

**Pathways to Ethnic-Racial Identity Development and Psychological Adjustment:
The Differential Associations of Cultural Socialization by Parents and Peers**

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Abstract

Ethnic-racial identity (ERI) development is a central developmental process for youth of color. Although a great deal of research establishes the importance of cultural socialization by parents to the development of ERI, limited empirical work has examined peers' role in these processes. This study uses four cross-sectional data sets ($N = 127, 312, 257, \text{ and } 238$, mean age = 17.96 - 18.24) followed by a meta-analytic summary to test a path model of ERI development and parent and peer cultural socialization and their associations with psychological adjustment in a diverse sample of emerging adults. The final sample size adjusted meta-analytic model indicated that parent ethnic socialization predicted both ERI exploration and commitment while only peer preparation for bias predicted ERI commitment. In turn, ERI commitment and exploration predicted more positive mental health. The findings of this study highlight the importance of both parents and peers to cultural socialization processes during emerging adulthood. In particular, this study suggests that the messages peers impart about prejudice play a unique role in the development of ERI. The findings have important implications about the unique role peers play in communicating messages about prejudice as well as for ERI and the psychological adjustment of youth of color at this developmental stage. Additionally, these cross-sectional findings provide a preliminary but robust model from which researchers can frame future longitudinal work in this area.

Keywords: ethnic-racial identity; cultural socialization; path model; meta-analytic; parent; peers

In emerging adulthood, cognitive capabilities, increased autonomy from the family, and greater influence of peers converge to create an environment ideal for ethnic-racial identity development for youth of color (Erikson, 1968; Umaña-Taylor et al., 2014). However, there has been surprisingly little work done examining the relation between peer cultural socialization and ethnic-racial identity development. The current study adopts a replication and meta-analytic framework to test an implied, but heretofore untested, model of the relations between parent and peer cultural socialization, ethnic-racial identity development, and psychological adjustment. This correlational study not only proposes a robust model of these constructs to inform future longitudinal analysis, but also synthesizes the literature into a single model, adding peers as potentially important agents of ethnic-racial identity development. It is our hope that this study can lay the groundwork for future examinations of ethnic-racial identity development and cultural socialization by parents and peers in emerging adulthood.

Ethnic-Racial Identity Development in Emerging Adulthood

Ethnic-racial identity (ERI), a central developmental construct for youth of color, is composed of beliefs and attitudes about ethnicity and race as well as the process through which these beliefs and attitudes develop (Umaña-Taylor et al. 2014). We adopt an ERI framework given that there is considerable theoretical and empirical overlap between conceptualizations of ethnic and racial identity (Umaña-Taylor et al. 2014). Within a global and intersectional context, it has become increasingly difficult to parse ethnic and racial identity both for researchers and for people of color (see Cross & Cross, 2008). The developmental model of ERI proposes that this task is accomplished through the dual process of exploration of and commitment to an ethnic or racial group (Phinney, 1990; Syed & Juang, 2014; Yip, 2014). Following work using this model, Umaña-Taylor and colleagues (2014) observed that it is in adolescence and emerging adulthood

when the cognitive capacity for abstract thinking, metacognition, flexibility, and deeper reflection take root, allowing ERI to flourish (see also Syed & Azmitia, 2009). These cognitive changes occur within a transitional context marked by growing autonomy from the family and deepening peer relationships (Arnett, 2000; Erikson, 1968; Umaña-Taylor et al., 2014). Against this backdrop, emerging adults are able to more deeply explore, elaborate, and negotiate messages about ethnicity and race communicated by family and peers.

As we elaborate below, past research has relied on an implicit model of the associations among cultural socialization processes, ERI, and psychological adjustment—tested almost exclusively with parents as socialization agents (see Hughes et al., 2006; Tran & Lee, 2010). Whereas portions of this implied model have been tested, it has not, to our knowledge, been tested in full—that is, with all components in a single model, whether cross-sectional or longitudinal. This model specifies that ERI processes mediate the association between cultural socialization practices by important others and psychological adjustment, see Figure 1. Importantly, in the current study we tested this full model, including both peer and parent socialization agents to properly account for the social context and processes unique to the early emerging adult developmental period. We now review the piecemeal evidence for this full model, as well as rationale for including both parents and peers as socialization agents.

Cultural Socialization and Ethnic-Racial Identity Development

Cultural socialization is a core pathway through which youth develop ERI (Umaña-Taylor et al., 2014). Terminologies to describe cultural socialization, however, vary. We adopt cultural socialization as the umbrella construct composed of the dual processes of ethnic socialization and racial socialization (Tran & Lee, 2011).¹ Ethnic socialization consists of

¹ This is in contrast to Hughes and colleagues (2006) who called this umbrella construct *ethnic-racial socialization*. Our approach is consistent with the view that culture encompasses both ethnicity and race and that race is a historical sociocultural construct and not one distinct from

messages about ethnic heritage including cultural rituals, traditions, and artifacts. Racial socialization consists of messages related to the social construction of race. Within racial socialization, there are many processes, but two have been most frequently studied: preparation for bias and promotion of mistrust. Preparation for bias consists of messages that ready individuals for experiences of prejudice and discrimination (such as telling individuals that they may receive unfair treatment because of their race). Promotion of mistrust involves those messages that instruct individuals to be wary or mistrustful of ethnic/racial groups of which they are not a part (Hughes et al., 2006; Hughes & Johnson, 2011; Tran & Lee, 2010). The models we test here target these three cultural socialization subtypes: ethnic socialization, preparation for bias, and promotion of mistrust.

The vast majority of ERI research has focused on parents as agents of different forms of cultural socialization (Umaña-Taylor et al., 2014). For ethnic socialization, Umaña-Taylor and colleagues (2014) reported a consistent positive relation between parent ethnic socialization and ERI exploration and commitment. This finding has been replicated in cross-sectional studies with adolescents identifying as African-American, Latino, and biracial, as well as in longitudinal studies with adolescents of Mexican descent (Brittian, Umaña-Taylor, & Derlan, 2013; Derlan & Umaña-Taylor, 2015; Juang & Syed, 2010; Umaña-Taylor, Zeiders, & Updegraff, 2013). Other researchers have demonstrated positive associations between adolescent report of parental ethnic socialization and clarity, pride and engagement with ERI (Hu, Anderson, & Lee, 2015) as well as the impact of cultural socialization on ERI in African Americans one year later (Else-Quest & Morse, 2014).

culture (Hochschild, 1996). Subsumed under the cultural socialization umbrella are ethnic and racial socialization (Hughes et al., 2006; Tran & Lee, 2011).

In terms of our racial socialization components, findings for preparation for bias and promotion of mistrust have been less clear. Some research shows that preparation for bias is associated with positive ERI development (Hughes et al., 2009). Other work has found that parental preparation for bias in African American samples is linked to ideologies emphasizing assimilation by African Americans into white culture as well as the sense that African Americans are disliked by other ethnic-racial groups (see Rivas-Drake, 2011). Still other research has found no relationship between preparation for bias practices and ERI development (Else-Quest & Morse, 2015; Peck, Brodish, Malanchuk, Banerjee, & Eccles, 2014). There are fewer studies on link between promotion of mistrust and ERI, although Else-Quest and Morse (2015) recently found no association between promotion of mistrust and ERI in an adolescent sample. In sum, the existing literature has demonstrated consistent positive associations between parent ethnic socialization and ERI, whereas parent preparation for bias and promotion of mistrust have been less consistently associated with ERI.

Expanding the cultural socialization model to peers. As previously mentioned, the existing research on cultural socialization and its relationship to ERI almost exclusively examined parents as the socialization agent (Priest et al., 2014; Umaña-Taylor et al., 2014). However, there is clear conceptual rationale and emerging empirical evidence that peers may be additional important agents of cultural socialization. Developmentally, as youth move through adolescence and towards emerging adulthood they evidence increased cognitive ability and expanded social contexts that allow them to explore and commit to identities (Habermas & Bluck, 2000). Throughout childhood and particularly for those who go to college, youths spend less time with parents and more time with peers (Arnett, 2000; Umaña-Taylor et al., 2014). These new non-familial contexts present opportunity for exploration of and commitment to

identities, including ERI (Azmita, Syed, & Radmacher, 2008). Indeed, not only do individuals tend to have friends who share the same ethnicity (Kiang et al., 2006), but pairs of ethnic minority friends tend to have similar levels of ERI (Syed & Juan, 2012). Additionally, due to greater maturity and growing contexts emerging adulthood is a time in which ERI becomes increasingly complex (Umaña-Taylor et al., 2014), situated in a broader context, and thus peers may play an increasingly important role in their conceptualizations of self.

