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Abstract

Changes in adolescents' ethnic exploration, belonging, and committed identity statuses (e.g., foreclosure, achievement) were examined over the four years of high school. Results from 541 adolescents with Latin American, Asian, and European backgrounds suggest that, as a group, adolescents do not report developmental changes in their ethnic exploration and belonging over time. Normative changes toward more committed identity statuses also were not found. Yet, within-person analyses of change reveal that individual adolescents exhibited substantial fluctuation in exploration, belonging, and identity status across the years, and this fluctuation was associated with concurrent changes in family cohesion, proportion of same-ethnic peers, and ethnic centrality. Discussion focuses on the value of examining intraindividual change over several years in order to more fully understand processes of ethnic identity development during adolescence.

Key words: ethnic identity, identity statuses, within-person change, adolescence

Change in Ethnic Identity across the High School Years among Adolescents

with Latin American, Asian, and European Backgrounds

A key development task for adolescents is to explore, establish, and eventually commit to a sense of personal and social identity (Erikson, 1968). Ethnic identity is particularly salient as adolescents discover their uniqueness and explore the ethnic groups and categories to which they belong (Phinney, 2003). Existing research has consistently documented links between ethnic identity and positive adjustment including self-esteem, academic motivation, well-being, and adaptive relationships (Fuligni, Witkow, & Garcia, 2005; Umaña-Taylor, Diversi, & Fine, 2002; Wong, Eccles, & Sameroff, 1998). Yet, due to the limited number of longitudinal studies that have tracked the same participants over time, little is known about the process of ethnic identity change during the adolescent years, and how such change may be intricately tied to other aspects of adolescents' lives. In the current study, we examine normative group changes in ethnic identity among youth from Latin American, Asian, and European backgrounds. In addition, we use a within-person approach to explore whether intraindividual changes in ethnic identity are related to concurrent fluctuations in family relationships, ethnicity of peers, and ethnic centrality.

Normative Developmental Changes in Ethnic Identity

Theoretically, adolescents are expected to experience intense psychological turmoil as they establish a sense of self-identity (Erikson, 1968). Adolescents normatively resolve this conflict by exploring who they are and where they stand in terms of the world around them (Erikson, 1968; Marcia, 1966). With regards to ethnic identity, as youth become more aware of the existence and social significance of ethnic categories, their process of identity development could lead them to explore their family's ethnic and cultural origins more closely. Adolescents' process of self-definition would thus lead them to increase along the continuum of ethnic

exploration, the degree to which they actively explore and attempt to learn about their ethnic

background, as well as ethnic belonging, the extent to which they feel committed and positively

connected to their ethnic group (Phinney, 2003). Normative change also can occur in terms of

categorical identity statuses. More specifically, we might theoretically expect adolescents to

move toward statuses that reflect a sense of identity commitment over time (Marcia, 1966).

Developmentally, the successful negotiation of an *achieved* identity status requires an active

period of exploration which precedes commitment (Waterman, 1982). Another possible

outcome is for youth to commit to an identity without having fully explored what that

commitment means. Such a *foreclosed* status could stem from adolescents seeking to at least

temporarily resolve the identity conflict that they may be experiencing (Archer & Waterman,

1987; Meeus, Iedema, Helsen, & Vollebergh, 1999).

Knowledge on the developmental progression of ethnic identity has largely relied on

cross-sectional data. For instance, adolescents in later years of high school as opposed to those

in earlier years of high school are more likely to report achieved identity statuses, suggesting that

adolescents move through periods of exploration and eventual commitment as they mature

(Archer & Waterman, 1983). Existing research on identity subscales of ethnic exploration and

belonging similarly suggests that older adolescents report stronger levels of ethnic identity than

younger adolescents (Phinney, 1990; Quintana, 2007). More specifically, a cross-sectional study

of ethnically diverse adolescents found that ethnic pride or belonging increased incrementally

with each grade in high school (Rotheram-Borus, Lightfoot, Moraes, Dopkins, & LaCour, 1998).

Longitudinal evidence of change and stability in adolescents' ethnic identity has only

recently begun to emerge. For instance, Pahl and Way (2006) examined longitudinal trajectories

in middle to late adolescents from African and Latin American backgrounds and found that, in

general, ethnic exploration decreased slightly after the tenth grade, but virtually no change in affirmation or belonging over time was found. In contrast, French, Seidman, Allen, and Aber (2006) followed two cohorts of younger adolescents for three years—one of early adolescents in the fifth or sixth grade, and one of middle adolescents in the eighth or ninth grade. In both of these cohorts, ethnic belonging increased over time and, for the older cohort only, exploration increased over time. Taken together, these results suggest that ethnic exploration in particular may peak just as youth are beginning their high school years before leveling out or perhaps even decreasing in later years as Pahl and Way (2006) described. In terms of identity statuses, Meeus et al. (1999) conducted a theoretical review and longitudinal analysis of change and determined that, although identity statuses do not appear to evolve in a linear direction, common endpoints include an increase in achievement and a decrease in diffusion, which is characterized by low levels of both identity exploration and commitment. Hence, movement among identity statuses is occurring, but may not be taking place in normatively predictable directions. A recent study by Seaton, Scottham, and Sellers (2006) confirmed these ideas by finding multiple patterns of movement across identity statuses in African American adolescents (e.g., some remain stable over time, some "regress" in their identity status, some move toward committed statuses).

