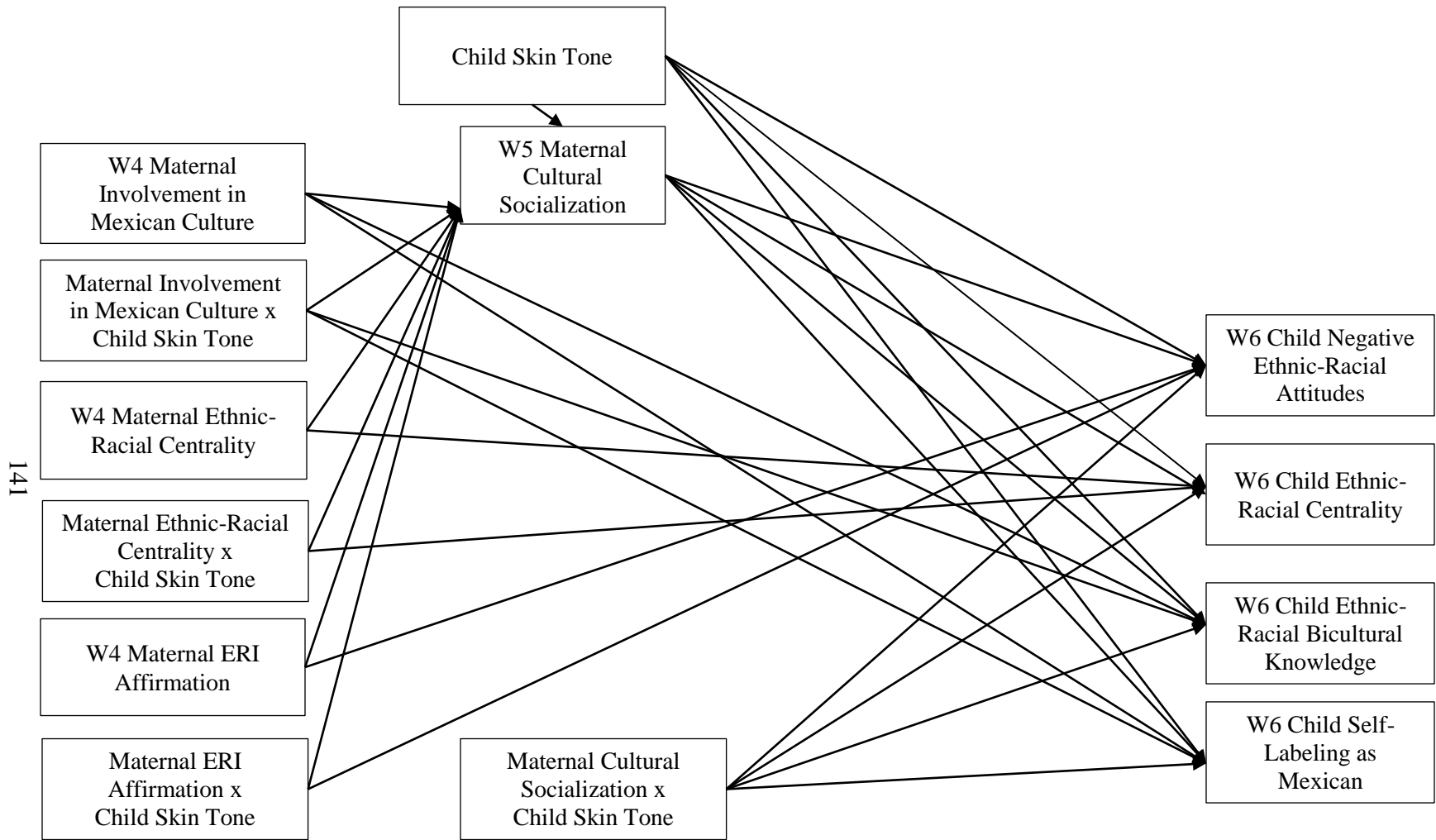
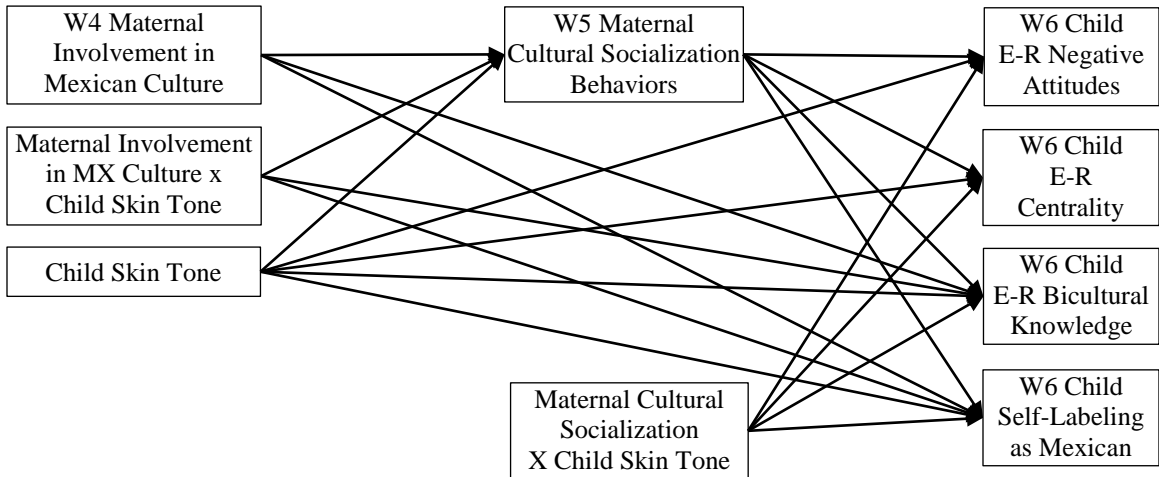
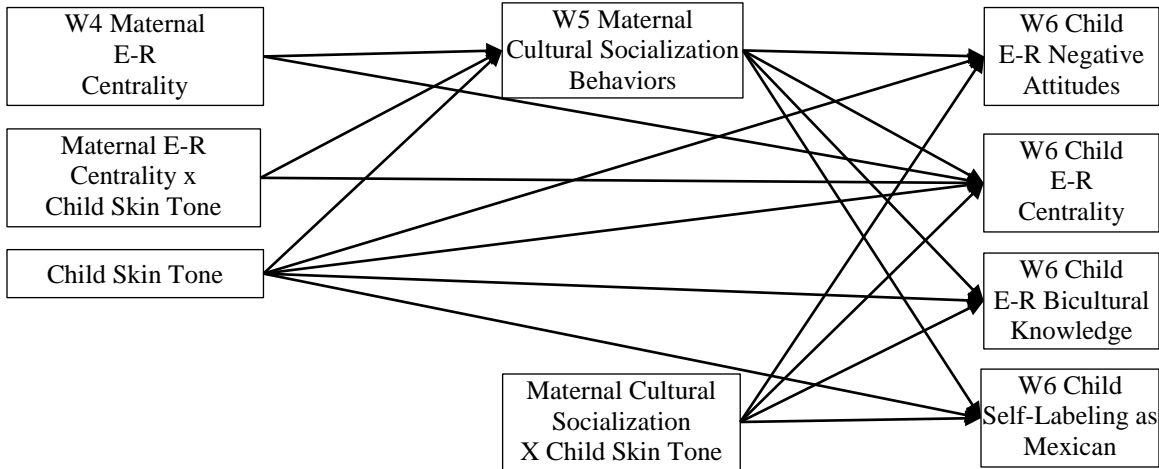


Figure 3. Alternative multigroup model (child gender is the grouping variable) that includes direct paths. ERI = Ethnic-Racial Identity. Mothers' age and nativity will be included as controls but are not displayed for ease of illustration.

(a) Maternal Involvement in Mexican Culture as the Predictor



(b) Maternal E-R Centrality as the Predictor



(c) Maternal E-R Identity Affirmation as the Predictor

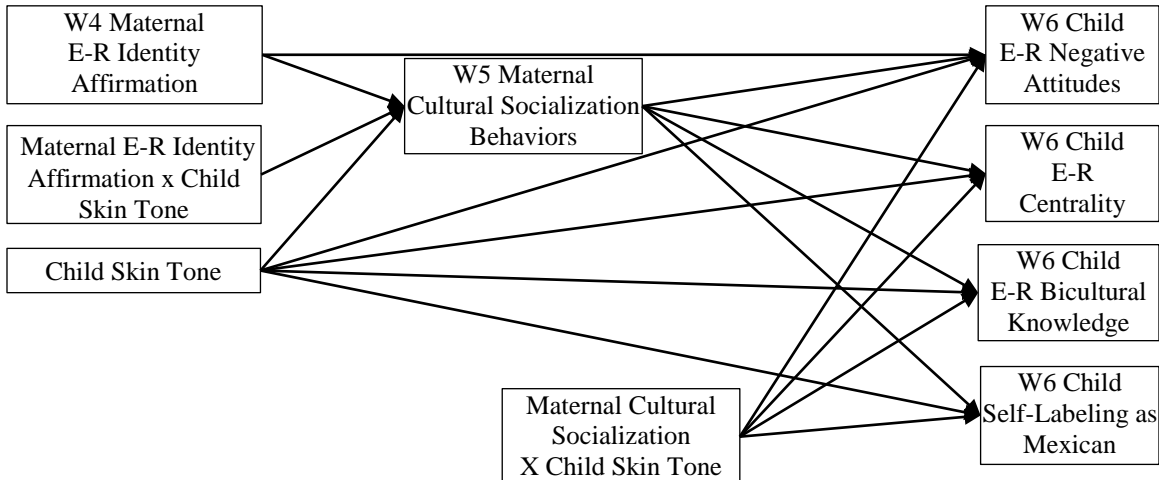


Figure 4. Paths that were tested in each multigroup model (grouped by gender) predicting children's ethnic-racial identification with (a) maternal involvement in Mexican culture as the predictor, (b) maternal ethnic-racial centrality as the predictor, and (c) maternal ethnic-racial identity affirmation as the predictor. W = Wave. E-R = Ethnic-Racial. MX = Mexican. Mothers' age and nativity are included as controls but are not displayed for ease of illustration.

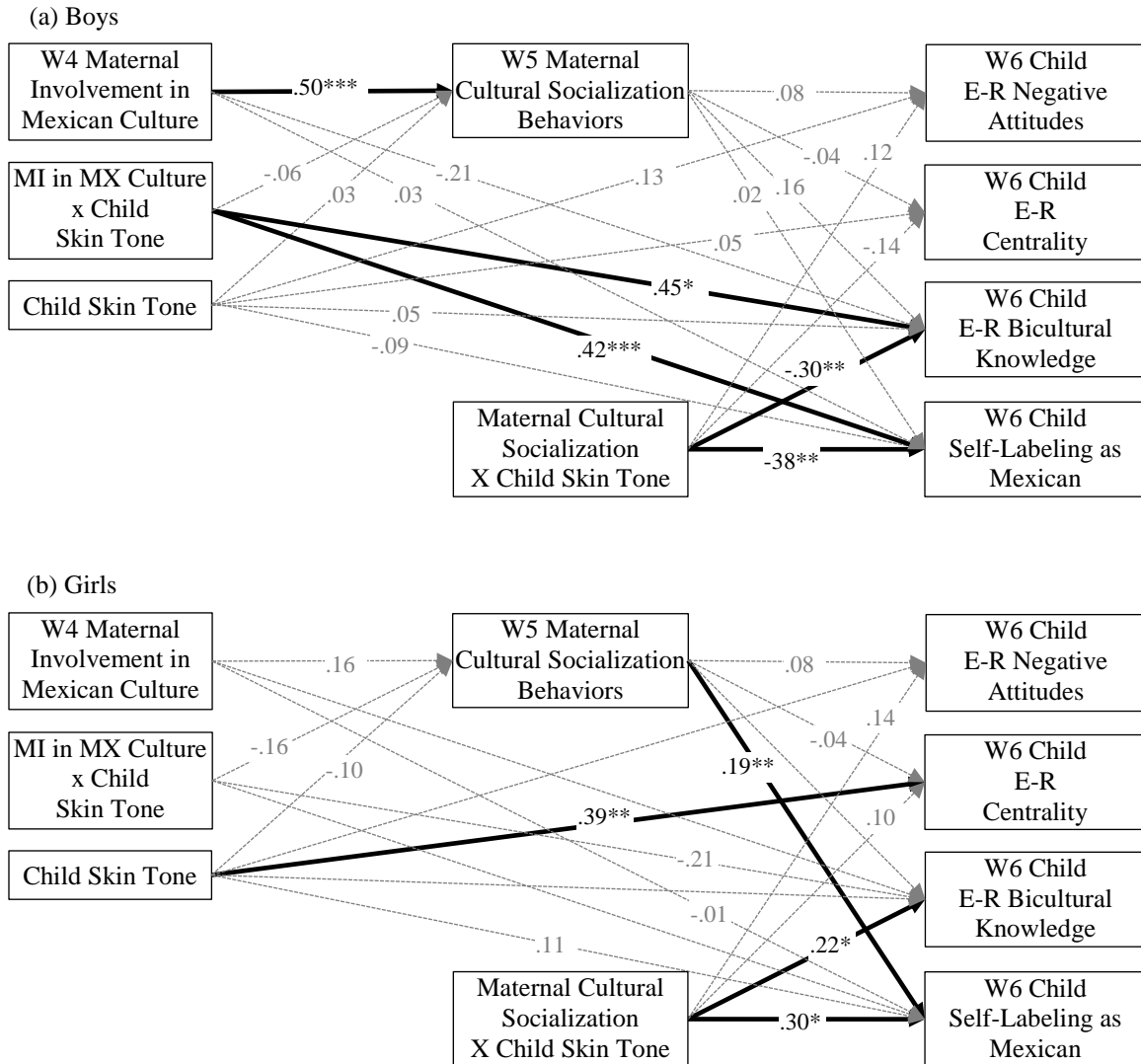


Figure 5. Final partially constrained multigroup model predicting children's ethnic-racial identification with maternal involvement in Mexican culture as the predictor for (a) boys and (b) girls. MI = Maternal involvement. MX = Mexican. Significant paths are black, and nonsignificant paths are grey. Mothers' age and nativity were included as controls but are not displayed for ease of illustration. Standardized coefficients are displayed and all exogenous variables are mean-centered.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

