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Student Perceptions of School and Family Socialization:
Predictors of Adjustment in the Transition to an Early-College Secondary School

By

Nilofar Sami

A dissertation submitted in partial satisfaction of the

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Abstract

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Doctor of Philosophy in Psychology

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Professor Rhona S. Weinstein, Chair

The transition to middle school places many adolescents at risk for negative adjustment, especially poor and underserved ethnic minority students. In this cross-sectional study, I explored the role of student-perceived mismatch in the transition to a school with an early-college model, using a sample of predominantly African American and Latino students from low-income backgrounds ($N = 154$). Mismatch in developmental (connection and autonomy), academic (expectations and involvement), and racial-ethnic (in-group connectedness, embedded achievement, and awareness of racism) socialization across both the *school* and *home* environments was examined. Predictive relationships between perceived mismatch and both engagement and achievement were tested. In addition, comparisons were made between the role of perceived mismatch versus perceived real environment in the prediction of student outcomes. Across all three domains of socialization, students perceived significantly greater mismatch between their real and ideal environments at school than at home. Student-perceived mismatch and engagement did not significantly vary by student or school demographic characteristics, but student achievement was higher for those students beyond the transition year. Only student-perceived mismatch at home significantly predicted students' engagement and beyond this, perceptions of higher connection to and autonomy from teachers as well as lower academic involvement significantly predicted greater student engagement. For students beyond the transition year, achievement gains were greater and linked to perceptions of more home-school match, but here, perception of real school environment did not significantly predict math achievement gains. Implications for underprepared students' adjustment during the transition to a secondary school with an early-college model are discussed.

Student Perceptions of School and Family Socialization: Predictors of Adjustment in the Transition to an Early-College Secondary School

A persistent and wide achievement gap exists in American schools, with poor and ethnic minority students, and particularly African American and Latino students, disproportionately at the bottom. Comparison of eighth grade students on the 2009 National Assessment of Educational Progress in mathematics show that African American students consistently perform at the below basic level, while Latino students were at basic level, European Americans are also at basic level (but closer to the proficient level), and Asian American/Pacific Islander are at the proficient level (National Center for Education Statistics [NCES], 2009). Students' success in postsecondary school and beyond is linked to their success in mathematics during middle and high school (National Mathematics Advisory Panel [NMAP], 2008). The stage-environment fit theory (Eccles et al., 1993) suggests that the transition to secondary school places students at increased risk because there is a mismatch between adolescents' developmental needs and the environment of the middle school that does not meet those needs. Greater student-perceived mismatch between their developmental needs and the school environment is related to negative adjustment during secondary school transition, which contributes to the further widening of the mathematics achievement gap (Gutman & Midgley, 1999; Seidman, Lambert, Allen, & Aber, 2003).

The transition literature has taken two different methodological approaches to studying this mismatch, which include (a) explicitly assessing the degree of mismatch between real versus ideal environment (Lee, Status, & Kedra-Voivodas, 1983; Midgley & Feldlaufer, 1987; Moos & Moos, 2002; Trickett & Moos, 2002) or (b) implicitly assessing the mismatch by examining the students' perceived real environment (DuBois, Eitel, & Felner, 1994; French, Seidman, Allen, & Aber, 2000; Gutman & Midgley, 1999; Seidman, Lambert, Allen, & Aber, 2003). However, no study has compared both of these ways of conceptualization in predicting student adjustment during transition. The literature on student transition to secondary schools has used stage-environment fit theory and primarily focused on developmental socialization, that is, connection/support or autonomy (Eccles et al., 1993). First, poor and ethnic minority students experience the developmental and school transitions in the context of school environments that lack supports and educational opportunities (Kozol, 1991), as well as societal messages filled with negative racial-ethnic stereotypes and social pressures (McLoyd, 1998). In addition, poor and ethnic minority students generally live in family environments with limited social capital as well as compromised parenting and conflictual family relationships (Pinderhughes, Nix, Foster, & Jones, 2001).

Second, although the majority of transition studies have focused on the mismatch in developmental socialization at school or home (Chung, Elias, & Schneider, 1998; DuBois, Eitel, & Felner, 1994; Eccles et al., 1993; Grolnick, Kurowski, Dunlap, & Hevey, 2000; Wampler, Munsch, & Adams, 2002), few examined both school and home mismatch (Barber & Olsen, 1997; Eccles, Early, Fraser, Belansky, & McCarthy, 1997), and none has focused on mismatch between home and school and its relationship to student adjustment. Third, less is known about the effects of teachers' and parents' academic expectations as well as involvement in student's education during transition to secondary school. Further, no research has focused on teachers' and parents' racial-ethnic socialization that might promote ethnic minority students' adjustment during transition.

In this cross-sectional study, I explore the role of student-perceived mismatch in the transition to a school setting with high academic expectations and in a sample of ethnic minority, low-income students. I conceptualize mismatch in developmental (connection and autonomy), academic (expectations and involvement), and racial-ethnic (in-group connectedness, embedded achievement, and awareness of racism) socialization practices across both the *school* and *home* environments. Furthermore, I compare the association between students' perceived degree of mismatch and the nature of their real school environments in the prediction of student psychological engagement and math achievement.

Mismatch Theory and Transition to Secondary School

Mismatch theory. Although the transition to secondary school is a normative developmental task, it poses as a risk for negative student adjustment because there is a lack of fit—a mismatch between developmental stage and school or home environments that do not support these needs (Eccles et al., 1993). During middle school and continued in high school, adolescents seek greater autonomy and identity development, but close, supportive relationships with adults continue to be important (Eccles et al., 1993). In elementary school, the students are organized into a family pod; that is, these students stay in one classroom with one teacher and a set of peers. In contrast, the move to middle school typically involves a larger school setting, increased student population, multiple teachers, ability grouping practices, and enhanced curriculum rigor (Eccles et al., 1993). This type of setting increases students' sense of anonymity and disrupts peer relationships (Eccles & Midgley, 1989). Within classrooms, there is less teacher support, greater teacher behavioral control, less focus on student-centered teaching, and fewer decision-making opportunities or group work—practices, which do not support adolescents' developmental needs (Eccles et al., 1993). Overall, the secondary school setting is not conducive to adolescents' needs.

Poor and ethnic minority students experience additional mismatches in the context of developmental changes and school transition. In addition, these students in comparison to non-poor European American students are also more likely to be placed in lower academic tracks with inferior learning opportunities (Oakes, 1985). These students experience additional mismatches between the values and educational attitudes of home and school (Lee & Bowen, 2006), as well as societal discrimination and negative stereotypes about their racial-ethnic group prevalent in schools but not homes (Altschul, Oyserman, & Bybee, 2006; Hughes et al., 2006).

In addition to mismatch between adolescents' developmental needs, there is often mismatch between home and school environments, which can negatively affect their engagement and achievement during transition (Ford, 1993). Minority adolescents from disadvantaged home and neighborhood environments experience a greater disconnect between the realities of the home and the realities of the school with regard to values, expectations, and perceptions of responsibility (Lee & Bowen, 2006). Congruence between parental practices and school practices can promote adolescents' academic motivation, engagement, and achievement during transition (Akos & Galassi, 2004; Gutman & Midgley, 2000).

Transition effects. The transition to middle school is related to increased academic, psychological, socioemotional, and behavioral problems. In particular, in the academic domain, it is related to reduced engagement, lower grade point averages (GPA), higher school failure, and greater possibility of dropping out of school (Akos & Galassi, 2004; Seidman & French, 2004; Seidman, Lambert, Allen, & Aber, 2003). Poor and ethnic minority students are already at risk

and for them this transition is related to an even greater decline in engagement and academic achievement (Seidman et al., 2003; Simmons & Blyth, 1987; Wampler, Munsch, & Adams, 2002). By high school, maladjustment has been linked to academic failure and dropout (Barber & Olsen, 2004; NCES, 2009; Seidman et al., 2003).

Even though adolescent developmental changes coincide with their transition to middle school, it is the school structural change (Blyth, Simmons, & Carlton-Ford, 1983) not the developmental stage or grade level change (Barber & Olsen, 2004) that negatively affects students' adjustment. The change in school structure that is less supportive of adolescents' developmental needs during transition has a more salient effect on student functioning than students' developmental stage (Blyth, Simmons, & Carlton-Ford, 1983) or the grade level transition (Barber & Olsen, 2004). In particular, it was the transition to a school structure that did not support a family pod system rather than grade level that predicted student perceptions of negative school environment, lower psychological functions, less interpersonal competence, and more problem behaviors (Barber & Olsen, 2004).

Little is known about the transition of underprepared minority and lower income students into more favorable educational environments such as secondary schools with an early-college model, rather than the more normative lower track classrooms to which they are commonly exposed. There are 200 secondary schools with an early-college model, but no transition study has examined this particular type of school setting (Hoffman & Webb, 2009). Given that earlier studies have demonstrated that it is the school structure rather than grade level that plays the critical role, this study examines student transition to a school structure composed of an early-college model (i.e., high academic expectations and opportunity to take college level classes), with a family pod system, but with multiple teachers.