The limited available research indicates that peers *are* engaging in cultural socialization (Hu et al., 2015; Lesane-Brown, Brown, Caldwell, & Sellers, 2005; Tran & Lee, 2011). For example, in samples of ethnically-diverse adolescents and emerging adults, Wang and Benner (2016) found that ethnic socialization by peers occurs at comparable levels to ethnic socialization by family (e.g. Wang & Benner, 2016). Existing studies, however, have not included an assessment of the preparation for bias or promotion of mistrust components of cultural socialization. Importantly, narrative research suggests that peers may actually play a different role in the process than do parents (Syed, 2012; Juang & Syed, 2014). Syed (2012) found that college students' stories about experiences of discrimination (preparation for bias) were more likely to be told to peers whereas stories about cultural learning (ethnic socialization) were more likely to be told to parents. These findings suggest the possibility that youth channel their ethnic and racial experiences to different audiences, possibly due to the different cultural contexts that youth experience with peers versus parents (Sameroff & MacKenzie, 2003). Indeed, Hu and colleagues (2017) recently found parent and peer ethnic socialization play distinct roles in ERI exploration and commitment. Accordingly, the second goal of the present study was to test this hypothesized correlational pathway model of cultural socialization by parents *and* peers using established rating-scale measures. Given narrative findings (Syed, 2012; Juang & Syed, 2014),

we hypothesized that *peer* preparation for bias and/or promotion of mistrust and *parent* ethnic socialization would be particularly important for ERI development.

Cultural Socialization, Ethnic-Racial Identity, and Psychological Adjustment

ERI is conceptualized as a cornerstone of positive minority youth development (Umaña-Taylor et al., 2014). The existing literature clearly indicates the importance of ERI, but suggests that cultural socialization could also be developmentally adaptive, either on its own or indirectly through its influence on ERI. Recent meta-analyses (Rivas-Drake et al., 2014; Smith & Silva, 2011) and narrative reviews (Rivas-Drake et al., 2014) have demonstrated the reliable associations between dimensions of ERI and both well-being and negative psychological adjustment. Additionally, there is replicable evidence to suggest that ERI commitment, rather than exploration, is what is associated with psychological adjustment (Syed & Juang, 2014). Thus, the link between ERI commitment and psychological adjustment in emerging adulthood is expected to replicate in the current study.

Research however is more mixed on the association between cultural socialization by parents and peers and psychological adjustment. Parental cultural socialization in adolescence and emerging adulthood is frequently linked to positive psychological outcomes. Self-esteem, self-concept, well-being, and adaptive discrimination coping strategies have been implicated as positive outcomes resulting from greater cultural socialization by parents at this developmental stage (Neblett et al., 2008). Findings primarily from African-American samples indicate that ethnic socialization and preparation for bias by parents are positively associated with academic success and motivation (Hughes et al., 2006; Hughes et al., 2009; Neblett, Philip, Cogburn & Sellers, 2006).

On the other hand, there have been several studies linking cultural socialization by parents to negative psychological outcomes. Preparation for bias and promotion of mistrust by parents in particular have been linked to negative adjustment (e.g. Anderson, Lee, Reuter, & Kim, 2015). Preparation for bias and promotion of mistrust have been found to associate with less adaptive outcomes, including decreased self-esteem, increased anger and sadness, poorer academic outcomes, and increased antisocial behavior (e.g. Hughes et al., 2009). Taken together, it is difficult to synthesize the existing literature because few studies include measures of ethnic socialization, preparation for bias, and promotion of mistrust as well as measures of positive and negative psychological adjustment. We do exactly this in the present study.

The Present Study

Many studies examining African American, Latino, Asian American, and transracial adoptee samples have suggested the possibility of a mediation model in which ERI mediates the relationship between parental cultural socialization and psychological adjustment (Brittian et al., 2013; Hughes et al., 2009; Rivas-Drake, 2011; Tran & Lee, 2010; Umaña-Taylor et al., 2014). That is, the observed relations between parental cultural socialization and psychological adjustment can be accounted for by ERI, which acts as the intermediary step in the developmental process (Figure 1). Despite the strong evidence for this model in the literature, the accumulated evidence is, as mentioned previously, piecemeal. To our knowledge, no study has yet tested a comprehensive model with 1) ethnic socialization, preparation for bias, *and* promotion of mistrust, 2) ERI exploration *and* ERI commitment, and 3) indicators of positive *and* negative adjustment (see Figure 1). To this point, the overwhelming focus of past ERI and cultural socialization research has been on parents. In the current study, we explore other agents of socialization by examining the unique role of peer socialization particularly in the

developmental stage of emerging adulthood, further broadening the scope of the correlational model (Hughes et al., 2006). Heeding calls by researchers to use replications to improve precision and robustness (Cumming, 2013), we tested our model using four waves of incoming ethnic minority students at a large public university in the Midwest United States, and then used meta-analytic techniques to derive summary parameter estimates for the four cohorts. In using this correlational design, we hoped to identify a comprehensive replicable model of these oft-explored constructs and in so doing set the stage for future longitudinal work in this area².

Within the overall model, we tested the following hypotheses:

1. ERI exploration and commitment will fully mediate the association between parent and peer cultural socialization processes (ethnic socialization, preparation for bias, and promotion of mistrust) and psychological adjustment.
2. Parent ethnic socialization will be positively and directly associated with ERI exploration and commitment and indirectly related to psychological adjustment, and,
3. Peer preparation for bias and peer promotion of mistrust will be positively and directly associated with ERI exploration and commitment and indirectly related to psychological adjustment.

We advance hypotheses two and three with an acknowledgment that the mean levels of the three cultural socialization processes may be highest for parents, as they have had more time and

² In our study we do not disaggregate the sample into separate ethnic-racial categories. Many past investigations of ERI explore mean differences and thus investigate variations in frequencies of ERI related constructs, or perhaps focus on the *content* of ERI. Investigations of this type have found ethnic-racial group differences in levels and frequencies of these constructs (Umaña-Taylor et al., 2014). Our study, in contrast, explores correlations between ERI and related constructs. Conceptually, we are interested in the *process* of ERI that occurs across ethnic-racial groups. Past research exploring processes related to ERI suggest few, if any, ethnic/racial group differences in these correlations (see Casey-Cannon, Coleman, Knudston, & Velazquez, 2011; Else-Quest & Morse, 2014; Syed & Juang, 2014). There is only one study, to our knowledge, that has found group differences in the relationship between components of ERI and cultural socialization, but the difference was between White and African Americans adolescents, not between and among different ethnic-racial minority groups (Hughes et al., 2009). Accordingly, we maintain that there is little theoretical or conceptual justification for disaggregating our sample. Additionally, we note that the broad categorical labels included in most studies (e.g. “African American”, “Asian”, “Latino”) overlook vast heterogeneity within groups that can mask potential variations (Umaña-Taylor et al., 2014). Therefore, without theoretical or conceptual support, we investigate the ERI meta-construct without disaggregating our findings by ethnicity or race (see Umaña-Taylor et al., 2014).

opportunity to engage in such processes with our participants who are in the transition between adolescence and emerging adulthood. However, our hypotheses pertain to the *relations* of such processes to ERI rather than relative frequencies, and we suggest that during this developmental period promotion of mistrust and preparation for bias by peers may play an important role for ERI and psychological adjustment.

Method

Participants and Procedure

Participants were incoming undergraduate students recruited as part of an orientation for entering ethnic-racial minority students at a large, public Midwestern university. All incoming first-year students of color were invited to participate in a multicultural orientation experience with approximately 25% of those invited attending in any given year. The orientation took place prior to students beginning college. All students in attendance completed the survey on a computer in a laboratory in groups of 25-40 as part of programming and had to actively consent for their data to be used for research purposes (consent 86 - 95%). Comparisons of institutional records of past cohorts who participated and did not participate indicated no differences in their academic aptitude ranking, which is a composite of high school rank and standardized test scores used by the university.

The current study uses data from four waves of this ongoing study (years 2011-2014), resulting in a total sample of $N = 934$ participants across the four cohorts (mean age across the four samples was 18.05, $SD = .65$). The Institutional Review Board approved the study titled "Becoming a College Student at the University of Minnesota" (IRB #1108S03028) for each year of data collection (2011 - 2014). The demographics for this study are reported in Table 1. The sample was majority female at each wave of data collection (61 - 73%). Participants self-

reported their ethnic-racial group in their own words, which were then coded by researchers, see Table 1. Due to this, participants may have been identified as an ethnic-racial minority in university records and thus were invited to participate in the orientation, but self-identified as White during the study. Individuals identifying as Asian Americans made up the largest subsection of the sample at each of the four waves of data collection (40 – 55%). The next largest ethnic-racial subsection at each wave identified as black or African American (15 - 25%). Individuals identifying as mixed race or multiple ethnicities made up 8 – 20% of the sample. Individuals identifying as Latino and Latina made up 6 – 12% of the sample and individuals identifying as White made up 2 – 10% of the sample. Individuals identifying as Native American, American Indian or an Alaskan Native made up 0.3 - 3% of the sample. Finally, individuals identifying as Middle Eastern ethnicity or race made up 0 – 2% of the sample. Data were assessed for cohort effects, but indicated no statistically significant differences in study variables or demographics among cohort years. Participants were excluded from the study if they indicated that they were adopted (5% of the sample in 2011, 3% in 2012, 2% in 2013, and 4% in 2014) or an international student (11% of the sample in 2011, 5% in 2012, 2% in 2013, and 4% in 2014) given the unique peer and family context and therefore socialization processes for these individuals. Additionally, individuals were excluded if their responses were insufficient to calculate demographic or study variables that were included in the analysis, see Table 1.