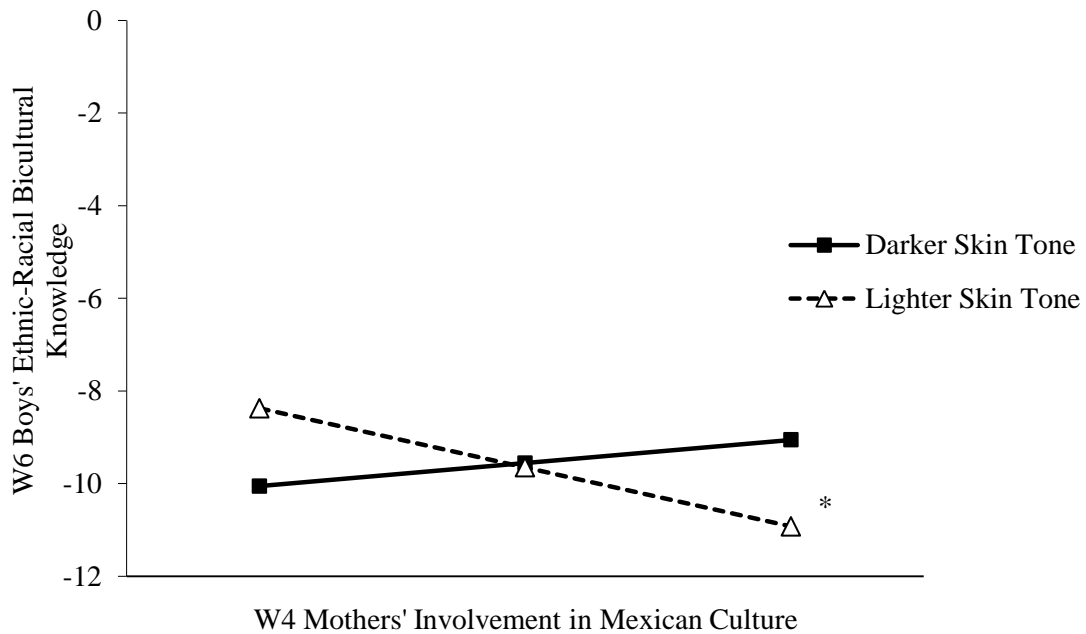


Figure 6a. Moderation effects of boys' skin tone on the association between mothers' involvement in Mexican culture and boys' ethnic-racial bicultural knowledge (in the model that included maternal involvement in Mexican culture as the predictor).

Note. W = Wave. *Denotes significant slope at $p < .05$.

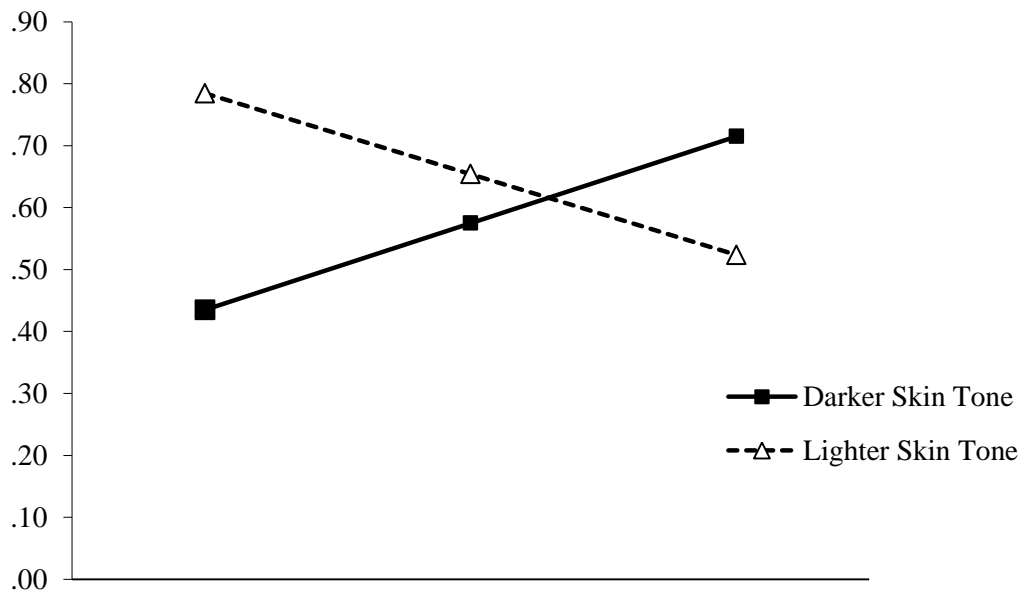


Figure 6b. Moderation effects of boys' skin tone on the association between mothers' involvement in Mexican culture and boys' self-labeling as Mexican (in the model that included maternal involvement in Mexican culture as the predictor).

Note. W = Wave. *Denotes significant slope at $p < .05$.

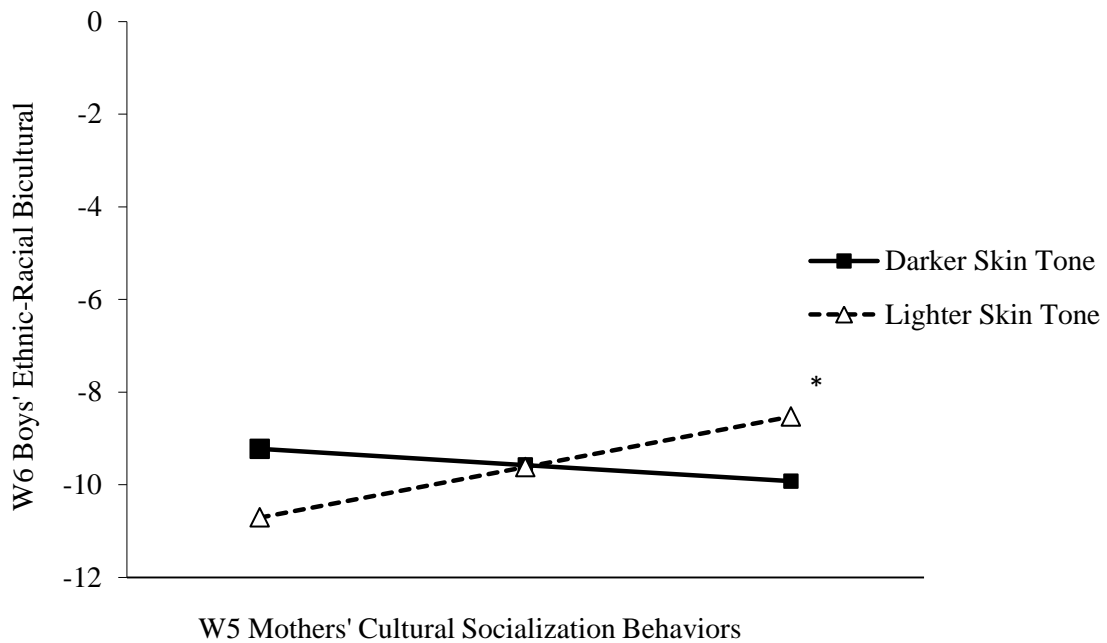


Figure 7a. Moderation effects of boys' skin tone on the association between mothers' cultural socialization behaviors and boys' ethnic-racial bicultural knowledge (in the model that included maternal involvement in Mexican culture as the predictor).

Note. W = Wave. *Denotes significant slope at $p < .05$.

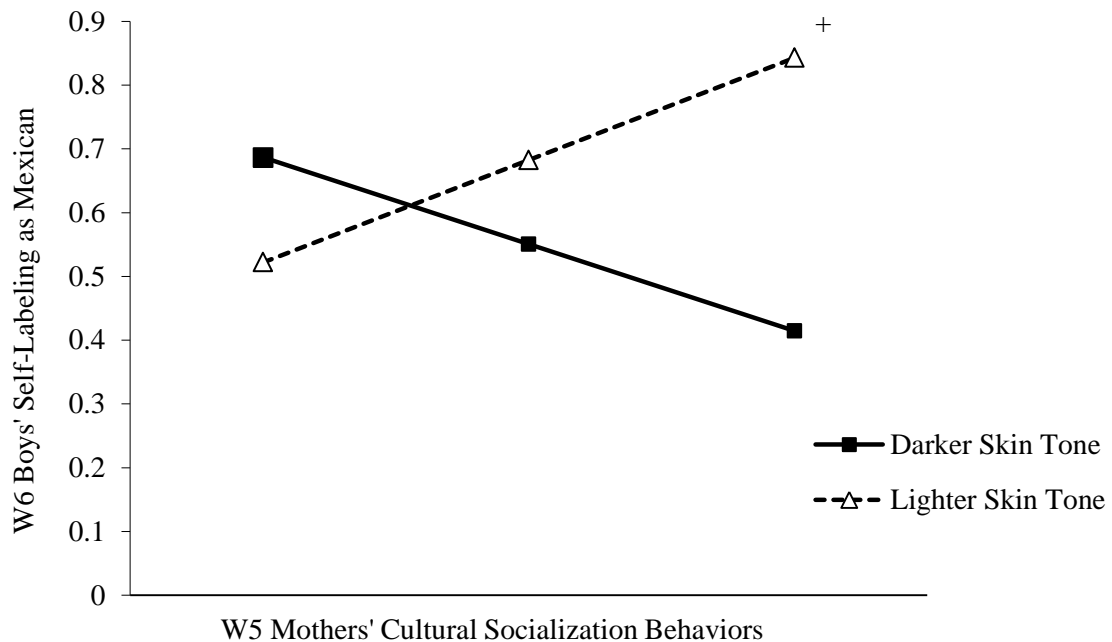


Figure 7b. Moderation effects of boys' skin tone on the association between mothers' cultural socialization behaviors and boys' self-labeling as Mexican (in the model that included maternal involvement in Mexican culture as the predictor).

Note. W = Wave. +Denotes slope approaching significance at $p < .10$.

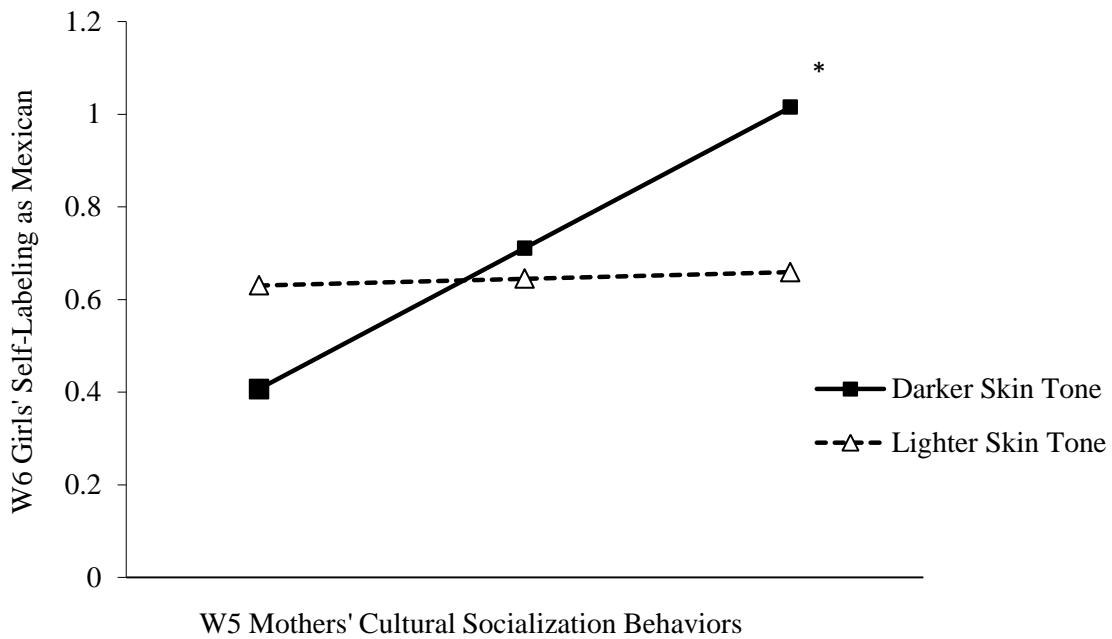


Figure 8a. Moderation effects of girls' skin tone on the association between mothers' cultural socialization behaviors and girls' self-labeling as Mexican (in the model that included maternal involvement in Mexican culture as the predictor).

Note. W = Wave. *Denotes significant slope at $p < .05$.

