

Latent profiles of discrimination and socialization predicting ethnic identity and well-being among Asian American Adolescents

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Abstract:

Ethnic identity is rooted in sociocultural processes, but little is known about how social interactions predict its longitudinal changes. Using data from 154 Asian American adolescents, latent profile analysis derived four typologies based on unfair treatment (i.e., discrimination, model minority stereotyping) and ethnic socialization (i.e., cultural socialization, preparation for bias, promotion of mistrust): Low Cultural Salience, High Cultural Salience with Marginalization, Culturally Prepared with Low Mistrust, and High Mistrust/Discrimination. Few gender or generational differences in profile membership were found. Positive outcomes were linked to adolescents attuned to both positive and negative experiences, Culturally Prepared with Low Mistrust, who reported increases in ethnic belonging and decreases in negative emotions. The implications for identity formation and adjustment are discussed.

Keywords: identity | ethnicity | youth | ethnic socialization | discrimination

Article:

Ethnic identity is a vital construct to understand given its direct links to a vast range of positive outcomes for ethnic minority and immigrant youth, as well as its established role as a protective buffer against stress and other negative life experiences (Neblett, Rivas-Drake, & Umaña-Taylor, 2012; Rivas-Drake et al., 2014). Researchers commonly conceptualize ethnic identity as multidimensional, inclusive of both process and content variables (Phinney, 2003; Umaña-Taylor et al., 2014). Drawing from developmental perspectives (e.g., Erikson, 1968), this study traces whether adolescents' social interactions and socialization experiences are associated with changes in ethnic identity, as operationalized through such fundamental dimensions as ethnic belonging or affiliation and ethnic identity exploration.

Although ethnic identity development is an inherently dynamic and sociocontextual process (Kiang & Fuligni, 2009; Phinney, 2003), few studies have modeled its change over time as a function of adolescents' integrated experiences with race-related interactions involving unfair treatment and stereotyping and perceived ethnic socialization messages. The goal of the present work was to examine how these key culturally relevant social influences come together to shape adolescents' ethnic identity formation. In light of theoretical models that have pointed to social context as playing a primary role in determining individuals' outcomes and developmental competencies (Garcia Coll et al., 1996; Mistry et al., 2016), we also examine the implications of these sociocultural experiences on well-being (e.g., self-esteem).

Our person-centered analysis focuses on Asian American youth who represent the fastest growing segment of the U.S. population, but who also remain understudied in the psychological literature, particularly among geographic regions that are outside of traditional immigrant receiving communities (Tseng et al., 2016). Within such emerging immigrant areas, experiences of social stratification and cultural socialization are especially salient and in need of further study (Kiang & Supple, 2016; Stein, Gonzales, Garcia Coll, & Prandoni, 2016).

Interactive Processes in Identity and Youth Development

Theoretical models have long documented the importance of social interactions and contextual structures in influencing child development. For example, Bronfenbrenner's (1979) ecological framework delineates different layers of environmental influence ranging from the macro-level inculcation of cultural values and worldviews to the more proximal, daily interactions with friends and family. Garcia Coll et al.'s (1996) integrative model of child development also highlights the importance of sociocultural factors, such as those stemming from experiences of social stratification and its offshoots (e.g., discrimination), in shaping the outcomes of children from ethnic minority backgrounds more specifically.

With these frameworks in mind, a conceptual model that centers on the unique experiences of Asian American children and families was recently advanced (Mistry et al., 2016). In it, the importance of ethnic-racial inequities in development, including experiences of discrimination, is emphasized. Moreover, culture as an individually interpretive, meaning making process is described as a pivotal aspect of children's social interactions and experiences. According to the model, the practice of meaning making is situated in how individuals negotiate and act upon the sometimes competing messages of culture that are detected from diverse settings (e.g., ethnic diversity of neighborhoods and schools, parents or family settings, peer relationships). A large part of this cultural interpretation and navigation is, in turn, determined by the ethnic or cultural socialization messages that are perceived by youth. Hence, negative social interactions, such as those revolving around incidents of discrimination or stereotyping, and interactions that could be perceived as more positive, such as internalizing transmitted messages of cultural pride and socialization, are all instrumental in guiding youth development, including how youth come to feel about their ethnic identification and background. Yet, scarce work has incorporated both sets of experiences, discrimination/stereotyping and socialization messages, into a single model determining youth identity and adjustment (Hughes et al., 2006). In addition, studies have not considered whether distinct, identifiable *types* of youth who report varying degrees of these

experiences might exist. Examining how youth may be differentiated in such a qualitative rather than a quantitative way could provide a richer understanding of how their race-related experiences work together to shape their identity and development.

A person-centered approach. Researchers are increasingly employing person-centered analyses (vs. variable-centered) when attempting to identify types or profiles of individuals. While typical research approaches tend to focus on whether or not above average values on a predictor are associated with lower or higher values on an outcome, person-centered analyses attempt to identify individuals with different patterns of high and low values. Such an approach is particularly promising in studies focused on cultural value orientations and experiences for youth of color because there is likely within-population heterogeneity in terms of individuals possessing different levels of culture-related factors. As such, rather than simply linking a few key cultural factors to outcomes, person-centered approaches can identify different types of individuals who may possess varying patterns of high/low values across multiple cultural factors. After the identification of a certain number of profiles (typically in an exploratory manner), it is also possible to assess the frequency of each pattern, and determine the overall prevalence or pervasiveness of particular configurations (Zeiders, Roosa, Knight, & Gonzales, 2013). Moreover, a person-centered approach also allows investigators to identify covariates that predict which individuals are in which type or profile and to consider differential outcomes across these patterns of responding (Bámaca-Colbert & Gayles, 2010; Zeiders et al., 2013).