Measuring mismatch. Direct and indirect methodological approaches have been used to study mismatch during the transition to secondary school. The direct methodological approach measures the degree of mismatch and findings from this approach indicate that greater mismatch between real versus ideal environment, as perceived by students, predicts student adjustment (Lee, Status, & Kedra-Voivodas, 1983; Midgley & Feldlaufer, 1987; Moos & Moos, 2002; Trickett & Moos, 2002). In contrast, the indirect methodological approach measures mismatch by focusing on the degree of perceived positivity in the real environment, with the assumption that student needs are being met. For example, higher scores on perceived teacher or parent social support imply that students' needs are met (DuBois, Eitel, & Felner, 1994; French, Seidman, Allen, & Aber, 2000; Gutman & Midgley, 1999; Seidman, Lambert, Allen, & Aber, 2003). No studies compare the contributions of both these ways of conceptualizing match (one explicit, one implicit) to predicting student adjustment during transition. In addition, the majority of studies focus on home or school environment and two studies have examined independent effects of mismatch at school and home, but none, to my knowledge, examine the effect of mismatch between home and school environments on students' transition.

Domains of Mismatch

Developmental socialization. The majority of the transition literature focus on developmental socialization, particularly connection/support, and autonomy. Comparing research findings across studies has been difficult because researchers have operationalized and assessed the dimensions of developmental socialization differently and have used different assessment time frames.

School. Overall, cross-sectional and longitudinal transition studies indicate that there is a consistent decrease in student-perceived connection from lower to higher school grade levels (Barber & Olsen, 1997, 2004), but findings on perceived autonomy are inconsistent. Students who transition to secondary school settings that do not support their needs report decreased autonomy whereas those who transition to more favorable school settings (i.e., similar to elementary school structure of pods) reported increased autonomy. All students perceived lower connection (Eccles, Early, Fraser, Belansky, & McCarthy, 1997), but there are gender differences in perceived autonomy, with females reporting more classroom autonomy during transition from Grades 6 to 8 than males (Barber & Olsen, 2004).

During transitions, declines in student GPA are not related to their ethnicity or socioeconomic status (DuBois, Eitel, & Felner, 1994; Seidman et al., 2003), but to gender, with boys demonstrating a significantly greater decline in academic achievement than girls (Chung, Elias, & Schneider, 1998). Higher student-perceived teacher connection and support during the transition to middle school predicted higher GPA across core subjects (Eccles et al., 1997; Seidman, Lambert, Allen, & Aber, 2003). In contrast, findings on the relationship between classroom autonomy and student adjustment have been mixed. In a study of mostly European American and middle class students, there was a positive relationship between classroom autonomy and achievement (Ryan, Connell, & Grolnick, 1992), whereas in another with a similar sample, classroom autonomy predicted relationships with deviant peers, antisocial behavior, and depression (Barber & Olsen, 2004).

Home. Similar to the school context, during transition, students report a greater decline at home in connection (Barber & Olsen, 1997) and support (Barber & Olsen, 2004), increased daily hassles or conflict (Barber & Olsen, 2004), and lower autonomy (Barber & Olsen, 1997), with perceived autonomy lower in school than in the home (Barber & Olsen, 1997). Perceived autonomy in the home context varied by gender and socioeconomic status, with boys reporting a decrease in their mother's autonomy supportive behavior and girls reporting no change (Grolnick, Kurowski, Dunlap & Hevey, 2000). Student-perceived family connection prior to the transition to middle school predicted higher GPAs across core subjects during the transition (DuBois, Eitel, & Felner, 1994; Seidman, Lambert, Allen, & Aber, 2003), with girls obtaining higher GPAs than boys. Student-perceived family connection did not vary by student ethnicity or socioeconomic status (Eccles, Early, Fraser, Belansky, & McCarthy, 1997). A perceived family climate of higher autonomy was related to liking middle school more (Lord, Eccles, & McKarthy, 1994), motivation (Grolnick & Ryan, 1984), and grades (DuBois et al., 1994) during transition. In contrast to connection, the effect of student-perceived autonomy at home on student engagement and achievement varies by student gender, socioeconomic status, and ethnicity (Gonzales, Cauce, & Friedman, 1996; Grolnick & Ryan, 1984).

Academic socialization. Key constructs that might reflect academic socialization are expectations about ability to succeed and involvement and support.

School. Experimental and correlational studies indicate that teacher expectations and involvement are positively related to student engagement and achievement (Grolnick, Kurowski, Dunlap & Hevey, 2000; Gutman & Midgley, 1999; Weinstein, 2002). Teachers' expectations for students' academic performance are often influenced by students' demographic characteristics, as teachers hold lower academic expectations for poor and ethnic minority

students than for majority youth (Weinstein, 2002). In school, poor and ethnic minority students are often placed in lower academic tracks (Eccles et al., 1993) and do not receive academic curriculum that is appropriate and challenging (Darling-Hammond, 2005). Therefore, both school structures as well as teachers can explicitly and implicitly communicate particular academic expectations to students. For academically underprepared students, often poor and ethnic minority students, it is important to have high teacher academic expectations in the context of high teacher academic involvement. Teacher academic involvement has direct and indirect positive effects on student academic engagement and achievement (Adams & Singh, 1998; Regner, Loose, & Dumas, 2009).

Home. Similar to teachers, parents' academic expectations and involvement are also linked to student engagement and achievement. Positive parental academic expectations predict achievement, directly, and indirectly (Christenson, Rounds, & Gorney, 1992; Patrikakou, 1996; Seginer, 1983; Thompson, Alexander & Entwisle, 1988), and have a continued lasting positive effect on students' academic achievement (Christenson, Rounds, & Gorney, 1992). Almost all parents have high academic expectations for their children and expect them to complete high school at a minimum (Okagaki & Frensch, 1988). However, for ethnic minority and disadvantaged children, high academic expectations in the absence of academic involvement do not always lead to the attainment of high achievement (Alexander, Entwisle, & Bedinger, 1994).

Extensive research indicates an overall positive relationship between parental involvement and student motivation (Grolnick, Kurowski, Dunlap, & Hevey, 2000) as well as academic achievement (Jeynes, 2003). However, despite the continued importance of parent academic involvement, there is a considerable decline in such involvement from elementary to secondary school (Entwisle, 1990; Kuperminc, Darnell, & Alverz-Jimenez, 2008; Stevenson & Baker, 1987). Parent involvement in secondary school that is age-appropriate, such as cognitive and personal involvement, buffers against learning and academic problems whereas age-inappropriate involvement may be linked to more behavioral and learning problems (Grolnick et al., 2000). However, parents with lower levels of education and family income are less likely to be involved and have limited ways in which they could be involved (Jeynes, 2005; Keith & Lichtman, 1994; Lopez, Sanchez, & Hamilton, 2000). In this study, given the school environment of high academic expectations and curricular rigor, it will be important to assess academic socialization practices that meet the students' needs for support across these dimensions. No study examined perceived academic expectations and involvement both at home and at school.

Racial-ethnic socialization. Given societal stereotypes about racial-ethnic differences in ability, socialization practices might prepare stigmatized youth for handling such realities and developing a healthy academic and racial-ethnic identity.

School. The transition to the middle school environment coincides with adolescent identity development (Erikson, 1968). During the middle school transition, ethnic minority adolescents may encounter a middle school environment with a different student and/or staff racial/ethnic composition, which may increase their awareness and/or exploration of their racial-ethnic identity (French, Seidman, Allen, & Aber, 2000). Thus, the transition to middle and high school, which offers a socially non-congruent environment, can create a "race/ethnicity consciousness-raising event" for adolescents (French, et al., 2000, p. 590). African American

and Latino youth experience this race/ethnicity consciousness-raising event in the context of society and school environments that have traditionally stereotyped them as low achievers, disengaged from school, and lacking academic ability (Oyserman, Gant, & Ager, 1995). Given that the school plays an equally critical role as the home in dispelling these negative views, it is important to have (a) teacher-student discussions that build ethnic group connectedness, (b) teachings that highlight the importance of the embedded achievement of ethnic groups, and (c) discussions that address racism. In a study by Oyserman and colleagues (2001), secondary school students exposed to curriculum that encouraged them to view achievement as an important part of their in-group had higher grades and fewer absences than those students not exposed to this curriculum.

