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Cultural socialization attitudes and behaviors: Examining mothers' centrality, discrimination experiences, and children's effortful control as moderators

Chelsea L. Derlan¹, Adriana J. Umaña-Taylor², Laudan B. Jahromi³, and Kimberly A. Updegraff²

¹Department of Psychology, Developmental Program, Virginia Commonwealth University, Richmond, VA

²T. Denny Sanford School of Social and Family Dynamics, Arizona State University, Tempe, AZ

³Teachers College, Columbia University, New York, NY

Abstract

Objectives—The current study examined whether mothers' cultural socialization attitudes predicted cultural socialization behaviors. In addition, we tested whether this association was moderated by children's effortful control, mothers' ethnic-racial centrality, and mothers' experiences of ethnic discrimination.

Methods—Mexican-origin young mothers ($N = 181$; M age = 20.97 years) completed the Cultural Socialization Attitudes Measure (CSAM), a revised version of the Multidimensional Inventory of Black Identity (MIBI), the Child Behavior Questionnaire-Very Short Form (CBQ-VSF), and the Perceived Discrimination Scale (PDS) during an interview, and then completed the Cultural Socialization Behaviors Measure (CSBM) a year later.

Results—Findings indicated that mothers' cultural socialization attitudes when their children were four years of age positively predicted their cultural socialization behaviors one year later. Furthermore, experiencing higher ethnic discrimination strengthened the association between mothers' cultural socialization attitudes and behaviors. In addition, mothers' ethnic-racial centrality and children's effortful control were positively associated with mothers' cultural socialization behaviors.

Conclusions—These findings contribute to the literature by underscoring the role of individual characteristics and context in cultural socialization efforts with young children over time.

Keywords

cultural/ethnic/racial socialization; ethnic/racial centrality; discrimination; effortful control; Mexican/Mexican-origin/Latino

Cultural socialization captures the process through which individuals expose youth to their ethnic heritage, customs, and history, and has been identified as an important and normative developmental aspect of socialization for ethnic minority youth (e.g., Hughes et al., 2006). Indeed, findings with a nationally representative U.S. sample indicated that 46% of Latino parents reported that someone in their family talked with their kindergarten child about his or her ethnic-racial heritage several times a month or more (Lesane-Brown, Brown, Tanner-Smith, & Bruce, 2010). Importantly, scholars have found that greater cultural socialization has implications for young children's positive development, such as more pre-academic skills, more receptive language, and fewer behavior problems (Caughy & Owen, 2015).

Given its links with positive development, it is important to examine factors that inform families' cultural socialization practices with their children, especially among families who are at-risk for negative outcomes, such as adolescent mothers and their children (Whitman, Borowski, Keogh, & Weed, 2001). Among all ethnic-racial groups in the U.S., Latina adolescents experience the highest rates of teen births, and Mexican-origin adolescents, in particular, experience the highest rates among all Latina adolescents (Child Trends Databank, 2015). Thus, understanding the factors that inform Mexican-origin adolescent mothers' cultural socialization behaviors with their children could inform efforts to increase cultural socialization, and ultimately mitigate the negative outcomes that children born to adolescent mothers are at increased risk for experiencing.

Although there are different types of ethnic-racial socialization processes (e.g., cultural socialization, preparation for bias, promotion of mistrust, and egalitarianism and silence about ethnicity; Hughes et al., 2006), cultural socialization has been found to be the most prevalent among parents with young children (Hughes et al., 2008). Given the current study's focus on young children, we examined mothers' cultural socialization. More specifically, we tested whether young mothers' *attitudes* regarding the importance of cultural socialization when their children were 4 years of age informed their cultural socialization *behaviors* when their children were 5 years of age. Furthermore, we tested whether the prospective association between mothers' cultural socialization attitudes and behaviors was moderated by mothers' characteristics (i.e., ethnic-racial centrality), child characteristics (i.e., effortful control), and mothers' culturally informed contextual experiences (i.e., ethnic discrimination). Between the ages of 4 and 5 years, children increasingly process information about ethnicity-race (Quintana, 1998; Van Ausdale & Feagin, 2001). Thus, this period of development is particularly important for understanding what informs the messages that mothers transmit to children about their culture when children are actively processing information to understand this aspect of their social worlds.

Mothers' Cultural Socialization Attitudes and Behaviors

The notion that cognitions, such as attitudes, can affect behaviors has a long history rooted in principles of cognitive theory and behaviorism, which has culminated into cognitive behavior therapy, one of the most widely used and effective approaches for interventions focused on changing behavior (see Beck, 2011 for a review). In fact, CBT has targeted cognitions and attitudes to successfully change behavior in interventions for numerous issues (e.g., eating disorders, depression, substance abuse, obsessive-compulsive disorder,

etc.; Beck, 2011). Although theory and empirical evidence support the notion that attitudes inform behaviors, little work has focused specifically on the link between attitudes and behaviors regarding cultural socialization. Prior work has shown that there is variability in parents' cultural socialization behaviors with their children (Lesane-Brown et al, 2010), which may be due to parents' cultural socialization attitudes. To date, there exists a significant body of work on parents' cultural socialization behaviors with adolescents (e.g., Bennett, 2006; Derlan & Umaña-Taylor, 2015; Gonzales-Backen, Bámaca-Colbert, Noah, & Rivera, 2016; Hughes, Witherspoon, Rivas-Drake, D., & West-Bey, 2009), and an emerging literature on parents' cultural socialization behaviors with young children (e.g., Caughy & Owen, 2015; Lesane-Brown et al., 2005). However, there is a dearth of research on parents' cultural socialization *attitudes*, which capture the beliefs or values that caregivers have regarding the importance of cultural socialization for their children (Derlan, Umaña-Taylor, Updegraff, & Jahromi, 2016; Hughes, 2008).

García Coll and colleagues' (1996) integrative model for the study of developmental competencies among ethnic minority children provides a useful framework for understanding how caregivers' cultural socialization attitudes may predict cultural socialization behaviors. In particular, García Coll and colleagues (1996) posit that because of the unique experiences that ethnic-racial minority families face, they develop an adaptive culture consisting of attitudes and goals that permit them to set themselves apart from the mainstream culture. This adaptive culture is expected to subsequently shape family functioning and processes, such as cultural socialization. Thus, it is possible that as a part of their adaptive culture, Mexican-origin mothers develop attitudes regarding the importance of socializing their children with respect to their culture, which informs their cultural socialization behaviors with their children.

