

Further Evidence of an Engagement–Achievement Paradox Among U.S. High School Students

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Abstract Achievement, engagement, and students' quality of experience were compared by racial and ethnic group in a sample of students ($N = 586$) drawn from 13 high schools with diverse ethnic and socioeconomic student populations. Using the Experience Sampling Method (ESM), 3,529 samples of classroom experiences were analyzed along with self-reported grades. Similarities and differences in achievement, engagement, and quality of experience among white, black, Latino, and Asian students were examined. The most marked differences found were between black and white students. Consistent with several previous studies, an engagement–achievement paradox was found in which black students reported higher engagement, intrinsic motivation, and affect in classrooms, but lower GPA relative to white students. A similar engagement–achievement paradox was found for students from low SES communities compared to those from high SES communities. Analyses also revealed racial and ethnic differences in the relationship of engagement with on-task behavior and contextual factors. Being on-task when in classrooms had a more positive effect on the engagement of black students relative to white students. The contextual effect of being in school versus home or in public on engagement was also more positive for black students than white students. Contextual factors and measurement issues are emphasized in the interpretation of findings and suggestions for future research.

Keywords Engagement · Achievement · Race/ethnicity · Socioeconomic status · High school

Introduction

In an attempt to explain racial and ethnic differences in scholastic achievement, scholars have recently begun to consider the role of school engagement (Gonzales et al. 1996; National Center for Education Statistics 2003). School engagement is central to most theories seeking to explain why some students learn more than others, and it is presumed to be responsive to environmental variations (Carroll 1989; Dotterer et al. 2007; Fredricks et al. 2004; Guthrie et al. 2000). Given the black–white achievement gap in which black students have consistently under-achieved in comparison with white students (Rothstein 2004), studies finding higher school engagement among black and other minority students compared to their white counterparts (e.g., Johnson et al. 2001; Kao and Tienda 1998; Lee and Smith 1995) suggest the possibility of an *engagement–achievement paradox*. In fact, research has demonstrated that black students report higher self-perceptions than white students in a variety of areas, including self-esteem and expectancies for success (Blau 2003; Cooper and Dorr 1995; Graham 1994). Such findings have long been regarded as similarly paradoxical in light of the black–white achievement gap (van Laar, 2000). Other researchers have found black students to hold more positive educational attitudes in comparison to white students (Ainsworth-Darnell and Downey 1998; Blau 2003), which, in combination with the achievement gap, has been referred to as the “attitude–engagement paradox” (Mickelson 1990). Mickelson's research served to clarify this paradox,

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but the possibility of an engagement–achievement paradox is in need of similar investigation and clarification.

Although literature examining achievement and engagement among multiple racial and ethnic groups often includes Latinos and Asian Americans, there is little suggestion of an engagement–achievement paradox with respect to those groups. For example, Asian Americans have achieved higher levels of academic success than other racial or ethnic groups (Reeves and Bennett 2004). In addition, studies of their experiences doing school work also indicate that they have high levels of engagement and place high value on education, which is consistent with our expectations given their tremendous success in school (Asakawa and Csikszentmihalyi 2000).

In the present study, we focused on racial and ethnic differences in engagement and achievement in an ethnically diverse sample of high school students. We utilized the Experience Sampling Method (or ESM; see “Methods” for further details) to capture self-perceptions of not only engagement, but also self-esteem, intensity, intrinsic motivation, and affect during classroom time. We also examined possible interactions between race/ethnicity and on-task behavior as well as contextual factors (e.g., school, home, or in public) influencing students’ experiences reported “in the moment.” By examining these complex interactions, this study is responding to recent initiatives urging researchers to consider more thoughtfully the ethnic diversity of the adolescent experience and the place of ethnicity in adolescent development (Levesque 2007).

Ethnic and Racial Differences in Engagement

A good deal of research shows that student engagement is positively related to achievement, and that disengagement leads to poor academic outcomes in a variety of subjects (Alexander et al. 1997; Marks 2000; Voelkl 1997). With respect to racial and ethnic differences in engagement, some studies of high school students have reported that racial and ethnic minority students were more academically engaged than non-Latino white students (Lee and Smith 1995; Shernoff et al. 2000; Uekawa et al. 2007). For example, using momentary measures of engagement similar to those employed in the present study, Uekawa et al. found Latino students to be the most engaged ethnic group while white and Asian students were the least engaged. In analyses of data from the National Education Longitudinal Study (Ainsworth-Darnell and Downey 1998), black students reported spending less time on homework but trying harder in school than white students. A recent study of engagement and attachment in high schools and middle schools found black students to be significantly more engaged than white and Latino students

(Johnson et al. 2001). Furthermore, some studies have found that the relationship between engagement and achievement may be weaker (or non-existent) for black students in comparison those of other ethnicities (Smerdon 1999). On the other hand, several studies have found black students to be less engaged than white students (Kao and Tienda 1998; Steinberg et al. 1992; Yair 2000), particularly when engagement is rated by teachers (Downey and Pribesh 2004). Yet other studies have found no racial difference in engagement (e.g., Smerdon 1999). Although specific results have varied, some of these studies suggest a possible “engagement–achievement paradox” in which white students demonstrate low engagement but high achievement, while some minority groups demonstrate high engagement but low achievement.

Contextual Factors Influencing Engagement and Quality of Experience

Fredricks et al. (2004) observed that engagement is rarely studied with the environmental context in mind, making it difficult to discriminate between individual and contextual influences. In this study, we combined repeated measures of engagement with multi-level models discriminating between person-level and momentary-level factors. This approach was particularly useful for teasing apart the influence of personal and contextual factors, and for observing any interactions of these factors. We were able to observe, for example, if being on task in classrooms had differential impacts on engagement for black students as compared to white students.

Several studies have suggested that different ethnic groups may vary in their levels of sensitivity to instructional features or classroom conditions (Uekawa et al. 2007; Yair 2000). For example, Yair (2000) found that engagement of black students was the least responsive to improvement in the quality of instruction. Perhaps the most basic distinction in instructional quality or intensity from the students’ perspective is being on-task versus off-task. Since we know that students are not always on task while in classrooms (Goodlad 1984), we examined the effect of on-task behavior on students’ engagement with special attention to any racial and ethnic interactions of this effect. On-task behavior is frequently measured by observation, which may unintentionally count students as on task when they are only procedurally engaged or “going through the motions” but engaged at a very low level (Nystrand and Gamoran 1991). We therefore utilized a subjective measure, based on students’ own accounts of when the content of their thoughts was consistent with their academic activity in classrooms.

Cultural differences are often formed outside of school in the contexts of family and community, as opposed to inside of school when all students share the same environment and conform to the same regimen. Therefore, we compared students' engagement by race/ethnicity in the three primary contexts of socialization for adolescents: school, home and public. Previous research suggests that engagement in one context may be relative to one's experience in other contexts for each individual (Csikszentmihalyi and Larson 1984). Due to the salience of family socialization in issues of culture and ethnicity, we also took into consideration perceptions of family life in addition to perceptions of school. For decades, researchers studying families have concluded that *support* and *challenge* are important environmental factors that foster optimal development and achievement among children (Baumrind 1987; Cooper et al. 1983; Rathunde 1996), so we also took these factors into account in our analyses.

