BLACK AND HISPANIC IMMIGRANTS' RESILIENCE TO STEREOTYPE THREAT AT SELECTIVE COLLEGES AND UNIVERSITIES IN THE UNITED STATES*

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ABSTRACT

Stereotype threat is a widely supported theory for understanding the racial achievement gap in college grade performance. However, today's minority college students are increasingly of immigrant origins. It is unclear whether stereotype threat theory is applicable to immigrant minorities. This study uses survey data to examine whether and how stereotype threat affects the college grade performance of 1,865 first, second, and third generation or higher (domestic) minority students at 28 selective American colleges. Averaging across numerous negative stereotype exposures of ranging severity, structural equation model results indicate first generation immigrants are highly-resistant to stereotype threat. Second generation immigrants experience only certain elements of stereotype threat. Domestic minorities experience stereotype threat in accordance with the mechanisms posited by the theory. Drawing on social psychology research, we suggest immigrants on average resist stereotype threat due to the primacy of their immigrant identities and their connectedness to the opportunity structure of mainstream society.

Research in stratification and social policy has long been interested in identifying the sources of the achievement gap between whites and racial minorities (Jencks and Phillips 1998). Social psychology offers the theory of stereotype threat to explain this racial achievement gap. Stereotype threat results when negative ability stereotypes about blacks and Hispanics reduce minority students' academic effort and increase their cognitive psychological load, each of which lowers academic performance. Stereotype threat remains one of the most empirically supported explanations for academic underperformance and the persistent achievement gap in college grade performance between underrepresented minorities and *equally-qualified* whites. Strikingly, stereotype threat dampens academic performance even among high-achieving black and Hispanic students at elite colleges and universities. Today, however, black and Hispanic immigrants comprise a rapidly increasing proportion of minorities at elite colleges.

Entering a social context in which domestic black and Hispanic students are the targets of negative ability stereotypes, black and Hispanic immigrants negotiate the boundaries of their primary identity group—what psychologists term one's in-group. Through this negotiation, immigrants may give primacy to their ethnic-immigrant identity rather than their racial identity.[1] To help understand how and why immigrant and domestic minority students may adhere to different identities and view themselves as part of distinct in-groups, social psychologists' offer the notion of the self-schema—the multidimensional cognitive frames through which individuals process external signals and reconcile new information with existing notions of self and self-identity (Oyserman 2008; Oyserman, Bybee, and Terry 2003). For example, when black and Hispanic immigrants come to the United States and begin the process of assimilation, the must adapt their self-schemas to situate themselves in relation to America's race-based classification scheme and it accompanying negative ability stereotypes about blacks and Hispanics. As

relatively malleable knowledge structures that aid in integrating new information into existing ways of seeing the world, self-schemas shape socially-constructed identity (Bourdieu 1990). However, identity is also shaped in part by how perceptions of categorizations made by members of other groups (Oyserman 2008). A fundamental theoretical task in examining immigrant minorities' susceptibility to stereotype threat at elite colleges is to integrate empirical testing of immigrants' perceptions of negative ability stereotypes with our theoretical understanding of immigrant self-schemas and in-group classifications (Oyserman and Swim 2001).

If, based on race and similar appearance, immigrant minorities perceive themselves to be categorized along racial lines with domestic blacks or Hispanics by whites and Asians, immigrants may feel targeted by negative ability stereotypes. On the other hand, immigrant families and communities tend to instill in their children strong ethnic-immigrant identities (Portes and Rumbaut 2001). As voluntary migrants, immigrants' ethnic identities tend to be accompanied by hopefulness and a sense of responsibility for realizing their aspirations in the United States. This sense of self-determination is often strongest in the first generation. First generation immigrants have had less time to adjust to the race-based classification system in the United States and to perceive themselves as targets of negative stereotypes, which may thwart their perceptions of their opportunities for upward social mobility (Portes and Rumbaut 2006). As duration in the U.S. increases, acculturation into American society increases immigrant minorities' awareness of and potential susceptibility to stereotype threat.

Adherence to an ethnic-immigrant identity increases immigrants' sense of self-determination. A heightened sense of self-determination in turn increases academic effort and resilience against the psychological burden that results from being targeted by negative ability stereotypes. As such, an ethnic-immigrant identity may help buffer against stereotype threat. An

important empirical question, then, is: Do immigrant black and Hispanic students experience stereotype? More specifically, we ask the following questions:

1) Do first and second generation black and Hispanic immigrant students experience stereotype threat through the same mechanisms as domestic blacks and Hispanics?
2) How does the theory of stereotype threat need to be modified to explain the lower college grade achievement of immigrant minorities relative to whites?

Stereotype Threat Theory in Laboratory Experiments and Observational Studies

Having achieved academic success in primary and secondary school and gained admission to a highly-selective institution (henceforth referred to interchangeably as a "selective" or "elite" college), we expect domestic black and Hispanic students at elite colleges and universities to be well-positioned to resist stereotype threat. First, high-achieving minorities are a selected group that has developed coping mechanisms against stereotype threat in primary and secondary schooling. Second, domestic minorities at elite colleges have been able to securely integrate academic success into their self-concept (see Ogbu 1978 and Ogbu 1994 for discussions of the cumulative selection process that weeds out more highly-disidentified students who reduced their academic effort over the course of earlier schooling). Nevertheless, previous research shows that these minorities experience stereotype threat in both situation-specific and disposition-based ways. Situation-specific experiences of stereotype threat are reported when race-based negative ability stereotypes are primed in laboratory experiments and subsequently affect minorities' performance on a particular task, like solving a math problem or correctly answering a battery of standardized test questions (Steele 1998, 1992, 1988; Steele and Aronson 1995). Laboratory experiments have accumulated much evidence on the existence of stereotype

threat for dampening minority students' performance on specific academic tasks within the short time period of the experiment and in the face of an acute racial prime. Although of arguably limited generalizability outside the controlled laboratory environment, these experiments attest to the power of negative stereotypes even when controlling for observable and unobservable differences between students and the varying degree of severity of situational negative ability stereotype triggers (Steele and Aronson 1995; Steele 1998, 1992, 1988). The prevalence of stereotype threat in depressing the academic performance of even these high-achieving domestic minority students (see Massey, Charles, Lundy and Fischer 2003) points to the tenuous association between self-concept and academic success for minority students compared to similar whites and Asians. Although both groups have enrolled at highly-selective institutions, the persistence of stereotype threat indicates that academic success is more strongly associated as an in-group domain for whites and Asians than for blacks and Hispanics (see Brewer 2007; Fiske 1998; Tajfel and Turner 1986).

More recently, observational studies that use social surveys to estimate the effects of stereotype threat for domestic African-Americans and Hispanics have found additional support for stereotype threat. Observational studies measure the effects of exposure to negative ability stereotypes of varying severity across the typical social and academic environments encountered in college (Charles, Fischer, Mooney and Massey 2009; Massey and Fischer 2005). Observational studies draw on interviews and surveys asking respondents about the extent to which they feel their race affects the assessments of them on the part of white or Asian faculty and students. Unlike experiments, observational studies test for broader, disposition-based experiences of stereotype threat—where the strength of the stereotype threat effect varies based on the individual disposition of the student and the features of the setting (Oyserman and Swim

2001). Observational studies present opportunities for individuals to differentially relate and strategically respond to targeting by negative ability stereotypes (Oyserman and Swim 2001). At both the individual and sub-group (ethnic-immigrant vs. domestic minority) levels, differential response leads to variability in individuals' and subgroups' vulnerability to negative ability stereotypes. Greater vulnerability results from integrating race-based negative ability stereotypes into their racial-ethnic self-schema (Crocker, Major and Steele 1998; Oyserman et al. 2003). Greater vulnerability then thwarts minority students' ability to succeed in their wider social context in college (Crocker, Major and Steele 1998; Oyserman et al. 2003). Disposition-based stereotype threat is found in contexts where no overt race prime is activated, but where negative race-based stereotypes are triggered to varying degrees of severity across multiple academic and social encounters. Students' individual sensitivities combine with the features of the setting to determine the magnitude of the effect of stereotype threat in dampening academic grade performance. Observational studies estimate the strength and impact of stereotype threat on grade performance across multiple exposures to negative stereotypes of varying severity and over longer periods of time (semesters of years) than experimental studies (see (Fischer and Massey 2007; Massey and Fischer 2005). Despite the ability of observational studies to maximize external validity, their internal validity is limited because they control only for observable differences in prior academic achievement, parental education, and family socioeconomic status.