The scant and mixed literature on ethnic identity development thus points to the need for more longitudinal tests of theoretical assumptions. Developmental theory clearly states that a normative increase in ethnic exploration and belonging should be expected over time. In addition, adolescents should become more committed to their identity and report either an achieved status after engaging in the process of identity exploration or perhaps a foreclosed status in an effort to avoid emerging conflict. Alternatively, normative change in ethnic identity may be an assumption that has yet to be fully empirically supported (Phinney, 1990). Criticisms

of identity development have certainly been made, arguing that identity statuses in particular lack

validity as well as the ability to truly predict change (van Hoof, 1999). Such alternative views

have been, in part, supported by research that has found limited evidence for change, particularly

for feelings of affirmation and belonging (e.g., Pahl & Way, 2006).

However, perhaps some of the inconsistencies in existing literature can be attributed to

individual differences that moderate patterns of change. For instance, Pahl and Way (2006)

found ethnicity to moderate longitudinal trajectories of ethnic exploration such that African

American youth reported less of a decrease in exploration compared to Latin American youth.

Such differences call into question the unique circumstances in which youth from diverse ethnic

backgrounds develop and highlight the need to consider ethnicity in delineating processes of

ethnic identity change. Notably, Pahl and Way (2006) suggest that one explanation for the

ethnic differences found is that their African and Latin American youth differed in the extent to

which they were numerically represented in the context in which the study took place; that is,

Latin American youth tended to be in the ethnic majority and, as such, they may have been less

inspired to question the meaning and value behind their ethnic group membership. The proximal

context in which adolescents are spending their daily lives is thus another important moderating

variable to consider. Those who are in the ethnic minority within the immediate environment of

their school could experience a greater impetus to explore and commit to their ethnic group. A

third potential moderator is gender (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008).

Traditionally seen as primary bearers of cultural practices and traditions, females may be more

entrenched in the process of ethnic identity development than males and display stronger levels

of ethnic identity over time (Rotheram-Borus et al., 1998). Alternatively, it is possible that, in

modern American contexts, such prescribed gender roles are less common and no longer

expected. Indeed, evidence of gender differences in longitudinal trajectories of ethnic identity development have yet to be found (Pahl & Way, 2006).

Within-Person Changes in Ethnic Identity

Above and beyond understanding normative developmental change at the group level, it may be even more informative to examine changes in ethnic identity at a more individualized, within-person level. This was not done by Pahl and Way (2006), French et al. (2006), or any other longitudinal study of ethnic identity to date. Analysis of normative change only provides knowledge about overall change as a group, and results can be misleading. For example, no evidence for normative change might suggest that there is great stability in ethnic identity during the adolescent years, calling into question the validity of developmental theory. However, individual adolescents may change a lot from year to year, but without heading toward a single linear direction. This would suggest that the period of adolescence is indeed marked by intense identity development, but that individual fluctuations may be masking group-level trends. We found evidence for this idea in a study of ethnic labels among adolescents from immigrant families. Although, as a group, Latin American and Asian adolescents did not exhibit normative change in their use of ethnic labels, significant numbers of individual adolescents changed their labels from year to year (citation removed for blind review). Moreover, these labeling changes were linked to individual changes in adolescents' closeness with parents, ethnic pride and exploration, and proficiency in their families' heritage language.

By treating within-person variation as a primary outcome in and of itself, we can thus provide a more direct basis to infer how ethnic identity actually changes during adolescence, and more closely estimate the specific variables that may be intricately linked with ethnic identity development (Hoffman, 2007). Indeed, a key question regarding intraindividual change in ethnic

identity is whether such change is simply random, or whether there is a predictable process that coincides with variability in other relevant aspects of adolescents' lives. For instance, on a given occasion, if an adolescent scores high on ethnic identity, relative to his or her usual level, does that adolescent also score high on another domain, again relative to his or her usual level? By longitudinally correlating within-person fluctuations in ethnic identity with fluctuations in other key developmental variables, we can obtain important information on how ethnic identity evolves alongside other factors in adolescents' lives.

A number of such factors can be theoretically linked to within-person change in ethnic identity. One of the most primary is that of adolescents' family relationships. Research has consistently demonstrated that the family represents a primary socializing influence in adolescents' lives (Dmitrieva, Chen, Greenberger, & Gil-Rivas, 2004; Parke, 2004). Emerging work on ethnic socialization in particular suggests that positive relationships with parents predict stronger levels of ethnic identity in children (Okagaki & Moore, 2000; Wilson & Constantine, 1999). Adolescents with closer relationships with their parents may feel more motivated to connect with and learn more about their shared ethnic background. Hence, if one grows closer to one's family over the high school years, one may simultaneously have more opportunities to explore and feel affiliated to one's ethnic group. In contrast, one who grows more distant to one's family, perhaps in the process of establishing autonomy, may actually experience concurrent decreases in ethnic identity.

Another socializing influence in adolescents' lives is their peers. In theory, ethnic identity is a dynamic construct that is highly context dependent (Phinney, 2003). Recent work demonstrates that same-ethnic peer relationships can actually pull for strong feelings of ethnic belonging and exploration in adolescents from Latin American and Asian backgrounds (Kiang &

Fuligni, 2008). Similar to processes of parental socialization, adolescents may feel more

comfortable being themselves and exploring their ethnicity with their same-ethnic friends.

Indeed, Chinese American college students have been found to report higher levels of ethnic

identity in their peer relationships if they also perceived a strong level of ethnic support coming

from those relationships (Kiang, Harter, & Whitesell, 2007). Moreover, perhaps peers,

particularly same-ethnic peers, jointly engage in similar processes of identity exploration and

development (Kao & Joyner, 2004). Change in adolescents' proportion of same-ethnic peers

from year to year may be therefore concurrently related to change in ethnic identity.