Taken together, one way that this study builds the field's understanding of discrimination and stereotyping experiences is by examining their simultaneous influence on developmental outcomes, including ethnic identity and well-being. Recent work by Hughes, Watford, and Del Toro (2016) assert the benefits of adopting an ecological or transactional view in considering how a collection of ethnic–racial dynamics, such as those found in discrimination, socialization experiences, and cultural identity formation, can exert multifaceted influences on youth development. Using a person-centered approach, we can gain insight on whether these specific effects are independent or interactive. Importantly, our approach considers multiple layers of influence, including how race-related socialization messages, which often co-occur with discrimination and stereotyping, similarly operate in shaping youths' lives.

Discrimination, Model Minority Stereotyping, and Developmental Outcomes

Researchers have consistently linked experiences of discrimination with a host of negative psychosocial outcomes including psychological distress, low self-esteem, physical health risks, and poor academic adjustment (Stein, Gonzalez, & Huq, 2012; Williams, Neighbors, & Jackson, 2003). The developmental effects of discrimination are particularly insidious given that, for Asian Americans and members of other ethnic minority groups, race-based discrimination is a relatively normative experience (Yip, Gee, & Takeuchi, 2008).

In theory, contexts imbued with discrimination can create environments that hinder developmental competencies (Garcia Coll et al., 1996; Mistry et al., 2016). Deeply embedded in these processes are children's feelings about their racial or ethnic background, given that racial group membership could serve as one source of discrimination or social bias. However, the temporal links between ethnic identity and perceptions of discrimination remain unclear. On one

hand, because discrimination can be threatening on a number of different levels (Cross, Parham, & Helms, 1998), it is possible that such experiences come first and subsequently impede the healthy identity development of ethnic minority and immigrant youth. For instance, adolescents might come to feel less positively about and distance themselves from their cultural heritage, and also less motivated to explore what it means to be a member of their ethnic group if they experience stereotypes or perceive race-related negative treatment from others (Fuller-Rowell, Ong, & Phinney, 2013; Yip, 2016). Alternatively, from a social identity perspective (Tajfel, 1981), ethnic identity might be strengthened in the face of discrimination or group threat.

Yet, while some studies have indeed established support for discrimination leading to stronger levels of ethnic identity over time (Zeiders et al., 2017), others have found evidence for identity preceding perceptions of discrimination and serving as a moderator of the associations between discrimination and outcomes (Sellers & Shelton, 2003). Some of these discrepancies in existing work could be due to the specific dimensions of identity that have been considered. For example, some subscales of ethnic identity (e.g., exploration) have been found to increase perceptions of discrimination, while other subscales (e.g., belonging) might decrease such perceptions (Gonzales-Backen et al., 2017). Clearly, more insight on pathways and directionality is needed.

Moreover, although all groups are associated with positive and negative stereotypes, the model minority stereotype is particularly unique to Asian Americans. The image itself is a social construction that views Asian Americans as overachieving exemplars of hard work and perseverance (Suzuki, 2002). Although some research has found that model minority stereotyping experiences can promote academic and socioemotional adjustment (Ambady, Shih, Kim, & Pittinsky, 2001; Oyserman & Sakamoto, 1997; Thompson & Kiang, 2010), the potential danger is in the stereotype's restrictiveness (Wang, Siy, & Cheryan, 2011), creation of pressure to live up to the expectations (Cheryan & Bodenhausen, 2000; Shih, Ambady, Richeson, Fujita, & Gray, 2002; Wong & Halgin, 2006), and just plain inaccuracy (Asian American Federation, 2014; Ho & Jackson, 2001; Ngo & Lee, 2007; Niwa, Way, Qin, & Okazaki, 2011; Wu, 2002). There thus appears to be competing evidence for both positive and negative consequences of the model minority stereotyping experience for a diverse set of youth outcomes, including more general self-esteem and well-being, which are targeted outcomes in this study.

As knowledge of the stereotype and its associated effects continues to grow, it is important to consider how ethnic identity might take shape as a result (Kiang, Witkow, & Thompson, 2016). Some evidence does suggest that those who experience ethnic stereotyping tend to develop stronger feelings of affiliation and identification with their ethnic group (e.g., Branscombe, Schmitt, & Harvey, 1999). Emerging research focusing specifically on the model minority stereotype similarly suggests that awareness of the stereotype, as well as feeling positively about the image, are positively associated with a strong sense of ethnic identity, as defined by belonging and exploration (Thompson, Kiang, & Witkow, 2016). Notably, the directionality appears to go from stereotyping to ethnic identity, rather than the reverse, which is consistent with social identity theory (Tajfel, 1981) and provides preliminary evidence that perceptions of stereotypes predict more positive ethnic identity over time.

Ethnic Socialization, Identity, and Well-Being

One of the primary ways in which children learn about their heritage background is via the ethnic socialization messages they receive from parents. Traditionally, such messages have been conceptualized under three broad categories: cultural socialization, preparation for bias, and promotion of mistrust (Hughes et al., 2006). Although empirical work centering on ethnic socialization and its correlates is still emerging, socialization messages have been consistently linked to ethnic identity, as defined by ethnic belonging and exploration and social identity–based dimensions of regard and centrality, both cross-sectionally (McHale et al., 2006; Rivas-Drake, Hughes, & Way, 2009; Tran & Lee, 2010) and over time (Gartner, Kiang, & Supple, 2014; Umaña-Taylor, Alfaro, Bámaca, & Guimond, 2009).

However, the specific directions of these links vary depending on the type of message in question. For instance, while socialization messages that communicate a sense of ethnic or cultural pride can promote a strong and positive ethnic identification, socialization messages that focus on negative group interactions such as promotion of mistrust of others could hinder a healthy ethnic identity formation (Gartner et al., 2014). Indeed, the very aim of cultural socialization is to promote ethnic exploration, education, and positive group feelings, whereas the predominant goal of both promotion of mistrust and preparation for bias is to boost awareness of the potential negative interactions (e.g., discrimination, stereotyping) that children from ethnic minority groups might face (Hughes et al., 2006).