Conceptualizing and Measuring Engagement

Disparate conceptualization and measurement may account for discrepant findings on racial and ethnic differences in engagement. According to a recent review (Fredricks et al. 2004), the three most widely used conceptualizations of engagement include: *behavioral engagement*, referring to positive conduct, effort, and participation in school-related activities based on teacher or direct observation (e.g., Finn 1993; Kelly 2004); *emotional engagement*, referring to students' self-reported affective reactions in classrooms, including interest, boredom, happiness, and anxiety (e.g., Skinner and Belmont 1993); and *cognitive engagement*, which refers to depth of processing and reported or observed ability to self-regulate one's investment in the learning process (e.g., Newmann 1992).

The present study improves on previous ones by utilizing a multi-dimensional measure of student engagement that integrated both cognitive and emotional components. Our conceptualization and measurement of student engagement is rooted in Csikszentmihalyi's (Csikszentmihalyi 1990) theory of flow. Flow is a state of mind brought on by intense engagement in an activity, promoting growth as individuals develop skills to meet increasingly complex challenges (Nakamura and Csikszentmihalyi 2002). During flow, individuals experience immediate, direct rewards from their deep interest and concentration in an activity, resulting in the feeling of intense enjoyment. Therefore, we operationalized student engagement as the simultaneous perception of concentration, interest, and enjoyment while interacting with an activity.

Goals of the Study

Following their extensive review of engagement literature, Fredricks et al. (2004) called for future studies that utilize (1) multi-dimensional constructs and measures of engagement, (2) person-environment models that take into account individual and situational factors, and (3) a diversity of participants to include minority youth and students from various social classes. The present study attempts to answer all three calls suggested by the authors while investigating the following research questions: (1) Controlling for socioeconomic status and other background characteristics, were there racial/ethnic differences in academic achievement, and in the relationship between achievement and engagement? (2) Controlling for socioeconomic status and other background characteristics, were there racial/ethnic differences in engagement and quality of experience (i.e., self-esteem, intensity, intrinsic motivation, and affect) in classrooms? (3) What was the effect of on-task behavior on students' engagement and quality of experience, and did such an effect differ by race/ethnicity? (4) What was the effect of being in the home, public, and school contexts on students' engagement and quality of experience, and did these effects differ by race/ethnicity?

Method

Participants

We used data from the Sloan Study of Youth and Social Development (SSYSD), a national longitudinal study investigating the experiences of students as they are socialized into adulthood (Csikszentmihalyi and Schneider 2000). These data were collected in three waves: 1992–1993 (Year 1), 1994–1995 (Year 3), and 1996–1997 (Year 5). Twelve sites across the U.S. were selected to represent variation in urbanicity, racial and ethnic composition, labor force composition, and economic stability. One high school was targeted for data collection in 11 of the sites, and two high schools were targeted in the remaining site ($N_{\text{SCHOOLS}} = 13$). Although the original data were longitudinal and included middle and high school students, only data collected in a single year of high school were analyzed for each participant. To maximize the high school sample, we selected 12th-grade students ($n = 168$) in Year 1 of the study, 10th-graders ($n = 144$) and 12th-graders ($n = 151$) in Year 3 of the study, and 10th-graders ($n = 123$) in Year 5 of the study. Thus, the sample ($N = 586$) consisted of 10th ($n = 267$) and 12th ($n = 319$) grade adolescents from three separate cohorts in the 1990s.

Thirty-four students were excluded due to significant missing data, and five Native American students were

excluded because there were too few cases to make statistical comparisons for this group. When comparing demographic characteristics of the 34 cases that lacked sufficient data to those who were retained, we found no significant differences in the distribution of the two subsamples by grade, gender, or race/ethnicity. There was, however, a significant difference with respect to the social class of the community from which students came. Twenty-two students whose data were excluded from analyses (65%) came from middle-class communities, a larger percentage than the rest of the sample ($\chi^2 = 18.56$, $p < .05$). This distributional difference could introduce bias into the results and should be considered when interpreting the findings.

Forty-six percent ($n = 270$) of the respondents in our sample were in 10th grade when they provided the data used in our analyses, and 54% ($n = 316$) were in 12th grade. Sixty percent ($n = 352$) of the sample was female. Sixty-five percent ($n = 381$) was white, 16% ($n = 96$) was black, 9% ($n = 50$) was Asian, and 10% ($n = 59$) was Latino. With respect to socioeconomic status, 6% ($n = 33$) resided in low-income communities, 17% ($n = 97$) in working-class communities, 38% ($n = 218$) in middle-class communities, 24% ($n = 155$) in upper-middle-class communities, and 15% ($n = 83$) in upper-class communities.

Instrument: The Experience Sampling Method (ESM)

The ESM measured participants' location, activities, as well as affective and cognitive experiences, at random moments. By collecting systematic, repeated measures data on what students think and feel while instruction was occurring, the ESM reduced recall and estimation errors inherent to surveys and retrospective interviews (Hektner et al. 2007; Larson and Csikszentmihalyi 1983). Studies have associated the ESM with high levels of ecological, internal, face, and situational validity, as well as reliability of measurement (Csikszentmihalyi and Larson 1987; Hektner et al. 2007).

To implement the ESM, participants wore wristwatches programmed to emit random signals eight times each day for 7 days, between the hours of 7:30 a.m. and 10:30 p.m. with the restriction that signals could not be less than 20 min apart. In response to the signal, participants completed a two-page Experience Sampling Form (ESF; to see a sample self-report form, see Csikszentmihalyi and Schneider 2000). The ESF included open-ended questions about *location* ("where were you?"), *thoughts* ("what was on your mind?"), and *activity* ("what was the main thing you were doing?"). These questions were coded by trained coders using detailed coding schemes. Next was a set of items that participants rated on a 9-point scale ranging from

1 (*not at all*) to 9 (*very much*). Items included: (a) *Concentration*: "How well were you concentrating?" (b) *Expectations of others*: "Were you living up to the expectation of others?" (c) *Feeling good about self*: "Did you feel good about yourself?" (d) *Enjoyment*: "Did you enjoy what you were doing?" (e) *Expectations of self*: "Were you living up to your expectations?" and (f) *Control*: "Did you feel in control of the situation?" Respondents then described their mood when beeped on 7-point semantic differential scales including *happy-sad*, *strong-weak*, *active-passive*, *sociable-lonely*, and *proud-ashamed*. Participants also rated from 1 (*low*) to 9 (*high*): (a) *Challenge*: "Challenge of the activity" and (b) *Skills*: "Your skills in the activity." Other items with response options ranging from 1 (not at all) to 9 (very much) included (a) *Importance to self*: "Was this activity important to you?" (b) *Difficult*: "How difficult did you find this activity?" (c) *Succeeding*: "Were you succeeding at what you were doing?" (d) *Wish*: "Do you wish you were doing something else?" (e) *Interest*: "Was this activity interesting?" and (f) *Importance to future goals*: "How important was it in relation to your future goals?"

Measures

Engagement

A composite variable of *Engagement* based on flow theory was adopted from our previous research (Shernoff et al. 2003). The Engagement composite was constructed by taking the mean of students' ratings of *concentration*, *interest*, and *enjoyment*. Although this construct achieved only a moderately high level of internal consistency ($\alpha = .64$), the intercorrelation has been shown to be higher in contexts in which the three variables are more frequently experienced simultaneously, as would be expected (e.g., $\alpha = .77$ in organized after school programs; see Shernoff and Vandell 2007).