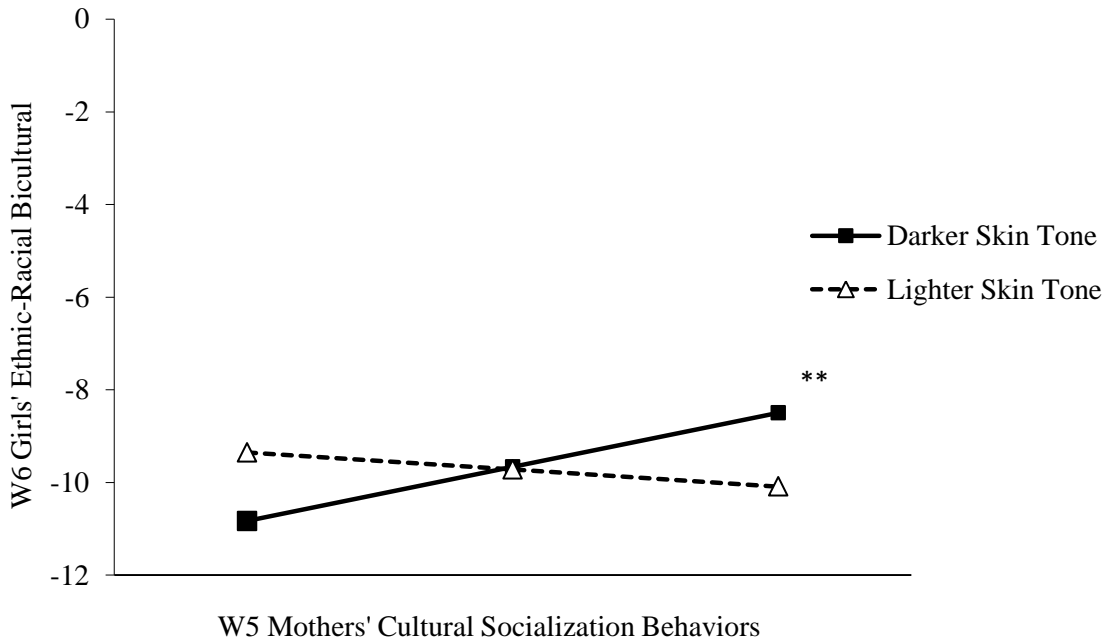


Figure 8b. Moderation effects of girls' skin tone on the association between mothers' cultural socialization behaviors and girls' ethnic-racial bicultural knowledge (in the model that included maternal involvement in Mexican culture as the predictor).

Note. W = Wave. **Denotes significant slope at $p < .01$.

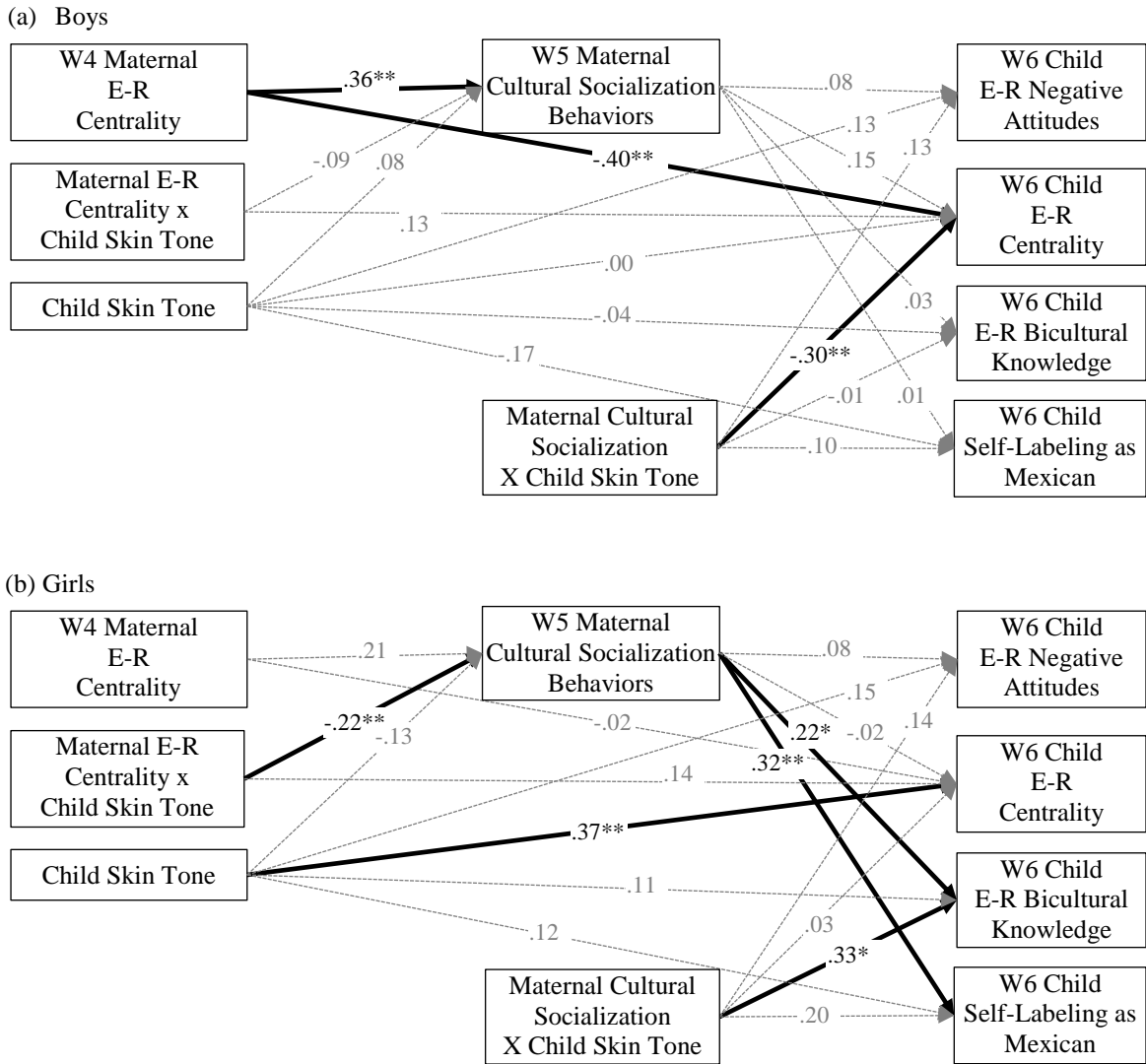


Figure 9. Final partially constrained multigroup model predicting children's ethnic-racial identification with maternal ethnic-racial centrality as the predictor for (a) boys and (b) girls. Significant paths are black, and nonsignificant paths are grey. Mothers' age and nativity were included as controls but are not displayed for ease of illustration. Standardized coefficients are displayed and all exogenous variables are mean-centered.

* $p < .05$. ** $p < .01$. *** $p < .001$.

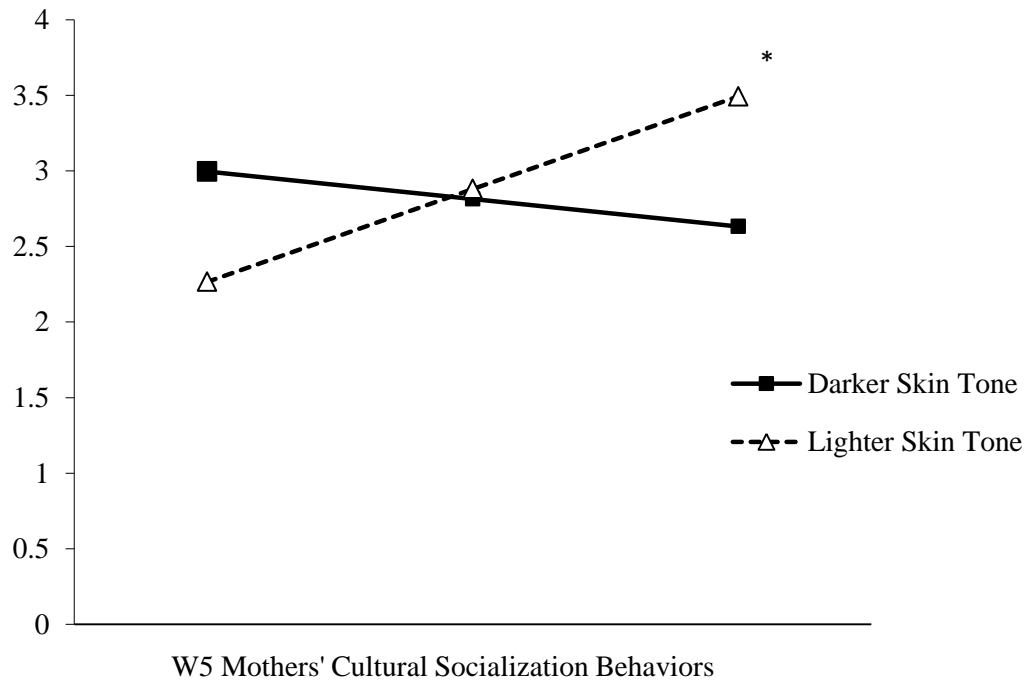


Figure 10. Moderation effects of boys' skin tone on the association between mothers' cultural socialization behaviors and boys' ethnic-racial centrality (in the model that included maternal ethnic-racial centrality as the predictor).

Note. W = Wave. *Denotes significant slope at $p < .05$.

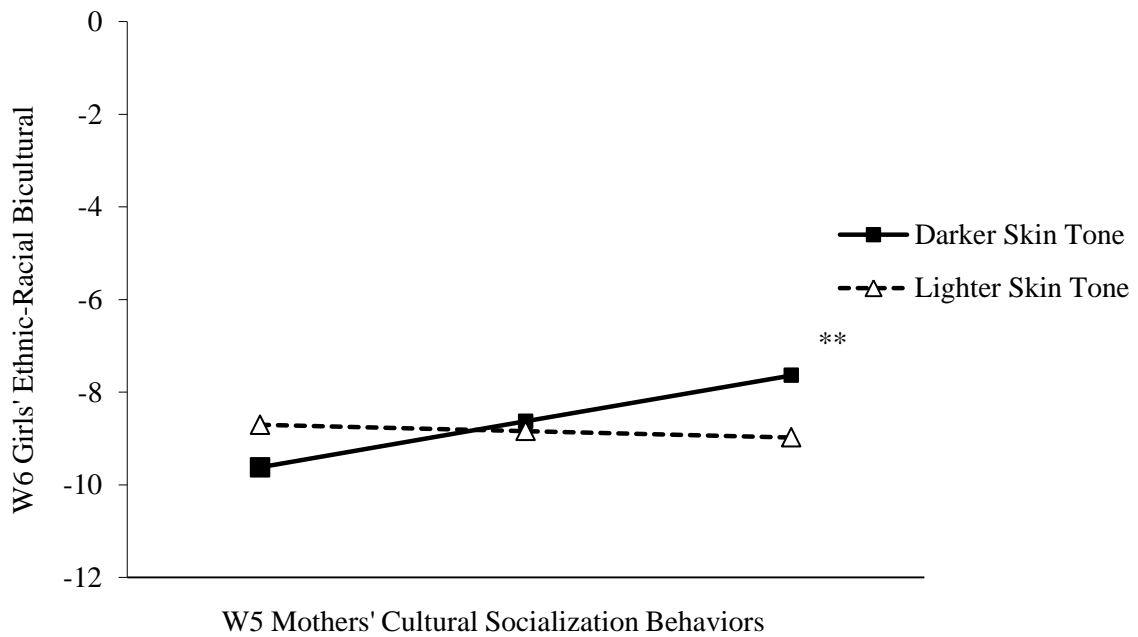


Figure 11a. Moderation effects of girls' skin tone on the association between mothers' cultural socialization behaviors and girls' ethnic-racial bicultural knowledge (in the model that included maternal ethnic-racial centrality as the predictor).

Note. W = Wave. **Denotes significant slope at $p < .01$.

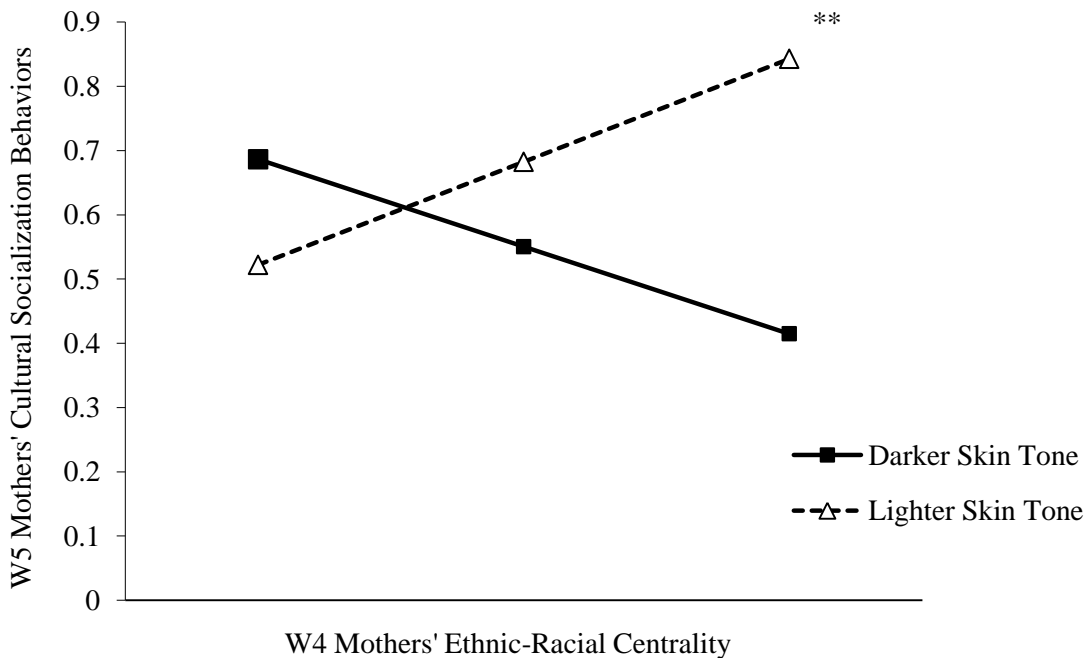


Figure 11b. Moderation effects of girls' skin tone on the association between mothers' ethnic-racial centrality and mothers' cultural socialization behaviors (in the model that included maternal ethnic-racial centrality as the predictor).

