The Cultural Socialization Scale: Assessing Family and Peer Socialization toward Heritage and Mainstream Cultures

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Abstract

In a culturally diverse society, youth learn about multiple cultures from a variety of sources, yet the existing assessment of cultural socialization has been limited to parents' efforts to teach youth about their heritage culture. The current study adapted and extended an existing cultural socialization measure (Umaña-Taylor & Fine, 2004) to assess four types of socialization practices encountered specifically during adolescence: cultural socialization by families and peers toward both one's heritage culture and the mainstream culture. In a pilot study, we developed the cultural socialization scale based on retrospective reports from 208 young adults, maximizing young adults' ability to reason and reflect their adolescent experiences with various socialization practices. In the primary study, we examined the psychometric properties of the scale using reports from 252 adolescents. Cultural socialization occurred from both socialization agents toward both cultures. Our cultural socialization scale demonstrated stable factor structures and high reliabilities. We observed strong factorial invariance across the four subscales (six items). MIMIC models also demonstrated invariance for each subscale across adolescents' demographic characteristics (i.e., gender, race/ethnicity, nativity, SES, language of assessment). The implications of the cultural socialization scale are discussed.

Keywords

cultural socialization; family; peer; factor structure; measurement equivalence

Cultural socialization refers to the process through which youth learn about a culture and develop a sense of belonging to the cultural group (Umaña-Taylor & Fine, 2004). It is an important socialization process that prepares youth for a racially/ethnically diverse and conscious society (Hughes, et al., 2006). The extant literature and existing assessments of cultural socialization have mainly focused on parents' socialization practices toward their heritage culture (Hughes, et al., 2006; Umaña-Taylor & Fine, 2004). Less attention has been paid to parents' efforts to socialize children about the mainstream culture, and attention to cultural socialization practices in other important socialization settings for adolescents, such as peers, is even more limited (Hughes et al., 2011). Examining cultural socialization from multiple agents is particularly important during adolescence because such intersection may better capture the increasingly complex environments of adolescent development and the

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rising importance of peers as socializing agents along with parents (Bronfenbrenner, 1979; Steinberg & Morris, 2001). As one of the first efforts to capture the complexity of cultural socialization, the current study adapts and extends an existing measure of familial heritage cultural socialization (Umaña-Taylor & Fine, 2004) to assess both family and peer cultural socialization toward both one's heritage culture and the mainstream culture. To achieve this goal, we explored the factor structure for each of the four types of cultural socialization and examined measurement equivalence across the four types of cultural socialization. We also tested measurement equivalence for each of the subscales across several key demographic markers (i.e., gender, race/ethnicity, nativity, socioeconomic status, language of assessment).

Assessing Family and Peer Cultural Socialization toward Heritage and Mainstream Culture

Cultural socialization has been studied exclusively within the family contexts of racial/ethnic minorities. Parents' efforts to preserve and cultivate their heritage culture among the next generation, or heritage cultural socialization, occur commonly and frequently in racial/ethnic minority families. These efforts take on various forms, including purposefully and explicitly teaching children about their heritage culture and encouraging children to respect their cultural background (i.e., overt socialization; Umaña-Taylor & Fine, 2004). Parents also implicitly socialize their children by involving them in daily activities related to their heritage culture (i.e., covert socialization; Umaña-Taylor & Fine, 2004). Specific examples of covert socialization practices include preparing food of one's heritage culture and attending festivals, concerts, plays and other events that represent one's heritage culture (Hughes & Chen, 1997; Umaña-Taylor & Fine, 2004).

Although cultural socialization is often operationalized as socializing children to their heritage culture, mainstream cultural socialization is also practiced in racial/ethnic minority families (Boykin & Toms, 1985). Parents commonly expect their children to succeed in mainstream society (Knafo & Schwartz, 2001; Lin & Fu, 1990), and they recognize the importance for their children to learn mainstream social norms and skills to function effectively in the U.S. society (Cheah, Leung, & Zhou, 2013; Uttal & Han, 2011). Studies documenting parents' efforts in promoting their children's adaption to the mainstream culture show that these efforts take on similar forms as parents' heritage cultural socialization: African American, Latino, and Asian American parents reported teaching children how to interact with other racial/ethnic groups (Phinney & Chavira, 1995), encouraging children to get involved in mainstream institutions especially schools (Stevenson, Cameron, Herrero-Taylor, & Davis, 2002), and conveying beliefs and values of the mainstream culture such as individualism and competition (Tyler, Boykin, Boelter, & Dillihunt, 2005; Tyler et al., 2008). However, few studies have systematically examined parents' efforts to transmit the traditions, customs, values, beliefs, and attitudes of the mainstream American culture. The current study explored whether parents socialize their children toward the mainstream culture using similar approaches as their heritage cultural socialization efforts. With this purpose, we adapted an existing measure of heritage cultural socialization to study parents' socialization practices toward the mainstream culture.