Together, however, observational and experimental studies provide convincing evidence that stereotype threat lowers the academic performance of black and Hispanic students relative to equally-qualified whites. Across both situational (experimental) and dispositional (observational) assessments of stereotype threat, the features of the setting affect the strength of and impact of

negative ability stereotypes (Fiske 1998). Salient features of the setting include whether or not there is a critical mass of minorities or other identity-mates, and the dominant type of diversity ideology (for example, color-blindness versus positive valuations of difference). One of the first empirical, observational studies examining whether minority students experience stereotype threat in their daily academic and social lives at selective colleges was conducted by Massey and Fischer (2005). Using a survey designed specifically to measure the extent to which stereotype threat lowers domestic minority students' performance, Massey and Fischer (2005) find that the stereotype threat experienced by minority college students at selective colleges operates through two simultaneous mechanisms: the *externalization* and *internalization* of negative stereotypes, as shown in the conceptual model of stereotype threat displayed in Figure 1.

[Figure 1 about here]

First, minority students come to recognize the existence of negative ability stereotypes in American society about the intelligence of blacks and Hispanics (Steele 1998, 1988; Steele and Aronson 1995). This recognition—*externalization*—places pressure on minority students to perform well in order to avoid confirming the negative stereotypes. The psychological stress of this added pressure is often called *academic performance burden* (Steele and Aronson 1995). Academic performance burden leads minorities to perform on average more poorly than they otherwise would if negative stereotypes about their racial group were not present (Massey and Fischer 2005).

In addition to recognizing that members of other racial groups hold negative stereotypes about blacks and Hispanics based on their racial group membership, minority students may eventually come to believe these negative stereotypes. This is called *internalization.* If students who identify with their racial group begin to believe that negative stereotypes about their racial

group's intelligence are true, they may begin to reduce their academic effort out of a fatalistic sense that such effort is pointless. Steele and Aronson (1995) call this type of disengagement *disidentification* because students stop identifying academic achievement as an indication of their self-worth. Of note, however, is that for some minority students, lower levels of academic effort may not be related to disidentification (Charles, Torres and Brunn 2008; Morgan and Mehta 2004). For example, some black and Hispanic students may spend less time studying as a result of more time investment in extracurricular and recreational activities that help create and maintain a sense of community amidst the stress and isolation of life on elite, academically rigorous, and, in many cases, historically white colleges and universities (Charles, Torres and Brunn 2008; Charles et al. 2009).

For domestic minorities whose self-schemas and cognitive responses to stigma increase vulnerability to negative ability stereotypes (Crocker and Lutskey 1986), stereotype externalization may lead to greater sensitivity to a wider range of situational stereotype threat triggers for domestic than immigrant minorities. This is true even if members of both groups perceive similar opportunities for advancement within the mainstream social structure. If greater sensitivity to external negative ability stereotypes heightens the psychological burden of negative stereotypes for domestic compared to immigrant minorities at elite colleges, domestic minorities may have a more fatalistic view on the ability of their hard work to compensate for the potentially detrimental effects of stereotype threat.

Stereotype Threat among Immigrant Minorities at Elite Colleges and Universities

First and second generation black and Hispanic students comprise an increasing share of underrepresented minority students at America's selective colleges and universities (Massey et

al. 2007). For example, at the 28 elite universities used in our study, first and second generation black and Hispanic immigrants are overrepresented in enrollment despite the fact that neither group is socioeconomically advantaged relative to the national averages on measures such as income and education (Massey et al. 2007).[2] However, despite the support stereotype threat theory has received for explaining academic underperformance among *domestic* African-Americans and Hispanics, surprisingly little is known about stereotype threat susceptibility among the growing numbers of black and Hispanic *immigrants* at elite colleges and universities.

Research shows that strong ethnic-immigrant identities are characteristic of black and Hispanic first and second generation students admitted to elite colleges and universities (Portes and Rumbaut 2001; Waters 1999). Defining the contours of identity, immigrant schemas orient immigrant blacks and Hispanics towards high academic achievement if they are accompanied by selective acculturation into a middle-class segment of American society—as with immigrants at elite colleges (Portes and Rumbaut 2001). Selective acculturation consists of the maintenance of strong ties to immigrants' native culture, such as through fluency in their native language, alongside the adoption of certain elements of American culture, including fluency in English and an understanding of mainstream social norms (Portes and Rumbaut 2001).

Through selective acculturation, immigrants may be less susceptible to the internalization mechanism presented in Figure 1. Unlike many domestic minorities who trace their ancestries to involuntary migration—such as slavery—most of today's immigrants are voluntarily migrants who came to the United States in search of greater opportunities than those available in their origin countries. Many immigrants' perceptions of their opportunities in American society grow out of a larger narrative (often imagined or psychically reconstructed) about the respected position of their family in their origin society. This narrative is linked to an overall belief in the

dignity of hard work for overcoming even seemingly insurmountable barriers in the United States (Portes and Rumbaut 2001). Although, like domestic minorities, immigrant blacks and Hispanics at elite institutions comprise a selected group that has already persevered academically, immigrants' psychic connection to their origin country facilitates their unique sense of self-determination in the United States.

A psychic connection to the origin country is also a particularly powerful motivator as immigrants carve out their niche in American society. High-achieving immigrants develop a sense of agency that enables a unique coping strategy: thinking of themselves as distinct from the domestic minority students who are the targets of negative ability stereotypes (Deaux 2006). Psychologists relate the psychological distance immigrants create between their identities and those of domestic minorities with the "dual self-schema" (Oyserman et al. 2003). A dual self-schema is based on reinforcing ethnic-immigrant identities that are: (1) Distinct from those of domestic minority students, and (2) Connected to the opportunity structure of mainstream society (Oyserman et al. 2003). With a dual self-schema, the immigrant minority students in our sample not only identify primarily with their ethnic-immigrant as opposed to broader racial group, but also link their ethnic-immigrant status to opportunities for advancement within mainstream American society. The combination of strong immigrant identities and perceptions of opportunities for advancement in society might help immigrant minority students compensate for threats to lower performance by working harder (i.e. studying more hours than average) (see a related discussion in Bennett and Lutz 2009; Deaux 2006; Hagy and Ordovensky Staniec 2002).

At the same time, heterogeneity among immigrants based on parental skill level and the segment of the American social class structure into which they have entree may lead to uneven levels of resistance to stereotype internalization among individuals and between social class-

defined subgroups. For example, low-skilled immigrants are most likely to experience blocked educational and labor market opportunities, but first generation low-skilled immigrants can fall back on their lived and psychic connections to their home country in order to motivate perseverance. Second generation low-skilled immigrants, however, have weaker psychic connections and must confront the reality that hard work did not pay off for their first generation parents (see MacLeod 1995 for a related discussion). As such, low-skilled second generation students may be more likely than high-skilled second-generation immigrants to internalize negative stereotypes. If low-skilled second generation immigrants internalize negative stereotypes, they may develop similar oppositional identities to those of some poor and working-class domestic African-Americans and Hispanics. Like disidentified domestic minority students, these immigrants may come to see high academic performance as "acting white" (Waters 1999). If oppositional identities bring low-skilled second generation immigrants' faster assimilation into domestic racial identities, second generation immigrants may experience stereotype internalization despite their success relative to same-race peers who did not make it to elite colleges. Stereotype internalization may in turn translate into an achievement gap on par with that of domestic minority students (Portes and Zhou 1993; Waters 1999). For these immigrants, like their domestic minority counterparts, oppositional identities do not necessarily reflect a low valuation of educational success (Downey 2008; Downey, Ainsworth and Qian 2009). However, black and Hispanic immigrants may be unique in their ability to implement better coping strategies than domestic minorities.