Academic Achievement

Our primary indicator of academic achievement was students' survey report of their grade point average, or *GPA*. Because self-reported grades can be unreliable (Kuncel et al. 2005), we constructed an indicator of students' course taking sequence in mathematics (i.e., high, medium, and low ability groups) following procedures employed by Stevenson et al. (1994). Preliminary analyses indicated that GPA and course sequence were strongly associated with one another, and that racial/ethnic and SES distributions across these two variables were similar. Thus, math

sequence was used only to confirm the external validity of self-reported GPA, and then was discarded. Though it would have been desirable to control for an indicator of academic track in our analyses, preliminary analyses demonstrated that the students in our sample were not meaningfully tracked.¹

On-Task Behavior and Context

A dummy variable representing *on-task behavior* was created based on the convergence of *activity* and *thoughts* from the ESF (e.g., 1 = doing math work, thinking about math; 0 = doing math work, thinking about one's girlfriend). While one might speculate as to whether being on-task could itself be an indicator of engagement in an activity, note that the on-task variable is conceptually and experientially distinct from the engagement measure utilized. It is easy to imagine, for example, a student who is on-task because he is doing his math work and thinking about math, but is engaged at a very low level and thus reports low levels of concentration, interest, and enjoyment (and thus low levels of engagement). Thus, the relationship between engagement and on-task behavior was not taken for granted, but rather approached as an empirical question to be investigated in the study. *Location* from the ESF was used to identify the home, school, or public context.

School and Family Challenge and Support

Students' perceptions of challenge and support both at home and at school were solicited via survey. Family challenge and support were constructed as demonstrated by Rathunde (1996) and school challenge and support were constructed as demonstrated by Hektner (2001).

Demographic Variables

Demographic information about participants, including questions about academic achievement and course-taking, were solicited via survey.

Further descriptions of variables employed in the analyses are presented in Table 1.

¹ The majority of students in college preparatory high schools reported being in a "general program," and most of the students in the remaining schools reported being in a "college preparatory" program. Therefore, the vast majority of students in our sample considered themselves to be in either a college preparatory school or program, without sufficient variation to warrant controlling for track.

Results

Participants provided a total of 15,122 ESFs (M_{ESF} per participant = 26). The response rate for completing the repeated surveys was 46% (See Mulligan et al. 2000, for information indicating a relative lack of participant response bias in the present data set). First, we report the results of a factor analysis of our quality of experience variables. Second, we report results of Ordinary Least Squares (OLS) regression analyses predicting GPA with race/ethnicity, engagement, the interaction of race/ethnicity and engagement, and control variables. Third, we report the results of two multilevel models. The first predicted engagement and quality of experience with race/ethnicity, community and individual SES, and a variety of other control variables. The second model also added the effect of on-task behavior on the dependent variables and the interaction of this effect with race/ethnicity. For all of these analyses, we selected and examined the subset of responses in which students reported being in class ($n = 3,529$ ESFs). Fourth, we report results of multilevel analyses predicting engagement and quality of experience variables with the contextual influences of being in school ($n = 6,122$), home ($n = 6,109$), and public ($n = 3,370$), as well as the interaction of these context effects with race/ethnicity. Out of the 15,122 ESFs gathered from participants, 121 were missing data pertaining to the respondents' physical location, and were thus excluded from our analyses of context, making the total n for our analysis of context effects 15,001.

Quality of Experience Factor Analysis and Composite Creation

A series of factor analyses of quality of experience variables were conducted and composite variables were created for the purpose of variable reduction. A factor analysis using Promax rotation was performed on the ESF items relating to the perception of one's activity. Three factors were associated with eigenvalues over one. The first factor, which we labeled, *Self-Esteem*, consisted of high loadings for *expectations of self* ($l_1 = .79$), *expectations of others* ($l_1 = .73$), *succeeding* ($l_1 = .73$), *skills* ($l_1 = .69$), *control* ($l_1 = .66$), and *feeling good about self* ($l_1 = .59$). The second factor, which we labeled, *Intensity*, consisted of high loadings for *challenge* ($l_2 = .86$), *difficulty* ($l_2 = .83$), *importance to future goals* ($l_2 = .68$), *concentration* ($l_2 = .63$), and *importance to self* ($l_2 = .59$). The third factor, which we labeled, *Intrinsic Motivation*, included high loadings for *wish* (reversed, $l_3 = .86$), *enjoyment* ($l_3 = .78$), and *interest* ($l_3 = .78$).

Table 1 Summary of variables with descriptive statistics

Variable	Description	<i>M</i>	<i>SD</i>
GPA ^a	Students' self-reported grades from survey	3.1	.7
Engagement ^b	Composite: Mean of ESM reports of concentration, interest, enjoyment	5.3	2.1
Self-esteem ^b	Composite: Mean of ESM reports of expectations of others, expectations of self, feeling good about self, succeeding, control, and skills.	6.7	1.8
Intensity ^b	Composite: Mean of ESM reports of challenge, difficult, importance to future goals, importance to self, and concentration	5.0	2.1
Intrinsic motivation ^b	Composite: mean of ESM reports of enjoyment, interest, and wish (reversed).	4.8	2.3
Affect ^c	Composite: mean of ESM reports of sociable, proud, happy, strong, and active	4.6	1.1
On-task	Dummy variable equal to 1 when thoughts and actions converged as reported on the ESM when in classrooms	.53	.5
Parents' SEI ^d	Duncan Socioeconomic Index Score (SEI) (Nakao and Treas, 1994)	61.1	21.0
Family challenge ^e	Composite: Sum of 16 survey items related to challenge in the family (e.g. "In my family, I'm expected to do my best.")	10.9	3.3
Family support ^e	Composite: Sum of 16 survey items related to support in the family (e.g. "In my family, I feel appreciated for who I am.")	10.5	3.8
SCC	Social Class of Community	NA	NA
School challenge ^f	Composite: mean of how often students reported they "really understood" materials in math, science, English, and History classes.	2.03	.38
School support ^f	Composite: mean of 4 items on how well students and teachers get along and support each other.	2.7	.16

^a Range = 0–4; ^b Range = 1–9; ^c Range = 1–7; ^d Range = 0–100; ^e Range = 1–16; ^f Range = 1–4

A second factor analysis was performed on ESF affective items. One factor was associated with an eigenvalue over one. The *Affect* factor consisted of high loadings for *active* ($l_1 = .87$), *sociable* ($l_1 = .71$), *strong* ($l_1 = .66$), *happy* ($l_1 = .61$), and *proud* ($l_1 = .56$). The top loading items were averaged to form composite variables of each factor, and were utilized as dependent variables. For Self-esteem, $\alpha = .79$; for Intensity, $\alpha = .80$; for Intrinsic Motivation, $\alpha = .77$; for Affect, $\alpha = .84$.

Research Question 1: Were there Racial/Ethnic Differences in Achievement and its Relation to Engagement?

Ethnic/racial differences in achievement, as well as in the relationship between achievement and engagement in classrooms, are presented in Table 2. Black students reported significantly lower GPAs compared to white students (default category). When considering the magnitude of the achievement gap, black students' GPAs were .18 of a grade lower than white students' GPAs, corresponding to over one quarter of a standard deviation difference. GPAs reported by Asian students were significantly higher than those of white students, with an average difference of .78 of a grade, corresponding to over one standard deviation. Though the difference was not statistically significant, Latino students' GPAs were on average over one half of a

grade lower (–.52) than those of white students. Engagement in classrooms was a modest though significant predictor of GPA. The relationship between engagement and GPA varied by race/ethnicity. The negative black–engagement interaction term in Table 2 indicates that engagement was inversely related to GPA for black students. The Latino–engagement and Asian–engagement interaction terms were not significant. There was a positive and significant effect for parents' SEI. However, there were no significant differences among community SES categories after controlling for SEI. There were also no gender differences in GPA.