Home. Ethnic minority and immigrant parents engage in racial-ethnic socialization to prepare their children for the social inequalities, discrimination, and negative stereotypes that they may face (Hughes et al., 2006). Parents engage in more discussion as children get older, and the types of messages that boys receive from parents differ from those directed toward girls. Also, parents with higher education and SES levels as well as parents who live in more integrated neighborhoods have more conversations about mistrust and bias (Hughes et al., 2006). By engaging in ethnic-racial socialization, parents provide their children with tools to deal with societal discrimination and to succeed in the mainstream society by teaching them to take pride in their race/ethnicity, to have knowledge about their culture, and to maintain self-esteem (Hughes et al., 2006). However, until recently, the ethnic-racial socialization literature has solely focused on parents sharing their attitudes on group connectedness, pride, and awareness of racism (Hughes et al., 2006), without a focus on parental messages about academic achievement related to their ethnic-racial in-group (Altschul, Oyserman & Bybee, 2006). These racial-ethnic socialization messages shared with their children positively affect their perceptions of themselves, school efficacy, and educational aspiration (Bowman & Howard, 1985), as well as how much time they invest in their academics (Hughes et al., 2006).

The Present Study

In sum, although prior research has identified the mismatch between adolescent needs and secondary school structure as a risk factor to adjustment during the transition to middle school, it has been limited in a number of ways. First, research has failed to specify qualities of the secondary school environment that might underlie variation in the degree of mismatch or problems in adjustment. Second, research has addressed either perceptions of mismatch or perceptions of actual environments, without a comparison of the relative contributions of both types of perceptions to school adjustment. Third, few researchers have examined perceived match in school and at home in the same study and none has examined match between home and school environments in predicting adjustment. Finally, research has focused on mismatch of primarily developmental needs, such as connection and autonomy, largely ignoring academic support and ethnic-racial socialization—key practices that may predict adjustment in poor and ethnic minority students.

This cross-sectional study focuses specifically on the transition of low income and ethnic minority students into a *high expectation* secondary school. Forty-nine percent ($n = 75$) of the students in this study had just transitioned into this school, which is based on an early-college model. In this study, I look at the moderating effect of the transition year, broaden the assessment of student-perceived match by content (types of socialization), setting (home and

school), and measurement domains (perceived match between real and ideal environments and perceived real environments), and explore the predictive relationship of student perceptions to student-perceived engagement and achievement on standardized tests. Three domains of matched needs include (a) developmental socialization (connection and autonomy), (b) academic socialization (academic expectations and involvement), and (c) racial-ethnic socialization (in-group connectedness, embedded achievement, and awareness of racism).

First, I will describe the nature of students' perceptions of match between their real and ideal school and home environments, in terms of developmental, academic, and racial-ethnic socialization. Mismatch may be lower in this early-college model setting, given the use of family pods for class assignment and advisories, as well as the school's small size.

Second, I will examine whether the degree of match in students' perceptions between their real and ideal environment (at home, school, and between home and school) varies across student demographic factors, such as ethnicity, gender, and family income, and across years at school. It is predicted that lower income students will perceive greater mismatch in both home and school contexts, as well as greater mismatch between home and school environments, than higher income students. It is also predicted that perceived mismatch will decrease across home, school, and home-school contexts the longer the students are in this school.

Third, I will investigate the relationship between students' perceptions of home and school environments (real-ideal mismatch and real environment supports) and student psychological engagement in school. It is hypothesized that lower real-ideal mismatch in student perceptions of their school and home environments (as well as greater real teachers' developmental, academic, and ethnic-racial support) will predict greater student engagement in school.

Finally, I will explore the association between students' perceptions of home and school environments (real-ideal mismatch and real environment supports) and student achievement on standardized tests. It is hypothesized that lower real-ideal mismatch in student perceptions of their school and home environments (as well as greater real teacher developmental, academic, and ethnic-racial support) will predict higher student scores on achievement.

Method

Overview

This study was conducted in a secondary public charter school, which, at the time of the study, served Grades 6 through 9. The school, located in the San Francisco Bay Area, was created through collaboration between a public research university and a public charter school organization. This school is based on an early-college model where academic expectations are high for all its students. All students are prepared to be college-ready and are given access to college courses while in high school.

This cross-sectional study utilized a multi-informant (student report and school records) design. The study was conducted during the fourth quarter of the school year from mid-March 2008 to mid-June 2008. Participating students completed questionnaires as a group during the advancement via individual determination (AVID) class (a required study skills class) and non-participating students were given quiet work time. Each participating student completed the questionnaires over four sessions of 45 minutes each. Part 1 assessed student perceptions of real and ideal home environment, Part 2 assessed student perceptions of real and ideal teachers, Part 3 assessed student motivation and school engagement, and Part 4 provided open-ended

questions. Questionnaire items were read aloud and trained undergraduate research assistants answered any questions that the students had about the questionnaires.

Participants

All the students in the sixth, seventh, and eighth grades were invited to participate. Provided with an informational flyer written in both English and Spanish, parents were given the opportunity to refuse to allow their child to participate. Students whose parents did not decline participation were asked to participate and provided with a written assent form. Of 174 eligible students, 162 students (93%) participated in the study. Ten parents and two students chose not to participate. Eight of the 162 students who agreed to participate were dropped from the study due to missing 50% or more of the measures. Thus, the final sample included 154 (89% of the eligible school population) students from sixth ($n = 45$), seventh ($n = 56$), and eighth ($n = 53$) grades (see Table 1). Students who did not participate or were dropped from the study were disproportionately from sixth grade (75%) and African American (75%), $\chi^2 = 16.48, p < .01$. There were no significant group differences in gender, family income, or years at school between students who participated versus those who did not or were dropped from the study.

Fifty six percent ($n = 42$) of transition year students were in sixth grade and 44% ($n = 33$) were in seventh or eighth grade. The students self-identified as African American ($n = 58, 38\%$), Latino ($n = 49, 32\%$), bi- or multi-racial ($n = 42, 27\%$), and other ($n = 5, 3\%$), which included Caucasian and Asian students (see Table 1). All students in the bi- and multi-racial group were part African American or Latino. The sample was balanced by gender, with 51% ($n = 78$) female students and 49% ($n = 76$) male students. The majority of the students in this school were eligible for a free or reduced lunch price (58%, $n = 89$) and were predominantly English-only speakers (81%, $n = 125$). With regard to the education completed by parents/caregivers, 9% ($n = 14$) had completed graduate school or postgraduate training, 8% ($n = 12$) had completed college, 25% ($n = 38$) had attended some year of college, 20% ($n = 31$) were high school graduates, and 10% ($n = 15$) did not complete high school. Twenty-nine percent ($n = 44$) of parents declined to state the highest level of education that they have completed. Thus, of those reporting their educational achievement, 84% had not completed college.

Students at this middle school were blocked into two pods per grade level, each of which shared multiple teachers, one per subject ($n = 6$). Seventy percent of the 10 teachers were female and 50% were Caucasian. All were early-career teachers with less than 10 years of experience.

Student Measures

Student school records. Student demographic data were collected from the school records. These data included information about race/ethnicity, gender, English language learner, and lunch status. School data included grade level, grade level pod, and years at school (which served as the transition variable: first year versus second or third year at this school). Students' first quarter math grades and standardized achievement test scores (CSTs) given in May of the *prior* and *current* school years were obtained from school records. Student proficiency in CST math ranged from *far below basic level* (1) to *advanced* (5). The mean student proficiency in the prior year and current year was in the basic level range, $M = 3.29, SD = 1.20$ and $M = 3.38, SD = 1.08$, respectively. In this study, the total CST score, which is a continuous variable, was used instead of proficiency level.

Student engagement. Student engagement was operationalized as sense of belonging or identification with one's school and assessed using the Psychological Sense of School Membership measure (PSSM; Goodenow & Grady, 1993). The PSSM is an 18-item scale: the alpha level for PSSM scores was .80 and for this study it was .85. Students were asked to rate how true each statement was on a scale of 1 (*not at all true*) to 5 (*completely true*). Sample items include "I feel like a real part of (name of school)" and "It is hard for people like me to be accepted here." Negatively worded items were reverse scored, with higher scores indicating stronger psychological engagement.

Socialization scales. Students reported on their perceptions of the qualities of their real and ideal school and home environments. In order to make meaningful comparisons across school and home contexts, parallel measures of developmental, academic, and racial-ethnic socialization were created and wording was altered for each item to make it appropriate for the teacher or primary caregiver. For example, an item was phrased in alternate ways: "I can count on my *teachers (parents)* to help me out, if I have some kind of problem." Given multiple teachers, the students were instructed to think of their teachers in general. Students were also asked to complete the survey about their parents or guardians with whom they live. Students who spent time in more than one home were asked to answer the questions about the parents/guardians who have the most say over their daily life. In addition, each set of items was yoked, in that students first answered all the questions within a domain based on their perception of their *real* experience and then completed a similar set of questions indicating what their *ideal* environment would be like. Thus, scales were repeated four times—real home environment, ideal home environment, real school environment, and ideal school environment.