Note. W = Wave. **Denotes significant slope at $p < .01$.

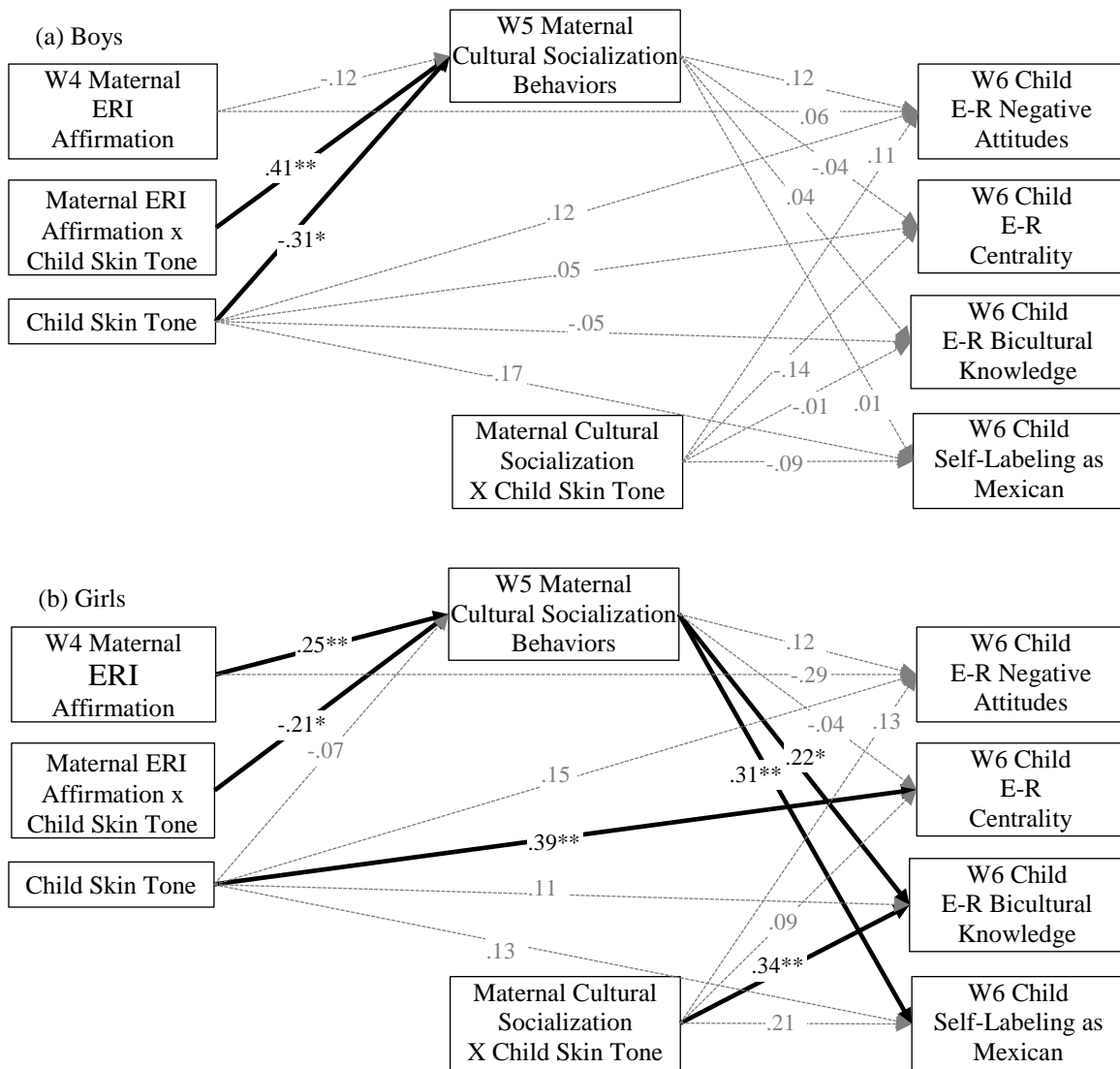


Figure 12. Final partially constrained multigroup model predicting children's ethnic-racial identification with maternal ethnic-racial identity affirmation as the predictor for (a) boys and (b) girls. ERI = ethnic-racial identity. Significant paths are black, and nonsignificant paths are grey. Mothers' age and nativity were included as controls but are not displayed for ease of illustration. Standardized coefficients are displayed and all exogenous variables are mean-centered.

* $p < .05$. ** $p < .01$. *** $p < .001$.



Figure 13. Moderation effects of boys' skin tone on the association between mothers' ethnic-racial identity affirmation and mothers' cultural socialization (in the model that included maternal ethnic-racial identity affirmation as the predictor).

Note. W = Wave. ***Denotes significant slope at $p < .001$.

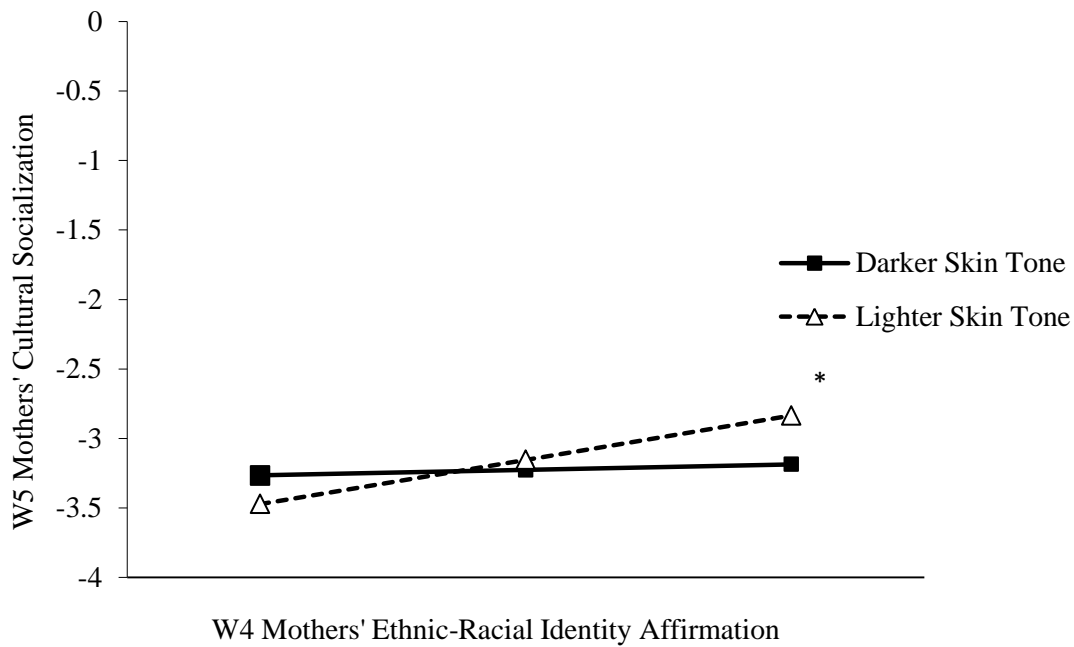


Figure 14a. Moderation effects of girls' skin tone on the association between mothers' ethnic-racial identity affirmation and mothers' cultural socialization (in the model that included maternal ethnic-racial identity affirmation as the predictor).

Note. W = Wave. *Denotes significant slope at $p < .05$.

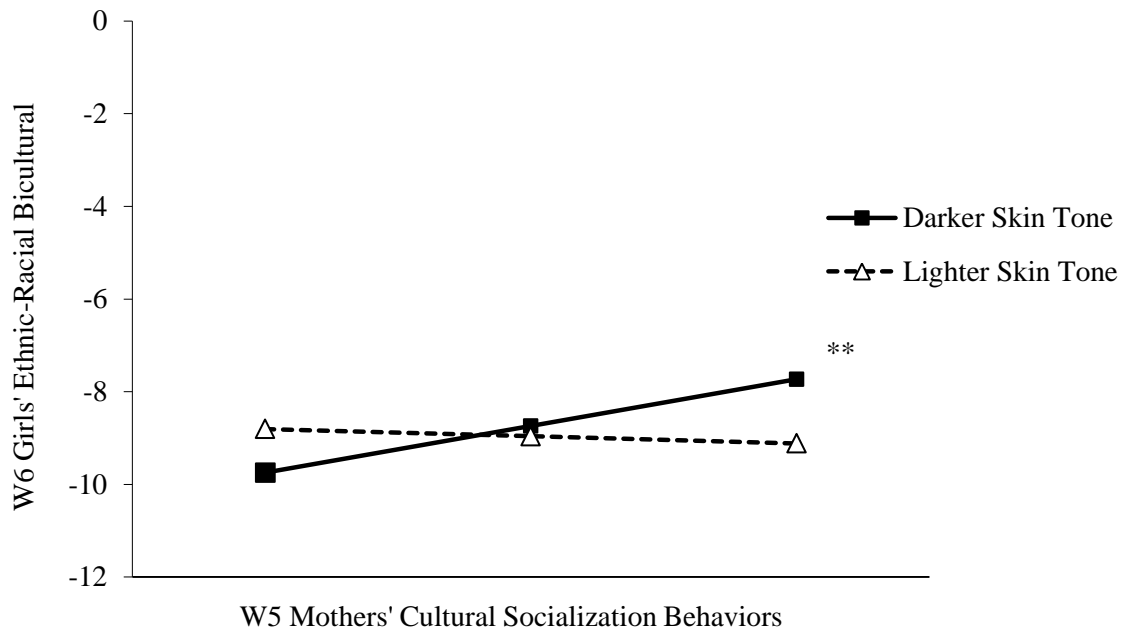


Figure 14b. Moderation effects of girls' skin tone on the association between mothers' cultural socialization behaviors and girls' ethnic-racial bicultural knowledge (in the model that included maternal ethnic-racial identity affirmation as the predictor).

Note. W = Wave. **Denotes significant slope at $p < .01$.

APPENDIX B

MATERIALS IN THE ETHNIC-RACIAL ATTITUDES MEASURE



APPENDIX C

BOY DOLLS IN THE ETHNIC-RACIAL ATTITUDES MEASURE

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APPENDIX D

GIRL DOLLS IN THE ETHNIC-RACIAL ATTITUDES MEASURE



APPENDIX E

CARDS FOR BOYS IN THE ETHNIC-RACIAL ATTITUDES MEASURE

smart	inteligente
good	bueno
ugly	feo
handsome	guapo
clean	limpio
bad	malo
friendly	amigable
kind	amable
dumb	tonto
naughty	travieso
dirty	sucio
mean	grosero

APPENDIX F

CARDS FOR GIRLS IN THE ETHNIC-RACIAL ATTITUDES MEASURE

smart	inteligente
good	buena
ugly	fea
pretty	bonita
clean	limpia
bad	mala
friendly	amigable
kind	amable
dumb	tonta
naughty	traviesa
dirty	sucia
mean	grosera

APPENDIX G

CATEGORY OPTIONS IN THE ETHNIC-RACIAL CENTRALITY MEASURE

(a) Son/Daughter



(b) 5-Year-Old



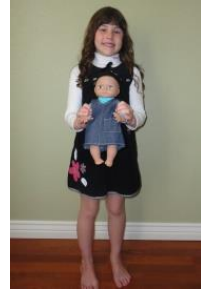
(c) Friend



(d) Boy/Girl



(e) Mexican



APPENDIX H
QUESTIONS AND RESPONSE OPTIONS FOR THE ETHNIC-RACIAL
KNOWLEDGE MEASURE

1. What do you think Mexican children do at their birthday parties?



2. Who do you think visits Mexican children and gives them presents?



3. What do you think Mexican children eat?



4. What flag do you think Mexican children have in their home?



5. What holiday do you think Mexican children celebrate?



6. What sport do you think Mexican children play?



7. What dance do you think Mexican children do?



8. What do you think Mexican children do when they say "Hi" to someone?



APPENDIX I

TABLES 1 - 26

Table 1
Confirmatory Factor Analysis for the 1-Factor and 2-Factor Solution for Ethnic-Racial Attitudes Measure (N = 105)