Measures

Tables 2 – 5 contain summaries of descriptive statistics, reliability coefficients, and zero-order correlations for each scale by year. The measures of psychological adjustment differed between the 2011 cohort and the other three cohorts; these differences are noted below.

Cultural socialization. Participants completed an adapted version of the 16-item Hughes and Johnson (2001) socialization measure. This scale contains items that capture the frequency of ethnic socialization, preparation for bias, and promotion of mistrust in the last twelve months. The ethnic socialization subscale contains five items (e.g., “Encouraged you to read books about your racial/ethnic group?”). Previous studies have found evidence for validity and reliability of this scale in capturing ethnic socialization of minority adolescents and emerging adults (Hughes et al., 2006). The parent ethnic socialization subscale had good reliability at each wave of data collection with, Cronbach’s $\alpha = .81 - .83$. The peer ethnic socialization subscale had adequate but slightly lower reliability for each wave with Cronbach’s $\alpha = .59 - .71$, see Tables 2 – 5. The Hughes and Johnson (2001) measure has demonstrated adequate reliability in African American, Latina/o, and Asian American, samples (Hughes, 2003; Tran & Lee, 2010). This scale has demonstrated construct validity through factor analysis (Hughes & Johnson, 2001)

Two subscales were employed to capture preparation for bias and promotion of mistrust. Preparation for bias is an eight-item subscale (e.g., “Talked to you about others who may try to limit you because of race/ethnicity?”). Promotion of mistrust is a three-item subscale (e.g., “Done or said things to keep you from trusting people of other races/ethnicities?”). The two racial socialization subscales have also demonstrated reliability and validity in previous studies with minority youth (e.g. Tran & Lee, 2010). The parent preparation for bias subscale had good reliability at all waves of data collection with Cronbach’s $\alpha = .88 - .89$. The parent promotion of mistrust subscale also had good reliability at all waves of data collection with Cronbach’s $\alpha = .85 - .88$. The peer preparation for bias subscale and peer promotion of mistrust subscale had good reliability in the samples with Cronbach’s $\alpha = .84 - .89$ and $.70 - .86$, respectively (Tables 2 – 5).

Items responses were on a 5-point Likert style scale from 0 (*Never*) to 4 (*Very Often*). This scale was adapted for use in this study by including each item from the original scale twice in sequence, once to indicate frequency with parents and once to indicate frequency with peers. In 2011 the cultural socialization measure was administered with all parent items first followed by all peer items. In the following three years, the format was changed so that the corresponding peer item followed each parent item. The decision to include these items in sequence was made in the interest of encouraging participants to contrast the two sources of socialization.

Ethnic-racial identity. ERI development was assessed using the Roberts and colleagues (1999) Multigroup Ethnic Identity Measure (MEIM), a 12-item version of the original 22-item MEIM developed by Phinney (1992). This version of the MEIM is a 12-item scale containing a 5-item exploration subscale (e.g., “I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs”) and a 7-item commitment subscale (e.g., “I have a clear sense of my ethnic background and what it means to me”). The items are responded to on a 4-point Likert style scale from 1 (*Strongly disagree*) to 4 (*Strongly agree*). The ERI exploration subscale had adequate reliability in the four samples with Cronbach’s $\alpha = .65 - .78$, while the ERI commitment subscale had good reliability with Cronbach’s $\alpha = .86 - .89$, see Tables 2 – 5. While termed an ethnic-identity measure the MEIM has demonstrated adequate reliability in Asian American and ethnically-racially diverse (Latino, Asian, White, African American) samples (Phinney, 1992; Tran & Lee, 2010). A 2009 review of the MEIM’s psychometric properties revealed moderate construct and criterion-related validity across studies (Ponterotto et al., 2009) and the two-factor structure has longitudinal stability in a multi-ethnic sample (Syed & Azmitia, 2009)

Positive psychological adjustment. In 2011, positive psychological adjustment was measured with the Rosenberg (1965) Self-Esteem Scale. In the subsequent three years, positive psychological adjustment was measured by the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985).

The Rosenberg (1965) Self-Esteem Scale (RSE) is a 10-item scale used to measure positive feelings about the self. Items such as, “I am able to do things as well as most other people,” are rated on a 4-point Likert scale ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*). This scale was administered only in the 2011 data collection. The Rosenberg Self Esteem Scale had very good reliability in the 2011 sample with a Cronbach’s $\alpha = .90$, see Table 2. The RSE (1965) has demonstrated adequate internal reliability in a variety of samples as well as construct validity in associations with other measures of self-esteem (see Shevlin, Bunting, & Leis, 1995).

The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a five-item scale measuring individuals’ positive feelings about their life. Items such as, “In most ways my life is close to my ideal,” are responded to on a 7-point Likert scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). The SWLS had good reliability at each wave of data collection with Cronbach’s $\alpha = .80 - .84$, see Tables 3 – 5. The SWLS has demonstrated strong internal reliability in previous studies with students and adults in the United States and internationally (see Pavot & Diener, 1993). Additionally, construct validity in the SWLS’s relationship to an array of self-report measures and interviewer ratings has been established (see Pavot & Diener, 1993).

Negative psychological adjustment. In 2011, negative psychological adjustment was measured as depressive symptoms, using the Center for Epidemiological Studies Short Depression Scale (CESD-10; Cole, Rabin, Smith & Kaufman, 2004). In 2012-2014, negative

psychological adjustment was measured as a composite of depressive symptoms, anxiety, and somatization using the Brief Symptoms Inventory-18 (BSI-18; Derogatis, 2001).

The CESD-10 is a 10-item scale measuring symptoms of depression “during the past week”. Items such as, “During the past week... I felt lonely,” were responded to on a 4-point Likert scale from 1 (*Does not apply to me at all*) to 4 (*Applies quite well to me*). This scale was administered only in the 2011 data collection. The CESD-10 had adequate reliability in the 2011 sample with a Cronbach’s $\alpha = .70$. The CESD-10 has demonstrated good reliability and construct validity in multicultural populations and with adolescents (Bradley, Bagnell, & Brannen, 2010). The BSI-18 is a shortened version of the Brief Symptoms Inventory (Derogatis & Melisaratos, 1983) developed to capture physical and emotional complaints. Participants indicate whether they have experienced 18 symptoms, such as “faintness or dizziness” and “nervousness or shakiness inside,” in the last seven days on a 5-point Likert scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*).

The BSI-18 had very good reliability at each wave of data collection with Cronbach’s $\alpha = .91$ at waves two through four of data collection, see Tables 3 – 5. The full version of the BSI has demonstrated strong internal reliability in previous investigations and evidence of convergent validity with the Minnesota Multiphasic Personality Inventory as well as construct validity through factor analysis of the BSI’s structure (Derogatis & Melisaratos, 1983).

Results

Descriptive statistics for all study variables for each of the four cohort samples can be found in Table 1. Tables 2 through 5 contain the zero-order correlations for all scales of interest by cohort. These descriptive statistics were analyzed for variations by cohort, but no significant differences were found. This study is constructed from four cohorts of nearly identical data collection with results summarized into a single meta-analytic model in the final portion of the

results section. By replicating the same path analysis four times with four different data sets we were able to determine which pathways in some years may simply be “noise” around zero, in accordance with sampling variability and measurement error. This meta-analytic procedure provides a way of identifying more trust-worthy results in a single paper (Schimmack, 2012).

Data Analysis

The hypothesized model was tested by creating a series of path models using full information maximum likelihood (FIML) estimation in Mplus 7.1. (Muthén &, 1998-2012). Two path analytic models were fit for each cohort. First, we tested the hypothesized model, in which the association between cultural socialization variables and outcome variables are fully mediated by ERI processes (Figure 1). We then tested this mediated model against an alternative model with direct effects paths from cultural socialization to outcomes added. A variety of model fit statistics were calculated for these two models for each year and can be seen in Table 6. These include 1) the Akaike Information Criterion (AIC) which measures the quality of a model relative to other models, 2) the Sample-Size Adjusted Bayesian Information Criterion (ssBIC) which lowers the penalty imposed on the statistic for the number of parameters by including information about the sample size, 3) the Comparative Fit Index (CFI), an incremental index that represents the degree to which the specified model improves upon the null model, and the 4) χ^2 of model fit which is nearly always statistically significant but can provide information on relative fit when compared to other models (Tomarken & Waller, 2005). These four fit statistics were selected in accordance with our desire to compare multiple competing models, rather than provide evidence for a particular model in an absolute sense. Indeed, our models had either very few degrees of freedom (mediated models) or no degree of freedom (direct effects models), and thus absolute fit is not particularly informative (Tomarken & Waller, 2005).