No work to our knowledge has examined whether mothers' cultural socialization attitudes longitudinally predict cultural socialization behaviors; however, two studies found that parents' cultural socialization attitudes and behaviors were correlated at the bivariate level among African American families with early adolescents (Banerjee, Harrell, & Johnson, 2011), and among African American, Latino, Chinese, and White families with adolescents (Hughes et al., 2008). Thus, based on tenets from the integrative model (García Coll et al., 1996), and prior correlational findings (e.g., Banerjee et al., 2011), the current study hypothesized that mothers' cultural socialization attitudes would longitudinally predict cultural socialization behaviors one year later.

Individual Characteristics and Context as Modifiers

Hughes and colleagues (2006) conceptualized that the dyadic process of cultural socialization is informed by individual characteristics of parents and children, as well as the context in which this process occurs. It is proposed that these characteristics inform the frequency and types of cultural socialization in which parents engage with children (Hughes et al., 2006). Although numerous characteristics and contexts have been tested as predictors of cultural socialization (e.g., children's age, children's gender, parents' immigration status, and parents' socioeconomic status), Hughes and colleagues (2006) noted that individual and contextual factors should be examined in more complex ways, such as being tested as

moderators of cultural socialization instead of solely as predictors. Thus, in line with this recommendation, and grounded in theoretical expectations regarding the role of individual and contextual factors in cultural socialization (Hughes et al., 2006), it is possible that mothers' cultural socialization attitudes interact with mothers' cultural characteristics, children's characteristics, and culturally informed contextual experiences to predict cultural socialization behaviors. Below, we provide theoretical and empirical support to elucidate the potential ways that three specific characteristics may function as moderators of the association between cultural socialization attitudes and behaviors: mothers' ethnic-racial centrality, children's effortful control, and mothers' experiences of ethnic discrimination.

Mothers' ethnic-racial centrality

Ethnic-racial¹ centrality refers to the extent to which individuals' ethnicity is a core aspect of their self-concept (Sellers, Shelton, Cooke, Chavous, Rowley, & Smith, 1998). Sellers and colleagues (1998) posit that the relation between individuals' ethnic-racial ideology (i.e., individuals' attitudes and beliefs regarding their ethnicity and race) and their ethnic-race-related behaviors is moderated by individuals' ethnic-racial centrality, such that the link between ethnic-racial ideology and behaviors will be stronger for individuals for whom ethnicity and race is more central than for individuals for whom ethnicity and race is less central.

Applying this line of reasoning to the current study's focus, it is possible that the association between mothers' cultural socialization attitudes and behaviors may also be moderated by mothers' ethnic-racial centrality. No studies have tested this association, specifically; however, a related study tested whether ethnic-racial centrality moderated the relation between Black Canadian parents' ethnic-racial ideology and cultural socialization behaviors with their children (Lalonde, Jones, & Stroink, 2008). Although findings indicated that ethnic-racial centrality did not moderate the association, the authors noted that the null finding could be due to ethnicity-race not being as central to parents in a Canadian context as it may be in other countries that are more ethnically-rationally diverse and where the potential for racism may be greater. Furthermore, the children of parents included in Lalonde and colleagues' (2008) study represented a wide age range (i.e., 1–27 years of age), and given that parents' cultural socialization behaviors vary by children's age (Hughes, 2003), the results may have been confounded by the wide age range. Thus, the current study tested whether mothers' ethnic-racial centrality moderated the association between mothers' cultural socialization attitudes and behaviors among mothers with young children who were all the same age. Based on Sellers and colleagues' (1998) theoretical notions, we hypothesized that the association between cultural socialization attitudes and behaviors would be stronger among mothers with higher ethnic-racial centrality, and weaker among mothers with lower ethnic-racial centrality.

¹The construct of centrality was originally referred to as racial centrality (Sellers et al., 1998), although it has also been referred to as ethnic centrality in other work (Fuligni, Witkow, & García, 2005). Given that individuals' experiences in forming an identity (including centrality) often include both ethnic and racialized experiences that are sometimes not easily disentangled from one another, scholars have recommended using the term *ethnic-racial* to more accurately capture these processes (see Umaña-Taylor et al., 2014 for a review). Accordingly, we use the term ethnic-racial centrality in the current study.

Children's effortful control

Winkler's framework of comprehensive racial learning (2011, 2012) and Hughes and colleagues' (2006) conceptualization of cultural socialization emphasize that children are not solely passive recipients of cultural socialization from others, and that cultural socialization is informed by characteristics of both individuals involved. Thus, it is important to consider how children's developmental characteristics inform cultural socialization processes. One such child characteristic that may be a moderator is children's effortful control, which consists of children's ability to regulate behavior and inhibit reactive responses (Rothbart & Bates, 2006). Greater effortful control is important for children's ability to control and internalize parental expectations (Kochanska, Coy, & Murray, 2001), and to adhere to the values and standards that are the target of parental socialization (Grusec, 2002). The components involved in effortful control are expected to be similar across cultures given that this is a normative aspect of children's development regardless of background (Rothbart, Ahadi, Hershey, & Fisher, 2001). Indeed, prior work has supported the notion that effortful control functions similarly across diverse samples of young children (e.g., de la Osa, Granero, Penelo, Domènech, & Ezpeleta, 2014; Putnam & Rothbart, 2006). Researchers have found links between effortful control and children's developmental outcomes of Mexican American children, supporting the validity of this construct for the studied population (Valiente, Lemery-Chalfant, Swanson, & Reiser, 2008). Belsky (1984) theorized that parenting processes (e.g., socialization) are informed by the *interaction* between parent characteristics (e.g., cultural socialization attitudes) and child characteristics (e.g., effortful control). Thus, it is conceivable that children with such skills make it easier for mothers to turn their attitudes regarding cultural socialization into actual socializing behaviors.