In addition to families, friends and peers become important socializing agents for children as they enter adolescence. During adolescence, young people spend increasing amounts of time with their peers and, consequently, their values, beliefs, and behaviors are more influenced by their peers during this period of development (Brown & Larson, 2009). A nascent body of literature suggests that peer socialization occurs as adolescents construct their views on their own racial/ethnic groups, and both intraracial and interracial peer contacts are associated with adolescents' racial/ethnic identity development (Phinney, Romero, Nava, & Huang, 2001; Umaña-Taylor, 2004; Yip, Seaton, & Sellers, 2010). Going beyond the simple account of peer contact, a recent study examined the specific activities in which adolescents explored their racial/ethnic background with peers (Kiang & Fuligni, 2008). Exploration activities in this study closely mapped on to overt and covert socialization practices, such as learning the histories, engaging in the traditions, and talking about issues related to one's racial/ethnic group. All of these practices parallel family cultural socialization practices documented in the extant literature.

In addition to one's heritage culture, peer groups may also practice the mainstream culture and shape one's endorsement of it, especially given that peers are an important link to the outside world for young people (de Anda, 1984). For example, a sample of 18 African American youth reported receiving messages from their friends concerning how to interact with the mainstream culture and people from other racial/ethnic groups (Lesane-Brown et al., 2005). Another qualitative study on Asian American youth documented peers' efforts to shape adolescents' endorsement of the mainstream culture by explicitly encouraging behaviors that they considered culturally appropriate and discouraging inappropriate ones (Pyke & Dang, 2003). Finally, some evidence suggests that peers also implicitly shape adolescents' cultural endorsements by exerting power in adolescents' friendship choices and crowd affiliations. Wade and Okesola (2002) found that African American adolescents often felt pressured by their friends or peers to interact with same-race rather than cross-race individuals. Together, these studies suggest that both overt and covert peer socialization are likely to occur and shape adolescents' endorsement of both the heritage and mainstream cultures.

A key limitation in the current literature is that it lacks empirical evidence that systematically documents what practices peers employ to socialize young people toward one's heritage culture and the mainstream American culture. The limited existing evidence, however, does suggest that peers employ similar approaches of cultural socialization as those of parents. Thus, the current study adapted the family cultural socialization assessment to explore the potentially parallel socialization practices peers may use toward both heritage and mainstream cultures.

Measurement Equivalence across Subscales and Demographic Groups

In developing a measure of family and peer cultural socialization, it is important to ensure the appropriateness of the measure for diverse populations, or to establish measurement equivalence across subgroups (Knight, Roosa, & Umaña-Taylor, 2009). Without measurement equivalence, any observed differences between family and peer cultural socialization or differences in their relationships with other variables may result from

measurement error rather than true group differences (see Millsap, 2011 for a general discussion of measurement equivalence). Although families and peers likely use similar cultural socialization practices, they may endorse different practices to varying degrees. For example, a common assumption in the literature is that racial/ethnic minority families, especially immigrant families, strive to preserve the heritage culture, whereas peer groups are more focused on mainstream American culture (Portes & Rumbaut, 1996; Zhou, 1997). Prior empirical work suggests that young adults engaged in more frequent exploration activities of their heritage culture with families than with friends (Kiang & Fuligni, 2008) and that parents emphasized heritage values (e.g., family obligation), whereas peers emphasized mainstream American values (e.g., being popular, fashionable, and social; Qin, 2009). Given these differences, it is possible that the same socialization item could be rated differently for different agents (i.e., families versus peers) or different types of cultural socialization (i.e., socialization toward heritage versus mainstream culture). The current study investigated measurement invariance across the four types of cultural socialization simultaneously (i.e. family socialization toward the heritage culture, family socialization toward the mainstream culture, peer socialization toward the heritage culture, peer socialization toward the mainstream culture).

The representativeness of the cultural socialization practices may vary by other factors as well, such as adolescents' gender, race/ethnicity, nativity, socioeconomic status, and language of assessment. For example, parents discuss heritage culture more frequently with girls than boys, and those with higher education levels discuss their heritage culture with children more frequently than those with lower education levels (Brown, Tanner-Smith, Lesane-Brown, & Ezell, 2007). Moreover, immigrant parents socialize their children more toward their heritage culture (Umaña-Taylor, Alfaro, Bámaca, Guimond, 2009), whereas U.S.-born parents are more likely to practice mainstream cultural socialization. Additionally, although studies show few racial/ethnic differences in parents' heritage cultural socialization (Hughes, 2003; Liu & Lau, 2013), African American youth tend to receive messages about the mainstream culture more frequently than do Latino youth (Hughes, 2003). Finally, nonequivalence may occur between different linguistic versions of the same scale (Peña, 2007). Because cultural socialization practices may vary by these demographic characteristics, it is important to ensure that the cultural socialization scale includes items that are representative for populations from diverse demographic backgrounds.

The Current Study

The primary goal of the present study is to adapt and extend an existing measure of familial heritage cultural socialization (Umaña-Taylor & Fine, 2004) to assess four types of cultural socialization: families' and peers' cultural socialization practices toward both the heritage culture and mainstream American culture. Because little is known about peers' cultural socialization practices or the cultural socialization adolescents receive toward mainstream American culture (either by their families or peers), we first conducted a pilot study to explore potential socialization practices using young adults' reflections on their cultural socialization experiences during adolescence. The selection of young adults was purposeful. Compared to adolescents, young adults are better positioned to reason and reflect on their experiences during adolescence; they are also more capable at providing insights for

researchers to generate hypotheses for future prospective studies (Gearing, Mian, Barber, & Ickowicz, 2006). These advantages are especially important given the exploratory nature of the pilot study. We adapted an existing assessment of families' heritage cultural socialization practices (Umaña-Taylor & Fine, 2004) to also assess families' mainstream cultural socialization and peers' heritage and mainstream cultural socialization. We also asked young adults to provide any additional practices that were not captured by the existing items.