Based on such existing, but limited, work, we expected that positive messages about one's ethnic background by way of cultural socialization would foster a strong sense of ethnic belonging and exploration. However, negative socialization messages, such as promotion of mistrust, would impede ethnic identity, perhaps by contributing to individuals feeling socially marginalized and alienated (Joseph & Hunter, 2011). In contrast, while preparation for bias might appear negative at the outset, such messages might be ultimately adaptive in communicating awareness of possible mistreatment and ways to cope with such realities (Hughes et al., 2006; Huynh & Fuligni, 2008). Hence, preparation for bias might serve as a positive resource and enhance ethnic awareness and exploration (Alvarez, Juang, & Liang, 2006).

Although each of these different types of socialization messages is important to study independently, it appears particularly vital to examine how they collectively influence youth development. For example, might there be benefits to perceiving messages that are balanced between cultural pride and preparation for bias? Or, does one specific dimension of socialization surpass others in promoting outcomes? Again, one advantage of our person-centered approach is the ability to explore and model the configuration of adolescents' diverse ethnic socialization experiences to examine whether higher perceived levels of certain messages, in conjunction with high or low levels of other messages, work to differentially affect developmental changes in adolescents' ethnic identity.

Above and beyond ethnic identity, more general adjustment outcomes are also important to consider (e.g., self-esteem, emotional well-being). Although existing research focusing on links between socialization and these more general indicators of well-being is less conclusive (Gartner et al., 2014; Neblett et al., 2012), the messages that adolescents receive about their race or ethnicity and how they might be perceived by others are likely to have broad developmental implications. Based on prior conceptual and empirical work (Hughes et al., 2006), we

predominantly expected that positive cultural socialization messages and preparation for bias would both have positive implications for well-being, whereas promotion of mistrust would have more negative implications.

The Present Study

In recognizing that adolescent development requires steering through multiple domains of intercultural experiences among school, peer, and family contexts, this study addressed existing gaps in the literature by casting perceptions of discrimination, model minority stereotyping, and ethnic socialization messages as joint influences on ethnic identity and well-being. In doing so, we first conducted person-centered analyses to create empirically based profiles of adolescents' social experiences of discrimination, stereotyping, and socialization. All of these experiences are particularly meaningful among adolescents in the throes of identity development and for whom social and cultural interactions with others tend to be highly salient (Erikson, 1968). We also examined possible variation in profiles based on nativity and gender before examining associations between profiles and developmental outcomes.

We had competing hypotheses in terms of how derived profiles might be linked to outcomes. In terms of the individual variables contributing to these profiles, on one hand, it is possible that more experiences of negative treatment and being subjected to stereotypes will enhance one's ethnic affiliation, perhaps as adolescents attempt to cope with the biased treatment. However, it is also possible that youth will disidentify with their ethnic background in an attempt to feel less threatened by the negative social interactions. In terms of more general well-being and adjustment, discrimination and stereotyping experiences were expected to serve as detriments to outcomes such as emotional adjustment and self-esteem. Ethnic socialization messages, in particular those that actively boost cultural pride and affiliation, were expected to contribute to growth in ethnic identity over time, and to be positively related to adjustment.

Perhaps more important was our exploration of how these individual variables (e.g., discrimination, stereotyping, socialization) come together and simultaneously affect such change. Although each has been independently implicated as playing a significant role in development, few have examined their joint influence, especially over time. Clearly, these experiences do not occur in isolation, and there have been urgent calls for more work that examines how such influences might intersect in contributing to adolescents' cultural understanding and adjustment (Hughes et al., 2006). Recent work does point to the idea that parent-child conversations about discrimination and ethnic socialization are transactional (Smith-Bynum, Anderson, Davis, Franco, & English, 2016). Our approach thus allows us to explore and interpret empirically derived profiles of adolescents' experiences, which is important in terms of identifying patterns of responses based on both quantitative and qualitative differences, assessing the prevalence of such patterns, and determining potentially different correlates or predictors (Zeiders et al., 2013). For example, among the patterns that might arise are youth who report chronic levels of discrimination alone versus those who report both high discrimination and model minority stereotyping. What if some youth are taught to mistrust others or are given milder messages regarding preparation for bias, and report few instances of actual discrimination? or vice versa? Can youth who receive messages of cultural socialization and have few negative racial interactions with others be differentiated from youth who receive positive messages as well as

experience bias and stereotypes? By examining these primary culturally salient variables alongside each other in the same study, we can gain important, comprehensive information on how adolescents' interactions with others in society can structure ethnic identity development and overall well-being.

Method

Participants

At the initial time of recruitment, participants were 180 ninth (48.3% in the ninth grade; mean age = 14.43 years, $SD = .64$) and 10th graders (mean age = 15.56 years, $SD = .74$) from Asian American backgrounds (60% female). Adolescents were recruited from six public high schools in emerging immigrant communities in the southeastern United States. About 74% were U.S.-born (i.e., second generation). The remaining 26% were foreign-born (i.e., first generation). An open-ended, self-report item indicated representation from a range of specific ethnic ancestries including Hmong (28%), multiethnic (mostly within Asian groups; e.g., Cambodian and Chinese) (22%), South Asian (e.g., Indian, Pakistani) (11%), Chinese (8%), panethnic (i.e., Asian) (8%), and small clusters such as Montagnard, Laotian, Vietnamese, Filipino/a, Japanese, Korean, and Thai (23%).

Data were collected from each cohort for 4 consecutive years. For this study, we collapsed data across cohorts and focused on changes across 1 year of high school between the 11th and 12th grades. This strategy was due to our interests in examining change over the high school years as well as the fact that ethnic socialization measures were not included until later waves of the study. We excluded participants with only one wave of data, which resulted in a final analytical sample of 154 adolescents.