Although research has not examined whether mothers' attitudes and children's effortful control inform cultural socialization processes specifically, prior work supports that children's effortful control interacts with parenting characteristics to inform parenting processes, in general. For example, one study found that the interaction between fathers' personalities (i.e., a parent characteristic) and children's effortful control informed fathers' parenting regarding setting limits and providing structure (Karreman, van Tuijl, van Aken, & Dekovi, 2008). In the current study, we tested whether mothers' cultural attitudes and children's effortful control interacted to inform mothers' cultural socialization behaviors. Based on the notion that children's effortful control affects mothers' abilities to employ particular parenting behaviors or activities with their children (Belsky, 1984; Kochanska et al., 2001), we hypothesized that mothers' cultural socialization attitudes would be positively associated with cultural socialization behaviors, and that this association would be significantly stronger among mothers with children who were reported to have higher levels of effortful control, and weaker among mothers of children with lower levels of effortful control.

Mothers' experiences of ethnic discrimination

García Coll and colleagues (1996) note that there are various ways that discrimination may inform cultural socialization of children. They propose that ethnic discrimination occurs within individuals' environments (e.g., school, neighborhood, etc.) and informs whether

environments are promoting or inhibiting. The inhibiting or promoting nature of the environment is expected to either (a) *directly* impact cultural socialization processes, or (b) *interact* with the adaptive culture (i.e., serve as a moderator) to impact cultural socialization processes (García Coll et al., 1996). In the context of the current study, and given that mothers' cultural socialization attitudes may be a component of their adaptive culture, it is possible that when mothers experience discrimination, it may (a) directly promote or inhibit cultural socialization behaviors, or (b) interact with mothers' attitudes to promote or inhibit cultural socialization behaviors.

Prior work has examined whether parents' ethnic discrimination experiences directly inform cultural socialization. For example, Hughes and Johnson (2001) found that parents who reported more discrimination experiences engaged in more cultural socialization. In other work, this association existed but varied by parents' and youths' gender (McNeil Smith, Reynolds, Fincham, & Beach, 2016; Saleem et al., 2016), and parents' perceptions of neighborhood cohesion (Saleem et al., 2016). In contrast, other studies have found no significant association between parents' discrimination experiences and cultural socialization behaviors (Hughes, 2003; Hughes & Chen, 1997). Collectively, prior work suggests the possibility that parents' ethnic discrimination experiences promote (rather than inhibit) cultural socialization behaviors; however, no previous studies have examined whether ethnic discrimination interacts with parents' attitudes about cultural socialization to promote or inhibit cultural socialization behaviors.

García Coll and colleagues (1996) do not articulate *how* discrimination may interact with other variables to be promoting or inhibiting; however, the rejection identification model (Branscombe, Schmitt, & Harvey, 1999) and social identity theory (Tajfel & Turner, 1986) are useful in understanding how this relation may emerge. On one hand, the rejection-identification model (Branscombe et al., 1999) suggests that individuals' experiences of discrimination makes them draw closer to their ethnic group; therefore, it is possible that experiencing discrimination *promotes* mothers to transform their cultural socialization attitudes into behaviors. Thus, according to the rejection-identification model (Branscombe et al., 1999), the association between cultural socialization attitudes and behaviors would be expected to be stronger among mothers who experience greater ethnic discrimination, and weaker among mothers who experience less ethnic discrimination (or similarly, the association between attitudes and behaviors would be expected to be significant at high levels of discrimination, and not significant at low levels of discrimination). On the other hand, social identity theory (Tajfel & Turner, 1986) suggests that when individuals experience discrimination they may attempt to distance themselves from their group as a protective mechanism to protect their self-concept; thus, experiencing discrimination may *inhibit* mothers from transforming their cultural socialization attitudes into behaviors. Therefore, according to social identity theory (Tajfel & Turner, 1986), the association between cultural socialization attitudes and behaviors would be stronger among mothers who experience less ethnic discrimination, and weaker among mother who experience greater ethnic discrimination (or similarly, the association between attitudes and behaviors would be expected to be significant at lower levels of discrimination, and not significant at higher levels of discrimination). The current study tested these competing notions with a prospective longitudinal design.

Method

Participants and Procedure

The current analytic sample included 181 Mexican-origin young mothers, their mother figures, and children from the last 2 waves of a larger sample of 204 families (Umaña-Taylor, Updegraff, Jahromi, & Zeiders, 2015). The larger study 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). The majority of families participated across all six waves (i.e., 96% at W2, and 88% at W3, W4, W5, and W6). Participants were recruited from community agencies and high schools in a Southwestern metropolitan area. Initial eligibility criteria included that teens 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.

The current study utilized data from W5 and W6 because W5 was the first wave when adolescents were asked about their cultural socialization attitudes and behaviors, given their children's age. Twenty-three families were excluded from the larger sample because they included a mother who had a partial interview due to living in Mexico during one of their interviews across the six years. Given that the cultural experiences of these 23 families would likely differ from families living in the U.S., we retained data from the 181 families living in the U.S. during the time of their interview.

The majority of mothers reported being U.S.-born (67%). At W5, mothers were an average of 20.97 years old ($SD = 1.01$, range = 19.00-23.17), and the majority lived in homes with an average of 4.91 individuals ($SD = 2.51$), ranging from living alone to living in households that included up to 14 individuals. Interviews were conducted in participants' preferred language (75% English, 25% Spanish). Mothers received \$50 at W5 and \$60 at W6 for their participation in the larger study, which included a series of measures that were read aloud to participants in a semi-structured interview protocol that was typically completed in 2–3 hours. At both waves, mothers received an additional \$25 for their child's participation in observational assessments. All procedures were approved by the university's Human Subjects Review Board.

Measures

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

Cultural socialization attitudes and behaviors—The 5-item Cultural Socialization Attitudes Measure (CSAM) assessed mothers' attitudes toward socializing their children about their culture at W5 (Derlan et al., 2016), and the 12-item Cultural Socialization Behaviors Measure (CSBM) assessed mothers' cultural socialization behaviors at W6 (Derlan et al., 2016). The CSBM was created by adapting several items from the Familial Ethnic Socialization Measure (FESM; Umaña-Taylor, 2001; Umaña-Taylor et al., 2004) to be applicable to parents with young children. After the CSBM was developed, we used it as

a guide to develop the CSAM. Items were developed for each measure in consultation with members of our ethnically diverse research team, members of our research staff who were of Mexican origin and had young children, and 12 contacts of the research team with children between the ages of 4 and 6 years. The CSBM and CSAM demonstrated convergent and discriminant validity, and cross-language equivalence (i.e., Spanish and English; Derlan et al., 2016).