Research Question 2: Were there Racial/Ethnic Differences in Engagement and Quality of Experience in Class?

We next investigated ethnic and racial differences in engagement and other quality of experience variables after accounting for background and other relevant personal characteristics. Multilevel models were deemed an appropriate analytical tool given the nested structure of the data (Raudenbush and Bryk 2002). Two-level models with repeated measures of engagement and quality of experience within students were utilized. Therefore, each model consisted of a within-student (Level 1) and a between-students (Level 2) variance component, with engagement

Table 2 Regression analysis summary for race/ethnicity, engagement, interaction terms and controls predicting reported grades

Variable	<i>B</i>	SEB	β	ES
Mean GPA	2.80	.16		
Female	.05	.05	.04	.08
12th grade	.00	.05	.00	.00
Parents' SEI	.01	.00	.13**	.02
Low income SCC (reference = middle SCC)	-.13	.13	-.04	-.22
Working class SCC	-.03	.08	-.02	-.05
Upper-middle SCC	.05	.07	.03	.08
Upper SCC	.07	.08	.04	.12
Black (reference = white)	-.18	.08	-.10*	-.30
Latino	-.52	.34	-.24	-.87
Asian	.78	.37	.34*	1.30
Engagement	.06	.03	.11*	.10
Black * Engagement	-.12	.05	-.42*	-.20
Latino * Engagement	.03	.06	.08	.05
Asian * Engagement	-.12	.07	-.28	-.20

Note. $R^2 = .15$. ($N = 586$, * $p < .05$, ** $p < .01$). The coefficients of categorical variables signify the deviation from a baseline category. For consistency with subsequent multi-level models, Effect Size (*ES*) was based on Cohen's *d* (Cohen 1992), and calculated as *B* divided by the standard error of the estimate (or root mean square error) for the model (.60)

and quality of experience variables utilized as dependent variables for each model. Three-level models including school-level variance (Level 3) were considered and then discarded due to small variation in engagement between schools (1%) and low number of school units ($N_{\text{SCHOOLS}} = 13$).

For each dependent variable in Table 3, Model 1 serves to answer research question 2 regarding racial/ethnic differences in engagement and quality of experience, and Model 2 serves to answer research question 3 regarding racial/ethnic differences in the effect of on-task behavior. Model 1 was a fixed effects model testing the effect of racial/ethnic and socioeconomic variables on student engagement accounting for a variety of control variables; and Model 2 added *on-task behavior* as a level-1 predictor, and modeled the random *on-task* slope as an outcome. Table 3 presents coefficients for the intercept (γ_{00}) and each of the level-2 independent variables ($\gamma_{01} - \gamma_{015}$), along with the results of their significance test denoted with asterisk(s). Following each coefficient is its associated standard error (*SE*). Where deemed particularly useful, an estimate of effect size (*ES*) comparable to Cohen's *d* (Cohen 1992) in the context of multilevel models is provided in the text.²

² This was calculated as the regression coefficients divided by the square root of the residual level-2 variance.

In model 1 for Engagement, black students reported higher engagement in class compared to the white reference group. The difference in scores corresponded to approximately one-half of a point (.48) on a 9-point scale ($ES = .51$). Combined with those from Table 2, results suggest that black students are more engaged relative to whites despite having a lower GPA. This may be partially explained by the negative black * engagement interaction term in Table 2: engagement does not appear to be positively related to grades for black students as it is for white students.

While the effect of parents' SEI was not significant, students from low-income and working-class communities reported higher engagement than those from middle-class communities (reference group). The difference in engagement for students from low-income communities corresponds to over one point (1.21) on a 9-point scale of engagement ($ES = 1.27$). There were also positive effects for *12th grade*, *female* and *school support*; no other effects were significant.

Results of Model 1 for the other quality of experience variables were largely consistent with those for engagement. Black students also reported significantly higher intrinsic motivation ($B = .54$, $ES = .58$) and affect ($B = .26$, $ES = .43$) compared to white students. The only other racial/ethnic difference was that Asian students reported significantly lower self-esteem in classrooms than white students ($B = -.48$, $ES = .44$). In terms of socioeconomic status, parents' SEI was not a significant predictor of any of the outcome variables. However, students from low-income communities reported significantly higher intensity than those from middle-class communities ($B = .91$, $ES = .99$). Students from working-class communities reported significantly higher intrinsic motivation than those from middle-class communities ($B = .44$, $ES = .47$). Those from middle-upper and upper-class communities reported significantly lower self-esteem when in class ($B = -.29$, $ES = .26$ and $B = .34$, $ES = -.31$, respectively). Those from upper-middle-class communities also reported lower affect ($B = -.25$, $ES = -.41$). With respect to other control variables, twelfth grade students reported higher intrinsic motivation than tenth grade students. School support also had a positive effect on self-esteem, intensity, and intrinsic motivation in addition to engagement.

Research Question 3: Were there Ethnic/Racial Differences in the Effect of On-Task Behavior?

Model 2 examined the effect of being on-task versus off task on engagement, and whether that effect was mediated by race/ethnicity or background variables. Examining the coefficient for the *on-task* slope itself, students were

Table 3 Two-level HLM analyses on quality of experience outcome variables in classrooms