Arguably, we might expect the elite college-going domestic minority students in our sample to be equally-resilient to stereotype internalization as immigrant minorities. Individuals of both groups may work harder in efforts to overcompensate for the negative ability stereotypes

with which they are aware of being targeted. Rather, the existence of oppositional identities suggests disidentification serves as a potential coping strategy for dealing with the realities of racism and other discrimination that facilitates the maintenance of a limited opportunity structure (see MacLeod 1995). Controlling for parental skill-level (like educational attainment and income) and prior academic performance (including high school grade-point, number of Advanced Placement courses in high school, and self-rated preparation for college) therefore help adjust for heterogeneity in students' level of susceptibility to stereotype internalization and disidentification.

Despite our hypothesis that first and, perhaps to a lesser extent, second generation immigrant minorities' are resistant to stereotype internalization, prior research conducted at elite universities shows that first and second generation black and Hispanic immigrants perform less well in college grade attainment than their equally-qualified white counterparts, even when controlling for social class and prior academic performance (Bennett and Lutz 2009; Charles et al. 2009; Kao and Thompson 2003). For example, the grade-point averages (GPAs) of first and second generation blacks in our sample average .23 points below that of whites, while the GPAs of domestic black students in our sample average .22 points below that of whites. Similarly, the GPAs of first and second generation Hispanics average .16 and .17 points below that of whites, respectively, while domestic Hispanics in our sample average only .12 points below the average for whites. The achievement gap between immigrant minorities and similar whites may be at least in part attributable to first and second generation immigrants' experience of stereotype externalization, as shown in the conceptual model of Figure 1. Beyond how black and Hispanic immigrants see themselves, stereotype threat is also shaped by the way minority students are categorized by others outside their groups (whites and Asians). As Merton (1968) highlighted in

his work on race as a master status in American society, mainstream classification schemes for non-European Americans tend to follow racial categories based largely on ascribed characteristics and phenotypic appearance—skin tone, hair texture and facial features, for example (see also Waters 1999). For example, black immigrants from Haiti, Jamaica, and Nigeria are often classified uniformly as African-American while those from countries as diverse as Mexico, Colombia, and Costa Rica tend to be categorized as Hispanic or Latino despite the varied ethnic and cultural backgrounds of each group (Kasinitz et al. 2008; Waters 1996, 1999). Because Americans tend to classify others based on their racial group membership, blacks and Hispanic immigrants are likely to be associated with stereotypes of lower academic intelligence. Therefore, even if black and Hispanic immigrants do not identify themselves within the framework of overarching racial categories, awareness of others' racial perceptions of them may lead to some amount of externalization of negative stereotypes.

However, awareness of whites and Asians' negative stereotypes about African-Americans and Hispanics does not mean immigrants will translate externalization into academic performance burden. Instead, ethnic-immigrant self-schemas may help prevent immigrants from responding to the negative ability stereotypes in ways that lead to academic performance burden and lowered grade performance. The extent to which immigrants externalize negative stereotypes likely varies depending on the frequency with which immigrants are exposed to African-Americans and Hispanics growing up. Factors like immigrants' social distance to whites as well as their strength of identification with an African-American or domestic Hispanic racial in-group serve as important controls as they may influence the extent to which immigrants allow externalization to translate into performance burden and dampened academic performance. Like domestic minorities, black and Hispanic immigrants may perceive negative ability stereotypes in

society, especially if they perceive whites and Asians to group them with domestic minorities on the basis of race. However, these stereotypes may not have the same vitriolic effects for stereotype externalization among immigrants. Black and Hispanic immigrants may believe negative stereotypes about domestic blacks and Hispanics without themselves feeling the negative impacts of the stereotypes. Or, as a result of their perception of opportunities in the U.S., first and, perhaps to a lesser extent, second generation immigrants may work harder. They may believe they are in control of the effects of negative stereotypes on their grade performance. The empirical question, then, is not whether immigrant minorities perform differently than their domestic counterparts relative to whites, but rather, whether stereotype threat theory explains both groups' underperformance equally well. Testing minority immigrants' degree of susceptibility to stereotype threat both offers insight into how the process of assimilation shapes in-group identity formation as unique from or consonant with that of domestic minorities, and the strategies immigrant minorities leverage in order to cope with the negative ability stereotypes with which they are targeted by members of dominant racial groups.

DATA AND METHODS

Sample

The data used in this study are from the National Longitudinal Survey of Freshmen (NLSF), a stratified random sample of college students who entered 28 selective, four-year colleges and universities throughout the United States in the fall of 1999. Students were interviewed in the fall of their first year to collect a retrospective history of their childhood social and educational experiences and then were re-surveyed every spring, including the spring of their first year, with questions about their social and academic experiences in college. Among the 28

institutions in the survey, 4,573 students were contacted to be interviewed, of which 3,924 completed the baseline face-to-face interview in the fall of 1999, yielding a response rate of 86 percent. Of the 3,924 contacted to complete the follow-up telephone interviews in the spring of 2000 and 2001, respective response rates were 96 percent and 90 percent. In this paper, we use the baseline and two follow up surveys from the spring of the first and second years. White and Asian students are not included in these analyses because stereotype threat is only relevant for explaining academic underperformance among underrepresented minority students. As a conceptual check, however, the full model used to test stereotype threat among blacks and Hispanics was run for whites and Asians, revealing that stereotype threat does not hold for these groups in our sample (results available upon request). Our analyses rely on a restricted sample consisting of 991 black students and 874 Hispanic students (n=1,865). After carrying out two checks to identify systematic differences in item non-response (which ranged between 0.5 and 5 percent),[3] multiple imputation of five datasets was used to deal with item non-response among our 1,865 respondents. All analyses were also replicated using list-wise deletion (complete case analysis); this approach yielded the same substantive conclusions (results available upon request).

Variables

The dependent variable in our analysis is academic performance, which is measured by students' GPA during the spring and fall of 2000. Our key predictors of performance—internalization, externalization, academic effort, and academic performance burden (the relevant components of stereotype threat)—are each measured using a series of survey items (see Table 1).

[Table 1 about here]

Figure 2 shows the path diagram used to model stereotype threat based on the conceptual model shown in Figure 1.

[Figure 2 about here]

Each circle in Figure 2 represents a component of stereotype threat theory that influences academic performance shown in the conceptual model (Figure 1). Arrows between latent constructs represent regression paths. Squares represent observed variables that are used to measure each latent construct and are identified by their corresponding variable number as explained in Table 1.

As shown in Figure 2 and numbered individually by survey item in Table 1, internalization is measured by three items, each on a scale from 0 to 6, reflecting respondents' perceptions of the work ethic (v1), intelligence (v2), and persistence (the tendency of group members to complete tasks) (v3) of members of their own racial/ethnic groups. Externalization is measured by the respondents' perceptions of discrimination by whites (v4) and Asians (v5) and the extent to which instructors' (v6) and students' (v7) negative stereotypes about groups affect their assessments of individuals from those groups. Academic effort is measured by the average number of hours the respondent studies each week (v8), how much importance (on a scale of 0-10) the respondent places on learning course material (v9), the respondent's subjective rating (on a scale of 0-10) of his/her overall academic effort during the year (v10), and his/her hours of recreation (reverse-coded) (v11), which includes time spent watching television, listening to music for fun, attending parties, and socializing with friends outside parties during the typical college week.

Academic performance burden is measured by five items, each on a scale from 0 (total disagreement) to 10 (total agreement), reflecting respondents' perceptions of: (1) whether an instructor's knowledge that the respondent is having difficulty in class will lead the instructor to think less of him/her (v12), (2) whether excelling or (3) doing poorly academically reflects positively (v13) or negatively (v14), respectively, on the respondent's racial group, (4) the respondent's level of fear of looking foolish in class (v15), and (5) the extent to which doing poorly in class will lead people to look down on others like him/her (v16).

Our models also include an "Index of Racial In-Group Exposure" (Cronbach's alpha=.68) consisting of the sum of four items that measure respondents' exposure to members of their racial in-group (specifically, African-American/black or Hispanic), including: a subjective rating (from 0 to 10) of the strength of students' identification with their black or Hispanic racial in-group, the percent of friends of the same race they had growing up (based on an average over three time points—age 6, age 13, and age 18), the percent of their neighborhood that was black or Hispanic while growing up, and a (reverse-coded) subjective rating (from 0 to 10) of their social distance to whites growing up (see Figure 2). These measures allow us to examine the strength of respondents' African-American or Hispanic racial identities. The strength of respondents' racial identities is important for understanding the extent to which students' racial identification increases their susceptibility to stereotype threat. For example, we expect that first generation immigrants are least likely to identify as African-American or Hispanic and instead favor immigrant or ethnicity-specific identities. For them, less exposure and/or identification with blacks or Hispanics (the "in-group" targeted by the survey questions) may be associated with less vulnerability to the internalization and/or externalization of stereotypes.