Items	Loadings
One-Factor Model	
Item 1. This card says smart. Some children are smart. Is the Mexican girl (boy) smart?	-.28
Item 2. This card says good. Some children are good. Is the Mexican girl (boy) good?	-.41
Item 3. This card says ugly. Some children are ugly. Is the Mexican girl (boy) ugly?	.70
Item 4. This card says pretty. Some children are pretty. Is the Mexican girl (boy) pretty (handsome)?	-.69
Item 5. This card says clean. Some children are clean. Is the Mexican girl (boy) clean?	-.48
Item 6. This card says bad. Some children are bad. Is the Mexican girl (boy) bad?	.87
Item 7. This card says friendly. Some children are friendly. Is the Mexican girl (boy) friendly?	-.46
Item 8. This card says kind. Some children are kind. Is the Mexican girl (boy) kind?	-.34
Item 9. This card says dumb. Some children are dumb. Is the Mexican girl (boy) dumb?	.81
Item 10. This card says naughty. Some children are naughty. Is the Mexican girl (boy) naughty?	.58
Item 11. This card says dirty. Some children are dirty. Is the Mexican girl (boy) dirty?	.83
Item 12. This card says mean. Some children are mean. Is the Mexican girl (boy) mean?	.93
Two-Factor Model	
Factor 1 - Positive Attitudes	
Item 1. This card says smart. Some children are smart. Is the Mexican girl (boy) smart?	.43
Item 2. This card says good. Some children are good. Is the Mexican girl (boy) good?	.60
Item 4. This card says pretty. Some children are pretty. Is the Mexican girl (boy) pretty (handsome)?	.95
Item 5. This card says clean. Some children are clean. Is the Mexican girl (boy) clean?	.56
Item 7. This card says friendly. Some children are friendly. Is the Mexican girl (boy) friendly?	.69
Item 8. This card says kind. Some children are kind. Is the Mexican girl (boy) kind?	.57
Factor 2 - Negative Attitudes	
Item 3. This card says ugly. Some children are ugly. Is the Mexican girl (boy) ugly?	.51
Item 6. This card says bad. Some children are bad. Is the Mexican girl (boy) bad?	.63
Item 9. This card says dumb. Some children are dumb. Is the Mexican girl (boy) dumb?	.59
Item 10. This card says naughty. Some children are naughty. Is the Mexican girl (boy) naughty?	.43
Item 11. This card says dirty. Some children are dirty. Is the Mexican girl (boy) dirty?	.60
Item 12. This card says mean. Some children are mean. Is the Mexican girl (boy) mean?	.67

Note. The wording used for girls is shown, and the wording used for boys is in parentheses. Varimax rotation was used. Loadings that are significant ($p < .05$) and above .40 are bolded.

Table 2
 Percentages for Endorsement of a Yes Response to Items in the Ethnic-Racial Attitudes Measure

Items	Full Sample (<i>N</i> = 105)	Separately by Mothers' Nativity ^a	Separately by Grandmothers' Nativity ^b	Separately by Mother- Grandmother Nativity ^c	Separately by Child Gender ^d
Positive Attitudes					
This card says smart. Some children are smart. Is the Mexican girl (boy) smart?	73%	61% / 78%	70% / 79%	61% / 77% / 79%	74% / 73%
This card says good. Some children are good. Is the Mexican girl (boy) good?	83%	79% / 84%	80% / 88%	79% / 81% / 88%	84% / 82%
This card says pretty. Some children are pretty. Is the Mexican girl (boy) pretty (handsome)?	85%	89% / 83%	85% / 85%	89% / 81% / 85%	90% / 80%
This card says clean. Some children are clean. Is the Mexican girl (boy) clean?	81%	75% / 83%	83% / 77%	75% / 88% / 77%	80% / 82%
This card says friendly. Some children are friendly. Is the Mexican girl (boy) friendly?	73%	79% / 71%	73% / 74%	79% / 70% / 74%	72% / 75%
This card says kind. Some children are kind. Is the Mexican girl (boy) kind?	62%	61% / 62%	61% / 65%	61% / 61% / 65%	58% / 66%
Negative Attitudes					
This card says ugly. Some children are ugly. Is the Mexican girl (boy) ugly?	20%	14% / 22%	17% / 27%	14% / 19% / 27%	18% / 22%
This card says bad. Some children are bad. Is the Mexican girl (boy) bad?	28%	14% / 33%	25% / 32%	14% / 33% / 32%	26% / 29%
This card says dumb. Some children are dumb. Is the Mexican girl (boy) dumb?	24%	14% / 27%	21% / 29%	14% / 26% / 29%	20% / 27%
This card says naughty. Some children are naughty. Is the Mexican girl (boy) naughty?	31%	32% / 31%	30% / 35%	32% / 28% / 35%	22% / 40%
This card says dirty. Some children are dirty. Is the Mexican girl (boy) dirty?	28%	29% / 27%	31% / 21%	29% / 33% / 21%	26% / 29%
This card says mean. Some children are mean. Is the Mexican girl (boy) mean?	24%	11% / 29%	18% / 35%	11% / 23% / 35%	20% / 27%

Note. ^aChildren with foreign-born mothers (*n* = 28) / U.S.-born mothers (*n* = 77) ^bChildren with foreign-born grandmothers (*n* = 71) / U.S.-born grandmothers (*n* = 34) ^cChildren with both foreign-born mother and grandmother (*n* = 28) / one foreign-born and one U.S.-born mother and grandmother (*n* = 43) / both U.S.-born mother and grandmother (*n* = 34). ^dChildren who were girls (*n* = 50) / boys (*n* = 55). Percentages reported are valid percentages (i.e., only children who responded are included). The wording used for boys is in parentheses.

Table 3
Item Correlations and Scale Reliabilities for the Spanish version (n = 28; above diagonal) and English version (n = 77; below diagonal) of the Positive Ethnic-Racial Attitudes Measure

	1	2	3	4	5	6	Reliability if Item Deleted (Spanish version) ^a	Reliability if Item Deleted (English version) ^b
1. Smart	--	-.03	-.24	-.07	.26	.08	.34	.68
2. Good	.20	--	.23	-.16	.24	.25	.25	.67
3. Pretty/ Handsome	.26*	.24*	--	-.10	.37	.26	.28	.65
4. Clean	.35**	.18	.24*	--	-.26	-.14	.49	.67
5. Friendly	.17	.32**	.54***	.15	--	.25	.09	.65
6. Kind	.26*	.35**	.25*	.37***	.34**	--	.17	.64
<i>Measure without Item 4: Clean</i>								
	1	2	3	4	5	6	Reliability if Item Deleted (Spanish version) ^c	Reliability if Item Deleted (English version) ^d
1. Smart	--	-.03	-.24	-.07	.26	.08	.56	.67
2. Good	.20	--	.23	-.16	.24	.25	.43	.63
3. Pretty/ Handsome	.26*	.24*	--	-.10	.37	.26	.46	.60
4. Clean	.35**	.18	.24*	--	-.26	-.14	NA	NA
5. Friendly	.17	.32**	.54***	.15	--	.25	.27	.58
6. Kind	.26*	.35**	.25*	.37***	.34**	--	.38	.62
<i>Measure without Item 4: Clean and Item 1: Smart</i>								
	1	2	3	4	5	6	Reliability if Item Deleted (Spanish version) ^e	Reliability if Item Deleted (English version) ^f
1. Smart	--	-.03	-.24	-.07	.26	.08	NA	NA
2. Good	.20	--	.23	-.16	.24	.25	.50	.63
3. Pretty/ Handsome	.26*	.24*	--	-.10	.37	.26	.49	.60
4. Clean	.35**	.18	.24*	--	-.26	-.14	NA	NA
5. Friendly	.17	.32**	.54***	.15	--	.25	.46	.54
6. Kind	.26*	.35**	.25*	.37***	.34**	--	.51	.64

Note. Children who completed the Spanish version of the measure are above the diagonal; Children who completed the English version of the measure are below the diagonal. ^aReliability is .34 for the Spanish version of the measure. ^bReliability is .70 for the English version of the measure. ^cReliability is .49 for the Spanish version of the measure. ^dReliability is .67 for the English version of the measure. ^eReliability is .56 for the Spanish version of the measure. ^fReliability is .67 for the English version of the measure. NA = Not applicable because the item was deleted at an earlier step. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Bivariate Correlations to Examine Convergent Validity for the 4-item Composite and Individual Items for the Full Sample, Spanish Version, and English Version of the Positive Ethnic-Racial Attitudes Measure

	Mothers' Cultural Socialization	Mothers' ERI Affirmation	Mothers' Nativity	Grandmothers' Nativity	Mother-Grandmother Nativity	Children's Self-Labeling as Mexican	Children's Spanish Language Ability
<i>Full Sample (N = 105)</i>							
Positive Attitudes Composite	-.06	.04	-.03	.07	.02	.21**	.13+
Item Good	-.12	.18*	.13+	.19*	.16*	.33***	-.12
Item Pretty/Handsome	.04	-.21**	-.16*	.02	-.07	-.05	.57***
Item Friendly	-.00	-.25***	-.13+	.01	-.06	.07	.15*
Item Kind	-.14	.20**	.03	.07	.05	.38***	.11
<i>Spanish Version (n = 28)</i>							
Positive Attitudes Composite	.15*	.16*	-.55***	--	-.54***	-.10	.28***
Item Good	.20**	.33***	-.52***	--	-.56***	.05	-.09
Item Pretty/Handsome	-.01	-.51***	-.44***	--	-.79***	-.43***	.35***
Item Friendly	.14+	-.25***	-.46***	--	-.50***	-.16*	.28***
Item Kind	.17*	.51***	-.52***	--	-.56***	.09	.47***
<i>English Version (n = 77)</i>							
Positive Attitudes Composite	-.12	-.09	.17*	.03	.08	.29***	.20**
Item Good	-.22**	.02	.43***	.23**	.32***	.43***	-.20**
Item Pretty/Handsome	.04	-.05	.08	.15*	.13+	.12	.69**
Item Friendly	-.05	-.55***	-.05	-.11	-.09	.14+	.60**
Item Kind	-.23**	-.12	.19*	-.09	.02	.46***	.11

Note. ERI = ethnic-racial identity. Mothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Grandmothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Mother-grandmother nativity coded: 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother. Children's identification as Mexican coded: 0 = Child did not identify as Mexican, 1 = Child identified as Mexican.

-- = correlation was unable to be computed. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5
Item Correlations and Reliability for the Spanish Version (n = 28) and English Version (n = 77) of the Negative Ethnic-Racial Attitudes Measure

	1	2	3	4	5	6	Reliability if Item Deleted (Spanish version) ^a	Reliability if Item Deleted (English version) ^b
1. Ugly	--	.23	.19	.23	.16	.35+	.79	.81
2. Bad	.40***	--	.67***	.27	.38*	.44*	.75	.78
3. Dumb	.44***	.53***	--	.21	.30	.38*	.77	.78
4. Naughty	.19	.37***	.32**	--	.59***	.74***	.75	.83
5. Dirty	.44***	.51***	.44***	.30	--	.60***	.75	.78
6. Mean	.44***	.57***	.57***	.36**	.62***	--	.71	.76

Note. Children who completed the Spanish version of the measure are above the diagonal; Children who completed the English version of the measure are below the diagonal. ^aReliability is .79 for the Spanish version of the measure. ^bReliability is .82 for the English version of the measure.

+ $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Bivariate Correlations to Examine Convergent Validity for the Composite and Items for the Full Sample, Spanish Version, and English Version of the Negative Ethnic-Racial Attitudes Measure

	Mothers' Cultural Socialization	Mothers' ERI Affirmation	Mothers' Nativity	Grandmothers' Nativity	Mother-Grandmother Nativity	Children's Self-Labeling as Mexican	Children's Spanish Language Ability
<i>Full Sample (N = 105)</i>							
Negative Attitudes Composite	.07	-.15*	.17*	.12	.15*	.02	-.21**
Item Ugly	.16*	-.18*	.17*	.17*	.20**	-.02	-.42***
Item Bad	.08	-.14+	.35***	.35***	.12	-.03	-.21**
Item Dumb	.19*	-.09	.27***	.27***	.16*	.13*	-.12
Item Naughty	-.18*	-.24**	-.02	-.02	.10	.16*	-.14+
Item Dirty	.11	-.05	-.02	-.19*	-.11	-.17*	-.14+
Item Mean	.05	-.09	.38***	.31***	.35***	.05	-.37***
<i>Spanish Version (n = 28)</i>							
Negative Attitudes Composite	-.29***	-.49***	-.12	--	-.13+	-.05	.15*
Item Ugly	-.30***	-.59***	-.40***	--	-.88**	.09	-.08
Item Bad	-.00	-.33***	.17*	--	.19*	.26***	.16*
Item Dumb	.04	-.29***	.30***	--	.34***	-.17*	.25***
Item Naughty	-.54***	-.45***	-.50***	--	-.52***	-.05	.10
Item Dirty	-.44***	-.25***	-.14+	--	-.15*	-.27***	.24**
Item Mean	-.86***	-.44***	-.24**	--	-.26***	-.13+	.08
<i>English Version (n = 77)</i>							
Negative Attitudes Composite	.17*	.02	.23**	.03	.10	.01	-.26***
Item Ugly	.26***	.05	.25***	.06	.13+	-.09	-.33***
Item Bad	.12	-.02	.36***	.04	.15*	-.16*	-.39***
Item Dumb	.24**	.11	.25***	.17*	.20**	.22	-.53***
Item Naughty	-.11	-.18*	.01	-.03	-.02	.17*	.01
Item Dirty	.29***	.15*	.00	-.26***	-.17*	-.15*	-.25***
Item Mean	.21**	.15*	.52***	.22**	.32***	.04	-.35***

Note. ERI = ethnic-racial identity. Mothers' and grandmothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Mother-grandmother nativity coded: 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother. Children's identification as Mexican coded: 0 = Child did not identify as Mexican, 1 = Child identified as Mexican. -- = correlation unable to be computed. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7

Percentages for Order of Selection of “Being Mexican” for the Ethnic-Racial Centrality Measure

Items	Full Sample (<i>N</i> = 126)	Separately by Mothers’ Nativity ^a	Separately by Grandmothers’ Nativity ^b	Separately by Mother- Grandmother Nativity ^c	Separately by Child Gender ^d
Indicated that being Mexican was the 1 st most central out of 5 options	16%	15% / 17%	17% / 13%	15% / 19% / 13%	18% / 14%
Indicated that being Mexican was the 2 nd most central out of 5 options	20%	24% / 18%	21% / 18%	24% / 17% / 18%	25% / 16%
Indicated that being Mexican was the 3 rd most central out of 5 options	20%	12% / 24%	17% / 26%	12% / 21% / 26%	14% / 24%
Indicated that being Mexican was the 4 th most central out of 5 options	21%	27% / 18%	19% / 24%	27% / 13% / 24%	16% / 24%
Indicated that being Mexican was the 5 th most central out of 5 options	24%	22% / 25%	26% / 18%	22% / 30% / 18%	27% / 21%

Note. ^aChildren with foreign-born mothers (*n* = 41) / U.S.-born mothers (*n* = 85) ^bChildren with foreign-born grandmothers (*n* = 88) / U.S.-born grandmothers (*n* = 38) ^cChildren with both foreign-born mother and grandmother (*n* = 41) / one foreign-born and one U.S.-born mother and grandmother (*n* = 47) / both U.S.-born mother and grandmother (*n* = 38). ^dChildren who were girls (*n* = 50) / boys (*n* = 55). Percentages reported are valid percentages (i.e., only children who responded are included).