Sample items for the CSAM include: “It is important to me that my child feels proud of our ethnic/cultural background.”; “It is important to me that my child learns about the values and beliefs of our ethnic/cultural background.”; “It is important to me that my child spends time with people who share our same ethnic/cultural background.”). Items were scored on a 5-point Likert scale ranging from *Strongly disagree* (1) to *Strongly agree* (5), and higher scores indicated higher endorsement of attitudes regarding the importance of cultural socialization for their children. Cronbach’s alpha was .89.

Items for the CSBM focused on cultural socialization behaviors with young children (e.g., “I buy toys for my child that represent our ethnic/cultural background”), and were 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 was .91.

Mothers’ ethnic-racial centrality—Mothers’ responses to a revised version of the racial centrality subscale from the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton, & Smith, 1997) were used to assess ethnic-racial centrality at W5. The original MIBI was designed for use with African American adolescents, but was modified to be applicable to multiple ethnic groups (Fuligni et al., 2005). For the current sample, we further adapted the measure 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 *Strongly disagree* (1) to *Strongly agree* (5). One item was reverse scored so that higher scores indicated higher ethnic-racial centrality. Cronbach’s alpha was .80.

Children’s effortful control—Mothers’ responses to the 12-item effortful control subscale from the Child Behavior Questionnaire-Very Short Form (CBQ-VSF; Putnam & Rothbart, 2006) were used to assess children’s effortful control at W5. As noted, effortful control refers to children’s ability to regulate behavior and inhibit reactive responses (Rothbart & Bates, 2006). Mothers were asked to indicate whether the 12 items (e.g., “When drawing or coloring in a book, shows strong concentration.”; “Prepares for trips and outings by planning things s/he will need”; “Approaches places s/he has been told are dangerous slowly and cautiously.”) were a false or true description of their child’s typical behavior in the past 6 months. Previous work has provided support for the reliability and validity of the CBQ-VSF with a diverse sample that included young Latino children (i.e., de la Osa et al., 2014). Items were scored on a 7-point Likert scale ranging from *Extremely false* (1) to *Extremely true* (7). A score of “0” was given for any items for which mothers indicated “Does not apply.” A mean score was created, with higher scores indicating greater effortful control. In the current study, Cronbach’s alpha was .77.

Ethnic discrimination—Mothers' responses to a revised version of the Perceived Discrimination Scale (PDS; Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001) were used to assess their perceived ethnic discrimination at W5. The original PDS was designed for use with American Indian adolescents; the adapted version revised items to be applicable to Latinos (Umaña-Taylor & Updegraff, 2007). The 10 items (e.g., "How often have others said something bad or insulting to you because you are Hispanic/Latina?") were scored on a 4-point Likert scale ranging from *Almost never* (1) to *Very often* (4). Higher scores indicated higher perceived ethnic discrimination. In the current study, Cronbach's alpha was .88.

Control variables—Given that cultural socialization processes have been found to vary by child, parental, and family factors (see Hughes et al., 2006 for a review), the current study controlled for children's gender, mothers' age and acculturation, and families' socioeconomic condition in all analyses. Children's gender was reported by mothers at W2, and was coded as 1 = Female, 2 = Male. Mothers' involvement in U.S. mainstream culture (i.e., acculturation) at W5 was assessed using the Anglo orientation subscale of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Cuéllar, Arnold, & Maldonado, 1995). Items were scored on a 5-point Likert scale ranging from *Not at all* (1) to *Extremely often or almost always* (5), and higher scores indicated higher involvement in U.S. mainstream culture (e.g., "My friends now are of Anglo origin."). Support for the construct validity of this measure has been demonstrated in previous work with Latinos (i.e., Cuéllar & Roberts, 1997). In the current study, Cronbach's alpha was .85.

Families' socioeconomic condition was assessed by asking adolescent mothers about their perceived economic hardship using the Economic Hardship Measure (Barrera, Caples, & Tein, 2001). This scale consists of 18 items that examine four different measures of subjective economic hardship, including Financial Strain (2 items; e.g., "In the next three months, how often do you expect that you/your family will have to do without the basic things that your family needs?"), Inability to Make Ends Meet (3 items; e.g., "Think back over the last 3 months and tell me how much difficulty (you/your) family had with paying your bills."), Not Enough Money for Necessities (4 items; e.g., "I/We had enough money to afford the kind of home we should have."), and Economic Adjustments or Cutbacks (9 items; e.g., "In the last 3 months, have you/has your family shut down the heat or air conditioning to save money even though it made the house uncomfortable."). Following procedures outlined by Barrera and colleagues (2001), subscales were weighted and summed to create the composite of economic hardship. Negatively worded items were reverse scored so that higher scores indicated higher economic hardship. Given that the total scale scoring involves weighting each subscale (see Barrera et al., 2001), it is inappropriate to compute reliability for the overall measure. Reliability for the subscales was as follows: Inability to Make Ends Meet ($\alpha = .66$), Not Enough Money for Necessities ($\alpha = .89$), and Economic Adjustments or Cutbacks ($\alpha = .63$). Given that reliability should not be computed for 2-item subscales (Elsinga, te Grotenhuis, & Pelzer, 2012), reliability for the 2-item Financial Strain subscale was not computed; nevertheless, the bivariate correlation between the 2 items was .73 ($p < .01$). Support for the construct validity of this measure has been demonstrated in previous work with Mexican-origin mothers (i.e., Luecken et al., 2013).