Ethnic centrality, or how important one's ethnicity is to one's overall sense of self, may

be another primary correlate of ethnic exploration, belonging, and commitment (Sellers, Smith,

Shelton, Rowley, & Chavous, 1998). It may well be that, in order for an adolescent to actually

explore his or her ethnicity, he or she must first be motivated to do so. As ethnicity becomes

more central to one's life, we might expect a greater motivation to explore and learn more about

one's ethnic background. Similarly, the more important or central one's ethnicity is, the more

likely it is that one will feel positively about connecting and committing to one's group.

Summary and Hypotheses

The analyses in this paper come from a larger longitudinal study that examined a variety

of aspects concerning adolescent adjustment, including family relationships and ethnic identity.

The current study addresses four key questions regarding adolescents' change in ethnic identity

reported across the high school years. These questions and analyses will provide new

information that is different from data that have been previously published or under review using

this sample, and will empirically advance our understanding of adolescent development in

several important ways. First, do adolescents report normative developmental changes in their

ethnic exploration and ethnic belonging from the ninth to the twelfth grades? Second, do adolescents report categorical shifts in their ethnic identity statuses? Third, do demographic and contextual variables such as ethnicity, the school context from which youth were recruited, and gender moderate patterns of ethnic identity change over time? Given that social and contextual influences in adolescents' lives as well as traditionally prescribed gender roles can affect developmental processes, it is important to consider these demographic variables to determine whether processes of change occur in a generalizable manner across groups. Theoretically, since the identity crisis is resolved by establishing a committed sense of identity (Erikson, 1968), we expected that adolescents would report stronger levels of exploration and belonging over time as well as exhibit a trend towards achieved or foreclosed identity statuses, that is, those statuses that reflect a sense of commitment. Alternatively, it is possible that such change will only be observed at the within-person level, suggesting that adolescence is a crucial time of identity development, but that individual differences in the negotiation of identity formation trump any observable group trends. Hence, our fourth key question addresses how ethnic identity changes within individual adolescents over time and whether such intraindividual changes in ethnic identity occur simultaneously with within-person changes in other primary factors in adolescents' lives. Specifically, we expected that ethnic exploration and belonging would increase and decrease in conjunction with increases and decreases in family cohesion, proportion of same-ethnic friends, and the central importance that adolescents attribute to their ethnicity. We anticipated that changes in these features of family and peer relationships and ethnic centrality also would be linked to within-person movement toward more committed identity statuses over time.

<div align="center">Method</div>

Sample

Beginning in ninth grade and continuing yearly through twelfth grade, students from

three public high schools in the Los Angeles area were recruited for participation in a

longitudinal study. The schools were chosen to reflect the communities from which their

students are drawn and they varied in terms of ethnic composition, socioeconomic status, and

overall level of achievement. The first school was populated predominantly by students who

came from families with Latin American and Asian backgrounds with lower-middle to middle-

class educational and occupational statuses. This school tended to be in the lower-middle to

middle range of the achievement distribution of schools within the state of California (California

Department of Education, 2006). The second school possessed average levels of achievement

and consisted mainly of students from Latin American and European backgrounds whose

families had lower-middle to middle-class backgrounds. Finally, the third school mainly

consisted of students from families with Asian and European backgrounds who were middle to

upper-middle class in terms of parental education and occupation. The third school tended to

have above average achievement levels. No single ethnicity dominated any of these schools;

rather, the two largest ethnic groups each comprised about 30-50% of the total population in each

school (California Department of Education, 2006).

In two of the schools the entire ninth grade was invited to participate during the first year

of the study. The same process continued in subsequent years, with all students in the correct

grade being invited to participate. In the third school, approximately half of the ninth grade was

invited to participate since the large size of the school made it unfeasible to recruit all students.

In this school, only students who had participated in ninth grade were followed in subsequent

years. At all three schools, students who participated in early years but were no longer enrolled in the school were contacted and invited to participate by mail in subsequent years.

The sample used in the present analyses was the 541 participants from European, Asian, and Latin American families who had participated in the study for at least two of the four years ($M = 3.50$ years, $SD = .70$). The sample was evenly split by gender (263 male, 278 female). The majority of the 244 participants from Asian families were from Chinese backgrounds (77.0%), and the majority of the 196 participants from Latin American families had Mexican backgrounds (87.8%). Of the Asian participants, 79 were of the first generation (i.e., the students were foreign-born themselves), 151 were of the second generation (i.e., the students were born in the United States), and 14 were of the third generation or greater (i.e., both the students and their parents were born in the United States). Of the participants from Latin American families, 35 were of the first generation, 122 were of the second generation, and 39 were of the third generation or greater. Of the 101 participants from European-American families, 8 were of the first generation, 6 were of the second generation, and 87 were of the third generation or greater.

Procedure

Students who returned parent consent forms and provided their own assent to participate completed a questionnaire during class time each spring. Consent forms and study materials were available in English, Chinese, and Spanish. Fewer than eight participants chose to complete the questionnaires in a language other than English during any single year.

Measures

Participants completed the following measures each year of the study.

Ethnic Identity

Strength of ethnic exploration and belonging. Adolescents completed two subscales of the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). The Affirmation and Belonging subscale consists of seven items and assesses ethnic pride, feeling good and happy about one's ethnicity, and feelings of belonging and attachment to one's ethnic group. Sample items include "I am happy that I am a member of the group I belong to," "I have a lot of pride in my ethnic group," and, "I feel good about my cultural or ethnic background." The Ethnic Identity Achievement subscale consists of five items and measures individuals' exploration of and commitment to their ethnic group. Sample items include "I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs," "I am active in organizations or social groups that include mostly members of my own ethnic group," and, "In order to learn more about my ethnic background, I have often talked to other people about my ethnic group." Participants responded to each item on a five-point scale (1 = *Strongly disagree*, 5 = *Strongly agree*). Internal consistencies were similarly high for all three ethnic groups across the four years of the study for both measures (Belonging*: α*s = .85 - .91; Exploration: *α*s = .71 - .80). Scores were recoded on a 0 to 4 scale in these analyses for ease of interpretation.