Procedure

A stratified cluster design was used to identify public high schools characterized as having high Asian growth for the region and a student body with relatively large proportions of Asian students (3–10%). The schools varied in ethnic diversity, achievement, socioeconomic status, and total size. In small group settings, students identified as Asian through school matriculation forms were invited to participate in a study on the social and cultural issues that affect their daily lives. Upon returning parental consent and assent forms during a follow-up visit, participants were administered a packet of questionnaires during school time, which took about 30–45 min to complete. Approximately 60% of those invited to participate returned consent/assent forms and participated in the first wave of data collection. All materials were completed in English.

Participants completed follow-up surveys that were consistent in content and length once a year for three additional years, with researchers returning to the schools to distribute questionnaires during class time. Participants were sent questionnaires by mail if they were no longer in school or if they were absent on the day the surveys were administered. For the last year of data collection, surveys were administered entirely through the postal mail due to our older cohort having already graduated from high school. Adolescents received \$25 for participating in the first year of the study, which involved an additional daily diary component that is not reported on

in the current paper. They received \$15 for each of the next 2 years of data collection, and \$20 for the last year. Retention rates were 91% of the original sample for year 2 of the study, 87% of the original sample for year 3, and 67% for year 4.

Measures

As specified in more detail in our Results section, adolescents' responses to measures of discrimination, stereotyping, and socialization in 11th grade were used to create the profiles in our latent profile analysis (LPA). Latent change scores (LCSs) were derived from adolescents' responses to ethnic identity and well-being measures in both 11th and 12th grades.

Perceived discrimination. To measure discrimination, adolescents were asked, "How often have you felt racial or ethnicity-based discrimination in the following situations?" in reference to a list of seven items (e.g., being treated unfairly, being disliked). On a 5-point scale ranging from 1 = *never* to 5 = *all the time*, respondents indicated the frequency of each event. This measure was developed for and has been successfully used with diverse ethnic groups, including Asian Americans (Greene, Way, & Pahl, 2006). The internal consistency in Grade 11 was .89.

Model minority stereotyping. Modeled after the discrimination measures adapted by Greene et al. (2006), a measure created by Thompson and Kiang (2010) was used to assess Asian American adolescents' experiences with model minority stereotyping. Participants were asked, "How often do you feel that your ethnicity leads people to automatically assume that you are..." They then responded to a list of nine items, each describing a trait commonly associated with the model minority stereotype of Asian Americans. Some of the traits were arguably more positive in nature (e.g., intelligent, ambitious, industrious/hardworking, likely to pursue a prestigious career), some tapped into common generalizations (e.g., talented in classical music, good at math/science, family-oriented), and some items were less inherently positive (e.g., quiet/reserved, courteous/polite). Items were rated on a 5-point Likert-type scale ranging from 1 = *never* to 5 = *all of the time*. The internal consistency at Grade 11 was .82.

Ethnic socialization. A 13-item measure, used successfully among Asian American samples in prior work, assessed ethnic socialization (Hughes & Chen, 1997). Adolescents were asked to think about their discussions with their parents in the past year and indicate how many times their parents talked about specific issues. The Cultural Socialization subscale consists of five items (e.g., encouraged you to read books concerning the history of traditions of your ethnicity) (11th grade $\alpha = .79$). The Preparation for Bias subscale consists of six items (e.g., told you that people might limit you because of your ethnicity) (11th grade $\alpha = .86$). Two items comprise the Promotion of Mistrust subscale (e.g., done or said things to keep you from trusting students from other ethnic groups) (11th grade $r = .67$). For each subscale, items were rated on a 1 = *never* to 5 = *six or more times* scale, with higher scores reflecting greater frequency of socialization messages.

Ethnic identity. Two primary components of ethnic identity were investigated. Items from the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) were used to assess Affirmation or Belonging, which reflects feeling proud of and a part of one's ethnic group (five items; e.g., "I have a strong sense of belonging to my own ethnic group."). Exploration reflects devoting time

and thought to understanding the meaning of one's ethnic group membership (seven items; e.g., "I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs"). The MEIM has been widely used across diverse ethnic groups, including Asian Americans (Phinney & Ong, 2007). Items were scored from 1 = *strongly disagree* to 5 = *strongly agree* with higher scores reflecting higher belonging and exploration. Internal consistencies ranged from .87 to .91 across subscales and grade.

Emotional well-being. Positive and negative emotions were used as indicators of emotional well-being as assessed by Mroczek and Kolarz (1998). This assessment has been used in prior work with Asian American youth (Thompson & Kiang, 2010). Adolescents were asked to think about how often they experienced a list of 12 emotions in the past 30 days. There are six emotions for each positive (e.g., extremely happy, full of life) and negative (e.g., helpless, restless) subscale. Ratings were made on a 5-point, Likert-type scale (1 = *not at all* to 5 = *almost all the time*). Higher scores for each subscale reflect higher positive and higher negative emotions. Across grade, the internal consistencies ranged from .66 to .88.

Self-esteem. The 10-item Rosenberg (1986) self-esteem scale is a measure of self-esteem that has been widely used, including among Asian Americans. Items were rated on a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*, with higher values indicating higher self-esteem. A sample item reads, "I feel that I have a number of good qualities." Across grades, the internal consistencies ranged from .84 to .87.

Results

Latent Profiles of Discrimination, Stereotyping, and Socialization

Our analysis plan involved three phases. First, we conducted a LPA using Mplus 7.4 (Muthén & Muthén, 1998–2012) to ascertain how many typologies there were in this sample based on 11th-grade reports of discrimination, model minority stereotyping, and ethnic socialization messages. LPA is a person-centered analysis that uses continuously scaled measurement items to sort participants into typologies or latent profiles. LPA is the same as latent class analysis, but uses continuous rather than categorical items, and is similar to factor analysis and cluster analysis. LPA is different from confirmatory factor analysis in that the latent variable explaining covariation among indicators is categorical in LPA (vs. continuous in confirmatory analyses) and different from cluster analysis in that it relies upon statistical models that can be evaluated via model fit statistics (Berlin, Parra, & Williams, 2014).