Analytic Approach

Our hypothesized model was tested via path analysis in *Mplus* version 7.11 (Muthén & Muthén, 2013), and examined the association between cultural socialization attitudes and mothers' W6 cultural socialization behaviors, as well as main effects of mothers' W5 ethnic-racial centrality, children's W5 effortful control, and mothers' W5 experiences of ethnic discrimination predicting mothers' W6 cultural socialization behaviors. In addition, the hypothesized model included interactions between cultural socialization attitudes and each of the three moderators of interest (i.e., mothers' W5 ethnic-racial centrality, children's W5 effortful control, and mothers' W5 experiences of ethnic discrimination) predicting mothers' W6 cultural socialization behaviors. Furthermore, all control variables were modeled as predictors of mothers' W6 cultural socialization behaviors. As recommended by Aiken and West (1991), continuous measures were mean-centered prior to the creation of interaction terms (Aiken & West, 1991). Simple slopes analysis was used to decompose the significant interaction term (Preacher, Curran, & Bauer, 2006), and the interaction was graphed and probed at one standard deviation above and below the mean of the moderator. Missing data were handled using full information maximum likelihood (FIML; Arbuckle, 1996). In the current study, data were missing due to mothers not participating in a given wave or missing due to error. Missing data did not exceed 17% on any Wave 5 or Wave 6 variables. In addition, independent samples *t*-tests (for mothers' age, mothers' school status, and family income), and the chi-square test of independence (for mothers' nativity) were conducted to test for potential mean level differences in demographic variables between participants with complete data (i.e., 151 individuals at W5; 152 individuals at W6) versus those with incomplete data (i.e., 30 individuals at W5; 29 individuals at W6); results indicated that there were no significant differences on any demographic variable at W1 (i.e., when all participants provided data).

Results

First, we examined bivariate correlations and descriptive statistics, which are presented in Table 1. Next, we tested our hypothesized model (Figure 1). Given that the model was saturated (the number of estimated parameters was equal to the number of data points), and to increase power to detect findings, we constrained pathways from nonsignificant interaction terms to be zero (e.g., pathway from the interaction between mothers' W5 cultural socialization attitudes and mothers' W5 ethnic-racial centrality predicting mothers' W6 cultural socialization behaviors). The resultant model had good fit, $\chi^2 (df = 2) = .77, p = .68$; CFI = 1.00; RMSEA = .00 (90% CI: .00, .11); SRMR = .01, and explained 28.7% of variance ($R^2 = .29, p < .001$) in mothers' cultural socialization behaviors, which corresponds to a medium effect size (Cohen, 1988). Consistent with hypotheses, findings indicated that mothers' W5 cultural socialization attitudes significantly predicted mothers' W6 cultural socialization behaviors ($b = .34, p < .001$). Further, mothers' W5 ethnic-racial centrality significantly predicted mothers' W6 cultural socialization behaviors ($b = .19, p = .02$); however, contrary to expectations it did not moderate the association between mothers' cultural socialization attitudes and cultural socialization behaviors. In addition, children's W5 effortful control was positively associated with mothers' W6 cultural socialization behaviors at W6 ($b = .17, p = .03$); however, contrary to expectations it did not moderate the

association between mothers' cultural socialization attitudes and cultural socialization behaviors. Finally, as expected, the interaction between mothers' W5 cultural socialization attitudes and mothers' W5 ethnic discrimination experiences predicting mothers' W6 cultural socialization behaviors was significant ($b = .16, p = .03$). Simple slopes analysis revealed that the association between mothers' cultural socialization attitudes and behaviors was significant at higher levels of ethnic discrimination experiences ($b = .51, p < .001$), and average levels of ethnic discrimination experiences ($b = .34, p < .001$), but was not significant at lower levels of ethnic discrimination experiences ($b = .17, p > .05$); see Figure 2).

Discussion

Cultural socialization has been reported as a common practice among Latino families with young children (Lesane-Brown et al., 2010), and prior work suggests that it has positive implications for children's adjustment (e.g., Caughy & Owen, 2015). The current study examined various factors that may inform cultural socialization processes over time. Specifically, grounded in García Coll and colleagues' (1996) model, we tested whether mothers' attitudes regarding the importance of socializing children about culture predicted their self-reported cultural socialization behaviors with their children one year later. In addition, guided by Hughes and colleagues' (2006) notions regarding factors that inform cultural socialization, we tested whether this association was moderated by mothers' characteristics (i.e., ethnic-racial centrality), children's characteristics (i.e., effortful control), and mothers' culturally informed contextual experiences (i.e., ethnic discrimination experiences). Although our expectations regarding the cultural socialization attitudes-behaviors link was supported, the only factor that moderated the association between attitudes and behaviors was mothers' experiences of ethnic discrimination. Below, findings are discussed for each predictor of cultural socialization behaviors with a focus on future directions and implications.

Predictors of Mothers' Cultural Socialization Behaviors

Our findings were consistent with notions posited by García Coll and colleagues (1996), suggesting that Mexican-origin mothers may develop an adaptive culture that includes attitudes regarding the importance of teaching their children about their culture, which then informs their subsequent cultural socialization behaviors with their children. Results build on prior work that found a significant correlation between cultural socialization attitudes and behaviors among parents with adolescents (Banerjee et al., 2011; Hughes et al., 2008) by indicating that cultural socialization attitudes inform cultural socialization behaviors prospectively among mothers with young children. Understanding cultural socialization attitudes as predictors of behaviors may have important implications for intervention efforts. Although prior short-term interventions have successfully changed individuals' behaviors by changing cognitions and attitudes (see Beck, 2011 for a review), no interventions (to our knowledge) have targeted cultural socialization attitudes to change behaviors. However, an intervention could attempt to increase mothers' cultural socialization attitudes by making mothers aware of the potential benefits of socializing their children about their culture. If mothers' attitudes can be changed, then this could be one avenue toward increasing cultural

socialization behaviors, which would be beneficial given that cultural socialization has positive implications for young children's adjustment (e.g., Caughy & Owen, 2015).