In addition to these key variables, we include controls for demographic and background characteristics that theories of social and financial capital deficits show to be important in predicting educational outcomes (Bankston 2004; Coleman 1988; Hanushek 1986, 2000; Kao 2004; Kao and Rutherford 2007; Massey et al. 2003; Woolley et al. 2008). Controls include sex, number of siblings in the household while the respondent was growing up, whether the student was raised in an intact, two-parent/care-taker household, and family socioeconomic status (SES; measured by parental educational attainment and percent of college paid for by family) (see Figure 2). The percent of college paid for by one's family offers a particularly valuable indicator of family social class as it pays particular attention to wealth and asset accrual—which is often overlooked by measures like parental education. Controlling for these factors also helps us account for demographic and social class background differences within and between black and Hispanic communities of various immigrant/domestic backgrounds. Table 2 presents descriptive statistics for all variables used in the analyses by race and immigration group.

[Table 2 about here]

Methods

We use a multiple group structural equation modeling (SEM) approach in our analyses (see Bollen 1989). Specifically, we disaggregate the sample by immigrant generation and race as follows: first generation blacks, second generation blacks, domestic blacks (third generation or higher), first generation Hispanics, second generation Hispanics and domestic Hispanics. We use a coarse classification for race/ethnicity, because stereotypes about minorities in the United States follow along these lines.

The multiple group SEM approach allows us to investigate both whether the components of stereotype threat theory "work" the same way for each race/immigrant group (i.e., the relationships between components are similar) and whether the measures of each component in fact measure the same phenomenon for each group. This latter issue is an important one that has generally been ignored in stereotype threat research: most studies have measured the components of the theory (i.e., internalization, externalization, academic performance burden, and academic effort) with summed indexes. However, if there are differences by group in the way that the indicators reflect the constructs of interest, and these differences are ignored, then observed differences in structural (i.e., regression) coefficients between race and immigrant groups may not reflect true differences. SEM allows us to differentiate substantive versus measurement differences and obtain a more accurate answer regarding the former issue: do races and immigrant generations experience stereotype threat in the same way?

Preliminary analyses included the use of factor analyses and goodness-of-fit tests to establish the value-added of a latent variables approach compared to the traditional method of indexes consisting of the sums of the indicators representing each construct. Results from factor analyses established the measurement properties of the indicators for each latent construct measurement model and the value-added of a latent variables SEM modeling strategy compared to ordinary least squares (OLS) with summed indexes. The process used to establish the measurement models is explained in Appendix A (results available upon request).

Our analysis employed the following strategy. First, we estimated a full multiple-group SEM model to test the general fit of the model shown in Figure 2. Our goal was to determine whether the full model fit the data well for all six race-immigrant groups. Next, we investigated whether the structural model parameters differed across racial and immigrant groups; in other

words, testing if the model "worked" the same way for all groups. Third, after determining that differences exist by immigrant generation, while race differences do not, we estimated a final model, controlling on the background characteristics shown in Table 2. Finally, we ran two sensitivity analyses to establish the robustness of the relationships between latent constructs to slight changes in indicator selection for each latent construct (explained in the footnote; results available upon request).[4]

RESULTS

[Table 3 about here]

Table 3 shows the results for the first two steps of the analyses. In the first model, all parameters were allowed to vary across race and immigrant generation. The results indicated that this model fit the data well. The model chi-square was 2744.41 on 1952 d.f., ($p<0.001$), which is statistically significant, indicating poor fit. However, the CFI was 0.91 and the RMSEA was 0.04, indicating good fit. In order to find the most parsimonious model, however, we next constrained the SEM parameters to be equal across immigrant generations, but allowed them to vary across racial groups. That approach yielded a model fit that was significantly worse than that of the initial model in which race and immigrant groups were allowed to vary. When race groups were estimated separately (but immigrant generations were not), the chi-square was 2884.39 on 2016 d.f. ($p<0.001$) with CFI=0.83 and RMSEA=0.04. The difference in chi-square from the full SEM with all six groups estimated separately was 139.98 on 64 d.f., therefore fitting significantly worse ($p<0.001$). We then estimated a model in which parameters were allowed to vary across immigrant generation, but not across race. That approach yielded a model fit comparable to that of the model in which parameters for all groups were estimated freely.

Estimating immigrant generations separately (but races together) produced a chi square of 2761.18 on 1971 d.f. ($p<0.001$), indicating poor fit, but the RMSEA was still 0.04, and the CFI was 0.91, indicating good fit. The difference in chi-square from the full SEM with all six groups estimated separately was 16.77 on 19 d.f., which is insignificant. As a final test, we collapsed our immigrant generation groups into two groups: immigrants versus domestic minorities. The results indicated that there were significant measurement and structural differences between first and second generation immigrants that require them to be estimated separately. The model chi-square was 2822.10 on 1993 d.f. ($p<0.001$) and the CFI was 0.85, indicating poor fit, with only the RMSEA of 0.04 indicating good fit. The difference in chi square test from the model in which all six groups were estimated separately was 77.69 on 41 d.f. ($p<0.001$), indicating significantly worse fit from the original model.

Table 4 shows the final model, in which we fully operationalize the conceptual diagram shown in Figure 1 via the SEM shown in Figure 2. Table 4 presents the best-fitting model (model 3) from those shown in Table 3. In this final model, we allowed the parameters shown in the path model of Figure 2 to vary across immigrant generation, but not across race. The first panel of Table 4 displays estimated structural regression paths between the constructs of internalization, externalization, academic effort, academic performance burden and academic performance. The second panel presents regression coefficients for the effect of racial in-group exposure on each latent construct. Because no systematic patterns were found by race or immigrant generation, regression coefficients for the effects of the demographic, social class, and academic preparation control variables on each latent construct are shown in Appendix B.

[Table 4 about here]

First generation immigrants experience a significant direct effect of internalization on the reduction of academic effort. Racial in-group exposure has no significant effect on internalization, academic effort, or performance, but higher racial in-group exposure is associated with greater academic performance burden for first generation immigrants and higher levels of externalization for second generation and domestic students. The overall model fit indexes shown in Table 4 suggest the model fits well. While the model chi-square is statistically significant (chi-square= 2761.18, d.f.=1971, $p<0.001$), the RMSEA suggests that the model fits quite well (0.040), and the CFI suggests good model fit (CFI=0.91). The structural paths vary across generation and the directions of significant coefficients are shown by immigrant generation in Figure 3.

[Figure 3 about here]

Regarding internalization, the direction of the effect of internalization on academic effort is significant and negative for all three groups, as we would expect, but the magnitude is more than twice as large for first generation immigrants as for second generation and domestic students. In particular, the significant direct path between internalization and academic performance is nearly three times as large for first compared to second generation students and more than twice as large as that for domestic students. That the same direct path between internalization and academic performance is of small magnitude and statistically zero for second generation immigrants suggests that internalization acting through (a decrease in) academic effort captures well the effects of negative stereotype internalization for immigrants who are more-acculturated into the American race system. The direct path between internalization and academic performance is significant but of small magnitude for domestic minorities, indicating that while the internalization mechanism posited by stereotype threat theory holds, the effects of internalization

may not be as robust as one might expect. Similarly, the effect of academic effort on performance is significant and positive for all three groups, as we would expect. However, the effect is most highly-significant for domestic minorities, followed by second generation immigrants. An increase in academic effort has the least significant effect on improving performance among first generation immigrants.

Turning to the externalization mechanism, results show that the effect of externalization on academic performance burden is statistically zero for both first and second generation immigrants. Externalization increases performance burden significantly for domestic minority students—in-line with what would be expected based on stereotype threat theory. The effect of academic performance burden on performance is statistically zero for first and second generation students. As theoretically expected, performance burden for domestic minorities is associated with a significant decrease in performance. The direct effect of externalization on academic performance is statistically zero for all groups, indicating that externalization is associated with academic performance through the posited mechanism of academic performance burden even once measurement error has been eliminated through SEMs.