Cohort 2011. Comparison of the fully mediated model and direct effects models indicated that fit was equivalent for both models ($\Delta\chi^2(12) = 8.15, p = .77; \Delta CFI = .00$), and therefore the more parsimonious mediated model was preferred. Table 7 includes all model parameters for the final model. Examination of the individual paths within the mediated model indicated that parent ethnic socialization ($\beta = .32, p = .03$) and peer preparation for bias ($\beta = .46, p = .01$) were positively associated with ERI exploration. Similarly, parent ethnic socialization ($\beta = .60, p < .001$) and peer preparation for bias ($\beta = .43, p = .01$) were positively associated with ERI commitment. Additionally, parent preparation for bias was associated with *lower* levels of commitment ($\beta = -.52, p < .001$).

In terms of psychological adjustment, ERI exploration was negatively associated with positive psychological adjustment (self-esteem; $\beta = -.26, p = .02$) and positively associated with negative psychological adjustment (depressive symptoms; $\beta = .34, p < .001$). Conversely, ERI commitment was positively associated with self-esteem ($\beta = .44, p < .001$) and negatively associated with depressive symptoms ($\beta = -.52, p < .001$).

Estimates of the indirect associations from parent and peer socialization to psychological adjustment through ERI indicated that parent ethnic socialization was negatively ($\beta = -.31, p = .001$) and parent preparation for bias was positively ($\beta = .27, p = .005$) associated with negative adjustment through ERI commitment. Additionally, peer preparation for bias was inversely ($\beta = -.22, p = .03$) associated with negative adjustment through ERI commitment. In terms of positive psychological adjustment, parent ethnic socialization was positively ($\beta = .26, p = .004$) and parent preparation for bias was negatively ($\beta = -.23, p = .01$) associated through commitment. Finally, peer preparation for bias was positively ($\beta = .19, p = .04$) associated with positive

psychological adjustment through ERI commitment. These indirect pathway results are shown in Table 8.

Cohort 2012. For the 2012 cohort comparison of the fully mediated model and direct effects model suggested that the direct effects model was a better fit for the data ($\Delta\chi^2(12) = 33.28, p < .001; \Delta CFI = .08$). Table 7 includes all parameters for the final model. In examining the individual paths within the direct effects model, all three forms of parent cultural socialization were significantly associated with ERI exploration: ethnic socialization ($\beta = .19, p = .02$), preparation for bias ($\beta = -.20, p = .04$), and promotion of mistrust ($\beta = .23, p = .003$). Additionally, peer preparation for bias ($\beta = .35, p < .001$) and peer promotion of mistrust ($\beta = -.17, p = .01$) were associated with ERI exploration. Parent cultural socialization ($\beta = .28, p = .001$) was positively associated and parent preparation for bias ($\beta = -.24, p = .02$) was negatively associated with ERI commitment. For peers, only preparation for bias ($\beta = .21, p = .03$) was associated with ERI commitment.

In terms of psychological adjustment, ERI commitment was positively associated with positive psychological adjustment (satisfaction with life; $\beta = .32, p < .001$) and negatively associated with negative psychological adjustment (BSI; $\beta = -.30, p < .001$), whereas ERI exploration was not related to either. Additionally, peer promotion of mistrust was positively associated with negative psychological adjustment (BSI; $\beta = .20, p = .006$), but no other socialization variable was associated with adjustment.

Estimates of the indirect associations from parent and peer socialization to psychological adjustment through ERI indicated that parent ethnic socialization was negatively ($\beta = -.09, p = .009$) associated with negative adjustment through ERI commitment and positively ($\beta = .09, p = .007$) associated with positive psychological adjustment through ERI commitment. Parent bias

was also positively associated with negative adjustment through ERI commitment ($\beta = .07, p = .04$) and negatively associated with ERI commitment ($\beta = -.08, p = .04$) positive adjustment.

These indirect pathway results are shown in Table 8.

Cohort 2013. For the 2013 cohort comparison of the fully mediated model and direct effects model suggested that the direct effects model was a better fit for the data ($\Delta\chi^2(12) = 41.24, p < .001$; $\Delta CFI = .09$). In examining the individual paths within the direct effects model parent cultural socialization ($\beta = .36, p < .001$) and peer preparation for bias ($\beta = .27, p < .001$) were positively associated with ERI exploration, while parent preparation for bias ($\beta = .27, p < .001$) was negatively related to exploration. In turn, parent cultural socialization was also positively related to ERI commitment ($\beta = .24, p < .001$).

In terms of psychological adjustment, satisfaction with life was not found to be associated with any of the variables. In contrast, negative psychological adjustment was positively associated with peer promotion of mistrust ($\beta = .17, p = .03$). Positive and negative psychological adjustment were negatively associated with one another ($\beta = -.34, p < .001$).

Estimates of the indirect associations between parent and peer socialization and psychological adjustment through ERI found no significant indirect pathways.

Cohort 2014. As with the 2012 and 2013 cohorts, the 2014 cohort comparison of the fully mediated model and direct effects model suggested that the direct effects model was a better fit for the data than the fully mediated model ($\Delta\chi^2(12) = 51.14, p < .001$; $\Delta CFI = .12$). In examining the individual paths within the direct effects model parent cultural socialization ($\beta = .59, p < .001$) and parent promotion of mistrust ($\beta = .17, p = .03$) were positively associated with ERI exploration. Additionally, parent cultural socialization was positively associated with ERI commitment ($\beta = .54, p < .001$).

In terms of psychological adjustment, satisfaction with life was found to be positively associated with ERI commitment ($\beta = .18, p = .04$). There were no statistically significant associations with depression in the 2014 cohort. Positive and negative psychological adjustment were negatively associated with one another ($\beta = -.28, p < .001$).

Estimates of the indirect associations between parent and peer socialization and psychological adjustment through ERI found no significant indirect pathways.

Final Meta-Analytic Model Summarizing across Cohorts. To summarize the preceding four models into a single model, we converted all estimates to the r statistic and conducted a fixed-effects meta-analysis. We chose a fixed effects model because a) our population is narrowly defined and consistently measured, and thus variation is due to sampling and measurement error, not in methodology; b) we were interested in deriving point estimates based on the preceding models; and c) we did not seek to test for moderators. The analysis was conducted using the Excel program developed by Neyeloff, Fuchs, and Moreira (2012).

The effect size estimates and confidence intervals for all model paths are presented in Table 9. The findings indicated that five of the six paths between parent socialization and ERI were reliable: positive associations between ethnic socialization and both exploration ($r = .38$) and commitment ($r = .39$), negative associations between preparation for bias and both exploration ($r = -.18$) and commitment ($r = -.12$), and a positive association between promotion of mistrust and exploration ($r = .15$). In contrast, for peers, only two of the six paths were reliable: positive association between preparation for bias and exploration ($r = .24$) and a small negative association between promotion of mistrust and exploration ($r = -.08$). The direction of relations between exploration and both preparation of bias and promotion of mistrust was *opposite* for parents and peers.

In terms of psychological adjustment, only five of the 12 paths between socialization and adjustment were reliable. Parent ethnic socialization was related to greater well-being ($r = .14$), parent preparation for bias was related to greater negative psychological adjustment ($r = .11$), peer promotion of mistrust was positively related to greater negative psychological adjustment ($r = .13$) and negatively related to positive psychological adjustment ($r = -.09$), and parent promotion of mistrust was negatively related to positive psychological adjustment ($r = -.11$).

Finally, the correlations between ERI and psychological functioning were very much consistent with past research: commitment was positively associated with positive psychological adjustment ($r = .27$) and negatively associated with negative psychological adjustment ($r = -.26$; see meta-analyses by Rivas-Drake et al., 2014; Smith & Silva, 2011). Exploration also demonstrated a positive association with negative psychological adjustment ($r = .10$), which is consistent with past research using the MEIM exploration subscale and/or when controlling for commitment (Syed et al., 2013; Syed & Juang, 2014).

Discussion

In this study, we tested a comprehensive model of multiple dimensions of ethnic-racial identity, cultural socialization, and psychological adjustment. Although this model is implied in the existing literature, and studies have examined a selection of these model dimensions (see Hughes et al., 2006; Tran & Lee, 2010), the current study helps to unify past findings into a single model. By replicating and meta-analyzing the findings across four samples of diverse emerging adults about to begin college, we were able to develop more robust estimates of the associations among ethnic socialization, preparation for bias, promotion of mistrust, ERI commitment and exploration, and positive and negative psychological adjustment (Cumming, 2013). This analysis revealed several reliable associations indicating how the types of parent and

peer socialization are differentially related to ERI exploration and commitment. These cross-sectional findings provide a preliminary, but robust model from which researchers can frame future longitudinal work in this area. Below we discuss the specific findings with respect to our hypotheses followed by a discussion of the broader developmental significance of the work.