Using the cultural socialization items identified from the pilot study, we conducted the primary study to establish the psychometric properties of the scale using early adolescents' reports. The selection of early adolescents was also purposeful. During this developmental period, issues related to culture and race/ethnicity become an important pursuit for young people's identity development (French, Seidman, Allen, & Aber, 2006; Yip, Seaton, & Sellers, 2006), and messages from their important others may be particularly influential (Rivas-Drake, Hughes, & Way, 2009). In the primary study, we examined the factor structure and reliability of the cultural socialization scale. We also sought to establish measurement equivalence across the four subscales (i.e., cultural socialization by families and peers toward the heritage and mainstream cultures) and adolescent demographic characteristics (i.e., adolescent gender, race/ethnicity, nativity, socioeconomic status (SES), language of assessment).

Method

Item Set Development

Participants—The pilot study collected retrospective data from 208 young adults reflecting on the cultural socialization practices of their families and peers during adolescence. Participants were between 18 and 25 years old ($M = 21.51$, $SD = 1.95$) at the time of data collection. The sample was 56% female and included good representation across racial/ethnic minority groups (26% Latinos, 33% African Americans, 39% Asian Americans, and 2% other race/ethnicity). The majority of the sample were U.S. born (85%), and all participants attended secondary schools in the U.S. The median educational level for the young adult sample was some college education but no degree.

Procedures—The pilot study was conducted online using Amazon Mechanical Turk, an internet marketplace where researchers can post surveys and collect responses from a population of thousands of anonymous users. Empirical evidence shows that MTurk participants are more demographically diverse than typical American college samples or standard Internet samples in terms of age, gender, race/ethnicity, and education level (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011) and that the obtained data are as reliable as those obtained via traditional methods, as participants are internally motivated (e.g., for enjoyment) and the quality of their responses is not affected by compensation rates (Buhrmester et al., 2011; Marge, Banerjee, & Rudnicky, 2010; Mason & Watts, 2009).

All registered users of MTurk were eligible for our pilot study if they were between 18 and 25 years old, were racial/ethnic minorities (i.e., Latino, African Americans, Asian Americans), and attended high school in the U.S. To ensure the quality of the sample and

data, we also limited participants to those who had U.S. IP addresses with a 95% approval rate (an indicator of response quality) on MTurk (Mason & Suri, 2012). Users who met all criteria were invited to participate in the study. For the pilot study, participants read a consent text describing the purpose of the study and were informed that continuing to answer the survey questions indicated consent to participate in the study. All participants received a small monetary incentive ($2) through the MTurk payment system after completing the survey.

Measures—The cultural socialization measure was adapted from the Familial Ethnic Socialization Measure (FESM; Umaña-Taylor & Fine, 2004), which has been demonstrated to have good psychometric properties among racial/ethnically diverse youth (e.g., $\alpha = .82$ to .94 using samples of Latinos, African Americans, Asian Americans, Native Americans, and multi-ethnic/racial adolescents who were between 13 and 19 years old; Umaña-Taylor & Fine, 2004; Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). It included four subscales: *family socialization toward the heritage culture*, *family socialization toward the mainstream culture*, *peer socialization toward the heritage culture*, and *peer socialization toward the mainstream culture*. Family heritage cultural socialization was assessed by the original FESM scale, which includes 6 items assessing families' *overt* efforts to teach their children about their heritage cultures (e.g., "My family teaches me about our family's ethnic/cultural background") and 6 items assessing families' *covert* efforts to do so (e.g., "My family participates in activities that are specific to my ethnic group"). The 12 items were then adapted to capture peers' overt and covert efforts to socialize the target participant about their heritage culture by changing the word "my family" to "my friends." In addition, another 24 items were included to capture family and peer socialization toward the mainstream culture by changing the word "ethnic/cultural" to "the mainstream American." For all 48 items, participants were asked to think back to their adolescent years and rate the frequency of each practice they experienced while they were in adolescence. Responses ranged from 1 (*never*) to 5 (*always*). Descriptive statistics for each type of socialization are displayed in the upper portion of Table 1. In addition to the scaled items, we also included four open-ended questions in the pilot study soliciting any additional cultural socialization practices toward one's own ethnic culture and the mainstream American culture by families and peers (e.g., "did your family do other things that are related to your racial/ethnic culture?").

Scale Development—Using the quantitative data, we conducted exploratory factor analysis (EFA) for each of the four subscales (i.e., family heritage cultural socialization, family mainstream cultural socialization, peer heritage cultural socialization, and peer mainstream cultural socialization) using M*plus* 7.1. For each subscale, both eigen values and model fit indices suggested a two-factor solution as optimal, consistent with the original FESM scale that we adapted (i.e., separate factors for overt and covert socialization). Based on the pattern of factor loadings and conceptual meanings, we chose four items for overt socialization and three items for covert socialization (four covert items were selected, but two of them were combined into one item, see Table 2). These selected items had consistently high factor loadings across the four subscales. Such consistency, however, was not observed for the other four dropped items.