DISCUSSION AND CONCLUSION

Few educators or researchers would dispute the educational benefits of diversity (Chang, Astin and Kim 2004; Gurin and Bowen 1999; Gurin et al. 2002; Stevens, Armstrong and Arum 2008). At the same time, a significant proportion of today's black and Hispanic minority students at elite colleges and universities come from immigrant backgrounds (Massey et al. 2007). Scholars like Henry Louis Gates, Jr. and Lani Guinier call attention to the rise of black immigrant enrollments at Harvard and other elite schools (Rimer and Arenson 2004). They claim

that the practice of admitting immigrant blacks within the same preferential admission (or affirmative action) system intended for domestic blacks is highly problematic. Doing so provides elite universities a short-cut to increasing campus racial diversity without confronting the true source of the problem: the small numbers of qualified *domestic* minority applicants—particularly African-Americans (Rimer and Arenson 2004). Yet, even for those immigrant black and Hispanic students who make it to selective colleges and universities, the achievement gap between minorities and whites and Asians persists (Espenshade and Walton-Radford 2009). Stereotype threat offers a well-supported explanation for the achievement gap, but little is known about whether the rising share of immigrant minorities experience stereotype threat.

This study is the first to examine whether first and second generation black and Hispanic immigrants experience the same academic performance-depressing effects of stereotype threat as third or higher generation domestic African-Americans and Hispanics. On the one hand, the first and second generation black and Hispanic immigrants in our sample suffer from similarly low academic performance relative to equally-qualified whites as do domestic African-Americans and Hispanics. On the other hand, a vast literature on segmented assimilation (Portes and Zhou 1993; Portes and Rumbaut 2001, 2006), ethnic-immigrant identities (Waters 1996, 1999), racial formation and education (Charles, Torres and Brunn 2008), and social psychology (Deaux 2006; Oyserman and Swim 2001) suggests that many immigrants do not identify with broad American racial categories. For the immigrant blacks and Hispanics in our sample who, by their presence at elite institutions assimilate into a middle- or upper-class segment of American society, an ethnic-immigrant identity may foster resilience against the psychological burden of negative ability stereotypes. Ethnic-immigrant identities create a sense of self-determination for immigrant minorities in particular because they are paired with a dual self-schema that connects immigrants

to the opportunity structure of mainstream American society. Resistance to stereotype threat may be on average most pronounced among immigrants who are advantaged relative to domestic minorities, as has been shown based on certain socioeconomic and prior academic achievement measures between immigrant and domestic blacks (Massey et al. 2007).

Our general findings highlight that while, on average, domestic minority students experience stereotype threat through both internalization and externalization, immigrants are generally resistant to stereotype threat. However, stereotype threat differentially affects the first and second generation students in our sample. Duration and corresponding level of assimilation into American society and skill-level may influence each immigrant generation group's strength of ethnic-immigrant identification compared to domestic minority identification. Specifically, we believe duration in the United States closely affects one's association with the domestic groups who are most susceptible to lowered performance from negative ability stereotypes.

Among first generation immigrants, some qualitative research suggests first generation immigrants identify least with American racial categories. If first generation immigrants identify primarily based on their immigrant status or country of origin (Portes and Rumbaut 2006; Waters 1999), the average effect of internalization in reducing academic effort may in fact reflect first generation immigrants' perception of the salience of negative stereotypes about the *domestic* blacks and Hispanics who do identify with broad American racial/ethnic categories. If much of the academic effort of first generation immigrants is related to their dual self-schema, bringing with it a perception of opportunities for advancement within mainstream American society, incremental increases in academic effort would be associated with a greater "payoff" in academic performance than for second generation and domestic students. Facilitated by their dual self-schema—consisting of an ethnic-immigrant identity and a sense of connection to the

mainstream opportunity structure—first generation immigrants overcompensate for the potentially performance-depressing effects of negative stereotypes. Greater awareness of these negative ability stereotypes in fact leads to an increase in academic performance. As such, neither mechanisms of internalization nor externalization capture the experience of first generation students. First generation immigrants exhibit the greatest resistance to stereotype threat.

Interestingly, much of the research on immigrant assimilation suggests second—rather than first—generation immigrants are best positioned for high academic performance (Kao and Tienda 1995, 1998). For example, second generation immigrants are sufficiently familiar with the educational norms and expectations and language systems of the United States (Kao and Thompson 2003). But, unlike domestic minorities, second generation immigrants' temporal proximity to the sacrifices associated with their parents' immigration facilitates awareness of their parents' sacrifices to expand their children's educational, labor, and life opportunities. This awareness may instill in immigrant youth a sense of responsibility for high academic performance (Kasinitz 2008; Portes and Rumbaut 2006; Turney and Kao 2009).

Likely due to the highly-selected nature of both the first and second generation immigrant minorities in our sample, our findings only partly support this perspective. We find that second generation immigrants experience some buffer against internalization's depressing effects on academic effort compared to domestic minorities. For second generation immigrants, a reduction in effort is associated with a lesser reduction in academic performance compared to domestic minorities. Signals of a protective effect of second generation status are corroborated by earlier studies examining educational outcomes among black, Hispanic, and Asian children from middle-class and higher-skilled families (Kao and Thompson 2003; Massey et al. 2007; Zhou

and Bankston 1998; Zhou, Lee, Vallejo, Tafoya-Estrada and Xiong 2008). Even among some low-skilled immigrant families, selective acculturation—resulting from a combination of maintenance of cultural ties to the parents' home country and the adoption of skills and knowledge necessary to facilitate the American educational system—may help foster an optimistic outlook toward education and social mobility among second generation youth (Portes and Rumbaut 2001; Portes and Zhou 1993).

Similar to their first generation counterparts, second generation immigrants do not experience lowered performance as a result of externalization and/or academic performance burden. However, wider exposure to African-Americans and Hispanics while growing-up increases immigrants' perception that whites and Asians hold negative stereotypes about African-Americans and Hispanics (as for domestic minorities, second generation immigrants' greater exposure to African-Americans and Hispanics increases externalization). If first and second generation immigrants do not see themselves as African-American or Latino (Deaux 2006; Waters 1999), it makes sense they would perceive lower levels racism on campus than domestic blacks (Charles, Torres and Brunn 2008).

On the other hand, with further assimilation into the United States' social system, second generation immigrants are more likely to identify as African-American or Hispanic/Latino (Waters 1999). Second generation students' greater assimilation helps explain why we see them experience more pronounced stereotype internalization compared to first generation immigrants and similar stereotype internalization compared to domestic African-Americans and Hispanics/Latinos.[5] The mechanism of internalization more thoroughly captures the experience of second generation students who are further assimilated into the American race system compared to first generation immigrants.[6] As immigrant minorities become more assimilated into

American race-based identification categories, they become less likely to believe harder work is sufficient to overcome the many social and psychological barriers to high performance.

Our findings align with those of experimental studies of stereotype threat, which test minority students' responses to situational triggers of stereotype threat. Based on a broader assessment of immigrant minorities' dispositional sensitivities to sustained negative ability stereotypes over the course of college, our results indicate immigrants' limited dispositional sensitivities to stereotype threat *when averaged over myriad exposures to stereotype threat of varying severity*. However, immigrant minorities, like their domestic minority counterparts, may still experience stereotype threat under conditions of strong situational triggers of negative ability stereotypes. Furthermore, factors that experimental research has shown to affect the strength of negative ability stereotypes on performance for domestic minorities may still dampen the performance of immigrant minorities. For example, as with domestic minorities, strong situational triggers of negative ability stereotypes may have the most vitriolic effects on the performance of immigrants under circumstances where there are no or only small numbers of other in-group members present.

Immigrants are aware of being grouped with domestic minorities. As such, feeling targeted by strong negative ability stereotypes may still lead to performance burden and, by extension, lowered academic performance. In this light, it is important to recognize that social survey studies of stereotype threat, such as that presented here, test the average dispositional (as opposed to situational) effects of stereotype threat. Immigrants may still experience externalization in the context of a strong situational trigger, even if they are otherwise quite resistant to the negative effects of stereotype threat on academic performance.