Tests of the Overall Mediation Model

The first hypothesis proposed in this study was that ERI exploration and commitment would fully mediate the association between parent and peer cultural socialization processes and psychological adjustment. This hypothesis was not fully supported. While there were many significant indirect effects between cultural socialization and adjustment running through ERI, in three of the four models the direct effects model was a better fit to the data than the indirect effects model. This suggests that ERI is a partial mediator and that there are additional associations between cultural socialization and psychological adjustment that work through mechanisms other than ERI exploration and commitment.

The evidence for a partial mediation model indicates that cultural socialization processes in part work through ERI in its relation to psychological adjustment (Hughes et al., 2009; Neblett et al., 2012). In other words, young people of color who are socialized to their ethnic heritage by parents and prepared for bias by peers have a stronger sense of the self as part of a cultural group (Hughes et al., 2006). This socialization serves to protect against negative experiences, such as discrimination or racism (and perhaps serves to emphasize positive ethnicity related experiences) resulting in better psychological adjustment (Neblett et al., 2006). Verkuyten (2016) proposed that in adolescence and emerging adulthood the identity motives of continuity of self and a sense of meaning may drive ERI processes. It makes sense that in emerging adulthood, and at the cusp of starting college, cultural socialization that creates meaningful links between the individual and

the family of origin may be particularly important to fulfilling the identity motives of continuity and meaning in life (Verkuyten, 2016). This mediation finding, while concluded from correlational data, is particularly important for clinicians working with young people of color. It suggests that it is the internalization of a sense of the self as part of the group may be important for understanding positive outcomes. Multicultural competent practice with adolescents and emerging adults of color may wish to assess for and encourage the development of ERI.

The associations between the two ERI processes and well-being are consistent with a large body of ERI development research (Rivas-Drake, Syed, et al., 2014; Smith & Silva, 2011; Umaña-Taylor et al., 2014). ERI commitment, in particular, is a robust and replicable predictor of positive psychological adjustment (Rivas-Drake, Syed, et al., 2014). In contrast, ERI exploration was found to have a small association with ($r = .10$) increased psychological distress. Given the difficult questions that must be asked during exploration of ERI this finding is not surprising, particularly given a context of historical and current discrimination. Additionally, it is congruent with past work suggesting that ERI exploration may intensify discrimination experiences (e.g. Torres & Ong, 2010). Importantly, this finding does not indicate that exploration is necessarily aversive. It is essential to remember that a correlational path model considers all paths at the same time, thus the part of ERI exploration that is negatively related to well-being is that part that is distinct from ERI commitment and cultural socialization. It is also important to consider that this model represents only how one instrument (the MEIM; Roberts et al., 1999) assesses exploration. In their examination of the MEIM, Syed and colleagues (2013) described the exploration subscale as “ambivalent” exploration. They made this determination because the items describe exploration that may or may not lead to increased commitment (e.g. “I have spent time trying to find out more about my ethnic group, such as its history, traditions,

and customs”, “I think a lot about how my life will be affected by my ethnic group membership”; Roberts et al., 1999). Perhaps, this ongoing search without finding meaning or benefits to ERI is particularly troublesome for young people (Syed et al, 2013). This suggestion is supported by the structure of the present path model that suggests that it is the part of exploration that is unrelated to commitment that is related to poorer psychological adjustment.

As noted, we did not find evidence for a full mediation model. Meta-analytic estimates of the direct paths between socialization and adjustment indicate these associations are relatively small, with none larger than $r = |.14|$. The most consistent finding is that promotion of mistrust may be aversive, as it was associated with lower positive adjustment (parents and peers) and greater negative adjustment (peers only). The remaining paths were from parent socialization only: parent ethnic socialization was associated with greater positive adjustment and parent preparation for bias associated with greater negative adjustment. This pattern of results suggests two points. First, parent socialization may be more broadly relevant for adjustment than peer socialization. Perhaps parental message carry greater moral weight, whereas peer messages are relatively easier to shrug off. Second, promotion of mistrust is perhaps the least conceptually connected to ERI exploration and commitment. Priest and colleagues (p. 145, 2014) suggest that the promotion of mistrust subscale is similar to “cultural alertness to discrimination.” This subscale has been linked to contextual factors such as neighborhood diversity and thus may be related to or mediated by experiences of discrimination, prejudice, outgroup attitudes, and rumination on these experiences (Priest et al., 2014). Contextual influences for both parents and their children are an important area of further study, particularly in longitudinal work examining these processes as children move out of the family home (Verkuyten, 2016). Finally, one study found a curvilinear relation between parental racial socialization and academic adjustment,

suggesting that links to well-being may be complex (Seol et al., 2016). Nevertheless, it is important to keep in mind that all of the direct associations were relatively small.

Differential Socialization Pathways for Parents and Peers

The second and third hypotheses pertained to specific paths from parent and peer socialization to ERI. Based on past narrative research (Juang & Syed, 2014; Syed, 2012), we hypothesized that parent ethnic socialization would be positively associated with ERI and that peer preparation for bias and peer promotion of mistrust would be positively associated with ERI. The findings were generally in line with these hypotheses. As predicted, parent ethnic socialization was positively associated with both exploration and commitment. This finding is part of a body of work suggesting that parents help to develop a child's sense of the self as a part of the web of their ancestor's identities (see Fivush, Bohanek, & Duke, 2005). This line of research suggests that even in the context of new peer relationships, the grounding of present identity in an understanding of family history, perhaps through ethnic socialization, provides opportunities for children to find meaning in the experiences of significant others (Merrill & Fivush, 2016). Family life is built on the sort of rituals and traditions that make up ethnic socialization practices and past research has suggested that adolescent identity development is directly related to the symbolic significance of family ritual (Fiese, 1992). In contrast to parents, peer ethnic socialization was related to neither exploration nor commitment. This finding affirms the importance of the familial intergenerational perspective of ethnic socialization, something that even same ethnicity or race peers do not have access to.

The findings for the third hypothesis were more complex. Consistent with expectations and with past narrative work, peer preparation for bias was associated with greater ERI exploration (but not commitment; Juang & Syed, 2014; Syed, 2012). In contrast to peers, parent

preparation for bias was associated with *lower* ERI exploration and commitment. What accounts for this discrepancy? Preparation for bias messages are those that alert the receiver to the possibility of discrimination and prejudice (Priest et al., 2014). Past research has found frequency of parent preparation for bias messages is associated with parental experiences of discrimination (Hughes et al., 2006). In fact, Hughes (2003) found that parents' experience of discrimination was a stronger predictor of preparation for bias messages than the parents' ERI development. Thus, it seems possible that the content of parent and peer messages as well as the interpretation of such messages differs by source. Perhaps parents' preparation for bias messages are interpreted as cautionary due to their association with the parent's experience of discrimination, whereas peer preparation for bias messages may be interpreted as social support and as a call to unite in a shared minority co-identity.

We also observed discrepant findings for promotion of mistrust. Whereas peer promotion of mistrust had a small *negative* association with commitment ($r = -.08$), parent promotion of mistrust had a modest *positive* association with commitment ($r = .15$). This pattern of findings highlights the need to more closely examine the content of these socialization messages; that is, what are the parents and peers actually saying? For instance, one of the items on the mistrust subscale is: "has a parent/peer done or said things to encourage you to keep your distance from people of other races" (Hughes & Johnson, 2001). It could be that the content of this encouragement differs dramatically between peers and parents, and that this content is what accounts for the different patterns with exploration. Indeed, a focus on the content of these messages is an area ripe for further qualitative and quantitative study. The finding that peers' and parents' cultural socialization strategies contribute uniquely to ERI brings forth a host of additional questions and a pathway for further exploration by ERI and cultural socialization

researchers. This line of research is similar to a work on ERI, rather than investigating commitment and exploration of identity development examines the content of ERI at a single time point (see Syed, 2015; Yip, 2014).

One point that is clear and important from our findings is that peers play an important role for ERI and cultural socialization, particularly in term of preparation for bias and promotion of mistrust at this developmental stage. We know from past research that emerging adults of color tend to have friends of the same ethnic heritage, thus it may be that these similarities give space for preparation for bias and promotion of mistrust (Syed & Juan, 2012). In a context of discrimination and prejudice in which young people wish to protect parents from worry, culturally similar peers may represent important figures in the preparation for bias (Juang & Syed, 2014). Once young adults are able to choose their audience for personal experiences it may be that parents begin to hear many more ethnicity and many fewer racial experience stories (Arnett, 2000). In terms of why it is only peer preparation for bias and not peer promotion of mistrust that relates to ERI exploration, perhaps this socialization by peers leads to questions of “why” discrimination occurs and therefore an investigation of ERI. Alternatively, perhaps this socialization to bias leads to a buffering of well-being through a building up of ERI through exploration processes. Most importantly, these results suggest that above and beyond the influence of parental socialization, peer socialization matters to the development of an ERI.