The typical first step in an LPA is to evaluate the relative model fit of a variety of models, typically by comparing a number of different class solutions (often 2 through 7; see Berlin et al., 2014 for a review). This approach involves specifying a model where the indicators (in this case, measures of discrimination, stereotyping, and socialization) are expected to vary across models with different numbers of profiles specified and results are compared to evaluate which model best represents the data. Researchers typically rely on a number of statistical criteria in selecting a final model, including information criteria (e.g., Akaike information criteria) and the sample size adjusted Bayesian information criteria (ABIC). Likelihood ratio tests are also used (see Berlin et al., 2014), which give a statistical comparison of the fit of the model being

considered relative to a model with one fewer profiles. Mplus provides both the Lo-Mendell-Rubin test and the bootstrapped LRT (BLRT). Other important considerations when deciding on the number of profiles include latent class separation and the substantive meaning of profiles, which refers to the theoretical validity and distinguishability of the resulting profiles. We also reported model entropy as models with entropy $>.80$ may be used to “hard classify” participants into profiles without introducing bias (Clark & Muthén, 2009). In practice, researchers tend to test models with increasing number of classes until statistical tests indicate that adding profiles no longer results in improved model fit. Many researchers have observed that, in some applications, the BLRT provides highly significant values even at implausible numbers of classes. In such cases, it is advised that researchers carefully consider how adding a class is related to profile sizes and also consider at what point ABIC values level off (much like using a scree plot; B. Muthén, personal communication).

Table 1 presents model fit statistics across 2-, 3-, 4-, and 5-profile models (we stopped at 5 profiles because model fit stopped improving at 5 profiles). We concluded that the best model included four profiles based on the following criteria: (1) a 4-profile model fit better than a 3-profile model, and (2) adding a 5th profile led to a relatively small reduction in ABIC values, a nonsignificant LRT test, and entropy dropping below $.80$. In addition, adding a 5th profile would have led to very small numbers of participants classified into that 5th profile. In sum, based on the totality of evidence, we selected the 4-profile model.

Table 1. Model Fit Statistics for Latent Profile Analysis Models

	AIC	ABIC	LRT <i>p</i> -value	Bootstrapped LRT <i>p</i> -value	Model entropy
2-Profile model	2,083.73	2,082.18	.00	.00	.85
3-Profile model	2,049.17	2,047.05	.15	.00	.86
4-Profile model	2,011.40	2,008.69	.04	.00	.86
5-Profile model	2,003.34	2,000.05	.74	.00	.79

Note. AIC, Akaike information criteria; ABIC, sample size adjusted Bayesian information criteria; LRT, Lo-Mendell-Rubin likelihood ratio test.

Figure 1 illustrates the profile proportions and the standardized means for the indicators in each profile. As shown, results suggest that adolescents can be grouped across four distinct categories in light of their social experiences with discrimination and model minority stereotyping, and perceived ethnic socialization messages regarding cultural pride, preparation for bias, and promotion of mistrust. Youth in the largest group (Low Cultural Salience; 54%) reported moderate levels of model minority stereotyping and relatively low levels of discrimination and all three types of socialization messages. Youth in a second group (Culturally Prepared with Low Mistrust; 18%) reported slightly higher levels of model minority stereotyping, and higher discrimination and socialization messages than the Low Cultural Salience group. We interpret these youth as being highly culturally aware, with resources that stem from positive cultural socialization messages, preparation for bias, and low promotion of mistrust. A third group (High Cultural Salience with Marginalization; 9%) is characterized by the most frequent reports of model minority stereotyping, discrimination, and ethnic socialization messages, including high levels of promotion of mistrust. Youth in a final fourth group (High Mistrust/Discrimination; 19%) reported high levels of discrimination and promotion of mistrust messages, but the lowest overall levels of model minority stereotyping and more moderate perceptions of receiving positive ethnic socialization messages (e.g., cultural socialization, preparation for bias).

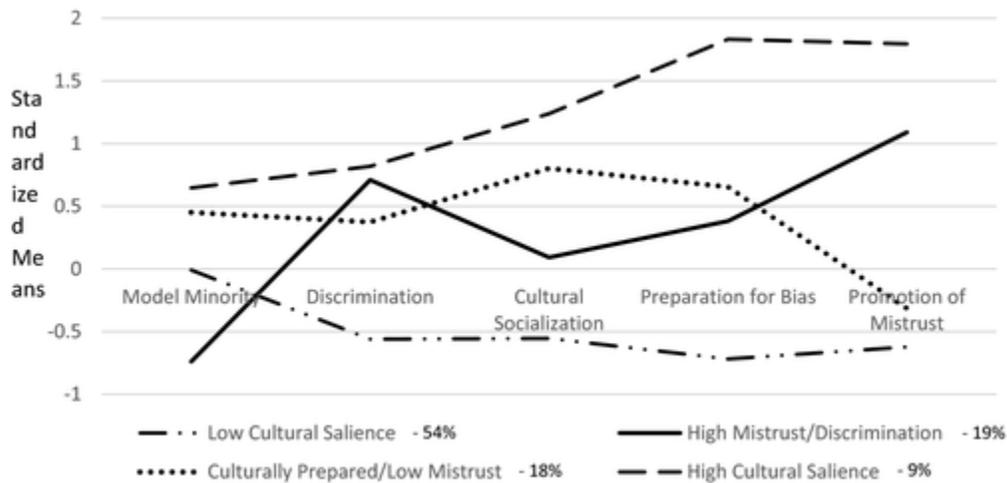


Figure 1. Derived profiles from LPA analyses.

Table 2 presents more specific conditional means of classification variables in each profile, and also lists statistical differences in the means of these variables across each of the profiles. The most consistent differences were between the Low Cultural Salience group and the others, but other nuanced differences in means were also found.