Although this study sheds light on the importance of considering heterogeneity within racial groups based on immigrant generation, future work in this area could be strengthened in the following ways. First, although our current inferences are based on our theoretical understanding of immigrants' self-schemas and in-group definitions, the present study lacks an explicit, empirical measure of how much immigrant minorities define their in-group on the basis of ethnicity and/or immigrant status as opposed to race. The result is some ambiguity over to whom immigrants refer in rating their strength of in-group solidarity, levels of peer support for academic or social engagement, and general sense of belonging. Future data collection efforts should capture more detailed information on *immigrant and ethnically-defined* groups in order to investigate how identifying as an *immigrant* or based on country of origin (as opposed to a domestic African-American or Hispanic) may help buffer against the effects of negative stereotypes. Second, the present study would benefit from more nuanced measures of some of the concepts of stereotype threat and larger sample sizes of each immigrant generation group. For example, future research would benefit from an investigation of the mechanisms through which the internalization of negative stereotypes lowers academic performance. Our finding that domestic minority students invest less academic effort at higher levels of internalization is reinforced by experimental work that draws the same conclusions (Steele 1988, 1998). However, our findings are limited because we find the association between internalization and lowered academic performance is not fully explained through our hypothesized path of (reduced) academic effort. Furthermore, the internalization mechanism explains very little about if and how first generation immigrants' negative perceptions about (domestic) African-Americans and Hispanics influence their own performance.

Finally, future work testing the influence of negative stereotypes about blacks and Hispanics on how immigrant minorities *perceive themselves* would benefit from larger, representative samples of immigrants that reflect immigrants at elite colleges by ethnicity. For example, although we treat Hispanics as a racial group based on the fact that Hispanics/Latinos are racialized within the American context (Cornell and Hartmann 2007; Omi and Winant 1994; Telles and Ortiz 2008), we acknowledge Hispanics are not technically their own race and that tremendous heterogeneity exists among the Hispanic population as well as among blacks (Tafoya 2004). As a result of this limitation, the present study focuses on testing how black and Hispanic immigrants are perceived by majority group members because our use of broad racial classifications aligns with the racial categories used by most Americans.

ENDNOTES

[1] Throughout this paper, we refer foreign-born college students as first generation because of their direct experiences of international migration. Second generation students were born in the U.S. but have at least one foreign-born parent. We refer to both together as immigrants because they have close familial ties to the social, cultural, linguistic, and financial impacts of acculturating to a new society. In contrast, *domestic* underrepresented minorities are those whose parents and grandparents are each American-born.

[2] Whereas black immigrants comprise 27 percent of all black students entering the 28 selective and highly-selective universities in our sample in 1999, the Current Population Survey (CPS) from the same year (March 1999) showed that only 13 percent of 18-19 year old African-Americans in the United States were first or second generation black immigrants (Massey et al. 2007). Similarly, Hispanic immigrants comprise 73 percent of all Hispanic students entering the 28 universities in our sample in 1999, but only 66 percent of all 18-19 year old Hispanics in the United States.

[3] Two checks were run to identify any systematic differences in item non-response for minorities compared to whites: first, there were no noticeable differences in percent missing on any of the variables used in the full model for blacks and Hispanics compared to whites, and; second, a logistic model regressing an indicator for missing on any of the 16 key variables on all controls used in the models indicated few systematic patterns.

[4] First, to test the robustness of relationships between the structural paths shown in Figure 2 to slight changes in the selection of latent construct indicators, the SEM was re-run 16 times, each time excluding one of the 16 indicators from the full model. Results indicated no substantive changes in the magnitudes or significances of the regression paths between constructs. Second,

as an alternate to SEM, the full model was also analyzed using path analysis, with summed indexes modeled with a single factor loading for each latent construct. Though not allowing for differential inter-item weighting of indicators nor controlling for measurement error, results were similar to those of the SEM presented in Table 4.

[5] The greater significance of the internalization mechanism for second generation and domestic minorities does not discount the importance of the significant direct effect from internalization to performance for domestic minorities. In line with past research calling into question domestic minorities' experience of disidentification (Morgan and Mehta 2004), the significant direct path from internalization to performance calls into question the theory of disidentification. Instead, it suggests that there are other explanations for domestic minorities' lower academic performance relative to whites, net of prior academic and social class factors that may have little to do with students' disidentification from academic performance as a measure of self-worth.

[6] Similarities between second generation immigrants and domestic minorities' experiences of internalization have more to do with the low overall levels of disidentification among the domestic minorities in our sample than with the high levels of disidentification among the second generation students.

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Table 1. Indicators and Dimensions of Stereotype Threat Used in the Analyses	
Internalization (INT)	
1.	On a scale of 0 (lazy) to 6 (hardworking), do members of your own racial group tend to be lazy or hardworking?
2.	On a scale of 0 (unintelligent) to 6 (intelligent), do you think people in your own racial group tend to be unintelligent or intelligent?
3.	On a scale of 0 (give up easily) to 6 (stick with it), in general, do you think people of your own racial group tend to give up easily or stick with a task until the end?
Externalization (EXT)	
4.	On a scale of 0 (treat equally) to 10 (discriminate against others), do you think Whites tend to treat members of other racial groups equally, or do they tend to discriminate against people who are not in their group?
5.	On a scale of 0 (treat equally) to 10 (discriminate against others), do you think Asians tend to treat members of other racial groups equally, or do they tend to discriminate against people who are not in their group?
6.	On a scale of 0 (total agreement) to 10 (total disagreement), to what extent do you agree that: If instructors hold negative stereotypes about certain groups, it will not affect their evaluations of individual students from that group.
7.	On a scale of 0 (total disagreement) to 10 (total agreement), to what extent do you agree that: If other students hold negative stereotypes about certain groups, it will not affect their evaluations of individual students from that group.
Academic Effort (EFF)	
8.	How many hours (between 0-120) do you spend studying in the average seven-day week during the academic year?
9.	In thinking about how hard to try in your college studies on a scale from 0 (no importance) to 10 (utmost importance), how important for you is it to learn the course material?
10.	On a scale of 0 (no effort) to 10 (maximum possible effort), how hard would you say you have been trying [academically] during this past year of college?
11.	How many hours (between 0-120, reverse coded) do you spend watching television, listening to music for fun, attending parties, and socializing with friends outside parties during the typical seven-day week during the academic year?
Academic Performance Burden (APB)	
12.	On a scale of 0 (total disagreement) to 10 (total agreement), if I let my instructors know that I am having difficulty in class, they will think less of me.
13.	On a scale of 0 (total disagreement) to 10 (total agreement), if I excel academically, it reflects positively on my racial or ethnic group.
14.	On a scale of 0 (total disagreement) to 10 (total agreement), if I do poorly academically, it reflects negatively on my racial or ethnic group.
15.	On a scale of 0 (total disagreement) to 10 (total agreement), I don't want to look foolish or stupid in class.
16.	On a scale of 0 (total disagreement) to 10 (total agreement), if I don't do well, people will look down on others like me.
Academic Performance (PERF)	
17.	Students' second and third semesters average grade-point-average (GPA)

Table 2. Descriptive Statistics of Stereotype Threat Constructs and Control Variables, by Race and Immigrant Generation