Fixed effects	Engagement (SEB)		Self-esteem (SEB)		Intensity (SEB)		Intrinsic motivation (SEB)		Affect (SEB)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	Intercept, γ_{00}	4.75***	4.46***	6.81***	6.58***	4.72***	3.95***	4.31***	4.40***	4.62***
12th grade, γ_{01}	.26* (.10)	.35** (.13)	-.01 (.11)	0.07 (.12)	0.06 (.10)	0.06 (.12)	0.26* (.11)	0.33* (.14)	0.05 (.06)	-0.01 (.07)
Female, γ_{02}	.20* (.10)	.36* (.13)	0.09 (.11)	0.19 (.12)	0.16 (.10)	0.33** (.12)	0.08 (.11)	0.14 (.14)	-0.06 (.06)	-0.04 (.07)
Asian, γ_{03} (reference = white)	.10 (.19)	-.14 (.25)	-.048* (.20)	-.045 (.24)	0.11 (.20)	0.33 (.23)	0.23 (.21)	0.05 (.27)	-0.12 (.12)	-0.06 (.14)
Latino, γ_{04}	.13 (.18)	-.02 (.21)	-.036 (.19)	-.051* (.21)	0.18 (.18)	0.26 (.20)	0.27 (.20)	-0.01 (.24)	0.03 (.12)	-0.03 (.12)
Black, γ_{05}	.48** (.16)	.27 (.18)	0.28 (.17)	0.15 (.19)	0.13 (.16)	0.14 (.19)	0.54** (.18)	0.25 (.22)	0.26** (.10)	0.14 (.11)
Parents' SEL, γ_{06}	.00 (.00)	.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)
GPA, γ_{07}	-.01 (.09)	-.12 (.10)	-.01 (.09)	-.05 (.10)	0.03 (.08)	-0.14 (.10)	0.07 (.09)	-0.03 (.12)	-0.07 (.05)	-0.12* (.06)
Family support, γ_{08}	.03 (.02)	.03 (.02)	0.03 (.02)	0.04 (.02)	0.03 (.02)	0.02 (.02)	0.01 (.02)	0.01 (.02)	0.02 (.01)	0.01 (.01)
Family challenge, γ_{09}	.01 (.02)	.01 (.02)	0.03 (.02)	0.01 (.03)	0.01 (.02)	0.01 (.03)	0.01 (.02)	0.02 (.03)	0.00 (.01)	0.02 (.01)
Low income SCC, γ_{010} (reference = middle SCC)	1.21*** (.26)	1.26*** (.31)	0.23 (.26)	0.33 (.29)	0.91** (.26)	0.86** (.29)	1.18*** (.27)	1.09** (.33)	0.29 (.16)	0.15 (.18)
Working class SCC, γ_{011}	.34* (.15)	.36* (.17)	-.02 (.16)	0.06 (.18)	-.02 (.15)	-.09 (.18)	0.44** (.17)	0.43* (.21)	0.09 (.09)	0.07 (.10)
Upper-middle SCC, γ_{012}	-.06 (.14)	-.03 (.17)	-.029* (.14)	-.019 (.16)	-.05 (.14)	-.06 (.16)	-.05 (.15)	0.06 (.19)	-0.25** (.08)	-0.25* (.10)
Upper SCC, γ_{013}	-.02 (.16)	.04 (.20)	-.034* (.17)	-.019 (.19)	0.08 (.16)	0.28 (.19)	0.05 (.18)	0.10 (.22)	-0.17 (.10)	-0.14 (.11)
School support, γ_{014}	.43*** (.11)	.37** (.14)	0.50*** (.11)	0.51*** (.13)	0.33** (.12)	0.39** (.13)	0.33** (.12)	0.26 (.16)	0.05 (.07)	0.07 (.08)
School challenge, γ_{015}	.08 (.05)	.11 (.06)	0.04 (.05)	0.05 (.06)	0.08 (.05)	0.03 (.06)	0.03 (.05)	0.09 (.07)	0.06 (.03)	0.04 (.03)
On-task slope, γ_{10}	.50** (.16)	.50** (.16)	0.42** (.12)	0.42** (.12)	0.42** (.12)	1.27*** (.15)	1.27*** (.15)	-0.15 (.18)	0.04 (.03)	-0.13 (.08)
12th grade, γ_{11}	-.12 (.13)	-.12 (.13)	-.012 (.10)	-.012 (.10)	0.11 (.12)	0.11 (.12)	0.11 (.12)	-0.13 (.15)	0.13* (.06)	0.13* (.06)
Female, γ_{12}	-.25 (.13)	-.25 (.13)	-.019 (.10)	-.019 (.10)	-.022 (.12)	-.022 (.12)	-.022 (.12)	-0.09 (.15)	-0.03 (.06)	-0.03 (.06)
Asian, γ_{13} (reference = white)	.46 (.26)	.46 (.26)	-.04 (.20)	-.04 (.20)	0.06 (.25)	0.06 (.25)	0.39 (.31)	0.39 (.31)	-0.13 (.13)	-0.13 (.13)
Latino, γ_{14}	.42 (.24)	.42 (.24)	0.37 (.18)	0.37 (.18)	0.17 (.23)	0.17 (.23)	0.50 (.28)	0.50 (.28)	0.10 (.12)	0.10 (.12)
Black, γ_{15}	.54* (.21)	.54* (.21)	0.30 (.17)	0.30 (.17)	0.21 (.21)	0.21 (.21)	0.55* (.26)	0.55* (.26)	0.25* (.11)	0.25* (.11)
Parents' SEL, γ_{16}	.00 (.00)	.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)	0.00 (.00)
GPA, γ_{17}	.18 (.11)	.18 (.11)	0.01 (.09)	0.01 (.09)	0.17 (.11)	0.17 (.11)	0.20 (.13)	0.20 (.13)	0.10 (.06)	0.10 (.06)
Family support, γ_{18}	.00 (.02)	.00 (.02)	-.001 (.02)	-.001 (.02)	0.01 (.03)	0.01 (.03)	0.01 (.03)	0.01 (.03)	0.02 (.01)	0.02 (.01)
Family challenge, γ_{19}	.01 (.03)	.01 (.03)	0.02 (.02)	0.02 (.02)	0.01 (.03)	0.01 (.03)	0.01 (.03)	0.01 (.03)	-0.03 (.01)	-0.03 (.01)

Table 3 continued

Fixed effects	Engagement (SEB)		Self-esteem (SEB)		Intensity (SEB)		Intrinsic motivation (SEB)		Affect (SEB)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Low income SCC, γ_{110} (reference = middle class)	-.16 (.36)		-.20 (.26)	0.01 (0.33)			0.19 (0.40)			0.38* (0.20)
Working class SCC, γ_{111}	-.03 (.19)		-.16 (0.15)	0.18 (0.18)			0.00 (0.23)			0.04 (0.09)
Upper-middle SCC, γ_{112}	-.10 (.18)		-.21 (0.14)	0.00 (0.17)			-0.16 (0.21)			0.01 (0.09)
Upper SCC, γ_{113}	-.14 (.20)		-.30 (0.15)	-0.31 (0.19)			-0.09 (0.24)			-0.05 (0.10)
School support, γ_{114}	.08 (.15)		-0.03 (0.12)	-0.17 (0.14)			0.10 (0.17)			-0.05 (0.07)
School challenge, γ_{115}	-.06 (.06)		0.00 (0.05)	0.05 (0.06)			-0.10 (0.08)			0.04 (0.03)

Note. Statistics are unstandardized coefficients. Coefficients of categorical variables signify the deviation from a baseline category

SCC = Social Class of the Community. * $p < .05$, ** $p < .01$, *** $p < .001$

significantly more engaged when on task than off task ($B = .50$, $ES = .37$). The positive effect of being on task was over twice as high ($B = .54$) for black students compared to white students. It is also worth noting that the effect of black race/ethnicity is nearly halved (from .47 in model 1 to .27 in model 2) after accounting for the effect of on-task behavior.

On-task behavior also had a significant, positive effect on self-esteem ($B = .42$, $ES = .32$) and intensity ($B = 1.27$, $ES = .97$). The effect of on-task behavior on intrinsic motivation and affect was also significantly higher for black students than for white students. Just as with engagement, the effect of African American ethnicity on intrinsic motivation and affect was sharply reduced after accounting for the effect of on-task behavior. The effect of on-task behavior on affect was more positive for 12th grade students compared to tenth grade students, and for students from low-income communities compared to those from middle-class communities.

Research Question 4: What were Ethnic/Racial Differences in Context Effects of Being at School, Home, and in Public?

Table 4 presents the results of two more models that were analyzed for each outcome variable to answer research question 4. Model 1 tested the context effect of being at school and in public compared to when at home on students' engagement and quality of experience. Preliminary analyses indicated that the quality of experience while at home was relatively neutral and did not significantly vary by race/ethnicity; therefore, it was used as the default variable. The effect of being at school on engagement relative to being at home is negative. White students' engagement was more than one quarter of a point lower ($B = -.28$) at school than it was at home. However, engagement was over one quarter of a point higher ($B = .29$) for black students than for white students, indicating that engagement was not lower at school compared to home for black students as it was for white students. The effect of being in public compared to home on engagement is positive and significant ($B = .15$), but there are no significant ethnic differences in the *in public* slope. Figure 1 illustrates the comparison of black and white students in mean engagement while in the public, home and school context. For white students, engagement is highest when in public, and takes a significant drop when at school (a pattern shared by Asian and Latino students as well). This is not the case for black students, however, who report relatively constant levels of engagement in all three contexts.