Mismatch was calculated by subtracting the ideal scale score from the real scale score. The absolute difference score was used. Therefore, a score of a 0 indicates a perfect match between the students' real and ideal environment. A score of greater than 0 indicates mismatch and the higher the score the greater the mismatch.

Developmental socialization. The My Parents measure (Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994) which assesses both parent connection and autonomy was utilized. In this study, the 9-item connection scale was used to assess students' perceptions of connection with teachers and primary caregivers. These authors reported an alpha level for parent connection score of .72. In this sample, the alpha levels were .81 and .80 for the students' real and ideal teacher connection scores, respectively, and .71 and .76 for parents scores, respectively. Each item was rated on a 4-point scale (1 = *strongly disagree*; 4 = *strongly agree*). Sample items are "I can count on my parents (teachers) to help me out, if I have some kind of problem" and "My parents (teachers) say that you shouldn't argue with adults." For both the connection and autonomy scales, higher scores mean greater degree of connection and autonomy.

Two different measures were used to assess autonomy: Autonomy from primary caregivers was assessed using the My Parents measure (Steinberg et al., 1994) and autonomy from teachers was assessed using the Student Decision Making Opportunity measure (Eccles & Midgley, 1989). The 9-item My Parents autonomy scale assesses students' perceptions of autonomy from primary caregivers. This scale uses a similar 4-point scale (1 = *strongly disagree*; 4 = *strongly agree*) as the connection scale. The authors reported an alpha level score for primary caregivers' autonomy of .82. In this study, the alpha levels for the students' real and

ideal autonomy scores for primary caregivers were .67 and .82, respectively. Sample items are “My parents tell me that because they are adults their ideas are correct and that I should not question them.” and “When my parents want me to do something, they explain why.”

The Student Decision Making Opportunity measure (Eccles & Midgley, 1989) is a 7-item measure of autonomy in the classroom. As it is more context-relevant, it was used in place of the autonomy subscale from the My Parents measure for the classroom environment. Eccles and Midgley did not report alphas for this measure. In this study, the alpha levels for real and ideal teachers were .66 and .69, respectively. Students were asked to rate how often they are involved in decision making opportunities ranging from 1 (*almost never*) to 5 (*almost always*). Sample items are “How often do students get to decide where to sit?” and “How often are students' ideas and suggestions used during classroom discussions?” Some items were reverse coded, with higher scores representing greater overall decision making opportunity (i.e., autonomy) in the classroom. Composite scores for each subscale were created by summing all of the items and subscale scores were converted into standardized variables (z scores).

Academic socialization. Two measures were used, academic expectations and academic involvement. The Academic Aspirations question was adapted from Goldenberg, Gallimore, Reese, and Garnier (2001). The item asks, “How far in school do you think your parents or guardians (teachers) expect you to go? Mark the highest level.” The options range from *less than high school graduation* (1) to *obtain a Ph.D., M.D., or other advanced degree* (7). Higher scores are indicative of higher expectations.

The Parental Involvement measure (Reynolds, 1992) was adapted to assess students' perceptions of teachers' and primary caregivers' academic involvement. This measure focuses on behavioral dimensions of involvement at school and home for use with parents and students in elementary school. The parent scale contains nine items and the student scale contains five items. No alphas were reported for these scales. This measure was adapted as follows: five of the nine items from the parent scale were retained and four items were dropped given their developmental inappropriateness for a middle school population; three of the five items from the child scale were retained whereas two items that overlapped with the parent items were dropped to reduce duplication; an additional item was added; and the 3-point scale for the child version rather than 7-point scale for the adult version was adopted.

The adapted measure contained nine items that described academic monitoring and support, parent-child communication regarding school, achievement progress, and parent participation in school activities. Sample items from the Reynolds measure included “How often do your parents/guardians (teachers) discuss your academic progress with you?” and “How often do your parents/guardians (teachers) help with homework?” The added item asked: “How often do you get in trouble at home because of receiving a low grade on a test/assignment?” Students were asked to rate these nine items on a scale of 1 (*not much or never*) to 3 (*a lot or often*). Higher scores indicate higher academic involvement. In this study, the alphas for the students' real and ideal teachers scores were .67 and .79, respectively. The alphas for real and ideal parents/guardians scores were .57 and .84, respectively.

Racial-ethnic socialization. The Racial-Ethnic Identity (REI) scale, a 12-item measure developed by Altschul, Oyserman, and Bybee (2006) was used. This scale assesses three aspects of adolescents' racial-ethnic identity: in-group connectedness (4 items; $\alpha = .78$), embedded achievement (4 items; $\alpha = .81$), and awareness of racism (4 items; $\alpha = .65$). In this study, the

questionnaire was adapted to measure racial-ethnic socialization. Hence, all items are the same, but the wording was changed to reflect socialization practices: that is, teachers and primary caregivers teaching the adolescent about building ethnic group connectedness, highlighting the importance of embedded achievement of their ethnic group, and addressing racism. For example, this item in the racial-ethnic identity scale, “I have a lot of pride in what members of the African American community have done and achieved” was adapted to read “My parents/guardians have taught me that it is important to have a lot of pride in what members of the [my ethnic/racial group] community have done and achieved.” Sample items are: “My parents/guardians have taught me that it is important to feel that I am part of the [my ethnic/racial group] community (in-group connectedness);” “My parents/guardians have taught me that it is important for my family and the [my ethnic/racial group] community that I succeed in school (embedded achievement);” and “My parents/guardians have taught me that some people will treat me differently because I am [my ethnic/racial] group (awareness of racism).” Students were asked to rate how strongly they agreed or disagreed with each statement on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores represented greater racial-ethnic socialization by primary caregivers and teachers. The alphas for in-group connectedness, embedded achievement, and awareness of racism scores for real teachers were .92, .87, and .89, respectively, and for ideal teachers, were .95, .91, and .91, respectively. The alphas for in-group connectedness, embedded achievement, and awareness of racism scores for real primary caregivers were .79, .68, and .76, respectively, and for ideal caregivers, were .89, .86, and .79 respectively.

Results

Data Analytic Approach

Analyses. First, the patterns of missing data were analyzed and decisions were made about how to handle missing data. Second, descriptive statistics were run on all variables, and means, standard deviations, and correlations were examined. Third, hypotheses were tested using t-tests and hierarchical linear regressions. Given the number of correlations and paired t-tests conducted, the Bonferroni adjustment was used for interpreting statistical significance. For the correlations, the Bonferroni adjustment was set at $p < .001$ and for the paired t-tests the Bonferroni adjustment was set at $p < .002$. The Holmbeck (2002) method was used to probe significant interaction effects.

Incomplete data. In this study, students had missing data because (a) they did not complete an entire questionnaire, (b) they did not complete a scale within a questionnaire, or (c) they did not complete one or more items within a scale. No data substitution was conducted for cases missing an entire questionnaire or more or for cases missing demographic and achievement (grade or standardized test score) information. Of the 154 student participants, 6% ($n = 10$) had one or two missing questionnaires due to absence or pullout and 6% of students had missing grades and achievement scores. Scale mean substitution was used only for the socialization and sense of school belonging scales, and for students who missed all items within a particular scale. The number of students missing one or more scales (but not an entire measure) ranged from 1% ($n = 1$) to 8% ($n = 12$). For students who missed one or more items within a scale, but not the entire scale, a sample item mean strategy was employed. The number of students missing one or more items within a scale, but not the entire scale ranged from 0% ($n = 1$) to 8% ($n = 13$). Cases

requiring sample scale mean substitution did not overlap with cases requiring sample item mean distribution—they were mutually exclusive.

Descriptive Statistics

Variable distributions. Students' perceptions of real teachers' and parents' level of connection, autonomy, academic expectations, and involvement, as well as teachings that support in-group connectedness, embedded achievement, and awareness of racism were all normally distributed, except for parent teachings of in-group connectedness and awareness of racism. Skewness for real teacher variables ranged from $-.81$ to $.14$. Similarly, skewness for all parent variables were normally distributed ranging from $-.88$ to $-.04$, except that in-group connectedness and awareness of racism were both slightly negatively skewed, -1.00 and -1.07 , respectively. However, the $M = 15.22$, $Mdn = 16.00$, and $Mode = 16.00$, for student-perceived real parents' teachings about awareness of racism was approximately equal therefore, it was assumed that the distribution of this variable was also approximately normal. The $M = 15.86$, $Mdn = 16.00$, and $Mode = 20.00$ for student-perceived real parents' teachings about in-group connectedness was not approximately equal, therefore, normality of distribution could not be assumed. That is, many of the students reported more real teachings about in-group connectedness.

Skewness values, ranging from $.02$ to $.58$ indicated that student adjustment variables (i.e., sense of school belonging, first quarter math grades, and standardized math test scores, prior and during school year) were normally distributed. The mean percentile first quarter math grade was "C," and the mean for standardized math test scores for the prior and current school year were at basic and proficient levels, respectively (see Table 3).