	Black						Hispanic					
	1st Gen		2nd Gen		Domestic		1st Gen		2nd Gen		Domestic	
Constructs of Stereotype Threat	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Internalization (INT)												
Own group's intelligence (0-6)	2.38	(1.12)	2.37	(1.03)	2.35	(1.01)	2.45	(1.11)	2.55	(1.06)	2.66	(1.01)
Own group is hard working (0-6)	2.51	(1.31)	2.46	(1.09)	2.51	(1.12)	2.46	(1.17)	2.41	(1.20)	2.38	(1.06)
Own group perseveres (0-6)	2.53	(1.42)	2.59	(1.13)	2.51	(1.19)	2.43	(1.09)	2.51	(1.12)	2.53	(1.03)
Externalization (EXT)												
Whites treat other races equally or discriminate (0-10)	6.51	(2.36)	7.18	(1.99)	7.04	(2.23)	6.40	(2.39)	6.31	(2.23)	6.06	(2.13)
Asians treat other races equally or discriminate (0-10)	5.99	(2.57)	6.37	(2.41)	6.05	(2.51)	5.94	(2.39)	5.51	(2.54)	5.28	(2.40)
Instructors' stereotypes do not affect evaluations of members of stereotyped groups (0-10)	3.38	(2.74)	3.28	(3.01)	3.03	(2.81)	4.15	(3.08)	3.98	(2.80)	3.76	(2.77)
Students' stereotypes do not affect evaluations of members of stereotyped groups (0-10)	3.44	(2.58)	2.90	(2.65)	2.92	(2.72)	3.82	(2.71)	3.66	(2.55)	3.43	(2.48)
Academic Effort (EFF)												
Average Number of Hours Studied in a 7 day Week/10 (0-12)	3.09	(1.56)	3.01	(1.78)	2.61	(1.44)	3.20	(1.80)	2.78	(1.50)	2.75	(1.53)
Importance of learning course material (0-10)	8.70	(1.82)	8.47	(1.73)	8.27	(1.96)	8.81	(1.67)	8.32	(1.70)	8.16	(1.82)
Self-reported [academic] effort during past year of college (0-10)	7.07	(1.80)	7.11	(1.82)	6.98	(1.82)	6.90	(1.88)	6.79	(1.79)	6.87	(1.86)
Average Number of Hours of Recreational Activities during a 7 day Week/10 (0-10)[1]	2.34	(0.22)	2.29	(0.30)	2.31	(0.26)	2.31	(0.25)	2.33	(0.23)	2.30	(0.26)
Academic Performance Burden (APB)												
Instructors think less of me for having difficulty in class (0-10)	2.57	(2.42)	2.64	(2.57)	2.07	(2.48)	2.48	(2.56)	2.44	(2.39)	2.22	(2.29)
Excelling academically reflects positively on my racial/ethnic group (0-10)	6.53	(2.75)	6.61	(3.27)	6.81	(3.03)	5.78	(3.28)	5.61	(3.27)	5.54	(3.03)
Doing poorly academically reflects negatively on my racial/ethnic group (0-10)	5.76	(3.03)	5.45	(3.33)	5.87	(3.17)	4.86	(3.30)	4.59	(3.24)	4.37	(2.97)
I don't want to look foolish or stupid in class (0-10)	5.79	(2.89)	5.94	(3.29)	5.50	(3.07)	5.38	(3.11)	5.27	(2.84)	5.00	(2.81)
If I don't do well, people will look down on others like me (0-10)	4.82	(2.81)	4.78	(3.12)	4.24	(2.93)	3.66	(2.81)	3.63	(2.68)	3.29	(2.77)
Academic Performance (GPA)												
Average Second and Third Semester GPA	3.02	(0.56)	3.03	(0.43)	2.99	(0.51)	3.13	(0.44)	3.12	(0.47)	3.19	(0.48)
Control Variables												
Demographic (DEM)												
Male	0.33	(0.47)	0.35	(0.48)	0.34	(0.47)	0.44	(0.50)	0.40	(0.49)	0.42	(0.49)
Intact (Two-Parent) Family/Household Growing Up	0.55	(0.50)	0.58	(0.49)	0.50	(0.50)	0.62	(0.49)	0.68	(0.47)	0.66	(0.47)
Number of Dependents (0-18yrs) at Home in Last Year of High School	2.12	(1.22)	2.01	(1.11)	1.84	(1.02)	1.85	(1.01)	1.92	(1.04)	1.95	(0.95)
Socio-Economic Status (SES)												
One parent has B.A. (or equivalent)	0.13	(0.34)	0.17	(0.37)	0.17	(0.37)	0.16	(0.37)	0.14	(0.35)	0.19	(0.39)
Two parents have B.A. (or equivalent)	0.11	(0.31)	0.10	(0.29)	0.13	(0.33)	0.13	(0.34)	0.07	(0.26)	0.16	(0.36)
One parent has Advanced Degree	0.22	(0.42)	0.27	(0.44)	0.22	(0.41)	0.25	(0.43)	0.26	(0.44)	0.24	(0.42)
Two parents have Advanced Degree	0.16	(0.37)	0.22	(0.42)	0.14	(0.34)	0.17	(0.37)	0.14	(0.35)	0.17	(0.38)
% of college paid for by family (%/10)	3.91	(3.72)	4.37	(3.59)	3.67	(3.52)	4.61	(4.03)	4.70	(3.87)	5.04	(3.65)
Average Hours of Work for Pay During First Two Years of College (/10)	0.68	(0.75)	0.63	(0.83)	0.70	(0.98)	0.69	(0.95)	0.65	(0.82)	0.59	(0.90)
Index of Racial Ingroup Exposure (IEX)												
Strength of ingroup racial identity (0-10)	3.92	(1.80)	4.01	(1.96)	4.55	(1.85)	3.16	(1.76)	3.46	(1.84)	3.13	(1.78)
Percent of same-race friends growing up (%/10)	5.67	(3.44)	4.27	(3.34)	5.94	(3.38)	3.77	(3.61)	2.62	(2.90)	2.07	(2.59)
Percent black or Hispanic neighborhood composition growing up (%/10)	4.71	(3.10)	4.21	(2.90)	4.74	(2.87)	5.37	(3.19)	3.61	(2.90)	2.74	(2.59)
Social distance from whites growing up (0-10, reverse-coded)	4.74	(1.61)	4.44	(1.67)	4.53	(1.69)	3.80	(1.76)	3.72	(1.80)	3.46	(1.69)
Academic Preparation (DAP)												
Number of AP Courses Taken (0-10)	2.74	(1.94)	2.75	(1.86)	2.55	(1.97)	3.08	(1.98)	3.45	(2.22)	2.99	(2.01)
High School GPA (0-4)	3.65	(0.30)	3.60	(0.30)	3.58	(0.39)	3.72	(0.32)	3.70	(0.32)	3.74	(0.33)
Self-rated preparation level (0-10)	5.37	(1.58)	5.38	(1.64)	5.64	(1.68)	5.54	(1.68)	5.53	(1.63)	5.43	(1.68)
N (=1865)	79		180		732		171		427		276	

[1] Recreational activities consist of watching television, listening to music for fun, attending parties, or spending time with friends outside parties. This indicator is reverse-coded when included in models because more recreational time is associated with *less* academic effort.

Table 3. Changes in Structural Equation Model Fits by Estimation Strategies for All Six Race-Immigrant Generation Groups (N=1865)[1]

Model	Chi-square (d.f.)	Diff in Chi-sq (d.f.)[2]	Goodness of Fit Measures
(1) All groups estimated separately	2744.41(1952)***		CFI 0.91
			RMSEA 0.04
(2) Blacks and Hispanics estimated separately	2884.39(2016)***	139.98(64)***	CFI 0.83
			RMSEA 0.04
(3) Immigrant generations estimated separately	2761.18(1971)***	16.77(19)	CFI 0.91
			RMSEA 0.04
(4) First and second generations collapsed ('immigrant') vs. domestics	2822.10(1993)***	77.69(41)***	CFI 0.85
			RMSEA 0.04

*Significant at .05, **Significant at .01, *** Significant at .001. One-tailed test.

[1] University-level fixed effects are included in all models in order to remove between-university variation, effectively fitting the model based on within-university variation between specified groups.

[2] Difference in Chi-square statistic indicates difference from model (1) where all six race-immigrant generation groups are esimated separately.