Table 2. Means Across Profile Typologies

	Low cultural salience	Culturally prepared w/Low mistrust	High cultural salience with marginalization	High mistrust discrimination	Significant differences
Model minority	3.878	4.213	4.356	3.345	HMC < LCS, CP, HCS LCS < HCS
Discrimination	1.624	2.449	2.842	2.746	LCS < CP, HCS, HMD
Cultural socialization	2.354	3.686	4.114	2.988	LCS < CP, HCS, HMC HCS > HMD
Prep for bias	1.576	2.953	4.133	2.68	LCS < CP, HCS, HMD HCS > CP, HMD
Mistrust	1.212	1.533	3.738	3.001	LCS < HCS, HMD CP < HCS, HMD

Note. Significant differences evaluated at $p = .002$ to adjust for multiple tests ($.05/22$). LCS, low cultural salience; CP, culturally prepared with low mistrust; HCS, high cultural salience with marginalization; HMD, high mistrust with high discrimination.

Exploring Demographic Differences in Profile Membership

The second phase in our analysis plan was to examine possible demographic differences in profile membership. We regressed latent profile membership on participant nativity status (born in the United States or not) and gender. When latent profiles are the outcome variable of a regression, Mplus uses multinomial logistic regression and uses the last category (in this case, the largest profile, Low Cultural Salience) as the reference category. In addition, however, Mplus provides results with each profile as the reference category for all profile-by-profile comparisons.

The results suggested few nativity or gender differences in profile membership. The only statistically significant associations suggested that U.S.-born participants were less likely than their foreign-born counterparts to be classified into the High Mistrust/Discrimination profile versus the Low Cultural Salience one ($p = .04$, O.R. = .37, 63% less likely) and also versus the Culturally Prepared with Low Mistrust profile ($p = .05$, O.R. = .10; 90% less likely). The rates of males classified into each profile were comparable as High Mistrust/Discrimination was 37% male, High Cultural Salience with Marginalization was 44% male, Culturally Prepared with Low Mistrust was 41% male, and Low Cultural Salience was 32% male.

Associations Between Profiles and Ethnic Identity and Outcomes

The third set of analyses was designed to consider how profile membership in 11th grade is linked with changes in ethnic identification and psychological well-being over time, as reported across 11th–12th grade. To examine changes in these outcome variables, we first created LCS factors in Mplus following the procedure outlined by Henk and Castro-Schilo (2016). LCS factors give an overall sample mean change score across two time points, while also having the advantage of being model-based so that missing data are handled via full information maximum likelihood (Enders, 2010). LCS models are also preferred over other approaches (e.g., autoregressive models) because they estimate intraindividual change, which captures developmental processes rather than general stability/instability in rank ordering (Henk & Castro-Schilo, 2016). Subsequent to creating LCS factors, we saved factor scores into a new data set so that those scores could be regressed onto latent profile membership. Hence, the dependent variables in these analyses reflect intraindividual changes in outcome scores over the 11th–12th grade period. We initially ran these analyses while controlling for adolescent gender and nativity; however, because both of these covariates had no significant associations with change scores (nor were overall patterns of associations different) we omitted these variables from the final set of analyses.

Changes from 11th to 12th grade in each outcome variable are included in Table 3 followed by associations between profile membership and outcomes. We present unstandardized coefficients, standardized coefficients (standardized mean differences are comparable to d statistic effect sizes), p -values for those coefficients at the conventional .05 cutoff, and 95% confidence intervals around effect sizes. Given the relatively small sample size and, in particular, the small size of some profiles, to avoid Type II errors we also computed optimal significance levels that take into account equal risk for committing Type I and Type II errors. In Table 3, we note across-group differences that met these alternative p -values to indicate statistical significance.

Table 3. Regressions Comparing Changes in Outcomes Across Profiles

	<i>b</i>	<i>SE</i>	β	<i>p</i> -Value	95% CI	Intercept
Belonging: LCS reference group						
High mistrust/Discrimination	-.099	.131	-.158	.45	-0.59, 0.32	.03
High cultural salience w/Marg.	.06	.173	.095	.73	-0.44, 0.67	
Culturally prepared w/Low mistrust	.161	.135	.258	.23	-0.24, 0.77	
Belonging: CP reference group						
High mistrust/Discrimination	-.259 ^b	.163	-.416	.11	-0.92, 0.09	.19
High cultural salience w/Marg.	-.101	.198	-.162	.61	-0.78, 0.46	
Belonging: HM as reference group						

	<i>b</i>	<i>SE</i>	β	<i>p</i> -Value	95% CI	Intercept
High cultural salience w/Marg.	.158	.196	.254	.42	-0.36, 0.87	-.07
Exploration: LCS reference group						
High mistrust/Discrimination	-.062	.132	-.099	.64	-0.51, 0.31	.04
High cultural salience w/Marg.	-.434 ^a	.174	-.686	.01	-1.21, -0.16	
Culturally prepared w/Low mistrust	-.083	.135	-.131	.54	-0.55, 0.29	
Exploration: CP reference group						
High mistrust/Discrimination	.02	.163	.032	.90	-0.47, 0.54	-.04
High cultural salience w/Marg.	-.351	.199	-.555	.08	-1.16, 0.05	
Exploration: HM reference group						
High cultural salience w/Marg.	-.372 ^b	.196	-.587	.06	-1.18, 0.01	-.02
Positive emotions: LCS reference group						
High mistrust/Discrimination	.029	.174	.034	.87	-0.36, 0.44	-.04
High cultural salience w/Marg.	.502 ^a	.229	.603	.03	0.08, 1.13	
Culturally prepared w/Low mistrust	.071	.178	.085	.69	-0.33, 0.51	
Positive emotions: CP reference group						
High mistrust/Discrimination	-.042	.216	-.051	.84	-0.56, 0.46	.03
High cultural salience w/Marg.	.431 ^b	.262	.518	.10	-0.09, 1.13	
Positive emotions: HM reference group						
High cultural salience w/Marg.	.474 ^b	.259	.569	.07	-0.03, 1.17	-.01
Negative emotions: LCS reference group						
High mistrust/Discrimination	-.065	.154	-.089	.67	-0.49, 0.32	.10
High cultural salience w/Marg.	.034	.203	.046	.87	-0.49, 0.58	
Culturally prepared w/Low mistrust	-.314 ^a	.158	-.428	.04	-0.84, -0.01	
Negative emotions: CP reference group						
High mistrust/Discrimination	.249	.191	.339	.19	-0.17, 0.84	-.19
High cultural salience w/Marg.	.348 ^b	.232	.474	.13	-0.14, 1.09	
Negative emotions: HM reference group						
High cultural salience w/Marg.	.099	.229	.135	.66	-0.48, 0.75	.06
Self-esteem: LCS reference group						
High mistrust/Discrimination	.006	.129	.010	.96	-0.40, 0.42	.12
High cultural salience w/Marg.	.246	.17	.402	.15	-0.14, 0.94	
Culturally prepared w/Low mistrust	-.023	.132	-.038	.86	-0.46, 0.38	
Self-esteem: CP reference group						
High mistrust/Discrimination	.029	.159	.048	.85	-0.46, 0.56	.08
High cultural salience w/Marg.	.269 ^b	.194	.440	.16	-0.08, 1.16	
Self-esteem: HM reference group						
High cultural salience w/Marg.	.240 ^b	.192	.392	.21	-0.22, 1.00	.11