Variable intercorrelations. Intercorrelations among the socialization scales for real environment revealed higher associations between perceived developmental, academic, and racial-ethnic socialization scales at school than at home (see Table 2). At school, perceived connection and autonomy were moderately and positively correlated, but these associations were not significant in the home domain. In the domain of academic socialization, student-perceived academic expectations and academic involvement were not significantly associated for teachers or parents. Thus, as perceived by the students, the level of academic expectations held by teachers and parents was not related to their level of academic involvement. In the racial-ethnic socialization domain, all associations were positive. For teachers, student-perceived in-group connectedness, embedded achievement, and awareness of racism were moderately to highly associated; for parents, the associations ranged from low to moderate (see Table 2).

Math grades and standardized math achievement scores were significantly and positively correlated. Higher math achievement scores in the prior year were positively related to math achievement test scores at the end of the current school year ($r = .72, p < .001$). In addition, first quarter math grades were moderately related to current year math achievement scores ($r = .63, p < .001$). Student sense of school belonging was not significantly correlated to first quarter math grades or math achievement scores prior to and during the school year.

Student and school demographic characteristics were not significantly related to school belonging. That is, perceived school belonging did not differ as a function of student gender, ethnicity, and family income or grade level, grade level pod, and years at the school. However, current year math achievement scores were significantly related to school demographic

characteristics (see Table 4). Higher math achievement was significantly related to more years at this school.

The grade level pod was considered as a potential nested variable as students in the same grade level pod share a similar environment, moving from class to class through the school day as a cohort. This practice could increase the likelihood that students within a grade level pod have similar perceptions of school socialization, psychological engagement, and achievement. However, statistics demonstrated no significant relationship between grade level pods and student sense of school belonging or math standardized achievement scores; therefore, hierarchical linear modeling was not used.

Student Perceptions of Real and Ideal Environments

In order to test whether there were significant differences in student perceptions of real versus ideal environments, a series of 21 paired *t*-tests were conducted (i.e., seven socialization scales by three contexts—school, home, and real home and school comparison). Given the large number of paired *t*-tests, Bonferroni adjustment was used and the critical alpha level for these comparisons was $p < .002$.

School. Across the domains of developmental and racial-ethnic socialization, students perceived lower levels of these socialization practices than they would have ideally preferred, as five of the seven *t*-tests were statistically significant, with effect sizes ranging from small to large. Overall, the largest perceived mismatch in the school environment was in the domain of developmental socialization. Students wanted greater autonomy from, $t(147) = -18.15, p < .001, d = 2.01$, and greater connection to, $t(147) = -8.75, p < .001, d = .76$, their teachers than they reported receiving (See Table 3). In the domain of racial-ethnic socialization, students wanted more teachings that would build ethnic group connectedness, $t(147) = -7.01, p < .001, d = .60$, highlight the achievement of ethnic groups, $t(147) = -5.11, p < .001, d = .42$, and address racism, $t(147) = 4.97, p < .001, d = .40$, than they were actually receiving from their teachers. Although students wanted their teachers to hold higher academic expectations than they perceived their teachers holding, $t(147) = -1.99, p < .05$, this difference did not meet the required alpha level; further, the real-ideal mismatch was not significant for academic involvement. In sum, students perceived significant mismatch between their real and ideal teachers across the developmental and racial-ethnic socialization dimensions but not the academic domain.

Home. In the home environment, students only perceived lower levels of developmental socialization practice, particularly connection but not other practices, than they would have ideally preferred. With regard to parents, students reported the highest mismatch in developmental socialization and the lowest mismatch in racial-ethnic socialization. Similar to perceptions about teachers, students wanted greater autonomy, $t(152) = -8.18, p < .001, d = .69$, from their primary caregivers than they reported receiving, but student perceived mismatch in connection did not reach significance level (see Table 3). In the domains of academic involvement and racial-ethnic socialization, however, student-perceived mismatch was not significant. In sum, students only perceived significant mismatch in autonomy within the domain of developmental socialization, but not academic or racial-ethnic socialization.

Match between real school and home. With regard to differences between student-perceived real school and home environments, paired sample *t*-tests revealed significant

differences on five of the seven dimensions. Students perceived that their teachers provided less developmental and racial-ethnic socialization than their parents, and more academic involvement. In the developmental socialization domain, students reported that their primary caregivers provided significantly greater connection than their teachers did, $t(149) = 7.24, p < .001, d = .68$. In the racial-ethnic socialization domain, students reported that their primary caregivers taught them more about building ethnic group connectedness, $t(149) = 10.70, p < .001, d = 1.03$, highlighted the achievement of their ethnic group, $t(149) = 9.34, p < .001, d = .86$, and addressed racism, $t(149) = 8.40, p < .001, d = .84$, than their teachers. In contrast, in the domain of academic socialization, students reported that their teachers demonstrated significantly greater academic involvement than their primary caregivers did, $t(149) = -7.36, p < .001, d = .76$. Importantly, there were no significant differences in the perceived autonomy and academic expectations of teachers and parents.

Demographic Differences in Match

Nonparametric correlations were conducted between the demographic characteristics of students (gender, ethnicity, and family income), school (grade level, grade level pod, and years at school) and seven students' perceived socialization match scores (absolute difference scores) across school, home, and school-home variables. No significant correlations were found.

School. Across the six demographic variables and 42 correlations, no significant correlation was present between student and school characteristics and student-perceived teacher match score. In contrast to the hypothesis, family income and years at school were not correlated with perceived match on any of the socialization dimensions. Thus, perceived mismatch at school was not greater for students from lower income background or those who were at the school for one year as compared to those at the school for two or more years.

Home. Similar to the school environment, out of 42 correlations, no correlations were significant between demographic characteristics of student (gender, ethnicity) and of school (grade level, grade level pod, and years at the school) and students' perceived developmental, academic, and racial-ethnic socialization match scores about their parents. Similarly, the hypothesis was not supported. Student-perceived mismatch at home was not greater for students from lower income background or those who were at the school for one year as compared to those at the school for two or more years.

Match between real school and home. Similar to the school and home environments, out of 42 correlations, no correlations were significant between demographic characteristics of student and of the school and students' perceived real home-school developmental, academic, or racial-ethnic socialization match scores. Once again, the hypothesis was not supported. Student-perceived mismatch between home and school was not greater for students from lower income background or those who were at the school for one year as compared to those at the school for two or more years.

In sum, there were no significant findings, suggesting that differences among students did not play a role in their perception of mismatch in and between their environments. In addition, school demographic differences also did not play a role in student perceptions of mismatch in and between their environments. For a school that aims for equity in treatment, these results are promising.

Role of Match in Predicting Student Adjustment

Two hierarchical linear regression analyses were conducted to predict student sense of school belonging and end of year standardized math achievement scores, with the following eight variables as predictors: first quarter math grade (for engagement) or prior year math standardized achievement score (for achievement) years at this school, total mismatch scores for school, home, and home-school, and separate interaction terms between years at school and each match variable. Each predictor and interaction term were entered in a stepwise method in order to control for prior or entering achievement and years at school, and to look for the unique contribution over and above school mismatch first, home mismatch beyond school, and home-school mismatch last. A similar stepwise method was used to predict to student achievement.

School belonging. The final model including all eight variables significantly predicted 13% of the variance (see Table 6) in students' sense of school belonging, $F(8, 124) = 3.48, p = .001$. First quarter math grades accounted for 3% of the variance in student sense of school belonging, $F(1, 131) = 4.65, p < .05$, with higher first quarter math grades predicting a higher student sense of school belonging, $t(131) = 2.16, p < .05$. Controlling for first quarter math grades, total home mismatch significantly accounted for 7% of the variance in students' sense of school belonging, $F(4, 128) = 4.94, p = .001$. This finding indicated that the greater the total home mismatch, the lower students' sense of school belonging, $t(127) = -3.16, p < .01$. However, contrary to the hypothesis, neither perceived mismatch in school or between home and school was a significant predictor of school belonging. Further, years at school did not predict students' sense of belonging (that is, belonging did not increase after the transition year) and the relationship between mismatch and engagement was not moderated by years at school (that is, present in the transition year but not after).

Achievement. The final model predicting achievement with a reduced sample of 114 students (those with both pre and post achievement scores) and all eight variables accounted for 62% of the variance (see Table 6) in students' math achievement test scores, $F(8, 101) = 23.51, p = .001$. Prior year math achievement, years at school, total home-school mismatch, and the interaction between years at school and total home-school mismatch each uniquely contributed to the model. Prior year math achievement significantly accounted for 57% of students' math achievement in the current year, $F(1, 108) = 148.17, p = .001$, with higher prior scores predicting higher year-end scores, $t(108) = 12.17, p < .001$. Years at school predicted an additional 2% of the variance in students' year-end math achievement, $F(1, 107) = 4.71, p < .05$. That is, after controlling for prior achievement, students who spent two or more years in the school gained more than students in their first year in the school did. Further, in partial confirmation of the hypothesis, total home-school mismatch predicted an additional 2% of the variance in year-end math achievement, $F(1, 104) = 4.12, p < .05$. Perceived mismatch at school and at home did not predict achievement.