As can be seen, when viewed in the context of this replication, many of the pathways between variables in the model seem to reflect sampling error from each year rather than true relationships found in these constructs. This is to be expected, and is one reason why conducting multiple exact replications followed by a meta-analysis of all data is a strongly recommended practice (Lakens & Etz, 2017; Schimmack, 2012), rather than reporting data from a single study

or only reporting the statistically significant models. This study reflects what is, to our knowledge, the first attempt to build a comprehensive model to unite existing findings in the cultural socialization and ERI literatures.

Limitations, Future Directions and Conclusion

The current study is unique in that we tested a model that considered parents and peers at the same time on multiple dimensions of socialization, so we are able to see the unique portion of variance explained by parent and peer cultural socialization to ERI exploration and commitment. Although the findings are valuable for moving forward this line of work, there are important limitations to consider. First, as has been noted throughout this paper, this study was cross-sectional in nature. Thus, our tests of all associations, and suggestions of mediation, are speculative as to the true causal ordering. Although this is an important limitation and must be considered when interpreting the results, we agree with Wohlwill's (1973) classic articulation for a programmatic approach to developmental psychology in which first cross-sectional, bivariate associations must be established prior to engaging in longitudinal analysis. Given the time and resources needed for such studies, a replicated cross-sectional analysis serves as a solid foundation from which to build longitudinal models. Importantly, the available evidence provides support for the causal model specified in the current study. Umaña-Taylor et al. (2013) is the strongest test of directionality thus far, finding support for a parent-driven model over youth-driven or reciprocal models (see also Else-Quest & Morse, 2014; Umaña-Taylor & Guimond, 2010). Thus, the current state of knowledge in the field is consistent with our model.

Second, psychological adjustment was captured using different measures in the 2011 sample. This may have implications for conclusions drawn from this sample, though the replicability of our findings in the following three waves suggests stability in the model. Third,

we relied solely on self-report data. We note that we include only participant report of cultural socialization practices with no confirmation from parents or peers. It is likely that participants' reports of such practices would not perfectly correlate with parent or peer reports of such interactions. However, it is of note that recent studies have found that youth report of parent cultural socialization practices are consistent with parent reports (Peck, et al. 2014), and when they do diverge, youth report corresponds more closely to actual parent behaviors (Kim, Reichwald, & Lee, 2013). Additionally, as with any study exploring correlations amongst self-report survey data we note that it may be that individuals with greater ERI development also possess a sort of "ethnic-racial identity lens" that causes them to notice, remember, and/or report cultural socialization practices at greater frequencies. We note however that the cultural socialization scale measures memory of socialization experiences while the ERI and psychological adjustment scales measure present functioning, providing some support for the directionality of our findings.

The suggestion that a healthy and developed ERI may be a buffer to future prejudice suggests that conceptualizing group identity as a lens may be a fruitful avenue of further research (see Mossakowski, 2003). Additionally, it is possible this "ethnic-racial lens" works differently with parents and peers. For instance, it may be that individuals with a more developed ERI are also more likely to seek out friends who provide messages about prejudice and out-group trust. We furthermore acknowledge that there may be recruitment bias in our sample given that not all minority students at the university choose to participate in the multicultural pre-orientation. It may be that there is something unique about those individuals that seek out such an experience that relates to both ethnic/racial identity and cultural socialization.

In addition to longitudinal studies, future research must dig deeper into the *content* of the socializations messages from parents and peers (and other sources such as media). Further work exploring this model of associations in and between various racial and ethnic group will also be an important area of future inquiry. As noted, we tested a single model for all groups due to the lack of theoretical motivation for potential differences, supported by past work that has largely not found substantial differences in correlations. Although the processes and associations may be similar across groups, the content of the socialization—what parents and peers are actually saying and doing—may very well differ.

While researchers have firmly established the importance of parental cultural socialization to ERI development in emerging adulthood, this study is the first, to our knowledge that empirically and statistically establishes the differential influence of parent and peer cultural socialization on outcomes (Hughes et al., 2009). In doing so, this study provides evidence not only that peers matter to ERI development and therefore positive functioning at this developmental stage, but that they matter in ways that may be unique to this process. Particularly in emerging adulthood and on the cusp of entering college, peers may hold unique influence on the impact of cultural socialization processes on ERI (Lesane-Brown et al., 2005). In establishing these pathways across four replications, these findings open a field that has primarily focused on the influence of parents and family to explore the influence of friends and peers in the development of ERI through cultural socialization. We hope that in doing so, researchers can begin to acknowledge that this context of development matters for both individual ERI development and the development of healthy group identities in our increasingly diverse society.

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Table 1
Sample Characteristics by Cohort

	2011	2012	2013	2014
<i>N</i>	127	312	257	238
% Male	27	39	33	30
Age Mean (<i>SD</i>)	18.24 (1.26)	18.03 (.52)	17.96 (.37)	17.99 (.46)
% Refugee	7	6	5	6
% Adopted*	5	3	2	4
% International Students*	11	5	2	4
% Divorced Parents	15	17	15	17
% in First Year of College	95	99	98	99
% Living with Parents or Other Relative	21	20	22	16
Ethnicity ⁺				
% Black/African American	15	20	22	25
% Asian American	55	54	40	44
% Mixed Race/Multiple Ethnicities	13	14	20	8
% Latino/a	8	6	6	12
% Native American/American Indian/Alaska Native	3	.3	1	1
% White	2	5	6	10
% Middle Eastern	0	1	2	0

Note. Omnibus tests indicated no statistically significant differences in these variables across cohort years. A * indicates these individuals were excluded from further analysis. ⁺ Coded from self-reported values, due to this participants could have indicated they were a minority in university records but self-identified as white on the survey.

Table 2

Cohort 2011 Means (Standard Deviations), Cronbach's α and Zero-order Correlations for All Variables of Interest

	M (SD)	α	1	2	3	4	5	6	7	8	9	10
1. Parent Ethnic Socialization	1.54 (.94)	0.84	--									
2. Parent Preparation for Bias	1.35 (1.00)	0.89	0.73	--								
3. Parent Promotion of Mistrust	0.81 (1.04)	0.86	0.05	0.41	--							
4. Peer Ethnic Socialization	1.10 (0.84)	0.79	0.59	0.57	0.34	--						
5. Peer Preparation for Bias	1.05 (0.90)	0.89	0.54	0.68	0.43	0.82	--					
6. Peer Promotion of Mistrust	0.48 (0.62)	0.86	0.21	0.44	0.53	0.39	0.59	--				
7. ERI Exploration	2.80 (0.57)	0.65	0.25	0.16	0.04	0.23	0.27	0.08	--			
8. ERI Commitment	3.17 (0.58)	0.86	0.33	0.07	-0.12	0.20	0.19	-0.03	0.66	--		
9. Positive psych adjustment Self Esteem	3.26 (0.57)	0.90	0.11	-0.03	-0.17	0.07	0.04	-0.14	0.06	0.32	--	
10. Negative psych adjustment Depression	1.04 (0.46)	0.72	-0.10	0.09	0.21	0.01	0.07	0.14	0.00	-0.33	-0.70	--

Note. Correlations $>|.18|$ are significant at .05, correlations $>|.26|$ are significant at .01.

Table 3

Cohort 2012 Means (Standard Deviations), Cronbach's α and Zero-order Correlations for All Variables of Interest

	<i>M (SD)</i>	<i>α</i>	1	2	3	4	5	6	7	8	9	10
1. Parent Ethnic Socialization	1.37 (.94)	0.81	--									
2. Parent Preparation for Bias	1.33 (.96)	0.88	0.60	--								
3. Parent Promotion of Mistrust	0.91 (1.03)	0.85	0.20	0.61	--							
4. Peer Ethnic Socialization	1.10 (0.79)	0.78	0.60	0.44	0.33	--						
5. Peer Preparation for Bias	1.07 (0.80)	0.84	0.43	0.70	0.42	0.64	--					
6. Peer Promotion of Mistrust	0.46 (0.63)	0.70	0.26	0.46	0.52	0.30	0.55	--				
7. ERI Exploration	2.80 (0.55)	0.73	0.20	0.16	0.17	0.30	0.28	0.11	--			
8. ERI Commitment	3.13 (0.53)	0.89	0.16	0.07	0.11	0.12	0.11	0.08	0.56	--		
9. Positive psych adjustment Satisfaction with Life	3.60 (0.69)	0.80	0.10	-0.13	-0.15	0.07	-0.06	-0.12	0.06	0.18	--	
10. Negative psych adjustment Brief Symptoms Inventory	1.49 (0.53)	0.91	0.03	0.08	0.08	-0.03	0.01	0.15	-0.07	-0.18	-0.30	--

Note. Correlations $>|.10|$ are significant at .05, correlations $>|.15|$ are significant at .01.