Identity status. Adolescents were placed into four identity statuses based on their reported scores on ethnic exploration and belonging. According to Marcia (1966), individuals who are achieved should theoretically report high levels of both exploration and belonging, those who are foreclosed should report low levels of exploration but high levels of belonging, those in moratorium should report high levels of exploration but low belonging, and individuals who are diffused should report low levels of both exploration and belonging. We were primarily interested in the two statuses that reflect a sense of commitment or belonging, namely, achievement and foreclosure. Participants were identified as being identity achieved (0 = not

achieved, 1 = achieved) if their exploration and belonging scores were both above the midpoint

for the scale (i.e., above 3). Participants were identified as foreclosed (0 = not foreclosed, 1 =

foreclosed) if their belonging score was above the midpoint for the scale but their exploration

score was at the midpoint or below. Participants with scores at the midpoint or below for both

scales were not achieved nor foreclosed. In the ninth grade, participants predominantly fell in

either achieved or foreclose categories, with 42.4% categorized as achieved, 37.9% as

foreclosed, 18.2% as diffused, and 1.4% in moratorium.

Percent of Same-Ethnic Peers in School

The percent of same-ethnic peers in each participant's grade at school during their ninth

grade year was collected from information provided by the California Department of Education

(2006). The ninth grade class at the first school was 56% Latino, 35% Asian, 6% White, and 1%

other. The ninth grade class at the second school was 30% Latino, 8% Asian, 51% White, and

11% other. The ninth grade class at the third school was 17% Latino, 40% Asian, and 32%

White, and 6% other. This variable reflecting percent of same-ethnic peers within each school

was stable over the years of the study. Percentages when adolescents were in the ninth grade

were compared to percentages with adolescents were in the twelfth grade and these values were

not significantly different within any of the three schools (range χ^2 (3) = .27-1.44, *ns*).

Family Cohesion

Adolescents completed a subset of the Family Adaptation and Cohesion Evaluation

Scales (FACES) II inventory separately for each parent (Olson, Sprenkle, & Russell, 1979).

Questions were the same for mothers and fathers and participants responded to each on a five-

point scale (1 = *Almost never*, 5 = *Almost always*). The measure for each parent included ten

items such as "My mother [father] and I do things together," "My mother [father] and I are

supportive of each other during difficult times," and "My mother [father] and I feel very close to each other." An average was computed for each participant across both parents. Internal consistencies were similarly high for all three ethnic groups across the four years of the study (αs = .84 - .93). Scores were recoded on a 0 to 4 scale in these analyses for ease of interpretation.

Ethnic Composition of Friendship Group

Participants were asked to list the initials of each of their five best friends, so that they were thinking about particular individuals. Across the four years of the study, the average number of friends listed ranged from 4.51 (*SD* = 1.36) to 4.84 (*SD* = .75). For each friend, they were asked to indicate whether or not that friend is the same ethnicity as them (yes/no). A variable was created indicating the percentage of each participant's friends who share their ethnicity (0 = no friends share one's ethnicity, 1 = all friends share one's ethnicity).

Ethnic Centrality

Adolescents completed items from the centrality subscales adapted from the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton, & Smith, 1997). All items were modified to be more general so that members of any ethnic group could complete them. The measure included seven items that assessed the extent to which students' ethnicity was central to their definition of themselves. Participants responded to each on a five-point scale (1 = *Almost never*, 5 = *Almost always*) to items such as "In general, being a member of my ethnic group is an important part of my self-image," "Being a part of my ethnic group is an important reflection of who I am," and "Overall, being a member of my ethnic group has very little to do with how I feel about myself (reversed)" Internal consistencies were similarly high for all three ethnic groups across the four years of the study (αs = .73 - .81). Scores were recoded on a 0 to 4 scale in these analyses for ease of interpretation.

Results

Normative Changes in Ethnic Exploration, Belonging, and Identity Status

The first goal of this study was to examine group-level change over time in adolescents' ethnic identification, in terms of both belonging and exploration and the likelihood of achieved and foreclosed identity statuses. Hierarchical Linear Models (HLM; Bryk & Raudenbusch, 1992) were used in analyses given our longitudinally-nested, within-person data. For this analysis and all subsequent analyses described below, additional Hierarchical Generalized Linear Modeling (HGLM; Lee & Nelder, 1996) models were tested for achievement and foreclosure because each of these outcome variables had only two possible values. With the exception of one minor case noted below, the substantive results remained unchanged. The general statistical model that was estimated was as follows:

$$\text{Ethnic Identification}_{ij} = b_{0j} + b_{1j} \, (\text{Year}) + \, e_{ij} \qquad\qquad [1]$$

$$b_{0j} = c_{00} + c_{01} \, (\text{Gender}) + c_{02} \, (\text{Ethnicity}) + c_{03} \, (\text{Percent same-ethnic peers}) + u_{0j} \qquad [2]$$

$$b_{1j} = c_{10} + c_{11} \, (\text{Gender}) + c_{12} \, (\text{Ethnicity}) + c_{13} \, (\text{Percent same-ethnic peers}) + u_{1j} \qquad [3]$$

As shown in Equation 1, adolescents' strength of ethnic identification in a particular year (i) for a particular individual (j) was modeled as a function of the average level of ethnic identification by the individual (b_{0j}) and the year of the study (b_{1j}). Year was coded such that year 1 = 0, year 2 = 1, year 3 = 2, and year 4 =3. Equations 2 and 3 show how both the average strength of ethnic identification and the effect of the year of the study were modeled as a function of adolescents' gender, ethnicity, and the percent of same-ethnic peers in one's grade in school in ninth grade. Gender was effects coded such that males = -1 and females = 1. Ethnicity was indicated with two dummy codes representing European American and Asian, leaving Latin American as the baseline condition.