However, the relationship between total home-school mismatch and year-end math achievement depended on years at the school. This interaction accounted for 2% of the variance in year-end math achievement test, $F(8,101) = 23.51, p = .001$. The Holmbeck (2000) method was used to probe significant interaction effects. Higher home-school mismatch significantly predicted lower math achievement for students who have been at the school for two or more years, but not for students who have been at the school for one year (see Figure 1). For these transitioning students, math achievement was not significantly related to perceptions of home-

school mismatch and their performance was lower than that of students who had been in the school for two or more years.

Real Socialization Beyond Socialization Match in Predicting Student Adjustment

Two hierarchical linear regression analyses were conducted to determine, above and beyond perceived mismatch, how much student-perceived actual socialization by teachers predicted their sense of school belonging and math achievement scores. Similar to the two previous hierarchical regressions, demographic characteristics were not included in the model. In addition, to maintain statistical power to test significance, student-perceived real teacher connection and autonomy scales were combined to create the developmental socialization scale ($\alpha = .84$). Similarly, student-perceived real teacher in-group connectedness, embedded achievement, and awareness of racism scales were combined to create the racial-ethnic socialization scale ($\alpha = .95$). Similar to the prior hierarchical regression model, stepwise method was used in order to control for prior or entering achievement and years at school, and to look for the unique contribution of real environment above and beyond perception of match. Parallel stepwise method was used to predict to student achievement.

School belonging. In predicting student sense of school belonging, eight predictor variables were entered in three blocks. Step 1 included first quarter math grades (control variable), Step 2 included total mismatch at school, home, and home-school, and Step 3 included students' perceived real teachers developmental socialization, academic expectations, academic involvement, and racial-ethnic socialization. In this equation, years at school and the interaction terms were not included because they were not significant in the previous regression equation.

The final model accounted for 27% of the variance (see Table 7) in students' sense of school belonging, $F(8, 124) = 6.97, p = .001$. Similar to the previous regression analysis, first quarter math grades accounted for 3% of student sense of school belonging, $F(1, 131) = 4.65, p < .05$, with higher early grades predicting higher sense of school belonging, $t(131) = 2.16, p < .05$. As hypothesized, after controlling for first quarter math grades, total school, home, and home-school mismatch scores accounted for 13% of the variance in student sense of school belonging, $F(4, 128) = 5.86, p = .001$. Greater perceived mismatch predicted less school belonging, and as shown previously, it was the home mismatch which had a significant relationship with student sense of school belonging, $t(128) = -3.36, p = .001$. Of importance, beyond the predictive role of perceived mismatch, real teachers' socialization practices uniquely predicted an additional 16% of the variance in sense of belonging, $F(4, 124) = 6.97, p = .001$. In particular, higher connection to and autonomy from teachers were significantly related to a higher sense of school belonging, $t(124) = 5.06, p = .001$. In contrast, higher academic involvement by teachers predicted a lower sense of school belonging, $t(124) = -2.13, p < .05$.

Achievement. In the second hierarchical regression to predict year-end math achievement scores, the nine predictor variables were entered in four steps. Prior math achievement scores (control variable) was entered in Step 1, years at school in Step 2, the three total mismatch scores (school, home, and home-school) in Step 3, and the four student—perceived real teachers' socialization scores in Step 4.

The hypothesis that students' perceived real school socialization would significantly predict to students' current year math achievement test beyond prior year math achievement test and total mismatch scores was not supported. The final model, with a reduced sample of 114

students accounted for 61% of the variance in students' current year math achievement test (see Table 7), but it was not significant. As in the earlier analysis, prior achievement accounted for 57% of the variance while years at school accounted for an additional 2% of the variance and they were both significant predictors. However, total mismatch and perceived real teacher socialization did not significantly predict to current student performance on the math achievement test.

Discussion

Summary and Interpretation

In summary, in this high expectation secondary school and across developmental and racial-ethnic socialization, 6th-8th grade students perceived significantly greater mismatch between their real and ideal environments at school than at home. They also perceived significant differences in the real environment between home and school, with home perceived as more supportive. Yet neither student demographics nor transition year predicted the degree of perceived mismatch. With achievement differences controlled, less mismatch at home predicted more student engagement in school. Further, beyond mismatch, more real connection and autonomy (but less academic involvement) from teachers also predicted more student engagement. However, the predictors of standardized math achievement proved more complex and varied as a function of the transition year. For students in the transition year, achievement gains were less and were not linked to perceptions of home-school match; whereas for students who were beyond the transition year, achievement gains were more and were linked to perceptions of more home-school match. Here, perceptions of the real school environment did not significantly predict math achievement gains.

What sense can be made of this pattern of findings? First, despite the high expectation school setting, student perceptions of mismatch between need and environmental support were documented. At school, students perceived significantly less autonomy, connection, and teachings about in-group connectedness, embedded achievement, and awareness of racism from their teachers than they would have ideally wanted, with effect sizes ranging from small ($d = .40$) to large ($d = 2.01$). In contrast, at home, mismatch was evident only for autonomy, with a moderate effect size of .69: students perceived significantly less autonomy than they ideally wanted. Finally, with regard to real home-school comparisons, parents were perceived to provide significantly more connection, teachings about in-group connectedness, awareness of racism, and embedded achievement, as well as lower academic involvement than teachers, with effect sizes ranging from moderate ($d = .68$) to large ($d = .86$). However, despite evidence of mismatch and contrary to the hypothesis, no demographic group experienced greater mismatch than any other and the degree of mismatch was not lower (more precise as it was not a longitudinal study) in the succeeding grades or by length of attendance, as students acclimated to the school.

These findings are similar to those reported by Barber and Olsen (2004), which suggests that perceived mismatch is not only a phenomenon of the transition year. This study also supports Barber and Olsen's (1997) findings that student-perceived mismatch in connection and autonomy was greater at school than at home and confirms results that student connection at school or home does not vary by demographic characteristics (Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Grolnick, Kurowski, Dunlap, & Hevey, 2000). With regard to autonomy, the findings of this study are in contrast to others that found gender differences at school and home, with boys (Barber & Olsen, 2004) and children from low SES background perceiving less

autonomy (Grolnick et al., 2000). In addition, with regard to the academic expectations and the involvement of teachers and parents, this study did not show significant differences as perceived by students. While differential expectations might be expected, given a literature which suggests that poor and ethnic minority students often receive lower teacher academic expectations (Weinstein, 2002), in this early-college school, teachers and parents, not surprisingly, hold similarly high academic expectations. Finally, for this population of African American and Latino students, their parents were perceived to engage in an appropriate level of racial-ethnic socialization to support their children (Hughes et al., 2006). However in school, sufficient (in the eyes of students) teachings that supported students' racial-ethnic identities were not taking place, which means these students' realities were not being recognized.

Second, did perceptions of mismatch matter and for what outcomes? Consistent with the hypotheses, given equal achievement, perceptions of mismatch (but different types of mismatch) were predictive of both student-reported engagement and objectively-measured math achievement gains (for non-transition students only). Despite the fact that perceived mismatch was greater in the school environment, it was the perceived mismatch at home that predicted student engagement and the perceived mismatch between home and school that predicted achievement gains. Less autonomy at home than students ideally wanted from parents (the home mismatch) predicted less engagement in school. More connection and racial-ethnic teachings, as well as less academic involvement from parents than from teachers (the home-school mismatch) predicted less gain in student math achievement, but only for those students beyond the transition year. These findings support the results of the Barber and Olsen study (1997) where even in cases of mismatch in the school, qualities of home environments are predictive of student adjustment. However, Eccles, Early, Fraser, Belansky, and McCarthy (1997) found that it was the combination of higher connection within the family as well as higher autonomy in the home and school that predicted more school engagement. Given that no study has examined the mismatch between home and school, this study extends the literature to demonstrate how more home-school mismatch predicts less student achievement gain. In addition, this study specifies the domains of mismatch that are predictive of less achievement gain. That is, parents providing more connection, more ethnic-racial teachings, and less academic involvement than teachers predicted less student gains in achievement (for those beyond the transition year). It appears that students who have had more time to acclimate to an early-college school perform academically better when both the school and home share similar socialization practices.