Table 8

Bivariate Correlations to Examine Convergent Validity for the 1-item Ethnic-Racial Centrality score for the Full Sample, Spanish version, and English version of the Measure

	Mothers' Cultural Socialization	Mothers' Ethnic-Racial Centrality	Mothers' Nativity	Grandmothers' Nativity	Mother-Grandmother Nativity	Children's Self-Labeling as Mexican	Children's Spanish Language Ability
<i>Full Sample</i>							
Child Ethnic-Racial Centrality	-.06	.02	.00	.01	.00	.33***	-.14+
<i>Spanish Version</i>							
Child Ethnic-Racial Centrality	-.10	.13+	-.00	-.19*	-.03	.27***	-.35***
<i>English Version</i>							
Child Ethnic-Racial Centrality	-.05	-.02	.05	.07	.06	.37***	-.04

Note. ERI = ethnic-racial identity. Mothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Grandmothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Mother-grandmother nativity coded: 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother. Children's identification as Mexican coded: 0 = Child did not identify as Mexican, 1 = Child identified as Mexican. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 9

Percentages for the Items in the Ethnic-Racial Knowledge Measure with the “Mexican-only” Scoring Method (i.e., children who selected the card that only depicted something that was traditionally Mexican)

Items	Full Sample (<i>N</i> = 132)	Separately by Mothers’ Nativity ^a	Separately by Grandmothers’ Nativity ^b	Separately by Mother- Grandmother Nativity ^c	Separately by Child Gender ^d
Item 1. What do you think Mexican children do at their birthday parties?	62%	68% / 59%	67% / 52%	68% / 65% / 52%	66% / 59%
Item 2. Who do you think visits Mexican children and gives them presents?	8%	7% / 8%	6% / 12%	7% / 4% / 12%	3% / 11%
Item 3. What do you think Mexican children eat?	32%	29% / 33%	29% / 38%	29% / 29% / 38%	36% / 29%
Item 4. What flag do you think Mexican children have in their home?	31%	34% / 30%	30% / 33%	34% / 27% / 33%	32% / 30%
Item 5. What holiday do you think Mexican children celebrate?	50%	59% / 46%	51% / 48%	59% / 45% / 48%	49% / 51%
Item 6. What sport do you think Mexican children play?	38%	34% / 40%	43% / 26%	34% _{ef} / 51% _e / 26% _f	46% / 32%
Item 7. What dance do you think Mexican children do?	50%	49% / 51%	53% / 43%	49% / 57% / 43%	41% / 58%
Item 8. What do you think Mexican children do when they say ‘Hi’ to someone?	28%	24% / 30%	30% / 24%	24% / 35% / 24%	36% / 22%

Note. ^aChildren with foreign-born mothers (*n* = 41) / U.S.-born mothers (*n* = 91) ^bChildren with foreign-born grandmothers (*n* = 90) / U.S.-born grandmothers (*n* = 42) ^cChildren with both foreign-born mother and grandmother (*n* = 41) / one foreign-born and one U.S.-born mother and grandmother (*n* = 49) / both U.S.-born mother and grandmother (*n* = 42). ^dChildren who were girls (*n* = 50) / boys (*n* = 55). Percentages reported are valid percentages (i.e., only children who responded are included). Percentages that are significantly different (*p* < .05) are bolded. For mother-grandmother nativity, percentages that do not share a subscript are significantly different from one another at *p* < .05.

Table 10

Item Correlations and Reliability for the Spanish Version (n = 42) and English Version (n = 90) of the Ethnic-Racial Knowledge Measure with the Mexican-only Scoring Method for the Original Measure

	1	2	3	4	5	6	7	8	Reliability if Item Deleted (Spanish version) ^a	Reliability if Item Deleted (English version) ^b
1. Birthday parties	--	-.21	-.15	.07	.20	-.06	.28+	.18	-.12	.25
2. Gives presents	.04	--	.32*	-.11	-.19	.18	-.14	-.12	.10	.23
3. Eat	.06	.12	--	-.06	-.09	-.05	-.08	-.01	.16	.22
4. Flag	.14	.02	.22*	--	.24	.15	-.20	-.10	.05	.18
5. Holiday	-.00	.23*	.02	-.04	--	-.07	.07	-.05	-.01	.24
6. Sport	.07	-.10	.04	.25*	-.03	--	-.30+	.01	.17	.22
7. Dance	.06	-.05	.10	-.03	.16	.06	--	.27+	.08	.24
8. Say hi	-.10	.17	-.16	-.03	.02	.03	-.05	--	-.03	.33

Note. Children who completed the Spanish version of the measure are above the diagonal; Children who completed the English version of the measure are below the diagonal. ^aReliability is .07 for the Spanish version of the measure. ^bReliability is .26 for the English version of the measure.

+ $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 11
Item Correlations and Reliability for the Spanish Version (n = 42) and English Version (n = 90) of the Ethnic-Racial Knowledge Measure with the Mexican-only Scoring Method at each Step of Item Reduction

<i>Measure Without Item 8</i>	1	2	3	4	5	6	7	Reliability if Item Deleted (Spanish) ^a	Reliability if Item Deleted (English) ^b
1. Birthday parties	--	-.21	-.15	.07	.20	-.06	.28+	-.22	.30
2. Gives presents	.04	--	.32*	-.11	-.19	.18	-.14	.00	.32
3. Eat	.06	.12	--	-.06	-.09	-.05	-.08	.09	.25
4. Flag	.14	.02	.22*	--	.24	.15	-.20	-.13	.25
5. Holiday	-.00	.23*	.02	-.04	--	-.07	.07	-.21	.32
6. Sport	.07	-.10	.04	.25*	-.03	--	-.30+	.11	.30
7. Dance	.06	-.05	.10	-.03	.16	.06	--	.10	.30

<i>Measure Without Items 8 and 6</i>	1	2	3	4	5	6	7	Reliability if Item Deleted (Spanish) ^c	Reliability if Item Deleted (English) ^d
1. Birthday parties	--	-.21	-.15	.07	.20	--	.28+	-.10	.28
2. Gives presents	.04	--	.32*	-.11	-.19	--	-.14	.16	.27
3. Eat	.06	.12	--	-.06	-.09	--	-.08	.23	.21
4. Flag	.14	.02	.22*	--	.24	--	-.20	.12	.27
5. Holiday	-.00	.23*	.02	-.04	--	--	.07	-.10	.28
7. Dance	.06	-.05	.10	-.03	.16	--	--	.11	.28

<i>Measure Without Items 8, 6, and 3</i>	1	2	3	4	5	6	7	Reliability if Item Deleted (Spanish) ^e	Reliability if Item Deleted (English) ^f
1. Birthday parties	--	-.21	--	.07	.20	--	.28+	-.03	.15
2. Gives presents	.04	--	--	-.11	-.19	--	-.14	.33	.17
4. Flag	.14	.02	--	--	.24	--	-.20	.26	.22
5. Holiday	-.00	.23*	--	-.04	--	--	.07	.01	.12
7. Dance	.06	-.05	--	-.03	.16	--	--	.24	.12

<i>Measure Without Item 8, 6, 3, and 4</i>	1	2	3	4	5	6	7	Reliability if Item Deleted (Spanish) ^g	Reliability if Item Deleted (English) ^h
1. Birthday parties	--	-.21	--	--	.20	--	.28+	-.05	.27
2. Gives presents	.04	--	--	--	-.19	--	-.14	.40	.19
5. Holiday	-.00	.23*	--	--	--	--	.07	.21	.06
7. Dance	.06	-.05	--	--	.16	--	--	.09	.17

<i>Measure Without Item 8, 6, 3, 4, and 2</i>	1	2	3	4	5	6	7	Reliability if Item Deleted (Spanish) ⁱ	Reliability if Item Deleted (English) ^j
1. Birthday parties	--	--	--	--	.20	--	.28+	-.05	.27
5. Holiday	-.00	--	--	--	--	--	.07	.21	.06
7. Dance	.06	--	--	--	.16	--	--	.09	.17

Note. Children who completed the Spanish version are above the diagonal; Children who completed the English version are below the diagonal. ^aReliability is -.03 (Spanish). ^bReliability is .33 (English). ^cReliability is .11 (Spanish). ^dReliability is .30 (English). ^eReliability is .23 (Spanish). ^fReliability is .21 (English). ^gReliability is .26 (Spanish). ^hReliability is .22 (English). ⁱReliability is .40 (Spanish). ^jReliability is .19 (English). + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 12

Bivariate Correlations to Examine Convergent Validity for the 3-Item Composite and Items for the Full Sample, Spanish Version, and English Version of the in the Ethnic-Racial Knowledge Measure with the Mexican-only Scoring Method

	Mothers' Cultural Socialization	Mothers' Involvement in Mexican Culture	Mothers' Nativity	Grandmothers' Nativity	Mother-Grandmother Nativity	Children's Self-Labeling as Mexican	Children's Spanish Language Ability
<i>Full Sample (N = 132)</i>							
Mexican-only Composite	.09	.17*	-.13+	-.18*	-.15*	-.06	-.00
Item: Birthday parties	.04	.21**	-.14+	-.22**	-.18*	-.11	-.16*
Item: Holiday	.22**	.16*	-.19*	-.05	-.12	.07	.20**
Item: Dance	-.06	.02	.03	-.16*	-.07	-.12	-.07
<i>Spanish Version (n = 42)</i>							
Mexican-only Composite	.00	.11	-.01	.19*	.02	.03	-.15*
Item: Birthday parties	-.05	.06	-.03	.23**	.06	-.07	-.35***
Item: Holiday	.24***	.16*	.11	.28***	.19*	.26***	-.01
Item: Dance	-.18*	.05	-.09	-.33***	-.18*	-.13+	-.03
<i>English Version (n = 90)</i>							
Mexican-only Composite	.13+	.17*	-.19*	-.23**	-.21**	-.11	.11
Item: Birthday parties	.07	.26***	-.21**	-.32***	-.28***	-.12	.13+
Item: Holiday	.22**	.07	-.28***	-.02	-.12	-.00	.23**
Item: Dance	-.00	.07	.04	-.20**	-.11	-.13+	-.08

Note. Mothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Grandmothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Mother-grandmother nativity coded: 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother. Children's identification as Mexican coded: 0 = Child did not identify as Mexican, 1 = Child identified as Mexican.

+ $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 13

Percentages for the Items in the Ethnic-Racial Knowledge Measure with the Mexican/Flexible Scoring Method (i.e., children who selected the card that depicted something that was traditionally Mexican or the card that depicted something traditionally Mexican and something traditionally American)

Items	Full Sample (<i>N</i> = 132)	Separately by Mothers' Nativity ^a	Separately by Grandmothers' Nativity ^b	Separately by Mother- Grandmother Nativity ^c	Separately by Child Gender ^d
Item 1. What do you think Mexican children do at their birthday parties?	85%	93% / 81%	88% / 79%	93% / 84% / 79%	86% / 84%
Item 2. Who do you think visits Mexican children and gives them presents?	21%	22% / 20%	16% / 31%	22% / 10% / 31%	17% / 23%
Item 3. What do you think Mexican children eat?	58%	56% / 58%	54% / 64%	56% / 53% / 64%	68% / 49%
Item 4. What flag do you think Mexican children have in their home?	46%	44% / 47%	40% / 60%	44% / 37% / 60%	42% / 49%
Item 5. What holiday do you think Mexican children celebrate?	68%	71% / 67%	61% / 83%	71% _{ef} / 53% _e / 83% _f	64% / 71%
Item 6. What sport do you think Mexican children play?	64%	61% / 66%	68% / 57%	61% / 74% / 57%	73% / 58%
Item 7. What dance do you think Mexican children do?	72%	71% / 73%	70% / 76%	71% / 69% / 76%	64% / 78%
Item 8. What do you think Mexican children do when they say 'Hi' to someone?	52%	51% / 52%	47% / 62%	51% / 43% / 62%	56% / 48%

Note. ^aChildren with foreign-born mothers (*n* = 41) / U.S.-born mothers (*n* = 91) ^bChildren with foreign-born grandmothers (*n* = 90) / U.S.-born grandmothers (*n* = 42) ^cChildren with both foreign-born mother and grandmother (*n* = 41) / one foreign-born and one U.S.-born mother and grandmother (*n* = 49) / both U.S.-born mother and grandmother (*n* = 42). ^dChildren who were girls (*n* = 50) / boys (*n* = 55). Percentages reported are valid percentages (i.e., only children who responded are included). Percentages that are significantly different (*p* < .05) are bolded. For mother-grandmother nativity, percentages with different subscripts are significantly different from one another at *p* < .05.