Mothers' ethnic discrimination as a moderator—Guided by the idea that individuals' characteristics and context inform developmental processes (Hughes et al., 2006), we also examined factors that may modify the association between mothers' cultural socialization attitudes and cultural socialization behaviors. Of the three moderators we examined, only ethnic discrimination moderated the association between cultural socialization attitudes and behaviors. Our results were consistent with notions from the rejection-identification model (Branscombe et al., 1999), such that the association between attitudes and behaviors existed among mothers who experienced average and higher levels of ethnic discrimination, but was not significant among mothers who experienced lower levels of ethnic discrimination. Thus, experiencing ethnic discrimination perhaps provided extra motivation for mothers to turn their attitudes regarding socializing about culture into actual socialization behaviors. Our findings suggest that supporting and encouraging positive attitudes toward cultural socialization, such as through interventions, may be particularly beneficial for children whose parents' lives are embedded in high risk (e.g., average and above-average levels of discrimination) contexts. In such contexts, high endorsement of cultural socialization attitudes is associated with higher cultural socialization behaviors, which is important given higher cultural socialization has positive consequences for children's adjustment (e.g., Caughy & Owen, 2015). Findings highlight the importance of considering the role that parents' cultural contexts play in their attitudes and behaviors concerning their children. Beyond cultural socialization, future work would benefit from examining the nuanced ways in which parents' lived experiences regarding their culture inform how they interact with their children. García Coll and colleagues (1996) suggest that ethnic discrimination may directly inform cultural socialization or may interact with other variables to inform it. Although the goal of the present study was to test mothers' experiences of ethnic discrimination as a moderator, our model also included the direct path from mothers' experiences of ethnic discrimination to cultural socialization behaviors a year later. Our findings are consistent with previous work that found no significant relation between ethnic discrimination and cultural socialization (Hughes, 2003; Hughes & Chen, 1997), and inconsistent with prior work that found a positive association (Hughes & Johnson, 2001; McNeil Smith et al., 2016; Saleem et al., 2016). Identifying the reasons underlying these discrepancies is an important area for future research. Studies that found a significant association tended to include older samples of youth (i.e., third-, fourth-, and fifth-graders (Hughes & Johnson, 2001); early adolescents (McNeil Smith et al., 2016); and adolescents (Saleem et al., 2016)) than the non-significant association in the present study and previous work (i.e., five-year-olds, 4- to 14-year olds, and 6- to 17-year olds (Hughes, 2003; Hughes & Chen, 1997)); thus, it is possible that discrimination experiences motivate parents to turn cultural socialization attitudes into behaviors when children are younger, but discrimination *directly* motivates parents to teach youth about their culture when their children become older. To test these notions, future research should (a) test discrimination as a moderator of attitudes and behaviors among parents with adolescents; and (b) test parents' discrimination experiences as a direct predictor of cultural socialization among parents with young children under 8 years of age. More specifically, the youngest children included in

studies that found an association were 8 years of age (i.e., third graders), but the studies finding no association included children as young as 4 years of age; thus, it is possible that discrimination experiences do not directly inform cultural socialization until children are approximately 8 years of age. Between the ages of approximately 6–10 years, children are posited to experience significant cognitive and developmental advances that facilitate a more advanced, elaborate understanding of race-ethnicity that they are more easily able to communicate to others (Quintana, 1998). It is possible that during this age period, children also increase their discussions about race and ethnicity with parents, and parents subsequently become more concerned about teaching their children about their culture as parents experience ethnic discrimination. However, given that the majority of prior work included samples of children with a wide range of ages, future work is warranted that tests this association among large samples of younger children.

Mothers' ethnic-racial centrality as a direct predictor—Based on notions advanced by Sellers, Shelton, and colleagues (1998), we expected that the association between mothers' cultural socialization attitudes and behaviors would be strengthened when mothers reported high ethnic-racial centrality; however, our hypothesis was not supported. Nevertheless, mothers' ethnic-racial centrality did emerge as a direct predictor of mothers' cultural socialization behaviors one year later. Although not expected, this finding is consistent with Hughes and colleagues' (2006) contention that parents with a more central ethnic-racial identity should have stronger convictions about socializing their children regarding culture; prior empirical support is consistent with this notion and our findings. For example, in a study that examined Dominican and Puerto Rican parents' identification with their ethnicity (i.e., how closely they identified with their ethnic group and how much they preferred to be with others who shared their ethnicity), Hughes (2003) found that identification with ethnicity predicted parents' cultural socialization behaviors with their children and adolescents 6 to 17 years of age. In addition, White-Johnson, Ford, and Sellers (2010) found that among African American mothers, ethnic-racial centrality was positively associated with high levels of cultural socialization pertaining to racial pride, racial barriers, racial coexistence, and racial self-worth to their adolescents 11 to 17 years of age. Although our study is different than Hughes' (2003) study because we assessed mothers' ethnic-racial centrality, rather than ethnic identification, as well as different from White-Johnson and colleagues' (2010) study in terms of the cultural socialization construct, our findings build on this previous work by suggesting that the association between mothers' ethnic-racial centrality and cultural socialization behaviors exists prospectively among Mexican-origin mothers with young children.

Children's effortful control as a direct predictor—In addition to examining mothers' ethnic-racial centrality, we tested children's effortful control as a moderator of the attitudes-behaviors link. Guided by Belsky's (1984) contention that parenting processes can be made easier or more difficult via the interaction between parent and child characteristics, we hypothesized that children's effortful control would make it easier, and therefore more likely, for mothers to transform their socialization attitudes into actual socialization behaviors over time. However, findings indicated that children's effortful control did not act as a moderator in the attitudes-behaviors link. Instead, children's effortful control at four

years of age directly predicted mothers' cultural socialization behaviors with children at five years of age.

Scholars posit that family cultural socialization processes are informed by various child characteristics, including age, temperament, and biological factors (García Coll et al., 1996); however, previous work has focused primarily on children's age and gender as predictors (e.g., Hughes & Chen, 1997; White-Johnson et al., 2010). Our findings build on theoretical formulations and previous work by suggesting that children's temperament also plays a prospective role in cultural socialization. Although this was the first study to our knowledge to examine whether children's temperament informed mothers' cultural socialization behaviors, findings are consistent with related work that examined other parent-child processes and found that children with higher levels of effortful control elicit more interaction from parents (Eisenberg et al., 2010; Li, Pawan, & Stansbury, 2014). For example, findings from a prospective study indicated that children's effortful control was positively associated with mothers' higher levels of physical and verbal comfort to children a year later (Li et al., 2014). Furthermore, findings from a three-year prospective study indicated that children's effortful control predicted mothers' teaching behaviors with children during a 3-minute teaching task (i.e., completing a puzzle or Lego model together; Eisenberg et al., 2010). Our results build on previous work by suggesting that, not only does children's temperament elicit mothers' verbal comfort and teaching behavior during play, but it also may elicit mothers' teaching behavior with respect to children's culture. Consistent with the notion that children are not passive recipients of socialization (Hughes et al., 2006; Winkler, 2011, 2012), our findings demonstrated that children are active agents who may elicit socialization processes via their temperament.