Qualitative analyses were conducted on participants' open-ended responses to identify other potential cultural socialization practices. We used an iterative analysis protocol that involved data reduction and conclusion drawing/verification (Miles & Huberman, 1994). In data reduction, we developed a standardized codebook, wrote summaries and detailed analysis memos, and created refined conceptualizations of emerging themes. We also examined whether the emerging themes were consistent across gender and racial/ethnic groups. Consistently emerging themes included celebrating cultural-specific holidays, participating cultural-specific events, and preparing cultural-specific food, etc. Based on this information, we included one additional item tapping into covert socialization practices ("prepare/eat food of the heritage/mainstream culture") that was not included in the original scale.

In sum, we identified four overt socialization items and four covert socialization items for each of the four subscales (i.e., family heritage cultural socialization, family mainstream cultural socialization, peer heritage cultural socialization, and peer mainstream cultural socialization). We then evaluated their psychometric properties in the primary study.

Psychometric Evaluation

Participants—The primary study included 252 8th grade students at two middle schools in the south. The sample includes 50% females and is predominantly racial/ethnic minorities (85% Latinos, 11% African Americans, 5% other race/ethnicity). A majority of the participants (68%) were born in the U.S., and a majority of their parents were foreign-born (73% fathers, 70% mothers). The sample has a relatively high percentage of students whose parents did not graduate from high school (56%). This sample comprised between 62% and 69% of the 8th grader in each of the two participating schools. The demographic characteristics of the primary sample were comparable to those of the larger student body at the schools from which they were drawn (i.e., predominantly Latino (86%) and socioeconomically disadvantaged (i.e., 97% of the students receiving free-or-reduced-price lunch)).

Procedures—The research team identified two middle schools with concentrated racial/ ethnic minority populations in a central city in the south. Upon gaining approval from the local school district and school administrators, the research team distributed parent consent forms to the entire 8th grade during advisory periods. Students who returned parent consent forms were entered into a drawing (four iPods) regardless of whether their parents agreed to have their children participate. Students whose parents provided consent (62% of all the eligible students at School 1 and 69% at School 2) were then asked to sign the student assent form and complete the survey during a non-core content course. Each participant received a small compensation ($15) for completing the survey.

All the parent consent forms, student assent forms, and student surveys were available in both English and Spanish. This is because some of our participants were foreign-born and thus could lack English proficiency. To ensure comparability, questionnaires were translated into Spanish and then back-translated into English. Inconsistencies were resolved by two bilingual research team members, with careful consideration of items' culturally-appropriate

meaning. We administrated surveys in Spanish based on student requests. The majority of students completed surveys in English (92%).

Measures—The cultural socialization measure was developed from the pilot study. *Family socialization toward the heritage culture* was assessed by four overt socialization items (e.g., "teach/talk to you about the values and beliefs of your ethnic/cultural background") and four covert socialization items (e.g., "listen to music or watch tv/movies by artists from your ethnic/cultural background"). Adolescents rated the same practices for *family socialization of the mainstream culture*, *peer socialization of the heritage culture*, and *peer socialization of the mainstream culture*. For all items, ratings ranged from 1 (never) to 5 (always). The internal consistency was high for each subscale (Cronbach's a = .88 to .94). Descriptive statistics for each subscale are displayed in the lower portion of Table 1.

Data on students' gender and race/ethnicity were collected from the school district. Students' race/ethnicity was categorized as African American, Latino, or other race/ethnicity. Based on student reports, we identified their nativity status (1 = *both parents born in U.S.*, 0 = *at least one parent born outside U.S.*) and family structure (1 = *living with both biological parents*, 0 = *other family structure*). We also used a dichotomous variable to assess parents' highest education level (1 = *high school degree or higher*, 0 = *less than high school*), as more than half of the parents (56%) did not graduate from high school.

Analysis plan—All analyses were conducted in a structural equation modeling framework using M*plus* 7.1. Data analyses proceeded in the following steps. First, to explore the factor structure of the cultural socialization scale, we randomly selected about half of the primary data sample (n = 129) to conduct exploratory factor analyses (EFA) with a promax rotation for each of the four subscales (i.e., family heritage cultural socialization, family mainstream cultural socialization, peer heritage cultural socialization, and peer mainstream cultural socialization). Eigenvalues, scree plots, and a combination of model fit statistics were used to determine the number of factors. Model fit indices included Chi-square test of model fit (non-significant for a good model fit), Comparative Fit Index (CFI > .95 for a good fit), Root Mean Square Error of Approximation (RMSEA < .05 for a good fit), and Standardized Root Mean Residual (SRMR < .08 for a good fit; Hu & Bentler, 1999). We then conducted confirmatory factor analyses (CFAs) with the other half of the sample to assess whether the proposed factor structure provided an adequate fit to the data (Floyd & Widaman, 1995).

Measurement equivalence was then examined for the subscales using the full sample (N = 252). We specifically explored measurement equivalence between socialization agents (i.e., families and peers), between cultures (i.e., heritage and mainstream culture), and across adolescent characteristics (i.e., gender, race/ethnic, nativity, SES, language of assessment). For invariance across socialization agent and type of culture, multi-group confirmatory factor analysis (CFA) was used to examine the cross-group equivalence of the derived factors (Knight & Hill, 1998; Millsap & Kwok, 2004; Widaman & Reise, 1997). Four types of factorial invariance (configural, metric, strong, and strict) were tested sequentially, from the least restrictive to the most. Configural invariance is established if the same set of items load well on the latent factor. Metric invariance exists if the factor loading of each item is invariant across groups. The third level of invariance, strong invariance, can be achieved if

the intercept of each item (i.e., the mean) is invariant across groups. Finally, strict invariance exists if the residual variance of each item shows cross-group invariance. Each invariance level was established if its model fit did not differ significantly from that of the previous invariance level. Non-invariance was determined if at least two of the following three criteria were met: χ^2 significant at $p < .05$, CFI .01 and TLI .02 (see Cheung & Rensvold, 2002 for a discussion of criteria for measurement invariance). When a certain invariance level was not tenable, partial invariance was tested by allowing the target parameter to be freely estimated for some items (Byrne, Shavelson, & Muthén, 1989).