The effect of being at school on intrinsic motivation and self-esteem is also negative; however, being at school is

Table 4 2-Level HLM analysis: effects of being in school and public on quality of experience, and racial/ethnic influences on those effects

Fixed effects	Engagement (SEB)		Self-esteem (SEB)		Intensity (SEB)		Intrinsic motivation (SEB)		Affect (SEB)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept, γ_{00}	5.40***	5.39***	6.81***	6.81***	4.19***	4.18***	5.63***	5.63***	4.37***	4.37***
School slope, γ_{10}	-0.28*** (0.04)	-0.31* (0.13)	-0.19*** (0.03)	0.06 (0.11)	0.52*** (0.13)	0.77*** (0.04)	-0.81*** (0.13)	-0.94*** (0.16)	0.26*** (0.02)	0.23** (0.07)
Asian, γ_{11}	0.16 (0.12)	0.17 (0.12)	0.07 (0.10)	0.07 (0.10)	-0.04 (0.12)	-0.02 (0.12)	0.40** (0.14)	0.37* (0.15)	-0.06 (0.06)	-0.06 (0.07)
Latino, γ_{12}	0.06 (0.11)	-0.01 (0.12)	0.31** (0.09)	0.19* (0.10)	0.12 (0.11)	-0.05 (0.12)	0.13 (0.13)	0.04 (0.14)	0.03 (0.06)	0.00 (0.06)
Black γ_{13} (reference = white)	0.29** (0.10)	0.24* (0.11)	0.27** (0.08)	0.14 (0.09)	0.13 (0.10)	-0.04 (0.11)	0.34** (0.11)	0.29* (0.13)	0.18** (0.05)	0.17** (0.06)
12th grade, γ_{14}		0.10 (0.07)		-0.08 (0.05)		-0.02 (0.07)		0.17* (0.08)		0.06 (0.04)
Female, γ_{15}		0.07 (0.07)		-0.02 (0.05)		0.03 (0.07)		0.08 (0.08)		0.00 (0.04)
Parents' SEI, γ_{16}		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)		0.00 (0.00)
Low income SCC, γ_{17} (reference = middle SCC)		0.23 (0.16)		0.17 (0.13)		0.31 (0.16)		0.57** (0.19)		0.17 (0.09)
Working class SCC, γ_{18}		0.12 (0.10)		-0.01 (0.08)		-0.08 (0.10)		0.13 (0.12)		0.05 (0.06)
Upper-middle SCC, γ_{19}		-0.16 (0.09)		-0.14 (0.07)		-0.37*** (0.09)		0.01 (0.11)		-0.05 (0.05)
Upper SCC, γ_{110}		-0.02 (0.11)		-0.27** (0.08)		-0.19 (0.11)		0.11 (0.12)		0.01 (0.06)
Public slope, γ_{20}	0.15** (0.05)	-0.40* (0.17)	0.11** (0.04)	-0.02 (0.13)	0.09 (0.05)	-0.16 (0.17)	0.21** (0.06)	-0.37 (0.20)	0.45*** (0.03)	0.17 (0.09)
Asian, γ_{21}	-0.09 (0.14)	-0.11 (0.15)	-0.13 (0.11)	-0.14 (0.11)	0.02 (0.14)	0.01 (0.14)	-0.09 (0.17)	-0.12 (0.17)	-0.20* (0.08)	-0.19* (0.08)
Latino, γ_{22}	0.11 (0.14)	0.15 (0.15)	0.28** (0.11)	0.27* (0.12)	0.12 (0.14)	0.07 (0.15)	-0.02 (0.17)	0.05 (0.18)	0.00 (0.08)	0.01 (0.08)
Black, γ_{23} (reference = white)	-0.13 (0.12)	0.15 (0.14)	0.04 (0.09)	0.27* (0.12)	0.04 (0.11)	-0.01 (0.13)	-0.18 (0.14)	-0.22 (0.16)	0.03 (0.06)	0.02 (0.07)
12th grade, γ_{24}		0.16 (0.09)		0.12 (0.07)		0.23** (0.09)		0.02 (0.10)		0.08 (0.05)
Female, γ_{25}		0.18* (0.09)		0.05 (0.07)		0.07 (0.09)		0.23* (0.11)		0.10* (0.05)
Parents' SEI, γ_{26}		0.01** (0.00)		0.00 (0.00)		0.00 (0.00)		0.01** (0.00)		0.00* (0.00)
Low income SCC, γ_{27} (reference = middle class)		0.20 (0.20)		-0.03 (0.16)		0.36 (0.20)		0.16 (0.25)		0.10 (0.11)
Working class SCC, γ_{28}		0.00 (0.13)		0.15 (0.10)		0.06 (0.13)		-0.17 (0.16)		0.13 (0.07)
Upper-middle SCC, γ_{29}		-0.05 (0.11)		-0.10 (0.08)		-0.13 (0.11)		0.00 (0.13)		-0.08 (0.06)
Upper SCC, γ_{210}		-0.03 (0.03)		-0.20 (0.11)		0.02 (0.14)		-0.01 (0.03)		-0.09 (0.08)

Note. Statistics are unstandardized coefficients. Coefficients of categorical variables signify the deviation from a baseline category
 SCC = Social Class of the Community. * $p < .05$, ** $p < .01$, *** $p < .001$

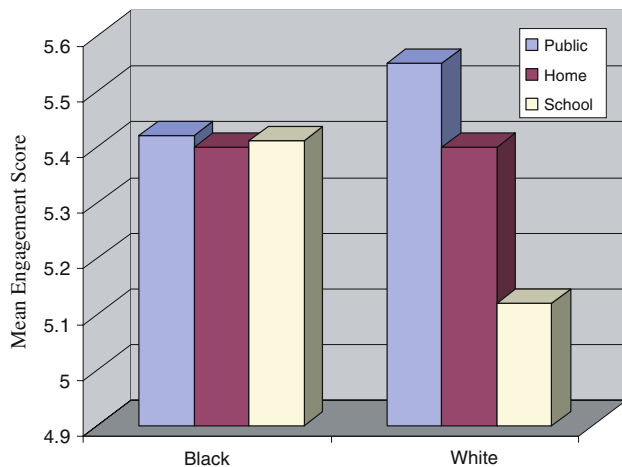


Fig. 1 Mean engagement scores of black and white students in public, at home, and in school

positively related to intensity and affect. The effect of being in school on self-esteem, intrinsic motivation, and affect is also more positive for black students relative to white students. The effect of being at school on self-esteem is also higher for Latino students. The effect of being in public on self-esteem and intrinsic motivation is significantly positive. The effect of being in public on affect is lower for Asian students; and its effect on self-esteem is higher for Latino students.

Model 2 replicated Model 1 but included a second step of adding control variables for other demographic characteristics as predictors of the two slopes. This step did not meaningfully change the results of Model 1 for engagement. However, once controlling for background characteristics, the effect of being at school on self-esteem was no longer negative, and the difference in this effect between black and white students is not as great. The effects of being in public on self-esteem, intrinsic motivation, and affect were also no longer as high (and are no longer positive for self-esteem and intrinsic motivation). There were also several interactions between contexts and socioeconomic status. The effect of being at school on intrinsic motivation was higher for students from low-income communities than middle-class communities. The school context effect on intensity was lower for students from upper-middle-class communities; and the effect was lower on self-esteem for students from upper-class communities.