Table 4

Cohort 2013 Means (Standard Deviations), Cronbach's α and Zero-order Correlations for All Variables of Interest

	<i>M (SD)</i>	<i>α</i>	1	2	3	4	5	6	7	8	9	10
1. Parent Ethnic Socialization	1.79 (1.01)	0.81	--									
2. Parent Preparation for Bias	1.75 (0.98)	0.88	0.58	--								
3. Parent Promotion of Mistrust	1.15 (1.37)	0.88	0.05	0.41	--							
4. Peer Ethnic Socialization	1.44 (0.79)	0.71	0.61	0.44	0.23	--						
5. Peer Preparation for Bias	1.38 (0.85)	0.85	0.39	0.68	0.34	0.56	--					
6. Peer Promotion of Mistrust	0.62 (0.71)	0.79	0.08	0.38	0.49	0.24	0.55	--				
7. ERI Exploration	2.91 (0.56)	0.78	0.39	0.26	0.15	0.38	0.33	0.14	--			
8. ERI Commitment	3.16 (0.54)	0.89	0.33	0.23	0.04	0.27	0.19	0.04	0.72	--		
9. Positive psych adjustment Satisfaction with Life	3.68 (0.77)	0.84	0.09	-0.01	-0.19	-0.02	-0.10	-0.18	0.07	0.15	--	
10. Negative psych adjustment Brief Symptoms Inventory	1.49 (0.57)	0.91	-0.01	0.21	0.16	-0.06	0.14	0.22	0.03	-0.05	-0.35	--

Note. Correlations $>|.13|$ are significant at .05, correlations $>|.20|$ are significant at .01.

Table 5

Cohort 2014 Means (Standard Deviations), Cronbach's α and Zero-order Correlations for All Variables of Interest

	<i>M (SD)</i>	α	1	2	3	4	5	6	7	8	9	10
1. Parent Ethnic Socialization	1.79 (1.01)	0.81	--									
2. Parent Preparation for Bias	1.75 (0.98)	0.88	0.53	--								
3. Parent Promotion of Mistrust	1.15 (1.37)	0.88	-0.05	0.41	--							
4. Peer Ethnic Socialization	1.44 (0.79)	0.71	0.58	0.35	0.13	--						
5. Peer Preparation for Bias	1.38 (0.85)	0.85	0.41	0.67	0.37	0.60	--					
6. Peer Promotion of Mistrust	0.62 (0.71)	0.79	0.08	0.41	0.63	0.20	0.51	--				
7. ERI Exploration	2.91 (0.56)	0.78	0.48	0.24	0.07	0.24	.18	0.06	--			
8. ERI Commitment	3.16 (0.54)	0.89	0.46	0.20	-0.06	0.19	0.09	0.03	0.72	--		
9. Positive psych adjustment Satisfaction with Life	3.68 (0.77)	0.84	0.11	-0.20	-0.29	0.00	-0.23	-0.25	0.14	0.22	--	
10. Negative psych adjustment Brief Symptoms Inventory	1.49 (0.57)	0.91	0.09	0.21	0.22	0.14	0.27	0.21	-0.10	-0.14	-0.35	--

Note. Correlations $>|.13|$ are significant at .05, correlations $>|.19|$ are significant at .01.

Table 6
Model fit statistics for all pathways and fully mediated path models

	AIC	Adjusted BIC	CFI	χ^2	$\Delta \chi^2$
2011					
Direct Effects	647.02	634.04	1.00	0	
Fully Mediated	631.18	622.29	1.00	8.15	8.15, $p = .77$
2012					
Direct Effects	1837.65	1858.75	1.00	0	
Fully Mediated	1846.93	1861.37	.92	33.28	33.28, $p = .0009$
2013					
Direct Effects	1581.58	1595.68	1.00	0	
Fully Mediated	1598.82	1608.47	.91	41.24	41.24, $p = .0004$
2014					
Direct Effects	1366.28	1708.47	1.00	0	
Fully Mediated	1393.42	1401.29	.88	51.14	51.14, $p < .0001$

Table 7

Standardized and unstandardized path estimates in the all pathways final model for each cohort

	2011			2012			2013			2014		
	<i>B</i>	SE	β									
ERI Exploration												
Parent Ethnic	.19	.09	.32	.11	.05	.19	.20	.05	.36	.30	.04	.59
Parent Bias	-.15	.09	-.27	-.11	.06	-.20	-.12	.05	-.20	-.05	.05	-.10
Parent Mistrust	.03	.06	.05	.12	.04	.23	.06	.03	.13	.08	.04	.17
Peer Ethnic	-.11	.11	-.16	.04	.06	.05	.06	.06	.08	-.05	.05	-.09
Peer Bias	.29	.12	.46	.23	.06	.35	.18	.06	.27	.01	.06	.02
Peer Mistrust	-.10	.11	-.11	-.14	.06	-.17	-.03	.06	-.04	-.03	.05	-.04
ERI Commitment												
Parent Ethnic	.38	.09	.60	.15	.05	.28	.13	.05	.24	.29	.05	.54
Parent Bias	-.30	.09	-.52	-.13	.06	-.24	.02	.06	.03	.00	.05	.00
Parent Mistrust	.00	.06	.00	.07	.04	.14	.00	.04	-.01	-.02	.04	-.03
Peer Ethnic	-.12	.11	-.17	-.08	.06	-.12	.06	.06	.09	-.05	.05	-.07
Peer Bias	.28	.11	.43	.13	.06	.21	.03	.06	.05	-.07	.06	-.11
Peer Mistrust	-.11	.10	-.12	-.05	.06	-.06	-.02	.06	-.03	.06	.06	.09
Positive Psychological Adjustment ⁺												
Explore	-.26	.11	-.26	-.17	.09	-.14	-.04	.13	-.03	.02	.13	.02
Commit	.42	.12	.44	.42	.09	.32	.22	.13	.16	.25	.12	.18
Parent Culture	-.02	.09	-.03	.12	.06	.16	.06	.07	.07	.10	.07	.13
Parent Bias	-.01	.09	-.02	-.14	.07	-.19	.07	.08	.09	-.11	.07	-.15
Parent Mistrust	-.05	.06	-.10	-.04	.05	-.06	-.10	.05	-.15	-.08	.06	-.12
Peer Ethnic	.02	.11	.02	.09	.07	.11	-.03	.09	-.03	.05	.08	.06
Peer Bias	.10	.12	.17	.01	.08	.01	-.08	.09	-.09	-.14	.09	-.16
Peer Mistrust	-.13	.11	-.15	-.10	.08	-.09	-.10	.09	-.09	-.06	.08	-.06
Negative Psychological Adjustment												
Explore	.28	.09	.34	.08	.07	.08	.16	.10	.16	-.13	.11	-.11
Commit	-.41	.09	-.52	-.30	.07	-.30	-.16	.09	-.16	-.15	.10	-.13
Parent Culture	-.13	.08	-.10	.04	.06	.07	-.05	.05	-.08	.09	.06	.15
Parent Bias	.05	.07	.10	.03	.04	.06	.16	.06	.28	.00	.06	-.01
Parent Mistrust	.04	.05	.08	.01	.04	.01	.00	.04	.00	.08	.05	.14
Peer Ethnic	-.01	.09	-.02	-.06	.06	-.09	-.12	.06	-.17	-.03	.07	-.04
Peer Bias	.01	.09	.02	-.07	.06	-.10	-.03	.07	-.04	.15	.08	.20
Peer Mistrust	.02	.08	.02	.16	.06	.20	.14	.06	.17	.03	.07	.03
Exploration with Commitment												
	.17	.03	.62	.15	.02	.60	.17	.02	.69	.13	.02	.65
Positive ⁺ with Negative* psychological adjustment												
	-.14	.02	-.64	-.08	.02	-.24	-.13	.03	-.34	-.10	.03	-.28

Note. **Bolded** values indicated statistical significance at $p < .05$. ⁺ Positive adjustment RSES (1965) in 2011 and SWLS (Diener et al., 1985) in 2012-2014. *Negative adjustment CES-D (Andersen et al., 1994) in 2011 and BSI-18 (Derogatis, 2001) in 2012-2014.