Table 14

Exploratory Factor Analysis for the Ethnic-Racial Knowledge Measure with the Mexican/Flexible Scoring Method (N = 132)

<u>Items</u>	1-Factor Solution	2-Factor Solution	3-Factor Solution	3-Factor Solution	3-Factor Solution	3-Factor Solution
Item 1. What do you think Mexican children do at their birthday parties?	-.13	-.27	.11	-.56	.61	.01
Item 2. Who do you think visits Mexican children and gives them presents?	.65	.90	.00	.87	-.02	.01
Item 3. What do you think Mexican children eat?	.05	-.08	.14	-.13	.16	.11
Item 4. What flag do you think Mexican children have in their home?	.20	.22	.02	.03	.58	-.13
Item 5. What holiday do you think Mexican children celebrate?	.70	.08	.88	.29	.01	.78
Item 6. What sport do you think Mexican children play?	-.10	.28	-.40	-.00	.60	-.62
Item 7. What dance do you think Mexican children do?	.23	-.37	.61	-.22	-.01	.57
Item 8. What do you think Mexican children do when they say 'Hi' to someone?	.53	.46	.11	.47	.06	.08
% Variance Explained	16.46	17.94	13.36	10.23	18.20	13.21

Note. Varimax rotation was used. Loadings that are significant ($p < .05$) and above .40 are bolded.

Table 15

Item Correlations and Reliability for the Spanish Version (n = 42) and English Version (n = 90) of the Revised Ethnic-Racial Knowledge Measure with the Mexican/Flexible Scoring Method

	2	5	8	Reliability if Item Deleted (Spanish version) ^a	Reliability if Item Deleted (English version) ^b
2. Gives presents	--	.09	.20	.29	.30
5. Holiday	.23*	--	.17	.32	.47
8. Say Hi	.31**	.18	--	.16	.38

Note. Children who completed the Spanish version of the measure are above the diagonal; Children who completed the English version of the measure are below the diagonal. ^aReliability is .35 for the Spanish version of the measure.

^bReliability is .48 for the English version of the measure.

Table 16

Bivariate Correlations to Examine Convergent Validity for the 3-Item Composite and Items for the Full Sample, Spanish Version, and English Version of the Ethnic-Racial Knowledge Measure with the Mexican/Flexible Scoring Method

	Mothers' Cultural Socialization	Mothers' Involvement in Mexican Culture	Mothers' Nativity	Grandmothers' Nativity	Mother-Grandmother Nativity	Children's Self-Labeling as Mexican	Children's Spanish Language Ability
<i>Full Sample (N = 132)</i>							
Mexican/Flexible Composite	.05	-.08	-.04	.32***	.15*	.21**	-.06
Item Gives presents	-.11	-.14+	-.05	.31***	.14+	.27***	-.17*
Item Holiday	.22**	.01	-.06	.38***	.16*	.12	.13+
Item Say Hi	.00	-.09	.01	.23**	.12	.21**	-.17*
<i>Spanish Version (n = 42)</i>							
Mexican/Flexible Composite	.05	.04	.14+	.34***	.17*	.18*	-.29***
Item Gives presents	-.18*	.53***	-.19*	.09	-.23**	.45***	-.23**
Item Holiday	.38***	.21**	.18*	.11	.23**	.24**	-.03
Item Say Hi	-.07	-.30***	.26***	.28***	.32***	-.05	-.50***
<i>English Version (n = 90)</i>							
Mexican/Flexible Composite	.05	-.16*	-.10	.42***	.23**	.23**	-.10
Item Gives presents	-.09	-.16*	-.10	.33***	.16*	.21**	-.16*
Item Holiday	.17*	-.13+	-.13+	.51***	.26***	.07	.10
Item Say Hi	.03	-.15*	-.04	.34***	.19*	.34***	-.25***

Note. Mothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Grandmothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Mother-grandmother nativity coded: 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother. Children's identification as Mexican coded: 0 = Child did not identify as Mexican, 1 = Child identified as Mexican. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 17

Percentages for the Items in the Ethnic-Racial Knowledge Measure with the Bicultural Scoring Method (i.e., children who selected the card that depicted something traditionally Mexican and something traditionally American)

Items	Full Sample (<i>N</i> = 132)	Separately by Mothers' Nativity ^a	Separately by Grandmothers' Nativity ^b	Separately by Mother-Grandmother Nativity ^c	Separately by Child Gender ^d
Item 1. What do you think Mexican children do at their birthday parties?	23%	24% / 22%	21% / 26%	24% / 18% / 26%	20% / 25%
Item 2. Who do you think visits Mexican children and gives them presents?	13%	15% / 12%	10% / 19%	15% / 6% / 19%	14% / 12%
Item 3. What do you think Mexican children eat?	26%	27% / 25%	26% / 26%	27% / 25% / 26%	32% / 21%
Item 4. What flag do you think Mexican children have in their home?	15%	10% / 18%	10% / 26%	10% / 10% / 26%	10% / 19%
Item 5. What holiday do you think Mexican children celebrate?	18%	12% / 21%	10% / 36%	12% _e / 8% _{eg} / 36% _f	15% / 21%
Item 6. What sport do you think Mexican children play?	27%	27% / 26%	24% / 31%	27% / 22% / 31%	27% / 26%
Item 7. What dance do you think Mexican children do?	22%	22% / 22%	17% / 33%	22% / 12% / 33%	24% / 21%
Item 8. What do you think Mexican children do when they say 'Hi' to someone?	24%	27% / 22%	17% / 38%	27% _e / 8% _f / 38% _{eg}	20% / 26%

Note. ^aChildren with foreign-born mothers (*n* = 41) / U.S.-born mothers (*n* = 91) ^bChildren with foreign-born grandmothers (*n* = 90) / U.S.-born grandmothers (*n* = 42) ^cChildren with both foreign-born mother and grandmother (*n* = 41) / one foreign-born and one U.S.-born mother and grandmother (*n* = 49) / both U.S.-born mother and grandmother (*n* = 42). ^dChildren who were girls (*n* = 50) / boys (*n* = 55). Percentages reported are valid percentages (i.e., only children who responded are included). Percentages that are significantly different (*p* < .05) are bolded. For mother-grandmother nativity, rows with different subscripts are significantly different (*p* < .05).

Table 18
Exploratory Factor Analysis for the Ethnic-Racial Knowledge Measure with the Bicultural Scoring Method (N = 132)

Items	Factor 1
Item 1. What do you think Mexican children do at their birthday parties?	.62
Item 2. Who do you think visits Mexican children and gives them presents?	.67
Item 3. What do you think Mexican children eat?	.56
Item 4. What flag do you think Mexican children have in their home?	.75
Item 5. What holiday do you think Mexican children celebrate?	.83
Item 6. What sport do you think Mexican children play?	.57
Item 7. What dance do you think Mexican children do?	.73
Item 8. What do you think Mexican children do when they say 'Hi' to someone?	.81
% Variance Explained	48.89

Note. Loadings that are significant ($p < .05$) and above .40 are bolded.

Table 19

Item Correlations and Reliability for the Spanish version (n = 42) and English version (n = 90) of the Ethnic-Racial Knowledge Measure with the Bicultural Scoring Method

	1	2	3	4	5	6	7	8	Reliability if Item Deleted (Spanish version) ^a	Reliability if Item Deleted (English version) ^b
1. Birthday parties	--	.28+	.26	.12	.53***	.05	.05	.48**	.72	.73
2. Gives presents	.28**	--	.12	.32*	.48**	.31*	.31*	.53***	.69	.74
3. Eat	.26*	.15	--	.28+	.38*	.18	.18	.09	.73	.74
4. Flag	.21*	.44***	.22*	--	.27+	.31*	.31*	.17	.72	.72
5. Holiday	.29**	.13	.22*	.30**	--	.41**	.25	.45**	.67	.72
6. Sport	.29**	.12	.26*	.12	.25*	--	.08	.25	.73	.74
7. Dance	.27*	.20+	.26*	.43***	.49***	.17	--	.25	.74	.71
8. Say hi	.21*	.16	.32**	.37***	.43***	.40***	.47***	--	.69	.70

Note. Children who completed the Spanish version of the measure are above the diagonal; Children who completed the English version of the measure are below the diagonal. ^aReliability is .74 for the Spanish version of the measure. ^bReliability is .75 for the English version of the measure.

Table 20

Bivariate Correlations to Examine Convergent Validity for the 8-Item Composite and Items for the Full Sample, Spanish version, and English version of the Ethnic-Racial Knowledge Measure with the Bicultural Scoring Method

	Mothers' Cultural Socialization	Mothers' Involvement in Mexican Culture	Mothers' Nativity	Grandmothers' Nativity	Mother-Grandmother Nativity	Children's Self-Labeling as Mexican	Children's Spanish Language Ability
Full Sample (<i>N</i> = 132)							
Bicultural Composite	-.00	-.16*	.02	.29***	.17*	.20**	-.06
Item Birthday parties	.04	-.15*	-.05	.10	.03	.07	.18*
Item Gives presents	-.04	-.06	-.07	.24**	.09	.28***	-.19*
Item Eat	.13+	.05	-.03	.01	-.01	.23**	.23**
Item Flag	-.10	-.20**	.22**	.38***	.31***	.26***	-.43**
Item Holiday	-.05	-.21**	.21**	.52***	.39***	.05	-.13+
Item Sport	.04	.06	-.01	.12	.06	.00	-.13+
Item Dance	-.05	-.21**	.00	.32***	.17*	.11	-.16*
Item Say Hi	-.03	-.05	-.09	.39***	.16*	.36***	-.10
Spanish Version (<i>n</i> = 42)							
Bicultural Composite	.16*	.18*	.02	.11	.04	.06	-.13+
Item Birthday parties	.17*	.05	-.18*	-.11	-.23**	.13+	.28***
Item Gives presents	-.17*	.52***	-.08	.15*	-.13+	.37***	-.44***
Item Eat	.22**	.13+	.19*	-.11	.08	.13+	.24**
Item Flag	.11	.31***	.22	.15*	.13+	.04	-.38***
Item Holiday	.09	.02	.08	.09	.01	-.11	-.02
Item Sport	.05	.24**	.09	.34***	.15*	-.33***	-.26***
Item Dance	.24**	.10	.09	.34***	.15*	.06	-.43***
Item Say Hi	.21**	.18*	-.22**	.70***	.06	.18*	-.27***
English Version (<i>n</i> = 90)							
Bicultural Composite	-.07	-.21**	-.01	.40***	.26***	.26***	-.07
Item Birthday parties	-.02	-.31***	.11	.24**	.20*	.04	-.28***
Item Gives presents	.01	-.17*	-.11	.34***	.17*	.23**	.03
Item Eat	.08	.03	-.17	.07	-.03	.27***	.22**
Item Flag	-.17*	-.30***	.17	.47***	.37***	.35***	-.81***
Item Holiday	-.09	-.25***	.25***	.66***	.52***	.11	-.19*
Item Sport	.04	.06	-.11	.07	.00	.15*	.07
Item Dance	-.21**	-.39***	-.03	.43***	.26***	.14+	-.09
Item Say Hi	-.14+	-.09	-.07	.37***	.20**	.44***	.01

Note. Mothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Grandmothers' nativity coded: 0 = foreign-born and 1 = U.S.-born. Mother-grandmother nativity coded: 0 = foreign-born mother and grandmother, 1 = one foreign-born and one U.S.-born mother and grandmother, 2 = both U.S.-born mother and grandmother. Children's identification as Mexican coded: 0 = Child did not identify as Mexican, 1 = Child identified as Mexican. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 21
Bivariate Correlations among Final Ethnic-Racial Identification Measures