Discussion

Taken together, results from the present study suggest complex and somewhat counterintuitive relationships

among race/ethnicity, achievement, and students' classroom experiences. Findings suggest that the relationship between engagement and achievement might be moderated by race and ethnicity. It is important to note that our results suggest many racial and ethnic similarities as well as differences, since there were many results for which no significant racial/ethnic differences were observed. The most robust and consistent differences in engagement and achievement, however, were between black and white students, for whom sample sizes—and therefore the reliability of our estimates—were also the highest. Therefore, we dedicate most of the ensuing discussion to interpreting this set of findings. Where appropriate, we discuss findings pertaining to the other racial and ethnic groups participating in the study, but those patterns were ultimately less consistent and compelling.

Racial/Ethnic Differences in Achievement and Engagement

Racial/ethnic differences in GPA were relatively consistent with previous studies and current educational statistics on achievement, with black students reporting lower grade point averages than white students and Asian students. Predictably, individual SES was also strongly related to GPA. Results pertaining to engagement and other indicators of students' classroom experience, however, defy some common assumptions about the relationship between engagement and achievement. Black students reported higher levels of engagement, intrinsic motivation and affect than other ethnic groups yet lower levels of achievement. White students reported lower engagement than other ethnic groups, yet higher achievement (except for Asian students). Asian students report higher achievement than other ethnic groups, but not higher engagement. Student engagement is a significant predictor of GPA for white students after controlling for SES and other background characteristics, while engagement and GPA appear to be inversely related for black students.

Overall, these findings corroborate recent studies reporting higher student engagement among black versus white students (e.g., Johnson et al. 2001; Uekawa et al. 2007), which, combined with the achievement gap, also support an “engagement–achievement paradox” for both white and black high school students. Ethnic and racial differences in engagement and achievement were not as consistent for Asians and Latinos. Latinos, for example, were similar to white students on most of the experiential outcomes of interest, and neither Latino nor Asian ethnicity significantly moderated the positive association between engagement and achievement.

Socioeconomic status appeared to be another important factor related to engagement. While individual SES had virtually no effect on engagement or students' quality of experience in classrooms, community SES appeared to be negatively related to student engagement as well as self-esteem, intensity, intrinsic motivation, and affect. Students from low-income communities in particular reported high engagement, intensity, and intrinsic motivation in classrooms as compared to students in middle, upper-middle, and upper-class communities. Meanwhile, the socioeconomic composition of schools has been found in multiple studies to be one of the strongest predictors of student achievement (including the racial composition of schools or individual SES), with low SES communities correlated with lower achievement (Sirin 2005). In fact, Sirin's recent meta-analysis found that the relationship between SES and achievement is, on average, twice as high when the community is the unit of analysis rather than individual students. Taken together, these findings suggest an engagement–achievement paradox for community SES similar to that observed for race and ethnicity.

Clearly, socioeconomic status and race/ethnicity are overlapping categories, and our sample was no exception. Approximately 90% of students from the lowest income communities in our sample were black or Latino, while approximately the same percent of those from upper-class communities were white. However, the effects of race/ethnicity and SES remained significant even when both factors were entered into the models, suggesting that they exist at least somewhat independently. An engagement–achievement paradox with respect to SES independent of race/ethnicity is perhaps better supported by a recent study in Sweden in which students from lower classes reported more positive experiences and engagement in school, but lower grades, than students from higher classes (Lindstrom et al. 2005). Low ethnic diversity in Sweden compared to the U.S. tempers the possibility that the paradox with respect to SES is confounded with race and ethnicity.

Although we found no significant gender difference in GPA, this finding is inconsistent with other studies reporting that girls generally earn higher grades than boys (e.g., Marsh and Yeung 1998). Recent meta-analyses and reviews of the literature suggest that gender differences in a variety of domains (including academics) may be exaggerated in the literature, however, because the effect sizes associated with gender differences tend to be small, and because academic journals are more likely to accept manuscripts for publication showing differences; thus, research indicating no or small differences may be under-represented in the literature (Hyde 2005).

Differences in Classroom Responsiveness

Our results contradict those of other studies finding that black students are less responsive to instructional improvements or enhancements than students of other ethnicities (Uekawa et al. 2007; Yair 2000). As somewhat expected, on-task behavior was associated with higher engagement in classrooms; however, the boost in engagement when on task is stronger for black students than it is for white students. On-task behavior is also associated with higher intrinsic motivation and affect for black students than for white students. While the reason for being on task at any given moment is often attributed to the individual, we also know that there are substantial percentages of instruction in which the whole class may be off task (Goodlad 1984). Our results suggest that black students may be more emotionally responsive as they are increasingly focused on academic instruction compared to other students from other racial/ethnic groups.

Interpreting the Engagement–Achievement Paradox

Results beg some critical questions. Why do some students who report some of the most positive experiences in situ nevertheless earn lower grades than many of their peers? Conversely, why do other students with the least positive experiences in classrooms nevertheless earn higher grades?

First, results suggest racial and ethnic variation in the relationship between engagement and achievement. Engagement was positively related to student's GPA for white students, but negatively related to GPA for black students. It is possible that engagement does not mediate the achievement of black students in the same way as for white students (Smerdon 1999; Stevenson et al. 1990). One question then becomes whether high emotions *should* be accompanied by better performance in school. Previous explanations of higher self-esteem and educational attitudes among black students have usually assumed that both should be a function of academic achievement. These explanations have included differences in the type of self-esteem (Rosenberg et al. 1995) or attitudes (Mickelson 1990), a proposed misidentification with college among black students (van Laar 2000), and external attributions of poor performance to prevent self-blame (Oyserman et al. 1995). Such interpretations appear to be made from the framework of the dominant culture. Studies probing African American culture, on the other hand, have suggested that black communities do not allow black students to interpret poverty or low achievement as personal failures, which may be psychologically empowering (Blau 2003).

The specific reasons for more positive esteem, attitudes, and school engagement among black students are likely to be culturally mediated, and are in need of further study.

Second, while far from conclusive, this study suggests that part of the explanation for higher engagement among black students could be related to contextual or environmental factors. Engagement appears to be influenced by factors outside of the school (Steinberg et al. 1996). For example, family support was consistently related to engagement in the present study, supporting the belief that secure family relations are an important foundation for the development of positive perceptions and emotions in other contexts (Rathunde 1996).

Most studies on racial and ethnic differences in attitudes and self-esteem seek to explain why the self-perceptions of black students are not lower given the achievement gap, but often neglect to address why the perceptions of black students are actually *higher* than those of white students, as was the case in the present study. There may be differences in the opportunities for engagement at home and in public among children from different racial/backgrounds, especially considering the overlap of race/ethnicity with socioeconomic status. Minority children, and particularly those living in poverty, are more likely to come from single parent-homes and are faced with greater social hardships accompanied by chronic stress (Spencer and Markstrom-Adams 1990). For students facing these challenges, structured academic settings may be highly conducive to promoting engagement. Lawrence-Lightfoot (1983) found that for many adolescents, particularly those living in severely impoverished areas, school was seen as a “safe haven” because it offered protection from the dangers of the street and the desolation of home life.