Note. Intercepts represent mean changes in each outcome for the reference group under consideration. Regression coefficients represent profile differences (relative to each reference group) in unstandardized and standardized metrics. Standardized mean differences across profiles can be interpreted as effect sizes (standardized mean differences or Cohen's *d*). 95% confidence intervals (CI) are presented around standardized coefficients. Two alternative significance tests are provided, those based on traditional cutoffs ($p < .05$) and those using optimal p -values. LCS, low cultural salience; CP, culturally prepared with low mistrust; HM, high mistrust/discrimination; HCS, high cultural salience with marginalization.

^a $p < .05$.

^b Significant at optimal p -values. Optimal p -values for group comparisons are LCS versus HM, HCS, and CP, respectively: $p < .08$, $p < .15$, and $p < .08$; CP versus HM and HCS, respectively = $p < .15$, $p < .25$; HM versus HCS: $p < .22$.

When comparing changes in outcomes across profiles, three differences met the conventional criteria for statistical significance. Two of these differences involved the High Cultural Salience with Marginalization group and suggested that this group reported greater reductions in exploration and greater increases in positive emotions across time compared to the Low Cultural Salience group. The third difference suggested that the Culturally Prepared with Low Mistrust group had greater reductions in negative emotions across time compared to the Low Cultural Salience group. In addition, when applying optimal p -values that take into account balanced risk of making Type I and Type II errors, we found two other significant differences. To compute optimal p -values, we used the formulas presented by Mudge, Baker, Edge, and Houlahan (2012), specified effect sizes (d) of .50, and used our profile sample sizes to compute statistical power. The optimal p -values are presented in the notes of Table 3. Using these alternative values, we would have concluded that relatively large effect sizes were statistically significant for the following comparisons: (1) that the High Cultural Salience with Marginalization adolescents would have reported greater reductions in exploration and greater increases in positive emotions and self-esteem compared to the High Mistrust/Discrimination group and the Culturally Prepared groups; and (2) the High Mistrust/Discrimination group would have reported reduced belonging over time when compared to the Culturally Prepared group.

Discussion

Despite theoretical perspectives that view ethnic identity as a fluid, socially malleable construct (Kiang & Fuligni, 2009; Phinney, 2003), few empirical studies have considered how diverse social interactions might predict its development over time. The goal of our research was to address this limitation in the literature and create person-centered profiles based on Asian American adolescents' reports of perceived discrimination, model minority stereotyping, and ethnic socialization messages. We then examined possible associations between profile membership and gender and generational status, as well as implications of profiles for adolescents' ethnic identity development and adjustment.

The results of our LPA first confirmed that adolescents' social experiences consisting of perceived bias or unfair treatment and different types of ethnic-relevant socialization messages do come together to form distinct, meaningful patterns. Specifically, four typologies were derived. Two of the four groups reported consistent levels of cultural salience across the board in the sense that adolescents in these groups reported experiencing relatively low or high levels of discrimination, stereotyping, and ethnic socialization messages. We categorized these youth as having Low Cultural Salience and High Cultural Salience with Marginalization, respectively. The Low Cultural Salience profile emerged as the largest group. Also, the High Cultural Salience with Marginalization group can be further differentiated from a third group that emerged, which we called Culturally Prepared with Resources. Similar to the High Cultural Salience group, adolescents here were highly aware of cultural experiences in reporting moderate to high levels of discrimination and stereotyping, and positive ethnic socialization messages (e.g., cultural socialization, preparation for bias), but they differed in also reporting much lower levels of promotion of mistrust messages. In contrast, High Mistrust/Discrimination was a fourth group that was depicted by relatively high perceptions of mistrust messages and high discrimination, but lower reports of stereotyping and lower positive socialization messages.

Collectively, these patterns suggest that a range of sociocultural interactions can join to shape adolescent development, and that examining only one dimension of cultural experiences at a time could be short-sighted. Indeed, negative social interactions by way of discrimination are likely related to adolescents' stereotyping experiences, and both of these types of encounters are also intricately tied to the way in which children learn about their ethnic background through conversations and discussions with their parents (Hughes et al., 2006; Kiang et al., 2016). Our approach in modeling these culturally relevant experiences through LPA point to the utility in continuing to consider such interactions as having joint, simultaneous influences in development. This is an important point to recognize for both parents of immigrant families and future research—that cultural socialization within the home and perceived discrimination and stereotyping experiences outside of the home can come together and subsequently predict adolescents' identity and outcomes. Also, although some of these experiences consistently coincided for some youth, other youth reported more variation in the way in which these processes were aggregated (e.g., with some clearly showing higher levels of negative experiences only).