In examining measurement equivalence, several levels of invariance can be achieved, which determines if the construct is comprised of the same set of items (configural invariance), if the relationships between the construct and each item in the scale (i.e., factor loadings) are the same across groups (metric invariance), if the item intercepts are equal across groups (strong invariance), and if the unique error variances associated with each item are equal across groups (strict invariance; Widaman & Reise, 1997). Achieving strict invariance is ideal, as it indicates the scale is most stringently equivalent across groups. However, one can use the cultural socialization scale if it achieves metric invariance in studies that focus on predictive relationships, with the caution that mean differences across groups may be caused by measurement artifacts (Chen, 2008). If the cultural socialization scale achieves strong invariance, it can be more widely used in studies on both predictive relationships and group differences (Chen, 2008).

For measurement invariance across adolescent characteristics (i.e., gender, race/ethnicity, nativity, SES, language of assessment), we used the approach of multiple indicators multiple causes (MIMIC) models (Kline, 2011). This approach was adopted due to the limited sample sizes in certain groups. For example, there were 172 adolescents who were native born but only 73 adolescents who were foreign born. The MIMIC approach assumes configural and metric invariance and tests for strong invariance by estimating the effect of covariates on both the latent factor and the individual items (Muthén, 1989). Non-invariance is indicated by modification indices and the significant effect of a covariate on an item, which suggests that the response probabilities for the particular item vary by the covariate even when the latent factor is held constant.

Results

Factor Structure of the Cultural Socialization Scale

To explore the factor structure of the cultural socialization scale, we conducted factor analyses for each subscale: family socialization of the heritage culture, family socialization of the mainstream culture, peer socialization of the heritage culture, and peer socialization of the mainstream culture. We were particularly interested in whether overt and covert socialization factors comprised the cultural socialization scale, consistent with our pilot study results. Exploratory factor analyses (EFAs) were first conducted on about half the sample ($n = 129$, randomly selected). Similar factor structures were observed for the four subscales. Specifically, eigenvalues (ranged from 4.46 to 5.78 for factor 1; lower than 1.00 for factors 2 or more) and factor loadings (ranged from .54 to .96 on factor 1) suggested a one-factor model for each subscale. Although model fit indices (i.e., CFI, RMSEA, SRMR,

and chi-square values) indicated that the two-factor, three-factor, or four-factor model fit the data better than the one-factor model, multiple items had high cross-loadings, and some factors had only one item in these multi-factor models. Thus, we identified a one-factor structure for each of the four subscales.

Confirmatory factor analyses (CFAs) were then conducted to establish goodness of fit for factors using the other half of the randomly-selected sample ($n = 123$). In some cases, we introduced correlated residuals within a factor to improve model fit (Brown, 2006). Specifically, we correlated residuals between some overt socialization items and between some covert socialization items. There were no correlated residuals across overt and covert socialization items. We believe items of a specific form of socialization (i.e., overt, covert) were more closely related to each other theoretically. Model fit indices and factor loadings from CFAs as well as measures of reliability (Cronbach's a) for each subscale are presented in the left portion of Table 3. The final one-factor models all showed a good fit to the data, and all factor loadings were above .30 (Brown, 2006) and significant at $p < .001$. Reliabilities were high across the four subscales ($a = .86 - .94$).

Measurement equivalence of the cultural socialization scale

After establishing the factor structure of the cultural socialization scale, we conducted invariance analyses to explore measurement invariance across different socialization agents (i.e., family versus peer) and different cultures (i.e., heritage versus mainstream culture) as well as invariance across adolescent demographic characteristics.

Invariance across family and peer socialization and across heritage and mainstream cultures—Multi-group confirmatory factor analyses were used to examine invariance across the four subscales (i.e., family socialization of the heritage culture, family socialization of the mainstream culture, peer socialization of the heritage culture, and peer socialization of the mainstream culture). Because adolescent reports of these socialization practices are non-independent, we modeled the four subscales in a single covariance matrix. As displayed in the upper portion of Table 4, invariance was observed at the configural and metric levels. This suggests that cultural socialization can be assessed using the same set of items across socialization agents and cultures. Researchers can also compare predictive relationships across socialization agents and cultures.

The strong invariance model (the equivalence of item intercept across subscales) did not exhibit adequate fit to the data, and thus a partially strong invariance model was adopted by freely estimating the intercept of item 2 ("hang out mostly with people who share the heritage/mainstream culture") and item 8 ("attend things such as festivals, concerts, plays, or other events that represent the heritage/mainstream culture") across the four subscales. Partial strict invariance (testing the equivalence of item residual variance across subscales) was also adopted by freely estimating the residual variance of item 3 ("teach/talk to you about the values and beliefs of the heritage/mainstream culture") in addition to items 2 and 8. Because strong invariance was observed by dropping the two items (see the lower portion of Table 4), researchers can compare mean differences in cultural socialization across socialization agents and cultures with the revised scale. The revised scale also showed good

model fit and factor loadings in confirmatory factor analyses, and reliabilities were high (see the right portion of Table 3).