Is it possible that schools with higher percentages of black students have fewer demands, creating greater enjoyment? While acknowledging this possibility, the contrast we observed was more a function of low engagement in school among white and high SES students, particularly in comparison to their engagement in public and at home, than extremely high engagement in school among black students. In addition, the positive contextual effect of being in public on engagement, intrinsic motivation, and affect was stronger for students of higher SES. It is possible that economically privileged students may have more opportunities for structured engagement outside of school, as in active leisure activities, and may experience school as relatively less exciting and more confining by contrast. On the other hand, the availability of adult attention and supervision that is present in school could be experienced as more engaging by students who are economically challenged or experience less supervision outside of school.

Measurement Influences on the Engagement-Achievement Paradox

While the social and psychological mechanisms underlying the engagement–achievement paradox are likely complex and difficult to study empirically, our results suggest avenues for further inquiry. Just as Mickelson (1990) found that the existence of the attitude–achievement paradox was dependent on how attitudes were measured (i.e., *abstract* versus *concrete* attitudes, with only the latter related to achievement), the way that engagement is conceptualized and measured may influence results, an observation consistent with previous research (Ainsworth-Darnell and Downey 1998; Johnson et al. 2001; Kao and Tienda 1998; Uekawa et al. 2007; Yair 2000). In our study, racial and ethnic differences were stronger for emotional measures such as intrinsic motivation and affect. On the other hand, racial/ethnic differences in intensity (e.g. challenge, importance, and concentration) were negligible. Therefore, the engagement–achievement paradox appears to be supported to a greater extent when the measure of engagement is emotional compared to cognitive.

Research results on racial and ethnic differences in engagement also appear to depend on whether engagement is self-reported or other-reported. In this study, engagement was only self-reported. In past studies, however, the behavior of black students has been rated less favorably by white than by black teachers (Downey and Pribesh 2004; Farkas et al. 1990). In fact, Downey and Pribesh (2004) found that, as early as kindergarten, lower behavioral ratings of black students are entirely accounted for once the race of the teacher is taken into account. Given that grades may also be considered to be teacher reported, the potential for bias in both grades and teacher ratings of engagement may account for findings in some studies that both are higher among white students compared to black students. On the other hand, black students have been found to self-report higher levels of self-esteem, educational attitudes, abilities, and expectancies for success (Blau 2003; Cooper and Dorr 1995; van Laar 2000). Where the self-ratings of black students have been lower than that of white students, as with feelings of attachment to one’s school (Johnson et al. 2001), respondents were self-reporting their feelings about one’s institution rather than feelings about one’s activities or one’s self. Therefore, it appears that the engagement achievement paradox is more pronounced not only when using emotional measures, but also when using self-reported measures. Indeed, if cognitive and teacher reported measures are more strongly related to grades than positive emotions and other-reported measures, respectively, then the engagement–achievement paradox may be further clarified. Since these relationships were not

investigated in the present study, however, their exploration is suggested for future research.

Implications for Practice

Our findings, and particularly those indicating ethnic differences in engagement when at home and when at school, highlight the importance of enhancing school programs for minority and low-income students. Low income and minority students may also benefit from relevant and challenging supplemental school programs, including school and after-school programs featuring strong technological, athletic, arts, and social components in a structured environment with adult guidance and supervision. This includes participation in extracurricular and enrichment activities, which a large volume of recent research has shown to be a potent context for enhancing developmental experiences (Larson et al. 2006), intrinsic motivation and engagement (Shernoff and Vandell 2007; Vandell et al. 2005) and a variety of developmental and learning outcomes while increasing time on campus and identification with school (Mahoney et al. 2005). A recent meta-analysis found that participation in after-school programs is also associated with school-related feelings and attitudes, as well as school performance in terms of grades and achievement scores (Durlak and Weissberg 2007). Participation in structured extracurricular activities has recently been found to be related to greater school engagement among African American youth specifically (Dotterer et al. 2007). The recommendation to enhance supplemental school programs is also consistent with research on “seasonal learning,” which suggests that racial/ethnic minorities may benefit from additional time in school because the achievement gap tends to grow over the summer more so than over the school year (Downey et al. 2004).

Limitations and Future Research

A significant limitation of this study relates to the number of cases available at the school and individual level. The number of schools in this study was quite small ($n = 13$); therefore, any inferences regarding differences in school factors should be made with caution. In addition, some of the comparison groups at the individual level were relatively small, including Asian ($n = 53$), Latino ($n = 59$), and students from low-income communities ($n = 35$). A related problem is that some of the results may have been influenced by a response bias on the beep as well as individual level. For example, males, Latinos, and students of low socioeconomic status were slightly underrepresented, and

the exclusion of non-responsive students was unbalanced across socioeconomic groups. A second limitation of this study is that it relied on self-report data, which are ideal for studying students' quality of experience in context, but vulnerable to problems with hasty completion, exaggeration, and intentional falsification. Self-reported grades in particular can contain systematic biases related both to achievement and race/ethnicity (Kuncel et al. 2005). Third, results from this study are primarily correlational, making inferences about causal relationships only speculative.

Given these limitations, as well as the correlational nature of the study, causal explanations of the engagement–achievement paradox must be the work of future studies. Further research is needed to understand the fluctuations in engagement and quality of experience both inside and outside of school, particularly among diverse racial/ethnic and socioeconomic groups. Future research can also gain from the realization that ethnic similarities may be as interesting and as profitable to study as differences. In one recent study, for example, high achievers in multiple ethnic groups made similar, adaptive achievement attributions compared to lower achieving peers, suggestive of common achievement-dependent variations in motivational orientation across ethnicities (Bempechat et al. 2007). In sum, a variety of suggestions are made for future research, including an explicit investigation of ethnic similarities as well as differences in engagement as youth transition in and out of different developmental contexts, as well as more formal hypothesis testing to explain discrepancies between the quality of students' classroom experiences and achievement.

Implications for Education and Youth Development

Flow and intrinsic motivation theory suggest that there are important reasons for considering the emotional dimension of engagement. According to these theories, many individuals are driven to learn by enjoying the activity itself, a motivation that can lead to greater conceptual learning, creativity, achievement, and continuing motivation (Amabile 1999; Csikszentmihalyi 1996; Csikszentmihalyi and Nakamura 1989; Csikszentmihalyi et al. 1993; Deci 1996; Gottfried 1985, 1990; Shernoff and Hoogstra 2001). In contrast, several studies have documented that high achieving students from higher SES suburbs can relate to school as drudgery or a mere grade game (e.g., Pope 2001). The joining of positive emotions with academic challenge may therefore be an important virtue when considering the long-term value of schooling for students of all races and ethnicities (Rathunde 1993; Shernoff et al. 2003). This view of motivation emphasizes learning as a process—one in which highlights the importance of concentration,

enjoyment, and interest for building skills for the future (Csikszentmihalyi 1990).

Flow theory suggests that one's momentary subjective experience in academic activities may play an important role in adolescent development beyond the gaining of concrete skills and immediate knowledge. Engaging experiences in which concentration and enjoyment are simultaneously present are considered to provide the foundation of building a more general sense of initiative in a variety of academic, social, and civic settings. Initiative refers to the capacity to be motivated from within to direct one's efforts and attention toward a challenging goal, and has recently been identified as playing an important role in optimal adolescent development in Western societies (Larson 2000). There is a paucity of developmental research on, as Larson (2000) puts it "how to get adolescents' fires lit, how to have them develop the complex of dispositions and skills needed to take charge of their lives" (p. 170). This study suggests that black and white students may experience various contexts of their lives in unique ways, leading them to become more engaged in some contexts than others, thus making the development of initiative in those contexts more likely. Linking engagement and initiative in specific contexts to developmental outcomes may prove to be a fruitful direction of future research.

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