Third, did perceptions of the real environment predict student adjustment beyond what was predicted by perceived mismatch? Here, two domains of the real school environment, developmental socialization and academic involvement, proved to be significant predictors of student-reported engagement. However, beyond the home-school mismatch, the real school environment did not uniquely predict student achievement gains. With regard to student engagement, beyond the predictive effects of perceived mismatch, the perceived real environment played a role in student adjustment, with the real school environment accounting for 16% of the additional variance in engagement beyond the 9% accounted for by total mismatch scores. Developmental socialization, that is, more connection to and autonomy from teachers, predicted greater student engagement. When parents were not able to meet student needs for more autonomy, teachers provided a compensatory effect by fostering more supportive relationships and creating classroom environments that offer more autonomy, which predicted greater student engagement. Surprisingly, however, more academic involvement by teachers predicted less student engagement. Examination of the items in teacher involvement scale

indicated that many of the involvement practices appear reactive rather than proactive. For example, students report how often teachers help them with homework and how often they get in trouble with teachers because of not completing homework or receiving a low grade on a test/assignment. In addition, students report the frequency with which their teachers discuss their academic progress and talk about school to their parents. These items suggest that teachers may become more academically involved after students experience academic difficulty, which may be offered too late to help maintain student engagement in school. This study provided a broadened look at socialization domains, but although students perceived a great mismatch in school with regard to their racial-ethnic socialization needs, this factor was not found to be predictive of student engagement. Perhaps students in this study transitioned to a more homogeneous (all ethnic minority population) rather than heterogeneous school environment. Therefore, they did not experience a “race/ethnicity consciousness-raising event” (French, Seidman, Allen, & Aber, 2000, p. 590) that might require such teaching in order to become engaged in schooling.

Finally, what do these findings suggest about transition theory? That ethnic minority and low income students in their transition year did not show a decline in achievement underscores the importance of school characteristics, in this case, a high expectation secondary school. Similar to other studies, perceptions of student mismatch, lowered engagement, and lowered achievement are not unique to the transition year, but rather reflect a long-term process (Barber & Olsen, 2004; Seidman, Lambert, Allen, & Aber, 2003). That students in their transition year gained less on standardized math tests than did students who were in their second or third year of the school suggests a process over time. This study also demonstrates the importance of examining student perceptions of mismatch as well as real school environment because each uniquely predicted to one index of student adjustment, in this case engagement. Surprisingly, it was greater mismatch in the home environment that predicted to lower student engagement, but perceptions of real school environment acted as compensatory mechanism. This study also demonstrates the importance of examining home-school mismatch, which often occur between schools and poor and ethnic minority students (Lee & Bowen, 2006).

Limitations of the Study

A note of caution is needed in interpreting the findings of this study. First, this is a cross-sectional look at school transition, with only achievement on standardized tests, but not engagement and student perceptions, obtained pre- and post-transition. Further, the perceptions of students were measured well into the spring of the transition year. Thus, these student perceptions and the first quarter math grades (as an achievement control) may already reflect some form of adjustment. Second, students serve as reporters of their school and home environment as well as of their psychological engagement in school. Thus, there may be inter-rater bias and given the correlational design, the directionality of these relationships is impossible to ascertain. That is, a sense of school belonging may well influence student perceptions of match or perceived match may influence belonging. Third, the results of this study should not be generalized to all middle or high schools, but pertain particularly to high expectation or early-college secondary schools, and to math achievement, not to achievement in other core subjects. Finally, as a transition study, transitions are being made into different grades rather than one grade. Therefore, it is difficult to determine the unique affects of grade level versus transition into school on the perceptions of mismatch and adjustment.

Yet, this study offers unique strengths in the breath of its design and measures. It is strengthened by its focus on minority and low income youth transitioning into a high expectation

secondary setting—a setting with some transitional supports (such as pods, advisories) but with a rigorous and non-tracked curriculum for all students. This type of setting has never been studied. A further strength is the range of socialization practices studied across the domains of developmental, academic, and racial-ethnic socialization. Importantly, these domains of socialization were investigated not only in the school, but also in the home and across the home-school contexts. Further, indices of student adjustment included standardized test scores in math and student engagement. In addition, this study explored the predictive role of real environmental attributes, beyond the role of perceived mismatch between real and ideal environments, in student adjustment – offering a comparison of methods used to operationalize transition theory.

Implications for Future Research and Intervention

Findings from this research suggest several methodological considerations that would strengthen future research as well as how transition theory is assessed. First, longitudinal design that could look at pre and post measures and temporal changes both in perceptions of environments and student outcomes would allow researchers to assess change over time. Second, in addition to student report of engagement, alternative indicators of student engagement that are more objective need to be considered—such as observed student engagement. Third, in addition to standardized achievement test, student grade point average (GPA) could be included as another index of student adjustment.

With regard to transition theory, the results of this study suggest that methodologically it is important to assess both students’ perceived mismatch as well as perceived real environment, as each method explained unique variance in student adjustment. Qualities of the environment created by teachers predict student adjustment in cases where mismatch is felt in the home or between home and school. As this study demonstrates, it is important to examine not only the transition year, but beyond the transition year for student adjustment outcomes.

Preventive interventions need to focus on helping teachers connect with students because they can make a difference when students have unmet needs in the home. Interventions might also address bringing school and home closer by reducing the mismatch in developmental, academic, and racial-ethnic socialization and helping both teachers and parents to engage in more proactive rather than reactive academic involvement strategies.

In sum, the findings of this study shed some new light on transition theory. By examining the transition into a high expectation school setting for a population of low income and ethnic minority students, this study did not document the usual achievement decline post-transition or the reduction of perceived mismatch between real and ideal environments two years beyond the transition. Despite the support of grade level pods, students still reported unmet needs in school that were greater than they reported at home. However, it was the home mismatch that predicted less school engagement and the home-school mismatch that predicted lower achievement gain but in the latter case, only for those students beyond the transition year. Importantly, in the case of student engagement, qualities of the teacher contributed uniquely beyond the predictive role of mismatch at home. Thus, these findings underscore for future research the importance of school setting in transitions, the unique and differing predictive contributions of perceived mismatch and perceived real environments, and the different domains of socialization.

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Table 1

Demographic Characteristics (N = 154)

Characteristic	<i>n</i>	%
Gender		
Male	76	49.9
Female	78	50.6
Ethnicity		
African American	58	37.7
Latino	49	31.8
Bi-racial or Multi-racial	42	27.3
Other	5	3.2
Family income		
Low income	89	57.8
High income	65	42.2
Grade Level		
Grade 6	45	29.2
Grade 7	56	36.4
Grade 8	53	34.4
Grade level pod		
Grade 6A	26	16.9
Grade 6B	19	12.3
Grade 7A	28	18.2
Grade 7B	28	18.2
Grade 8A	26	16.9
Grade 8B	27	17.5
Years at school		
One year	75	48.7
Two or more years	79	51.3

Table 2

Intercorrelations Between Real Socialization Subscales for Teachers and Parents

Subscale	1	2	3	4	5	6	7
Real Teachers (<i>n</i> = 151)							
1. Connection	—						
2. Autonomy	.53*	—					
3. Academic expectations	.22	.07	—				
4. Academic involvement	.34*	.33*	.15	—			
5. In-group connectedness	.31*	.34*	.15	.28*	—		
6. Embedded achievement	.36*	.32*	.16	.27*	.82*	—	
7. Awareness of racism	.31*	.23	.15	.26	.68*	.75*	—
Real Parents (<i>n</i> = 153)							
1. Connection	—						
2. Autonomy	.11	—					
3. Academic expectations	.11	-.00	—				
4. Academic involvement	.25	-.33*	-.02	—			
5. In-group connectedness	.36*	-.06	.06	.13	—		
6. Embedded achievement	.43*	-.11	-.02	.24	.59*	—	
7. Awareness of racism	.20	-.10	.04	.09	.45*	.55*	—

Table 3

Descriptive Statistics: Developmental, Academic, and Racial-Ethnic Socialization

Measure	Teachers			Parents			Home-School	
	Real <i>n</i> = 151	Ideal <i>n</i> = 149	Mismatch <i>n</i> = 148	Real <i>n</i> = 153	Ideal <i>n</i> = 153	Mismatch <i>n</i> = 153	Mismatch <i>n</i> = 150	
Developmental socialization								
Connection								
<i>M</i>	25.15	29.05	-3.90*	28.44	29.49	-1.05	3.28*	
<i>SD</i>	5.25	5.00	5.42	4.44	4.71	5.13	5.55	
α	0.81	0.80		0.71	0.76			
Cohen's <i>d</i>			0.76			0.23	0.68	
Autonomy ^a								
<i>M</i>	18.15	27.40	-9.27*	22.78	26.52	-3.74*	0.00	
<i>SD</i>	4.39	4.82	6.21	4.98	5.85	5.66	1.44	
α	0.66	0.69		0.67	0.82			
Cohen's <i>d</i>			2.01			0.69	0.00	
Academic socialization								
Academic expectations								
<i>M</i>	5.57	5.78	-0.21	5.59	5.54	0.03	0.03	
<i>SD</i>	1.25	1.24	1.31	1.17	1.32	1.21	1.30	
α	NA	NA		NA	NA			
Cohen's <i>d</i>			0.00			0.00	0.00	
Academic involvement								
<i>M</i>	19.45	19.64	-0.25	17.18	16.83	0.35	-2.26*	
<i>SD</i>	3.09	3.63	4.18	2.88	4.17	4.21	3.77	
α	0.67	0.79		0.57	0.84			
Cohen's <i>d</i>			0.00			0.00	0.76	