Table 8

Summary of indirect effects from cultural socialization to outcomes through ethnic-racial identity

	2011			2012			2013			2014		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Parent ethnic → Exploration → Negative adjustment	-.05	.03	.11	.01	.01	.02	0.03	0.02	.06	-0.04	0.03	-.06
Parent ethnic → Commitment → Negative adjustment	-.16	.05	-.31	-.05	.02	-.09	-0.02	0.01	-.04	-0.05	0.03	-.07
Parent bias → Exploration → Negative adjustment	-.04	.03	-.09	-.01	.01	-.02	-0.02	0.01	-.03	0.01	0.01	.01
Parent bias → Commitment → Negative adjustment	.12	.05	.27	.04	.02	.07	0.00	0.01	-.01	0.00	0.01	.00
Parent mistrust → Exploration → Negative adjustment	.01	.02	.02	.01	.01	.02	0.01	0.01	.02	-0.01	0.01	-.02
Parent mistrust → Commitment → Negative adjustment	.00	.03	.00	-.02	.01	-.04	0.00	0.01	.00	0.00	0.01	.00
Peer ethnic → Exploration → Negative adjustment	-.03	.03	-.06	.00	.01	.00	0.01	0.01	.01	0.01	0.01	.01
Peer ethnic → Commitment → Negative adjustment	.05	.05	.09	.02	.02	.04	-0.01	0.01	-.01	0.01	0.01	.01
Peer bias → Exploration → Negative adjustment	.08	.04	.16	.02	.02	.03	0.03	0.02	.04	0.00	0.01	-.00
Peer bias → Commitment → Negative adjustment	-.11	.05	-.22	-.04	.02	-.06	-0.01	0.01	-.01	0.01	0.01	.02
Peer mistrust → Exploration → Negative adjustment	-.03	.03	-.04	-.01	.01	-.01	-0.01	0.01	-.01	0.00	0.01	.00
Peer mistrust → Commitment → Negative adjustment	.05	.04	.06	.02	.02	.02	0.00	0.01	.01	-0.01	0.01	-.01
Parent ethnic → Exploration → Positive adjustment	-.05	.03	-.08	-.02	.01	-.03	-0.01	0.03	-.01	0.01	0.04	.01
Parent ethnic → Commitment → Positive adjustment	.16	.06	.26	.07	.02	.09	0.03	0.02	.04	0.07	0.04	.10
Parent bias → Exploration → Positive adjustment	.04	.03	.07	.02	.01	.03	0.01	0.02	.01	0.00	0.01	-.00
Parent bias → Commitment → Positive adjustment	-.13	.05	-.23	-.05	.03	-.08	0.00	0.01	.01	0.00	0.01	.00
Parent mistrust → Exploration → Positive adjustment	-.01	.02	-.01	-.02	.01	-.03	0.00	0.01	-.00	0.00	0.01	.00
Parent mistrust → Commitment → Positive adjustment	.00	.03	.00	.03	.02	.05	0.00	0.01	-.00	0.00	0.01	-.01
Peer ethnic → Exploration → Positive adjustment	.03	.03	.04	-.01	.01	-.01	0.00	0.01	-.00	0.00	0.01	-.00
Peer ethnic → Commitment → Positive adjustment	-.05	.05	-.07	-.03	.03	-.04	0.01	0.02	.01	-0.01	0.01	-.02
Peer bias → Exploration → Positive adjustment	-.08	.05	-.12	-.04	.02	-.05	-0.01	0.02	-.01	0.00	0.00	.00
Peer bias → Commitment → Positive adjustment	.12	.06	.19	.06	.03	.07	0.01	0.02	.01	-0.02	0.02	-.00
Peer mistrust → Exploration → Positive adjustment	.03	.03	.03	.03	.02	.02	0.00	0.00	.00	0.00	0.00	.01
Peer mistrust → Commitment → Positive adjustment	-.05	.05	-.05	-.02	.03	-.02	-0.01	0.01	-.01	0.02	0.02	.02

Note. **Bolded** values are statistically significant at $p < .05$. Positive psychological adjustment = RSES (1965) in 2011 and SWLS (Diener et al., 1985) in 2012-2014. Negative psychological adjustment = CES-D (Andersen et al., 1994) in 2011 and BSI-18 (Derogatis, 2001) in 2012-2014.

Table 9

Results of Fixed-effects Meta-analysis

	ERI Exploration				ERI Commitment				Negative Psychological Adjustment				Positive Psychological Adjustment			
	<i>r</i>	<i>SE</i>	95% CI		<i>r</i>	<i>SE</i>	95% CI		<i>r</i>	<i>SE</i>	95% CI		<i>r</i>	<i>SE</i>	95% CI	
Parent Ethnic	.38	.04	.29	.47	.39	.05	.30	.48	.03	.05	-.07	.13	.14	.05	.04	.24
Parent Prep for Bias	-.18	.05	-.28	-.07	-.12	.05	-.23	-.02	.11	.06	.01	.22	-.08	.05	-.19	.03
Parent Mistrust	.15	.04	.08	.23	.03	.04	-.05	.11	.05	.04	-.03	.13	-.11	.04	-.19	-.02
Peer Ethnic	.002	.05	-.09	.09	-.05	.05	-.14	.05	-.09	.05	-.19	.01	.05	.05	-.05	.14
Peer Prep for Bias	.24	.05	.14	.34	.09	.05	-.02	.19	.01	.06	-.10	.12	-.05	.06	-.16	.05
Peer Mistrust	-.08	.04	-.17	-.01	-.02	.04	-.10	.06	.13	.04	.05	.21	-.09	.04	-.17	-.01
EI Exploration									.10	.04	.01	.18	-.06	.04	-.14	.03
EI Commitment									-.26	.04	-.36	-.18	.27	.04	.19	.35

Note. **Bolded** values are statistically significant at $p < .05$

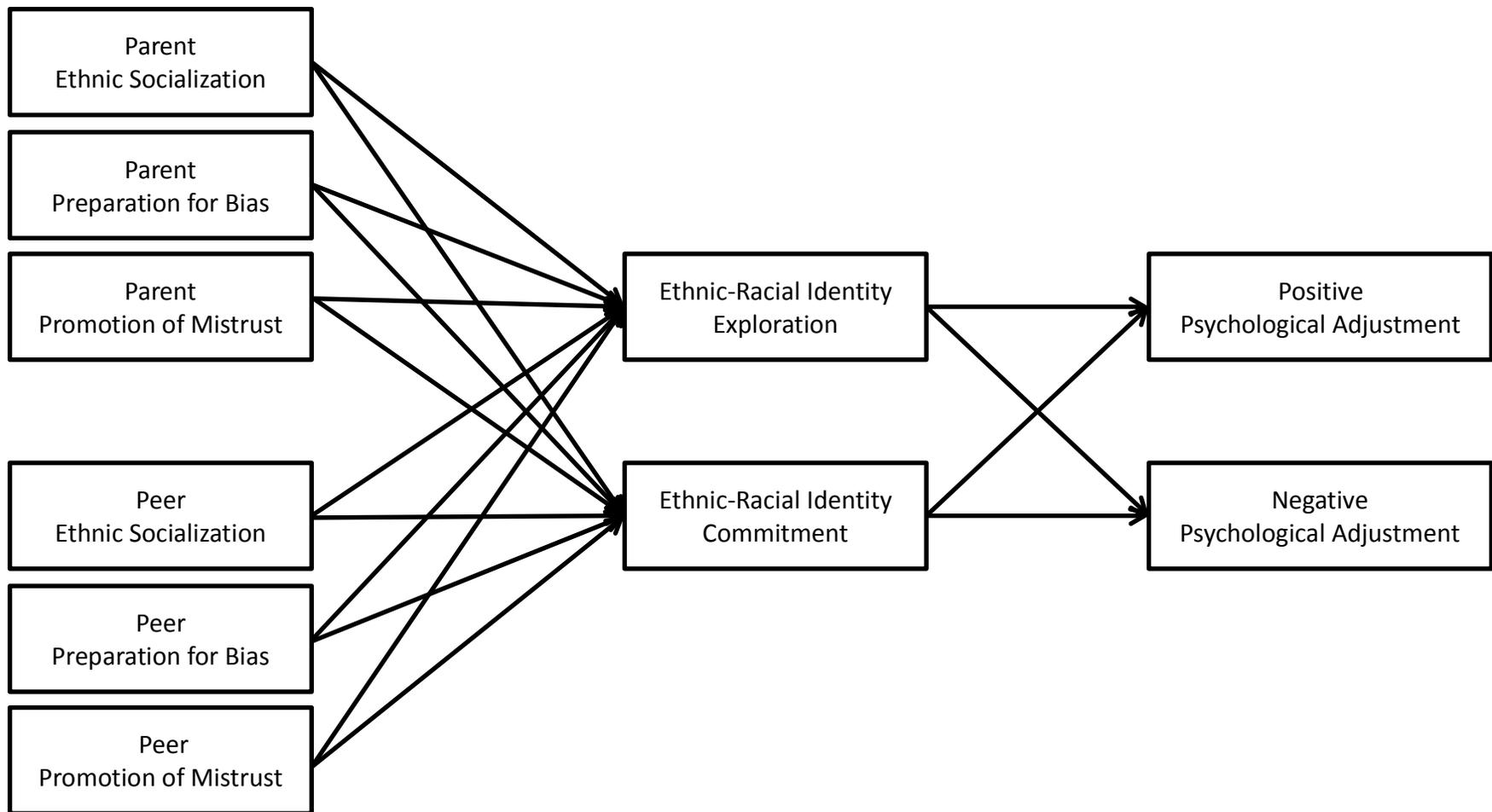


Figure 1. Hypothesized analytic model in which ethnic-racial identity mediates the association from parent and peer ethnic socialization, preparation for bias, and promotion of mistrust to psychological adjustment.