The deeper implications of such a person-centered profile approach rest in whether the groups that emerged from our data can be meaningfully differentiated. First, in terms of demographics, there were some differences by generational status whereby U.S.-born participants were generally less likely to be classified as High Mistrust/Discrimination compared to other profiles. Recall that the High Mistrust/Discrimination profile is characterized by high levels of discrimination and lack of trust in others, but low levels of model minority stereotyping and moderate cultural socialization and preparation for bias. One explanation for these generational differences is that foreign-born youth might be subjected to more experiences of discrimination based on immigrant status, such as due to accent or more salient cultural differences. It is also possible that they are discriminated against by U.S.-born Asian and non-Asian peers alike. At the same time, these first-generation youth could be less aware of the model minority stereotype compared to their U.S.-born peers, since the image tends to be an "American" incarnation. The more recent immigration experiences for first-generation youth could leave them with more mistrust of the mainstream and less awareness of the model minority stereotype. However, there was not a lot of variation by generational status otherwise, and no differences in gender were found such that males and females were roughly represented across all of the profiles.

In light of the links between typologies and LCSs in identity and well-being outcomes, we found notable differences between adolescents in the Low Cultural Salience profile and their counterparts in other profiles. Specifically, youth who reported High Cultural Salience with Marginalization (e.g., high mistrust) reported greater declines in ethnic exploration from 11th to 12th grade compared to those with Low Cultural Salience. It thus appears that negative social interactions (e.g., perceived discrimination, stereotyping) in conjunction with messages of social mistrust can hinder ethnic identity development, as defined by the motivation to explore one's ethnic background. Although it is less intuitive why the former group with High Cultural Salience also reported greater increases in positive emotions, perhaps, at least in comparison with the Low Cultural Salience group, the positive socialization messages that are being communicated allow for these youth to gain positivity over time despite their high perceived levels of negative treatment, stereotyping, and cultural mistrust.

Compared to the Low Cultural Salience typology, adolescents who were grouped in the Culturally Prepared with Low Mistrust profile, arguably the most resilient group due to moderate discrimination and stereotyping experiences coupled with positive socialization messages, reported significantly greater declines in negative emotions across time. The Culturally Prepared group also reported increases in ethnic belonging compared to those with Low Cultural Salience.

Hence, being highly attuned to cultural experiences (both positive and negative), can contribute to positive increases in ethnic identity, as defined by affiliative dimensions. Such cultural awareness and preparedness also has positive offshoots in terms of emotional well-being. These findings have implications in terms of the advantages of exposing youth to many and varied cultural experiences, particularly in terms of communicating the importance of not only being aware of one's cultural heritage, but also providing youth with the ethnic socialization and cultural resources to potentially withstand any negative experiences they might encounter. Indeed, our results highlight the potential benefits of positive ethnic socialization messages in fostering adolescents' developmental competencies (Hughes et al., 2006; Neblett et al., 2012).

Given the importance of ethnic socialization in predicting positive youth outcomes, some broader implications can be found in potentially informing intervention programs to increase parents' awareness of the importance of such socialization practices, as well as support their self-efficacy in actually transmitting such messages (Coard, Wallace, Stevenson, & Brotman, 2004; Kiang, Glatz, & Buchanan, 2017). Practitioners who work with Asian American families should also recognize that adolescents' identity and well-being can be influenced through multiple dimensions, in both positive and negative ways. Strategies to promote positive youth development in Asian Americans could focus on not only ameliorating negative effects of discrimination and coping with model minority stereotyping, but also enhancing cultural socialization, preparation for bias, and minimizing promotion of social mistrust. Such approaches could be realized and adopted by parents, teachers, and clinicians alike, as well as other individuals who interact with adolescents, and perhaps also by adolescents themselves.

Despite the important implications of our findings, several limitations should be noted. First, our sample was relatively small and some of the derived profiles had limited representation. Our analyses using optimal p -values were intended to provide additional information with respect to better understanding possible differences across profiles, while taking our small sample into account; however, these and other findings should be considered cautiously until they can be replicated. Also, the small size and panethnic nature of our sample did not allow us to test for any intra-ethnic variation. Asian Americans are an extremely heterogeneous group and recent work has pushed for a more nuanced understanding of their developmental experiences (Tseng et al., 2016). Additionally, our multiwave reports spanned only 1 year of high school. Again, further replication and extension of our findings with a larger sample that covers a longer range of time and with enough ethnic diversity to examine within-group effects would be worthwhile. There were few meaningful differences in outcomes that were found across the profiles that emerged, but it is possible that a longer time frame would uncover greater divergence and differentiation. It would also be vital in further research to more systematically consider the unique experiences of Asian Americans. Although we attempted to capture some unique interactions through measuring both negative incidents of discrimination as well as the model minority stereotype that distinctively targets this group, perhaps more insight could have been

found had we included a measure of ethnic socialization that was developed with Asian American families in mind (e.g., Juang, Shen, Kim, & Wang, 2016). However, the advantage in our using an established socialization measure that has been well-validated among multiple ethnic groups is that our results can be reasonably used to compare with and inform a body of existing work on both Asian Americans and individuals from other ethnic minority and immigrant groups.

Limitations notwithstanding, our work points to the knowledge that can be gleaned when considering the range of sociocultural experiences that Asian American adolescents might face in their developmental contexts. These experiences can be positive (e.g., socialization messages that promote cultural pride) and/or negative (e.g., discrimination, stereotypes, messages that foster social mistrust), and they appear to operate interactively in adolescents' lives. Finding ways to enhance the positive influences and minimize the negative could go far in promoting youth development. Continued examinations of these collective experiences through a holistic, person-centered approach could help in furthering our understanding of how immigrant youth navigate their social interactions, discuss culturally relevant issues, and come to form a positive sense of ethnic self-identity.

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