As shown in Table 1, results indicated no normative or group level developmental changes in adolescents' strength of ethnic identification or in their likelihood of identity achievement or foreclosure. The one exception to this pattern was that Asian adolescents, compared to Latin American adolescents, reported declining levels of belonging over time. On average, Asian adolescents reported lower levels of belonging than Latin American adolescents. European American adolescents reported lower levels of belonging and exploration, and were less likely to be identity achieved, compared to Latin American adolescents. Similarly, on average, adolescents in schools with more same ethnicity peers reported lower levels of belonging and exploration, and were less likely to be identity achieved.

For this and all subsequent analyses, additional tests were performed to examine differences according to generational status. Because generation and ethnicity were confounded, these tests were conducted within ethnic group. For Latin American adolescents, Equations 2 and 3 were modified such that ethnicity was removed and replaced with dummy codes representing second generation and third generation, with first generation serving as the baseline group. For Asian adolescents, because there were so few third generation participants, comparisons were only conducted between first and second generation adolescents. Generation analyses were not conducted for European American adolescents because the vast majority of them were of the third generation or greater. In the preceding analyses examining normative change over time, there was no effect of generation for either Latin or Asian American youth.

Within-Person Changes in Ethnic Identification

Amount of within-person change. Although there was not a normative trend regarding adolescents' ethnic identification over time, there was a substantial amount of change in any direction (i.e., towards higher levels or lower levels of belonging and exploration, and within the

achievement and foreclosure categories) within individuals over time. For instance, variation in

adolescents' reports of ethnic belonging ranged from .00 to 1.29 at any given year ($M = .36$; SD

$= .23$). Similarly, variation in participants' reports of exploration ranged from .00 to 2.00 ($M =$

$.40$; $SD = .26$). The degree of average variation did not vary according to ethnicity for either of

these variables. While amount of average variation in ethnic belonging did not vary according to

gender, average variation in exploration was greater for boys ($M = .43$; $SD = .29$) than for girls

($M = .38$; $SD = .23$), $t(539) = 2.09$, $p < .05$.

There were similar levels of change when examining movement in and out of identity

categories of achievement and foreclosure. Overall, 46.2% of the sample changed whether or

not they were identity achieved over at least one grade interval during the four years of high

school and 52.7% of the sample changed whether or not they were identity foreclosed.

Movement in and out of these categories did not vary according to ethnicity or gender.

Given the degree of changes in ethnic identification within adolescents across time, an

additional set of HLM models was estimated to determine whether changes in adolescents'

ethnic identification from year to year were associated with concurrent changes in their family

cohesion, ethnic composition of their friendship group, and ethnic centrality. Separate models

were estimated for each of the predictor variables. Given that there was a maximum of four time

points per person, and that some participants had only two or three time points, we did not have

enough power and degrees of freedom to estimate all of the predictors simultaneously. The

general form of the model used for these analyses was as follows:

$$\text{Ethnic Identification}_{ij} = b_{0j} + b_{1j} \text{ (Predictor)} + e_{ij} \qquad [4]$$

$$b_{0j} = c_{00} + c_{01} \text{ (Gender)} + c_{02} \text{ (Ethnicity)} + c_{03} \text{ (Percent same-ethnic peers)} + u_{0j} \quad [5]$$

$$b_{1j} = c_{10} + c_{11} \text{ (Gender)} + c_{12} \text{ (Ethnicity)} + c_{13} \text{ (Percent same-ethnic peers)} + u_{1j} \quad [6]$$

Equation 4 shows how adolescents' strength of ethnic identification on a particular year (i) for a particular individual (j) was modeled as a function of the average level of ethnic identification by the individual (b_{0j}) and the specific predictor variable (b_{1j}; i.e., family cohesion, ethnic composition of friendship group, or ethnic centrality). Equations 5 and 6 show how the average strength of ethnic identification and the effect of the predictor variable were modeled as a function of gender, ethnicity, and the percent of same-ethnic peers in one's grade in school in ninth grade, which were coded in the same manner as before.

Family cohesion. As shown in Table 2, higher levels of family cohesion were associated with higher levels of belonging. While this was found for all ethnic groups, the relationship was particularly strong for Asian adolescents. While there was no relationship between family cohesion and any of the other ethnic identity variables for Latin or European American adolescents, there was a positive relationship between family cohesion and ethnic exploration and family cohesion and likelihood of identity achievement for Asian adolescents. In follow-up analyses, there was no effect of generation for Latin or Asian American adolescents.

Ethnic composition of friendship group. As shown in Table 3, having relatively more same-ethnicity friends was associated with higher levels of both ethnic belonging and exploration. In contrast, ethnic composition of one's friendship group was not associated with likelihood of identity achievement or foreclosure. In the follow-up analyses, there was no effect of generation for Latin or Asian American adolescents.