Invariance across adolescent demographic characteristics—We further examined measurement invariance with both the original and the revised scales (with items 2 and 8 omitted) across five key demographic characteristics, namely adolescent gender, race/ethnicity, nativity, SES, and language of assessment. Separate MIMIC models (Kline, 2011) were conducted for each of the five demographic characteristics, for each of the four subscales (i.e., family socialization of the heritage culture, family socialization of the mainstream culture, peer socialization of the heritage culture, peer socialization of the mainstream culture), and for each of the original and the revised scales, resulting in a total of 40 models run. Nearly all of the tested relationships demonstrated measurement invariance, which was indicated by non-significant modification indices (ranged from .00 to 3.78; the threshold is 3.84 or greater for a significant MI; Brown, 2006). Only two non-variances emerged for both the original and the revised scale. Specifically, girls were more likely than boys to report that their families prepare and eat food of the heritage culture (MI = 5.22, β = .16, $p < .01$; MI = 5.51, β = .15, $p < .01$ for the revised scale) but less likely to report that their families teach/talk to them about the history of their heritage background (MI = 6.46, β = -.11, $p < .05$ for the original scale; MI = 8.55, β = -.13, $p < .01$ for the revised scale). Two additional non-invariances emerged for the original scale only. Girls were more likely than boys to report that their families encourage them to respect the values and believes of the mainstream American culture (MI = 5.31; β = .14, $p < .01$). Adolescents who were the third generation or later were less likely to have peers affiliated with their own heritage group (MI = 4.69; β = -.13, $p < .01$). Overall, these findings suggest cross-group measurement equivalence for the four subscales.

Discussion

Cultural socialization is an important process that helps youth navigate in a society of racial/ethnic and cultural diversity. While cultural socialization is multidimensional, with multiple agents (e.g., families, peers) socializing youth toward both one's heritage culture and the mainstream culture, the current literature (and available assessments) focuses exclusively on families' efforts to preserve the heritage culture. To fill in this void, the current study developed a multidimensional cultural socialization scale based on prior heritage cultural socialization work (Umaña-Taylor & Fine, 2004) and our own pilot study. Using reports from youth in their early adolescent years, cultural socialization clearly occurred from both families and peers toward both heritage and mainstream cultures. Our cultural socialization scale demonstrated good measurement properties, with high reliabilities and strong invariance across socialization agents, types of culture, and adolescent demographic characteristics (i.e., gender, race/ethnicity, nativity, SES, language of assessment).

The current study is one of the first to explore the multidimensional nature of cultural socialization. These practices encompass multiple aspects of cultures (histories, customs, values, beliefs) and occur in various forms (overt, covert) at home and in peer groups. In addition to practices that were commonly examined in the existing measure (Umaña-Taylor & Fine, 2004), we incorporated one item from the qualitative component of our pilot study

(i.e., preparing food of a specific culture). This item was a meaningful component of the larger socialization construct assessed in the present study; the practice of preparing food of a specific culture has also been identified as a feature of cultural socialization by others' work (e.g., Moua & Lamborn, 2010). More importantly, although the same practices may be endorsed to a different degree, peer socialization toward either the heritage or mainstream culture can be captured by practices similar to those of parents' socialization. These findings are consistent with the existing qualitative studies and theoretical work that highlight the complexity of cultural contexts in the lived experiences of racial/ethnic minority adolescents (e.g., Mistry & Wu, 2010).

Regarding the factor structure of the cultural socialization scale, only one factor was identified for each of the four subscales. This was inconsistent with other existing research distinguishing the overt and covert forms of family cultural socialization (Umaña-Taylor & Fine, 2004). This difference may be explained by the developmental stage of the two samples. The participants in the Umaña-Taylor and Fine study were in middle adolescence (high school, $M_{grade\ level}$ = 10.30), whereas our participants were in early adolescence (middle school, 8th grade). Based on ethnic identity development theories, early adolescence is a time when individuals start to actively explore issues related to race/ethnicity. Such exploration increases markedly in middle and late adolescence and continues into emerging adulthood (French, Seidman, Allen, & Aber, 2006; Phinney, 2006; Yip, Seaton, & Sellers, 2006). Matching these developmental periods to the participants in the current study, our sample of early adolescents may be less sophisticated in thinking about the explicit and implicit messages related to culture due to a lack of experience or developing cognitive abilities. Another possibility is that families' and peers' socialization may become more nuanced as adolescents get older. For example, studies on family cultural socialization showed that older adolescents received more frequent cultural socialization messages than their younger counterparts (Fatimilehin, 1999; McHale, et al., 2006). Future studies using samples in middle and late adolescence, or even emerging adulthood, will be important in determining the changes in cultural socialization practices (and changes in individuals' more nuanced evaluations of such practices as overt versus covert) by both families and peers across the early life course.