Limitations and Future Directions

The current study has important strengths and implications, but there are also limitations to acknowledge. No studies to our knowledge have examined the association between cultural socialization attitudes and behaviors prospectively, or have examined moderators of this relation. An understanding of whether cultural socialization attitudes predict behaviors is important given that attitudes have been shown to be amenable to change in numerous interventions (Beck, 2011) and could, therefore, possibly be a focus for intervention efforts aimed to change cultural socialization behaviors. Despite these strengths, because of our exclusive focus on mothers in the current study, it is unclear if similar findings would emerge for fathers or other primary caregivers. Given that cultural socialization behaviors with youth have been found to be different for mothers and fathers (e.g., Knight et al., 2011), future work should examine the prospective association between fathers' cultural socialization attitudes and behaviors. Similarly, all mothers in the current study became pregnant as adolescents; therefore, it will be important for future research to test whether findings generalize to samples of individuals who did not become parents during adolescence.

Second, mothers who participated agreed to be part of a study that included a focus on cultural experiences of Mexican-origin adolescent mothers. As such, mothers in the study may represent a selective population with respect to cultural socialization experiences. It will

be important for future work to test additional individual and contextual factors (e.g., lack of engagement in individuals' culture, parenting hassles) that may modify the attitudes-behaviors link among a more randomly selected sample of Mexican-origin mothers.

In addition, the assessments that were included in the current study were all based on adolescent mothers' reports using survey methods. For example, children's effortful control was reported by mothers, which may have introduced single-reporter bias. It will be important for future work to examine other reporters' accounts or direct measures of child characteristics.

Further, because prior work has indicated that cultural socialization processes vary by children's gender (McNeil Smith et al., 2016; Saleem et al., 2016), we accounted for potential gender differences by including gender as a control in all analyses. Given our modest sample size, we were unable to draw definitive conclusions regarding the role of gender in the associations of interest with the current study. However, an important direction for future research with larger samples will be to examine whether the processes vary by children's gender.

Finally, we posited that cultural socialization attitudes were associated with behaviors because ethnic minority families create an adaptive culture that includes attitudes that allow families to set themselves apart from mainstream culture, which then impacts cultural socialization behaviors. However, future work should test this theory more explicitly with a mixed-methods approach. For example, Hughes and colleagues (2008) conducted a mixed-methods study (i.e., quantitative surveys and in-depth structured interviews) with parent-adolescent dyads, and assessed numerous aspects of cultural socialization (e.g., what parents felt was important to teach to children about their culture, what adolescents felt parents did to teach them about their culture). Using similar methods, future work could assess parents' *reasons* for socializing children, and examine whether the reasons include building an adaptive culture to set themselves and their family apart from mainstream culture.

Despite its limitations, the current study builds on our understanding of cultural socialization. Overall, findings suggest that characteristics of mothers (i.e., cultural socialization attitudes, ethnic-racial centrality) and children (i.e., effortful control) predict cultural socialization behaviors over time, whereas contextual conditions (i.e., mothers' experiences of ethnic discrimination) modify the strength of the association between mothers' attitudes and behaviors. These results highlight that understanding mothers' cultural socialization behaviors prospectively requires attention to characteristics of parents *and* children, as well as contextual factors.

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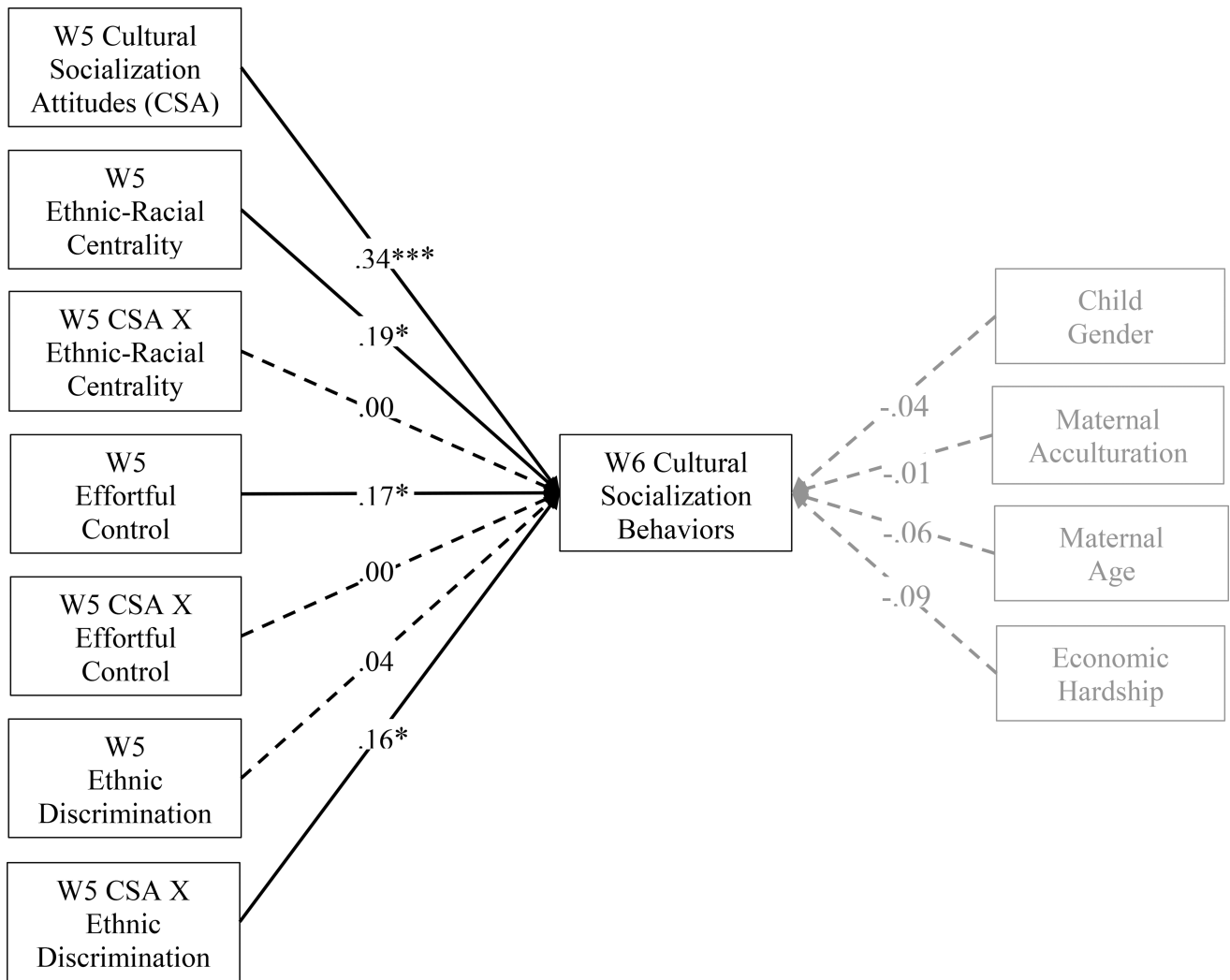


Figure 1.