Table 3

Descriptive Statistics: Developmental, Academic, and Racial-Ethnic Socialization Continued

Measure	Teachers			Parents			Home-School Mismatch <i>n</i> = 150
	Real <i>n</i> = 151	Ideal <i>n</i> = 149	Mismatch <i>n</i> = 148	Real <i>n</i> = 153	Ideal <i>n</i> = 153	Mismatch <i>n</i> = 153	
Racial-Ethnic socialization							
In-group connectedness							
<i>M</i>	11.65	14.48	-2.87*	15.86	15.84	0.03	4.16*
<i>SD</i>	4.68	4.73	4.98	3.40	3.63	3.16	4.76
α	0.92	0.95		0.79	0.89		
Cohen's <i>d</i>			0.60				0.00
Embedded achievement							
<i>M</i>	12.35	14.22	-1.90*	15.64	15.79	-0.15	3.29*
<i>SD</i>	4.37	4.55	4.53	3.17	3.43	2.69	4.32
α	0.87	0.91		0.68	0.86		
Cohen's <i>d</i>			0.42			0.00	0.86
Awareness of racism							
<i>M</i>	11.88	13.64	-1.76*	15.22	15.31	-0.09	3.31*
<i>SD</i>	4.17	4.59	4.46	3.79	3.32	2.87	4.83
α	0.89	0.91		0.76	0.79		
Cohen's <i>d</i>			0.40			0.00	0.84

^aThe table includes the real parent and teacher autonomy non-standardized scores, but the parent-teacher match score is based on standardized data.

*Bonferroni adjusted $p < .002$.

Table 4

Descriptive Statistics: Student Engagement and Achievement

Measure	<i>M</i>	<i>SD</i>	Min.	Max.	Range	<i>n</i>	α
Student engagement							
School belonging	58.72	11.96	33.01	89.00	55.99	150	0.85
Student achievement							
Quarter 1 math grade ^a	74.76	12.51	58.00	100.00	42.00	142	NA
Standardized test scores ^b							
Math test 2007	348.39	70.43	213.00	581.00	368.00	114	NA
Math test 2008	351.85**	64.32	208.00	539.00	331.00	154	NA

^aStudent quarter one math grade is in percentages: A = 90% and above, B = 80 – 89%, C = 70 – 79%, D = 60 – 69%, and F = 59% and below.

^bStudent standardized math test score are continuous scores ranging from 208 to 581. Paired sample *t* test probability: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 5

Nonparametric Correlations: Relationship among Demographic and Student Engagement and Achievement Variables

Variable	Student demographics		School demographics		
	Gender	Ethnicity	Family income	Years at school	Grade level pod
Student engagement					
School belonging	.10	-.07	.09	.03	-.07
Student achievement					
Math grade quarter 1	.03	-.00	-.10	.05	-.17
Math test 2007	.11	-.05	-.07	.11	.07
Math test 2008	.13	-.04	-.04	.26*	.12

*Bonferroni adjusted $p < .001$.

Table 6

Regression Predicting Student Sense of School Belonging and Current Year Math Standardized Achievement Test

Predictors	Sense of school belonging				Student adjustment				Math standardized achievement test			
	Adj. R ²	ΔR^2	B	β	Adj. R ²	ΔR^2	B	β	Adj. R ²	ΔR^2	B	β
Step 1: Quarter 1 math grade /Prior year math achievement ^a	.03*	.03	0.18	.19*	.57***	.58	0.69	0.76***				
Step 2: Years at school	.02	.01	-1.71	-.07	.59*	.02	18.54	.13*				
Step 3: Total school mismatch	.04	.03	-0.62	-.17	.59	.00	-0.42	-.02				
Step 4: Total home mismatch	.11**	.07	-1.14	-.27*	.59	.01	-2.10	-.10				
Step 5: Total home-school mismatch	.12	.02	-0.89	-.18	.60*	.02	-3.81	-.15*				
Step 6: Total school mismatch X years at school	.14	.02	1.44	.36	.61	.01	-5.99	-.31				
Step 7: Total home mismatch X years at school	.14	.01	-0.79	-.14	.61	.00	-3.30	-.13				
Step 8: Total home-school mismatch X years at school	.13 ^b	.00	0.24	.04	.62* ^b	.02	-9.02	-.32*				

^aThe control variable quarter 1 math grade entered to predict sense of school belonging and prior year math achievement entered to predict math standardized achievement test.

^bEach ΔR^2 value was rounded up to point two decimal places and the total ΔR^2 value does not add up to the total adjusted R² value.

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

Table 7

Real Socialization versus Match in Socialization in Predicting Student Sense of School Belonging and Current Year Math Standardized Achievement Test

Predictors	Sense of school belonging				Student adjustment			
	Adj. R ²	ΔR ²	B	β	Adj. R ²	ΔR ²	B	β
Step 1: Quarter 1 math grade /Prior year math achievement ^a	.03*	.03	0.18	.19*	.57***	.58	0.69	.76***
Step 2: Years at School ^b					.59*	.02	18.54	.13*
Step 2/3: Total school mismatch	.13***	.12	-0.01	-.00	.60	.02	1.59	.09
Total home mismatch			-1.20	-.29*			.46	-.11
Total home-school mismatch			-0.90	-.18			-3.81	-.15*
Step 3/4: Teacher developmental	.27*** ^b	.16	3.53	.52***	.61 ^b	.02	0.49	.01
Teacher school expectations			0.49	.05			1.99	.04
Teacher academic involvement			-0.74	-.19*			0.73	.04
Teacher racial-ethnic socialization			0.05	.05			-0.95	-.18*

^aThe control variable quarter 1 math grade entered to predict sense of school belonging and prior year math achievement entered to predict math standardized achievement test.

^bEach ΔR² value was rounded up to point two decimal places and the total ΔR² value does not add up to the total adjusted R² value.

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

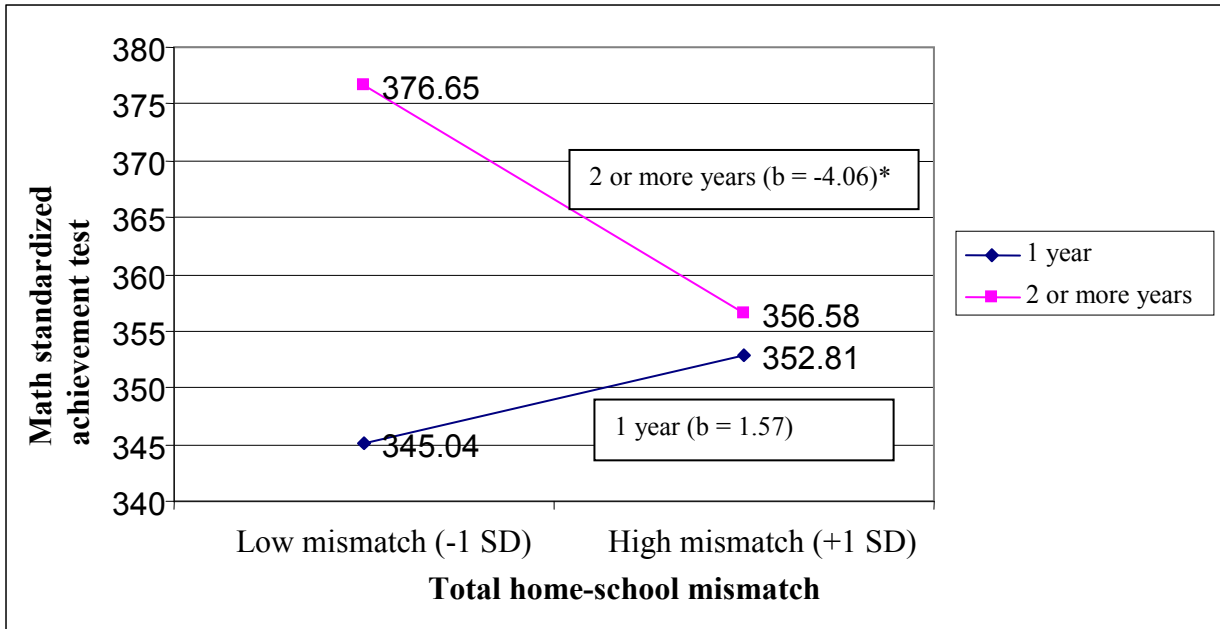


Figure 1. Total Home-School Mismatch, Years at School, and Math Standardized Achievement Test.