	1	2	3	4	5	6
<i>Full Sample (N = 134)</i>						
1. Positive Attitudes	--					
2. Negative Attitudes	-.21**	--				
3. Centrality	-.13+	-.04	--			
4. Knowledge – Mexican-only Scoring	.08	-.10	-.12	--		
5. Knowledge – Mexican/Flexible Scoring	.11	.04	.05	-.08	--	
6. Knowledge – Bicultural Scoring	-.07	.02	.05	-.52***	.54***	--
<i>Spanish Version (n = 43)</i>						
1. Positive Attitudes	--					
2. Negative Attitudes	.26***	--				
3. Centrality	-.09	-.05	--			
4. Knowledge – Mexican-only Scoring	.17*	-.02	-.11	--		
5. Knowledge – Mexican/Flexible Scoring	.02	-.16*	.20	-.02	--	
6. Knowledge – Bicultural Scoring	.07	-.15*	-.13+	-.44***	.55***	--
<i>English Version (n = 91)</i>						
1. Positive Attitudes	--					
2. Negative Attitudes	-.36***	--				
3. Centrality	-.14+	-.02	--			
4. Knowledge – Mexican-only Scoring	.05	-.13+	-.13+	--		
5. Knowledge – Mexican/Flexible Scoring	.14+	.09	-.01	-.10	--	
6. Knowledge – Bicultural Scoring	-.10	.07	.13+	-.56***	.54***	--

Note. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 22
Bivariate Correlations, Means, and Standard Deviations among Study Variables (N = 182)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Mothers' Age	--											
2. Mothers' Nativity	.07	--										
3. Children's Gender	-.08	.10	--									
4. Children's Skin Tone	.18*	-.13+	-.08	--								
5. W4 Mothers' Involvement in MX Culture	-.03	-.41***	-.06	.08	--							
6. W4 Mothers' E-R Centrality	.01	-.08	-.06	.12	.13+	--						
7. W4 Mothers' E-R Identity Affirmation	.02	.05	.09	-.08	-.13+	-.00	--					
8. W5 Mothers' Cultural Socialization	.00	-.05	.10	.04	.34***	.37***	-.02	--				
9. W6 Children's Negative E-R Attitudes	-.05	.13+	.11	.08	-.01	.01	-.14+	.06	--			
10. W6 Children's E-R Centrality	.15*	-.00	-.03	.20**	-.05	-.08	.09	-.04	-.04	--		
11. W6 Children's Self-Labeling as MX	-.09	-.05	-.07	-.05	.00	.17*	.04	.10	.03	.26***	--	
12. W6 Children's E-R Bicultural Knowledge	.28***	.02	.03	.02	-.08	-.04	.05	.07	.04	.05	.15*	--
Mean	16.79	.63	1.57	3.09	3.96	3.56	3.87	3.03	1.56	2.81	.60	1.65
SD	.97	.48	.50	.81	.65	.70	.35	.79	1.90	1.40	.49	1.94

Note. E-R = Ethnic-racial. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 23

Bivariate Correlations, Means, and Standard Deviations among Study Variables for Girls (n = 79) and Boys (n = 103)

	1	2	3	4	5	6	7	8	9	10	11
1. Mothers' Age	--	.05	.13+	-.07	-.30	-.06	-.17*	-.01	.14+	-.13+	.24**
2. Mothers' Nativity	.11	--	-.21**	-.40***	.00	-.03	-.01	.01	-.03	-.06	-.01
3. Children's Skin Tone	.25***	-.04	--	.11	-.06	.01	.07	.04	.07	-.15*	-.01
4. W4 Mothers' Involvement in MX Culture	.02	-.44***	.02	--	.14+	-.23**	.50***	.07	.03	.03	-.14+
5. W4 Mothers' E-R Centrality	.32***	-.14+	.24**	.12	--	-.09	.42***	-.03	-.25***	.17*	-.17*
6. W4 Mothers' E-R Identity Affirmation	.13+	.13+	-.15*	.00	.10	--	-.22**	.07	.11	.05	-.05
7. W5 Mothers' Cultural Socialization	.24**	-.10	.02	.15*	.33***	.22**	--	.02	.01	-.00	-.01
8. W6 Children's Negative E-R Attitudes	-.03	.23**	.22**	-.09	-.00	-.31***	.07	--	-.04	.00	.13+
9. W6 Children's E-R Centrality	.18*	.02	.35***	-.12	.06	.06	-.08	-.04	--	.20**	.02
10. W6 Children's Self-Labeling as MX	-.05	-.03	.06	-.01	.17*	.01	.26***	.09	.34***	--	.14+
11. W6 Children's E-R Bicultural Knowledge	.35***	.04	.08	.00	.11	.18*	.22**	-.06	.10	.16*	--
Boys											
Mean	16.72	.67	3.06	3.92	3.52	3.90	3.10	1.78	2.82	.57	1.72
SD	.92	.47	.77	.66	.63	.35	.79	1.90	1.33	.50	2.09
Girls											
Mean	16.87	.57	3.15	4.00	3.59	3.82	2.92	1.32	2.83	.64	1.60
SD	1.02	.50	.86	.65	.79	.35	.77	1.92	1.49	.48	1.74

Note. E-R = Ethnic-racial. Correlations for boys are above the diagonal; correlations for girls are below the diagonal. + $p \leq .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 24

Testing Gender Differences in the Models that included Mothers' Involvement in Mexican Culture (IMC) as a Predictor of Children's Ethnic-Racial Identification

Model #	Constrained Paths	χ^2	df	P-value	CF	CFI	RMSEA	SRMR	Models compared	Δ S-B χ^2	Δ df	P-value	Δ CFI	CK
1	Baseline model	17.62	16	.35	.91	.97	.09	.05	--	--	--	--	--	--
2	socialization → attitudes skin tone → attitudes skin tone x socialization → attitudes	18.97	19	.46	.91	1.00	.00	.04	1 vs. 2	1.31	3	.73	-.03	Yes
3	nativity → attitudes	19.40	20	.50	.90	1.00	.00	.04	2 vs. 3	.42	1	.52	0	Yes
4	socialization → centrality skin tone → centrality skin tone x socialization → centrality	24.67	23	.37	.89	.97	.03	.05	3 vs. 4	5.63	3	.13	.03	No
5	nativity → centrality	19.33	21	.56	.91	1.00	.00	.04	3 vs. 5	.00	1	.99	0	Yes
6	socialization → self-labeling skin tone → self-labeling skin tone x socialization → self-labeling IMC → self-labeling skin tone x IMC → self-labeling	35.51	26	.10	.87	.83	.06	.05	5 vs. 6	16.03	5	.01	.17	No
7	nativity → self-labeling	19.38	22	.62	.91	1.00	.00	.04	5 vs. 7	.09	1	.77	0	Yes
8	socialization → knowledge skin tone → knowledge skin tone x socialization → knowledge IMC → knowledge skin tone x IMC → knowledge	32.93	27	.20	.96	.89	.05	.05	7 vs. 8	11.74	5	.04	.11	No
9	nativity → knowledge	19.95	23	.64	.90	1.00	.00	.04	7 vs. 9	.43	1	.51	0	Yes
10	age → knowledge	19.72	24	.71	.91	1.00	.00	.04	9 vs. 10	.10	1	.75	0	Yes
11	skin tone → socialization IMC → socialization skin tone x IMC → socialization	29.41	27	.34	.89	.96	.03	.05	10 vs. 11	12.32	3	.01	.04	No
12	age → socialization	26.86	25	.36	.92	.97	.03	.05	10 vs. 12	6.92	1	.01	.03	No
13	nativity → socialization	23.62	25	.54	.91	1.00	.00	.05	10 vs. 13	3.92	1	.05	0	Yes

Note. CF = correction factor, CFI = comparative fit index, RMSEA = root-mean-square-error of approximation, SRMR = standardized root-mean-square residual, S-B = Satorra-Bentler, Δ = Change, vs. = versus, CK = constraints kept. Model fit indices are reported for each model. Models that were compared in the S-B Adjusted Chi Square Difference Test and Δ in CFI are reported in the column "Models compared." Finally, the last column indicates whether constraints were kept based on model fit, the S-B Chi Square Test, and Δ in CFI.

Table 25

Testing Gender Differences in the Models that included Mothers' Ethnic-Racial Centrality as a Predictor of Children's Ethnic-Racial Identification

Model #	Constrained Paths	χ^2	df	P-value	CF	CFI	RMSEA	SRMR	Models compared	Δ S-B χ^2	Δ df	P-value	Δ CFI	CK
1	Baseline model	26.01	20	.17	.99	.88	.06	.04	--	--	--	--	--	--
2	socialization → attitudes skin tone → attitudes skin tone x socialization → attitudes	27.61	23	.23	.98	.91	.05	.04	1 vs. 2	1.36	3	.72	-.03	Yes
3	nativity → attitudes	28.12	24	.26	.98	.92	.04	.04	2 vs. 3	.45	1	.50	-.01	Yes
4	socialization → centrality skin tone → centrality skin tone x socialization → centrality centrality → centrality skin tone x centrality → centrality	38.18	29	.10	.96	.79	.06	.05	3 vs. 4	11.51	5	.04	.13	No
5	nativity → centrality	28.16	25	.30	.99	.94	.04	.04	3 vs. 5	.26	1	.61	-.15	Yes
6	socialization → self-labeling skin tone → self-labeling skin tone x socialization → self-labeling	34.75	28	.18	.99	.86	.05	.05	5 vs. 6	6.57	3	.09	.08	No
7	nativity → self-labeling	28.43	26	.34	.98	.95	.03	.04	5 vs. 7	.10	1	.76	-.01	Yes
8	socialization → knowledge skin tone → knowledge skin tone x socialization → knowledge	32.17	29	.31	.98	.94	.04	.05	7 vs. 8	2.45	3	.49	.01	No
9	nativity → knowledge	28.61	27	.38	.98	.97	.03	.04	7 vs. 9	.00	1	.98	-.02	Yes
10	age → knowledge	28.24	28	.45	.99	1.00	.01	.04	9 vs. 10	.00	1	.99	-.03	Yes
11	skin tone → socialization centrality → socialization skin tone x centrality → socialization	32.81	31	.38	.96	.96	.03	.05	10 vs. 11	4.66	3	.20	.04	No
12	age → socialization	30.08	29	.41	.99	.98	.02	.05	10 vs. 12	1.24	1	.26	.02	No
13	nativity → socialization	28.92	29	.47	.99	1.00	.00	.05	10 vs. 13	.24	1	.63	0	Yes

Note. CF = correction factor, CFI = comparative fit index, RMSEA = root-mean-square-error of approximation, SRMR = standardized root-mean-square residual, S-B = Satorra-Bentler, Δ = Change, vs. = versus, CK = constraints kept. Model fit indices are reported for each model. Models that were compared in the S-B Adjusted Chi Square Difference Test and Δ in CFI are reported in the column "Models compared." Finally, the last column indicates whether constraints were kept based on model fit, the S-B Chi Square Test, and Δ in CFI.

Table 26

Testing Gender Differences in the Models that included Mothers' Ethnic-Racial Identity (ERI) Affirmation as a Predictor of Children's Ethnic-Racial Identification

Model #	Constrained Paths	χ^2	df	P-value	CF	CFI	RMSEA	SRMR	Models compared	Δ S-B χ^2	Δ df	P-value	Δ CFI	CK
1	Baseline model	27.56	22	.19	.72	.86	.05	.04	--	--	--	--	--	--
2	socialization→attitudes skin tone→attitudes skin tone x socialization→attitudes	29.44	25	.25	.74	.89	.04	.05	1 vs. 2	2.80	4	.59	-.03	Yes
3	ERI affirmation→attitudes	34.52	26	.12	.71	.79	.06	.05	2 vs. 3	13.82	1	.00	.10	No
4	nativity→attitudes	30.62	26	.24	.74	.89	.04	.05	2 vs. 4	1.19	1	.28	0	Yes
5	socialization→centrality skin tone→centrality skin tone x socialization→centrality	36.12	29	.17	.74	.82	.05	.05	4 vs. 5	5.40	3	.14	.07	No
6	nativity→centrality	30.25	27	.30	.75	.92	.04	.05	4 vs. 6	.00	1	.97	-.10	Yes
7	socialization→self-labeling skin tone→self-labeling skin tone x socialization→self-labeling	38.09	30	.15	.77	.80	.05	.05	6 vs. 7	5.17	3	.16	.12	No
8	nativity→self-labeling	30.37	28	.35	.76	.94	.03	.05	6 vs. 8	.24	1	.63	-.14	Yes
9	socialization→knowledge skin tone→knowledge skin tone x socialization→knowledge	34.61	31	.30	.78	.91	.04	.05	8 vs. 9	2.83	3	.42	.03	No
10	nativity→knowledge	30.28	29	.40	.76	.97	.02	.05	8 vs. 10	.00	1	.97	-.06	Yes
11	age→knowledge	29.58	30	.49	.78	1.00	.00	.05	10 vs. 11	.00	1	.96	-.03	Yes
12	skin tone→socialization ERI affirmation →socialization skin tone x affirmation→socialization	40.09	33	.04	.68	.60	.07	.06	11 vs. 12	41.91	3	.00	.40	No
13	age→socialization	38.67	31	.16	.78	.81	.05	.05	11 vs. 13	8.20	1	.00	.19	No
14	nativity→socialization	31.14	31	.46	.78	1.00	.01	.05	11 vs. 14	1.58	1	.21	0	Yes

Note. CF = correction factor, CFI = comparative fit index, RMSEA = root-mean-square-error of approximation, SRMR = standardized root-mean-square residual, S-B = Satorra-Bentler, Δ = Change, vs. = versus, CK = constraints kept. Model fit indices are reported for each model. Models that were compared in the S-B Adjusted Chi Square Difference Test and Δ in CFI are reported in the column "Models compared." Finally, the last column indicates whether constraints were kept based on model fit, the S-B Chi Square Test, and Δ in CFI.