Examining moderators of the relation between mothers' Wave 5 (W5) cultural socialization attitudes and mothers' W6 cultural socialization behaviors in terms of mothers' W5 ethnic-racial centrality, children's W5 effortful control, and mothers' W5 experiences of ethnic discrimination ($N = 181$).

Note. W = Wave. Grey lines indicate control variables and paths and black lines indicate hypothesized variables and paths. Dashed lines indicate non-significant paths. All exogenous variables are mean-centered. Childgender coded as: 1 = Female, 2 = Male. Given that coefficients are standardized, coefficients of .20, .50, and .80 correspond to small, medium, and large effect sizes, respectively (Cohen, 1988). * $p < .05$. *** $p < .001$.

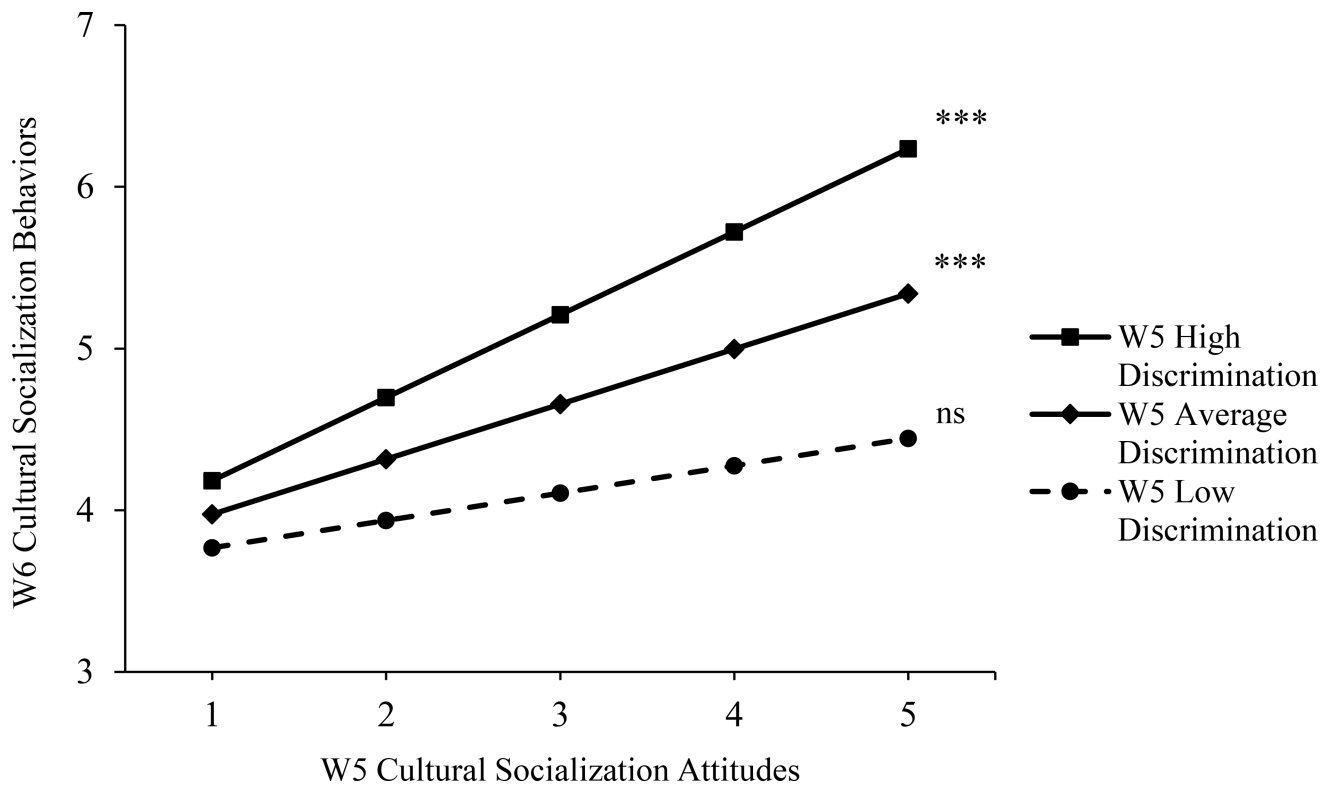


Figure 2. Moderation effects of discrimination on the association between cultural socialization attitudes and cultural socialization behaviors.
Note. W = Wave. *** denotes significant slope at $p < .001$, and ns = non-significant slope

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Table 1

Means, Standard Deviations, and Bivariate Correlations among Study Variables (N = 181).

	1	2	3	4	5	6	7	8	9
1. Wave 2 Child Gender	-								
2. Wave 5 Maternal Age	-.04	-							
3. Wave 5 Maternal Acculturation	.10	-.05	-						
4. Wave 5 Economic Hardship	-.01	.01	-.17*	-					
5. Wave 5 Maternal Ethnic-Racial Centrality	.11	.10	.01	.19*	-				
6. Wave 5 Child Effortful Control	-.09	.01	.15*	-.32***	.01	-			
7. Wave 5 Maternal Ethnic Discrimination	.04	.09	.11	.22**	.25***	-.03	-		
8. Wave 5 Maternal CS Attitudes	.07	-.01	.09	-.01	.46***	.14	.11	-	
9. Wave 6 Maternal CS Behaviors	-.01	-.04	.09	-.08	.33***	.24***	.14	.44***	-
Mean	1.58	20.97	3.78	-.12	3.45	5.23	1.32	4.12	2.94
Standard Deviation	.49	1.01	.66	2.33	.83	.72	.47	.63	.80

Note. CS = Cultural Socialization. Means and standard deviations reported here were calculated prior to centering. Wave 5 economic hardship is calculated as a weighted summed score.

* $p < .05$.

** $p < .01$.

*** $p < .001$.