In relation to measurement invariance across socialization agents and types of culture, we observed configural and metric invariance for the cultural socialization scale. We also were able to establish strong invariance after dropping two items (i.e., "hang out mostly with people who share the heritage/mainstream culture," "attend things such as festivals, concerts, plays, or other events that represent the heritage/mainstream culture"). The non-invariance across socialization agents in the point of origin of the two items suggested that adolescents tended to rate their friends as more likely than their families to associate with people from the mainstream culture and participate in mainstream cultural activities, even if peers and families practiced cultural socialization to the same degree. Such non-invariance is sensible, as adolescents may be more likely to engage in social activities such as hanging out and attending concerts with friends than with families in general (Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2007; MaHale, Crouter, & Tucker, 2001).

Based on the levels of invariance observed in the current study and the statistical implications of partial invariance (see Chen, 2008), the cultural socialization scale can be applied to future studies examining various topics. The original eight-item cultural socialization subscales can be used for studies examining the relationships between cultural socialization from multiple socialization agents and other predictor or outcome variables. The revised six-item subscales can be used to examine those relationships *and* to make mean comparisons between parent and peer cultural socialization practices. The current study also demonstrated clear evidence of measurement invariance for adolescents of various demographic characteristics, including race/ethnicity, nativity, SES, and language of assessment, with only a few non-invariances observed across adolescent gender. While this finding provided strong support for applying the cultural socialization scale to diverse populations, we also caution mean comparisons between boys and girls in future studies.

Although we believe the current study makes a strong contribution to the knowledge base on cultural socialization practices, our findings should be interpreted within the study's limitations. The current data are limited to a particular time in the life course—early adolescence when students were in 8th grade. It is possible that adolescents' perceptions of cultural socialization may become more nuanced (i.e., distinguishing overt and covert practices) across time. Additionally, the current data were collected from predominantly Latino students attending schools with a dense racial/ethnic minority population, and future studies are needed to explore whether the cultural socialization scale (particularly the items related to peers' socialization practices) works equally well with a more diverse demographic of students attending schools with varying levels of racial/ethnic diversity of the student population. In such schools, peer cultural socialization may be less oriented toward one's heritage culture and more oriented toward the mainstream culture because adolescents may have more contact with cross-race peers (Kiang & Fuligni, 2009). Parents may also make extra efforts to convey cultural values when they perceive their children may lose contact with the heritage culture in such diverse schools (Umaña-Taylor & Fine, 2004). This is an area ripe for further inquiry. Additionally, the current study used self-reports from a relatively small sample. As such, the factor structure and measurement equivalence of the cultural socialization scale needs to be replicated using larger samples with more diverse demographic characteristics and data from other informants such as parents and peers. Finally, although we have established the measurement qualities of our scale, future work is needed to understand how the various types of cultural socialization influence youth's identity development and overall adjustment.

Racial/ethnic minority youth receive various cultural messages in their daily lives, yet the existing assessment of cultural socialization practices rarely captures such complexities. The current study represents a first step in quantitatively documenting cultural socialization from multiple socialization agents toward various cultures. Our findings demonstrate good reliability and validity of the cultural socialization scale across family and peer socialization agents and across heritage and mainstream cultures, and we hope scholars will adopt this scale in their future work understanding the precursors and consequences of cultural socialization practices.

Acknowledgments

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Table 1

Descriptive Statistics for Various Types of Cultural Socialization

Variable	N	Min	Max	M	SD
Pilot Study					
Family heritage cultural socialization	207	1.00	5.00	3.04	0.84
Family mainstream cultural socialization	207	1.00	5.00	2.72	0.89
Peer heritage cultural socialization	207	1.00	5.00	2.20	0.86
Peer mainstream cultural socialization	207	1.00	5.00	3.29	0.88
Primary Study					
Family heritage cultural socialization	247	1.00	5.00	3.67	0.88
Family mainstream cultural socialization	247	1.00	5.00	3.26	0.93
Peer heritage cultural socialization	247	1.00	5.00	3.48	1.04
Peer mainstream cultural socialization	247	1.00	5.00	3.27	1.06

Table 2

Geomin Rotated Factor Loadings from Exploratory Factor Analyses of the Cultural Socialization Scale in the Pilot Study

Items	Family Cultural Socialization				Peer Cultural Socialization			
	Heritage Culture		Mainstream Culture		Heritage Culture		Mainstream Culture	
	Overt	Covert	Overt	Covert	Overt	Covert	Overt	Covert
Overt Socialization Items								
Teach/talk to me about the cultural bkg.	.77 *	.04	.53 *	.21	.51 *	.11	.54 *	.22 *a
Encourage me to respect the cultural values and beliefs	.74 *	.10	.67 *	.08	.59 *	.16	.77 *	.02
Teach/talk to me about the cultural values and beliefs	.88 *	-.06	.84 *	.00	.77 *	.06	.81 *	.00
Talk about how important it is to know about the cultural bkg.	.78 *	.02	.95 *	-.16 *	.79 *	.00	.97 *	-.18 *
Teach/talk to me about the history of the cultural bkg.	.83 *	-.05	.75 *	.06	.97 *	-.25 *	.75 *	.04
Feel a strong attachment to the cultural bkg.	.42 *	.33 *a	.35	.54 *	.36 *	.46 *a	.21 *	.59 *a
Covert Socialization Items								
Participate in activities that are specific to the ethnic group[b]	.06	.73 *	.17	.67 *	.17	.68 *	.10	.71 *
Decorate home/wear clothes with things that reflect the cultural bkg.	-.01	.71 *	.18	.54 *	.39 *	.41 *a	.11	.71 *
Hang out mostly with people who share the cultural bkg.	.02	.56 *	.26	.56 *	.00	.73 *	.08	.70 *
Celebrate holidays that are specific to the cultural bkg.	.21 *	.50 *a	-.05	.74 *	.31 *	.44 *a	-.05	.83 *
Listen to music sung or played by artists from the cultural bkg.	.03	.52 *	-.05	.77 *	-.09	.79 *	-.20 *	.87 *
Attend things such as concerts, plays, festivals, or other events[b]	-.14	.76 *	.18	.61 *	.14	.61 *	.00	.77 *

Note. Bkg = Background. Bolded items were used in the current study.