Ethnic centrality. As shown in Table 4, higher levels of ethnic centrality were associated with higher levels of both belonging and exploration and an increased likelihood of identity achievement. Compared to adolescents from Latin American backgrounds, the relationship between ethnic centrality and ethnic belonging was stronger for those from European American

backgrounds. In contrast, compared to Latin American adolescents, European American adolescents demonstrated a weaker relationship between ethnic centrality and likelihood of identity achievement. Adolescents in schools with more same-ethnic peers also demonstrated a weaker relationship between ethnic centrality and likelihood of identity achievement. The relationship between ethnic centrality and likelihood of identity foreclosure was somewhat more complicated. While there was a negative relationship for Latin American adolescents, the relationship was positive for European American adolescents.

The analysis examining the relationship between centrality and likelihood of identity achievement was the one instance in which the results varied between the HLM and HGLM models. In the HGLM model, the relationship did not vary according to ethnicity or percent of same-ethnic peers in adolescents' school.

While there was no effect of generation on the relationship between ethnic centrality and categories of achievement or foreclosure, there were differences according to generation for the relationship between ethnic centrality and both exploration and belonging for Asian adolescents and between centrality and exploration for Latin American adolescents. Specifically, the relationship between centrality and exploration ($b = -.18$, $p < .01$) and belonging ($b = -.17$, $p < .05$) was weaker for second generation Asian adolescents than first generation Asian adolescents. The relationship between centrality and exploration was stronger for third than first generation adolescents from Latin American backgrounds ($b = .29$, $p < .01$).

Discussion

Given that identity formation in general and ethnic identity in particular are such crucial features of development (Erikson, 1968; Phinney, 2003), there have been surprisingly few studies that have explicitly examined how ethnic identity changes across the four years of high

school. Is adolescence a period of normative identity fluctuation whereby youth, as a group,

report linear trends and identify with their ethnic group more or less strongly over time? Or, are

there individual differences within adolescents such that some teenagers actively explore their

ethnicity and vary in the degree to which they feel connected to their ethnic group while others

are more stable in their ethnic identification? Moreover, what specific factors in adolescents'

lives might predict such intraindividual variability in ethnic identity change?

In theory, adolescents' process of identity formation should lead them to increase their

exploration into the values and traditions of their ethnic group, to feel more connected to their

ethnic group over time, and to progress toward committed identity statuses such as achievement

or foreclosure (Archer & Waterman, 1987; Marcia, 1966; Phinney, 2003). However, our data

found little support for normative change in terms of continuous indicators of ethnic identity or

identity status categories that reflect a sense of commitment. The only evidence for normative

change was limited to ethnic belonging reported by adolescents from Asian American

backgrounds. Specifically, a small reduction in ethnic belonging emerged over time, which

suggests that there may be a slight acculturative trend in these adolescents' ethnic identification.

At the outset, these results may appear contrary to developmental theory (e.g., Erikson,

1968; Marcia, 1966) since there seems to be a great deal of stability in adolescents' ethnic

identification over time. However, although we found little evidence for normative group-level

change in ethnic identity constructs, this does not mean that there is not a great deal of change

within adolescents over time. It is possible that observed patterns of stability are not due to

actual stability in identity formation, but rather a superficial occurrence that results from

individual variation masking group-level trends. Prior work on general processes of identity

development (Meeus et al., 1999) as well ethnic labels more specifically (citation removed)

indeed suggests that identity is significantly variable during adolescence, but such variability does not always transpire in normatively predictable or linear directions. Similarly, we found in the current study that, from year to year, levels of ethnic exploration and belonging do fluctuate within individual adolescents. In addition, about half of our sample moved in and out of achieved and foreclosed identity statuses from year to year.

Theoretical perspectives that point to adolescence as a marked time of identity formation and change are thus supported, but our results suggest that such change is governed by individual-level processes and not within adolescents as a group. Given that individual changes appear to be trumping group-level change in ethnic identity, perhaps a more informative question is what factors in adolescents' lives predict within-person change in ethnic identification? We implicated three primary variables, namely, family cohesion, proportion of same-ethnic peers, and ethnic centrality as correlates of within-person change in ethnic identity. In terms of family cohesion, we found that the closer adolescents felt to their parents, the more they reported feeling connected to their ethnic group. Given that the family is a key source of ethnic socialization (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006), closeness with the family may highly overlap with closeness with one's ethnic group. Notably, links between family cohesion and ethnic belonging were particularly strong for youth from Asian American backgrounds. In addition, for Asian adolescents, family cohesion was not only linked with ethnic belonging, but also with greater ethnic exploration and a greater likelihood of reporting an achieved identity status. These patterns suggest that ethnic identity development in Asian American youth may be particularly strongly tied to family socialization processes.

Our results suggest that changes in adolescents' proportion of same-ethnic peer relationships also were significantly associated with changes in ethnic identity over time.

Increases in the proportion of same-ethnic peers was concurrently related to the tendency to explore one's ethnic group, perhaps because such exploration occurs jointly between peers within the context of their relationships (Kiang et al., 2007). Thus, peers appear to represent another primary socializing influence in adolescents' lives such that having opportunities to interact with same-ethnic peers can be helpful in their learning more about their ethnicity (Kao & Joyner, 2004). A greater proportion of same-ethnic peer relationships also predicted greater ethnic belonging, but was not associated with movement towards committed identity statuses.