[a] Cross-loadings were determined by having significant loadings on more than one factor(s).

[b] These two items were combined into one item (attend things such as festivals, concerts, plays, or other events that represent the cultural background).

* $p < .05$

Table 3

Confirmatory Factor Analyses and Reliabilities of the Cultural Socialization Scale

	Original Scale						Revised Scale					
	λ	$\chi^2\ (df)$	CFI	RMSEA	SRMR	α	λ	$\chi^2\ (df)$	CFI	RMSEA	SRMR	α
Family Socialization of Heritage Culture												
1. Respect	.78	27.88 (16)*	.96	.08	.06	.88	.79	13.77 (8)	.97	.08	.05	.85
2. Hang out	.49						--					
3. Value/belief	.89						.89					
4. Food	.56						.57					
5. Importance	.83						.82					
6. History	.59						.57					
7. Music/TV	.50						.48					
8. Events	.55						--					
Family Socialization of Mainstream Culture												
1. Respect	.68	32.65 (16)**	.96	.09	.04	.91	.68	15.81 (8)*	.97	.09	.03	.89
2. Hang out	.63						--					
3. Value/belief	.94						.90					
4. Food	.68						.66					
5. Importance	.88						.93					
6. History	.84						.88					
7. Music/TV	.62						.58					
8. Events	.74						--					
Peer Socialization of Heritage Culture												
1. Respect	.60	32.63 (19)*	.96	.08	.04	.93	.61	11.77 (8)	.99	.06	.03	.91
2. Hang out	.63						--					
3. Value/belief	.82						.82					
4. Food	.71						.70					
5. Importance	.92						.92					

	Original Scale						Revised Scale					
	λ	χ^2 (df)	CFI	RMSEA	SRMR	α	λ	χ^2 (df)	CFI	RMSEA	SRMR	α
6. History	.87						.89					
7. Music/TV	.74						.71					
8. Events	.85						--					
Peer Socialization of Mainstream Culture												
1. Respect	.79	28.81 (19)	.97	.07	.04	.94	.75	16.93 (9) *	.97	.09	.05	.93
2. Hang out	.80						--					
3. Value/belief	.91						.90					
4. Food	.75						.70					
5. Importance	.90						.96					
6. History	.87						.94					
7. Music/TV	.71						.66					
8. Events	.82						--					

Note. The revised scale excluded items 2 and 8. λ = factor loadings; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; α = reliabilities. Empty cells in the factor loading column indicate that the item was not included in the CFA model.

*
$p < .05$.

**
$p < .01$.

Table 4

Measurement Equivalence of the Cultural Socialization Scale across Family Socialization of Heritage Culture, Family Socialization of Mainstream Culture, Peer Socialization of Heritage Culture, and Peer Socialization of Mainstream Culture

Model	Invariance Type	Model Fit							Model Comparison				
		CFI	NNFI	RMSEA	SRMR	χ^2	df	c	CFI	NNFI	χ^2	df	χ^2-p
						Original Scale							
1	Configural invariance	.955	.945	.046	.062	616.763	403	1.254					
2	Metric invariance	.954	.946	.046	.066	644.094	424	1.235	.001	-.001	25.347	21	.232
3	Strong invariance	.934	.926	.054	.074	760.606	445	1.221	.020	.020	142.474	21	.000 ***
3p	Partial strong invariance	.947	.940	.048	.070	690.299	439	1.229	.007	.006	50.099	15	.000 ***
4	Strict invariance	.935	.930	.052	.078	765.434	457	1.240	.012	.010	66.929	18	.000 ***
4p	Partial strict invariance	.940	.935	.050	.077	738.472	454	1.232	.007	.005	46.538	15	.000 ***
						Revised Scale							
5	Configural invariance	0.971	0.962	0.043	0.053	302.109	206	1.245					
6	Metric invariance	0.971	0.964	0.042	0.056	319.027	221	1.223	0.000	-0.002	15.250	15	.434
7	Strong invariance	0.962	0.955	0.047	0.061	364.643	236	1.206	0.009	0.009	51.805	15	.000 ***
8	Strict invariance	0.945	0.940	0.054	0.074	439.259	254	1.236	0.017	0.015	63.372	18	.000 ***
8p	Partial strict invariance	0.953	0.948	0.050	0.070	409.002	251	1.218	0.009	0.007	41.475	12	.000 ***

Note. Items for the original scale and the revised scale are shown in Table 3. CFI = Comparative Fit Index; NNFI = Non-Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; c = scaling correction factor for the maximum likelihood estimation with robust standard errors (MLR).

***
$p < .001$.