Ethnic centrality also played a significant role in adolescents' change in ethnic identification over time. The more ethnicity was reported to be a central aspect of the self, the more likely adolescents were to report higher levels of ethnic exploration and belonging. The association between change in ethnic centrality and change in ethnic belonging was particularly strong for adolescents from European American backgrounds. In addition, increases in ethnic centrality were associated with a greater likelihood of endorsing an achieved identity status. This association between centrality and achievement was less strong for European American youth; however, this ethnic difference did not emerge as significant in our HGLM models. Interestingly, the link between ethnic centrality and the foreclosed identity status appeared to vary by ethnicity such that a negative association was found for Latin American youth while a positive association was found for their European American counterparts. Overall results suggest that adolescents are motivated to explore and commit to their ethnic identity, but only to the extent that ethnicity is central to their lives and their sense of who they are. Moreover, in terms of the link between centrality and achievement (vs. foreclosure), it appears that the more ethnicity is important to adolescents, the more motivated they may be to actually explore what it means to be a member of their ethnic group, rather than simply committing to their group

without exploring it further. Taken together, ethnic centrality appears to be a key motivational element that is intricately tied to a variety of ethnic identity components (Sellers et al., 1998).

Interestingly, despite ethnic differences in overall levels of ethnic identity that showed Latin Americans to be generally higher in ethnic exploration and belonging, ethnicity did not moderate patterns of change over time. The one exception was that Asians were the only group to decline slightly in exploration over time. Furthermore, when we included generation as a control in the few cases where ethnicity moderated the relationship between ethnic identity and covariates, it was only in the link between centrality and ethnic exploration where generation had a marginally different effect for Latin American versus Asian youth. Although these results were inconsistent (e.g., stronger effect for earlier generation Asian youth, but later generation Latin American youth), they suggest that future work should at least continue to consider generational effects (or lack thereof). In terms of additional moderating variables, despite school ethnic composition having a negative effect on average levels of ethnic identity, perhaps because a greater representation of one's own ethnic group creates less of a need to make ethnicity a pressing concern, adolescents' broader school environment did not moderate ethnic identity change. In line with prior work (e.g., Pahl & Way, 2006), gender did not predict variation in ethnic identity trends over time.

Developmentally, it would be important for future work to persist in examining longitudinal processes of ethnic identity development to determine whether normative group changes are in fact found later in development, or whether within-person changes in ethnic identification continue to co-occur with changes in variables such as the ones implicated here. It may well be that normative group changes in, for instance, achieved and foreclosed identity statuses, do not actually occur until after the high school years (Meeus et al., 1999). There could

be a dual process occurring whereby adolescents must experience a transition (e.g., transition to high school) for identity development to be instigated, but that there is a delay in the actual commitment that eventually evolves from such a transition or period of exploration. It also could be the case that true transitions that motivate identity development do not occur until emerging adulthood. Perhaps the group stability that we found across adolescents reflects the idea that adolescence merely marks the beginning of identity development, and that later transitions, such as entry into college or the work force, may actually herald a more striking redefinition of one's identity. Research has suggested that many adolescents entering college tend to renegotiate or reestablish who they are, ethnically (Ethier & Deaux, 1994). An alternative perspective is that group changes in identity could be happening earlier in adolescence, as illustrated by French et al. (2006), only to stabilize and be driven by individual effects later in the high school years.

It also would be important in future work to determine whether similar processes of ethnic identity development occur in different types of samples. For instance, it is possible that the influence of peer relationships is stronger for adolescents who are a clear ethnic minority within their school or broader community. Although the effect of adolescents' immediate peer group was significant even after we controlled for the ethnic diversity of adolescents' school environment from which they may be choosing their peers, one limitation to this study was the general lack of contextual variation from which our sample was drawn. Each of our three participating schools was ethnically diverse. Perhaps examining contexts that vary at a more extreme level than do any of our research sites would better inform the overall effect of one's peer group on ethnic identity formation. At an even broader contextual level, our participants were drawn from a predominantly multicultural and multiethnic region. Future research should examine less diverse geographical areas and new immigrant settlement sites to determine

whether processes of ethnic identity change might be different for adolescents who are in the true ethnic minority within their immediate environment.

One of the reasons why context would be important to consider in future work is due to its implications with regards to discrimination. Greene, Way, and Pahl (2006) recently pointed to the utility of considering contextual factors such as perceived discrimination in adolescent development. Indeed, links between discrimination and aspects of ethnic identification (e.g., ethnic centrality) have been well-documented (Sellers & Shelton, 2003). Future work should thus examine additional correlates of ethnic identity change including perceived discrimination. In addition, it would be informative for future research to consider more diverse dimensions of ethnic identification beyond identity statuses and traditional components of belonging and exploration. For instance, perhaps changes in family cohesion, ethnicity of peer networks, and ethnic centrality are similarly related to intraindividual changes in Sellers and colleagues' conceptualizations of private and public regard (Sellers et al., 2008). Given that ethnic identity is a multidimensional construct (Phinney, 2003), there is a need to determine whether its multiple dimensions exhibit similar or different patterns of group and intraindividual change over time.

Despite some of the shortcomings of the current study, overall results suggest that, in addition to delineating normative change and stability in adolescent ethnic identity development, a more intricate question regarding predictors of within-person change could more clearly and complexly specify the developmental processes that are related to identity formation. By understanding the evolution of ethnic identification at the intraindividual level, we can perhaps target specific areas, within adolescents, that have more of an impact on optimizing their social connectedness and positive sense of who they are.

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Table 1

Hierarchical linear models predicting change over time in the strength of adolescents' ethnic identification

	Belonging *b (SE)*	Exploration *b (SE)*	Likelihood of Achievement *b (SE)*	Likelihood of Foreclosure *b (SE)*
Intercept	3.13 (.06)***	2.02 (.07)***	.48 (.03)***	.40 (.03)***
Gender	.05 (.04)	.06 (.04)	.02 (.02)	.01 (.02)
Asian	-.28 (.08)***	.02 (.07)	-.03 (.05)	-.01 (.05)
European-American	-.74 (.10)***	-.61 (.11)***	-.26 (.05)***	.00 (.06)
% Same-ethnic Peers	-.68 (.29)*	-.78 (.38)*	-.46 (.18)**	.19 (.18)
Year	-.03 (.02)	.00 (.02)	.00 (.01)	-.02 (.01)
Gender	-.01 (.01)	.00 (.01)	.00 (.01)	-.01 (.01)
Asian	-.07 (.03)*	-.04 (.03)	-.01 (.02)	-.02 (.02)
European-American	.00 (.04)	-.03 (.04)	-.02 (.02)	.02 (.03)
% Same-ethnic Peers	.22 (.13)	.15 (.14)	.04 (.07)	.07 (.08)

Note. Gender was coded boys = -1, girls = 1. Gender, ethnicity, and year were uncentered.

Percent of same-ethnicity peers was centered at the mean of the sample.

* *p*<.05, ** *p*<.01, *** *p*<.001.

Table 2

Hierarchical linear models predicting strength of adolescents' ethnic identification according to family cohesion

	Belonging b (SE)	Exploration b (SE)	Likelihood of Achievement b (SE)	Likelihood of Foreclosure b (SE)
Intercept	2.77 (.13)***	1.83 (.14)***	.40 (.08)***	.33 (.07)***
Gender	.06 (.09)	.01 (.09)	.00 (.05)	.03 (.05)
Asian	-.93 (.18)***	-.64 (.19)***	-.35 (.10)***	.00 (.10)
European-American	-.95 (.32)**	-.97 (.31)**	-.46 (.13)***	.13 (.15)
% Same-ethnic Peers	-.1.3 (.76)	-.54 (.80)	-.63 (.40)	.56 (.39)
Family Cohesion	.14 (.05)**	.09 (.06)	.04 (.03)	.02 (.03)
Gender	-.01 (.04)	.01 (.04)	.01 (.02)	-.02 (.02)
Asian	.24 (.07)***	.27 (.08)***	.14 (.04)**	-.02 (.04)
European-American	.07 (.12)	.13 (.12)	.07 (.05)	-.04 (.06)
% Same-ethnic Peers	.37 (.29)	-.01 (.31)	.09 (.15)	-.11 (.16)

Note. Gender was coded boys = -1, girls = 1. Gender, ethnicity, and family cohesion were uncentered. Percent of same-ethnicity peers was centered at the mean of the sample.

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

Table 3

Hierarchical linear models predicting strength of adolescents' ethnic identification according to ethnic composition of friendship group

| | Belonging | Exploration | Likelihood of Achievement | Likelihood of Foreclosure |
| | *b (SE)* | *b (SE)* | | |
			b (SE)	*b (SE)*
Intercept	3.10 (.05)***	2.03 (.05)***	.48 (.03)***	.38 (.03)***
Gender	.04 (.03)	.06 (.03)	.02 (.02)	-.01 (.01)
Asian	-.41 (.06)***	-.05 (.07)	-.05 (.04)	-.06 (.03)
European-American	-.75 (.09)***	-.64 (.09)***	-.29 (.04)***	.02 (.04)
% Same-ethnic Peers	-.53 (.25)*	-.75 (.30)*	-.46 (.14)**	.30 (.13)*
Ethnic Composition of Friendship Group	.21 (.10)*	.32 (.14)*	.10 (.07)	-.09 (.07)
Gender	-.03 (.06)	-.01 (.08)	-.01 (.04)	-.04 (.04)
Asian	-.03 (.14)	-.07 (.17)	.02 (.09)	.04 (.09)
European-American	.01 (.22)	.05 (.24)	.05 (.11)	.01 (.13)
% Same-ethnic Peers	-.62 (.60)	.06 (.76)	-.15 (.35)	-.20 (.35)

Note. Gender was coded boys = -1, girls = 1. Gender and ethnicity were uncentered. Percent of same-ethnicity peers and ethnic composition of friendship group were centered at the mean of the sample.

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

Table 4

Hierarchical linear models predicting strength of adolescents' ethnic identification according to ethnic centrality

	Belonging *b (SE)*	Exploration *b (SE)*	Likelihood of Achievement *B (SE)*	Likelihood of Foreclosure *b (SE)*
Intercept	1.68 (.10)***	.80 (.10)***	-.12 (.04)**	.54 (.07)***
Gender	-.01 (.05)	.03 (.06)	-.01 (.02)	.02 (.04)
Asian	-.42 (.13)***	.08 (.15)	-.03 (.06)	-.18 (.09)
European-American	-.45 (.14)***	-.30 (.14)*	.03 (.05)	-.38 (.10)***
% Same-ethnic Peers	-.23 (.49)	-.51 (.61)	.08 (.17)	.08 (.35)
Ethnic Centrality	.58 (.03)***	.50 (.04)***	.24 (.02)***	-.06 (.03)*
Gender	.02 (.02)	.00 (.02)	.01 (.01)	-.02 (.01)
Asian	.05 (.04)	-.02 (.06)	.01 (.03)	.05 (.04)
European-American	.12 (.05)*	.04 (.07)	-.07 (.03)*	.22 (.05)***
% Same-ethnic Peers	.05 (.16)	.07 (.23)	-.17 (.08)*	.09 (.14)

Note. Gender was coded boys = -1, girls = 1. Gender, ethnicity, and ethnic centrality were uncentered. Percent of same-ethnicity peers was centered at the mean of the sample.

* *p*<.05, ** *p*<.01, *** *p*<.001.