Table 4. Results of Structural Equation Model Results Showing Relationships Between Internalization, Externalization, Academic Effort, Academic Performance Burden and Academic Performance

	Standardized Coefficients		
	1st Gen	2nd Gen	Domestic
Structural Parameters for Paths Between Constructs[1]			
Internalization → Academic Effort (EFF)	-0.42**	-0.12*	-0.20***
	(0.15)	(0.06)	(0.06)
Academic Effort (EFF) → Academic Performance (GPA)	0.36*	0.22**	0.24***
	(0.17)	(0.07)	(0.04)
Internalization →Academic Performance (GPA)	0.24*	0.08	0.10*
	(0.11)	(0.05)	(0.04)
Externalization →Academic Performance Burden (APB)	0.14	-0.00	0.04*
	(0.12)	(0.04)	(0.01)
APB →Academic Performance (GPA)	-0.01	-0.05	-0.06*
	(0.08)	(0.06)	(0.03)
Externalization → Academic Performance (GPA)	-0.09	-0.01	0.04
	(0.08)	(0.06)	(0.05)
Index of Racial Ingroup Exposure[2] Regressed On:			
Internalization (INT)	-0.22	-0.04	-0.02
	(0.12)	(0.10)	(0.05)
Academic Effort (EFF)	0.22	-0.03	0.02
	(0.21)	(0.11)	(0.05)
Externalization (EXT)	0.14	0.28**	0.35***
	(0.17)	(0.10)	(0.04)
Academic Performance Burden (APB)	0.31*	0.11	0.07
	(0.14)	(0.09)	(0.05)
Academic Performance (GPA)	0.04	0.01	-0.04
	(0.14)	(0.08)	(0.04)
N (=1865)	250	607	1008
Chi-squared (d.f.)	2761.18(1971)***		
RMSEA	0.04		
CFI	0.91		

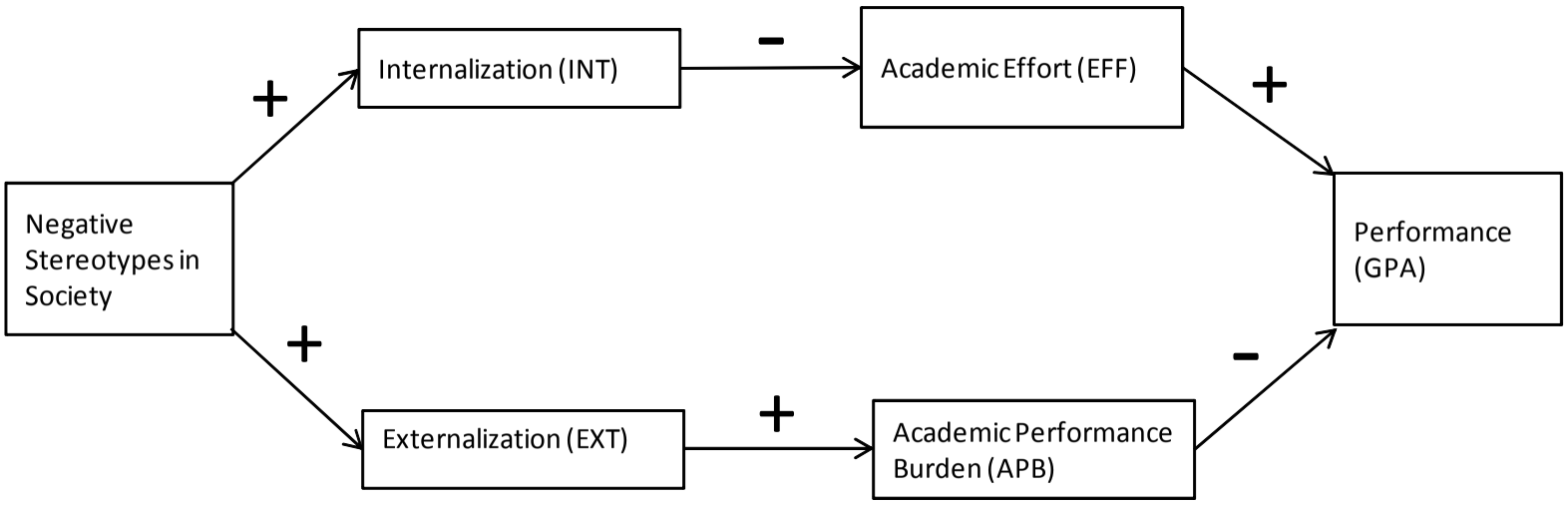
*Significant at .05, **Significant at .01, *** Significant at .001. One tailed test.

NOTE: Reporting Standardized coefficients. Standard errors in parentheses. All models include university-level fixed effects.

[1] Structural residual error correlations are estimated between internalization and externalization and between academic performance burden and academic effort. Measurement error correlations are estimated between indicators v6 and v7 and v10 and v11 (See Table 1 for list of variables by number). Models include controls for the demographic, prior academic performance, and social class characteristics outlined in the appendices.

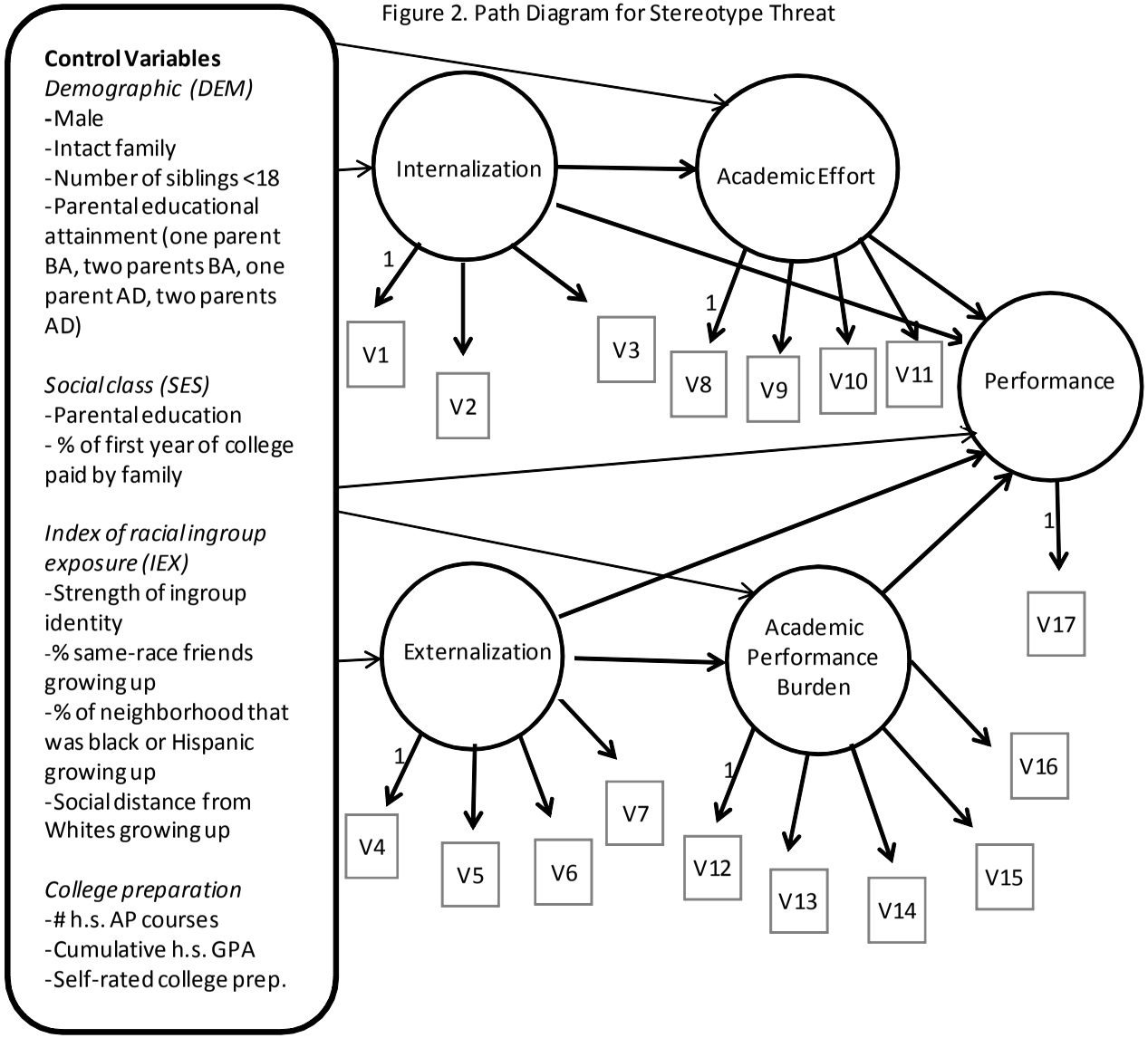
[2] The index of Racial Ingroup Exposure (IEX) includes: Strength of racial ingroup identity (0-10), social distance from whites growing up (0-10, reverse-coded), percent of friends of same race as respondent while growing up, and percent black or Hispanic neighborhood composition growing up.

Figure 1. Conceptual Model of Stereotype Threat with Expected Direction of Relationships between Concepts Based on Stereotype Threat Theory



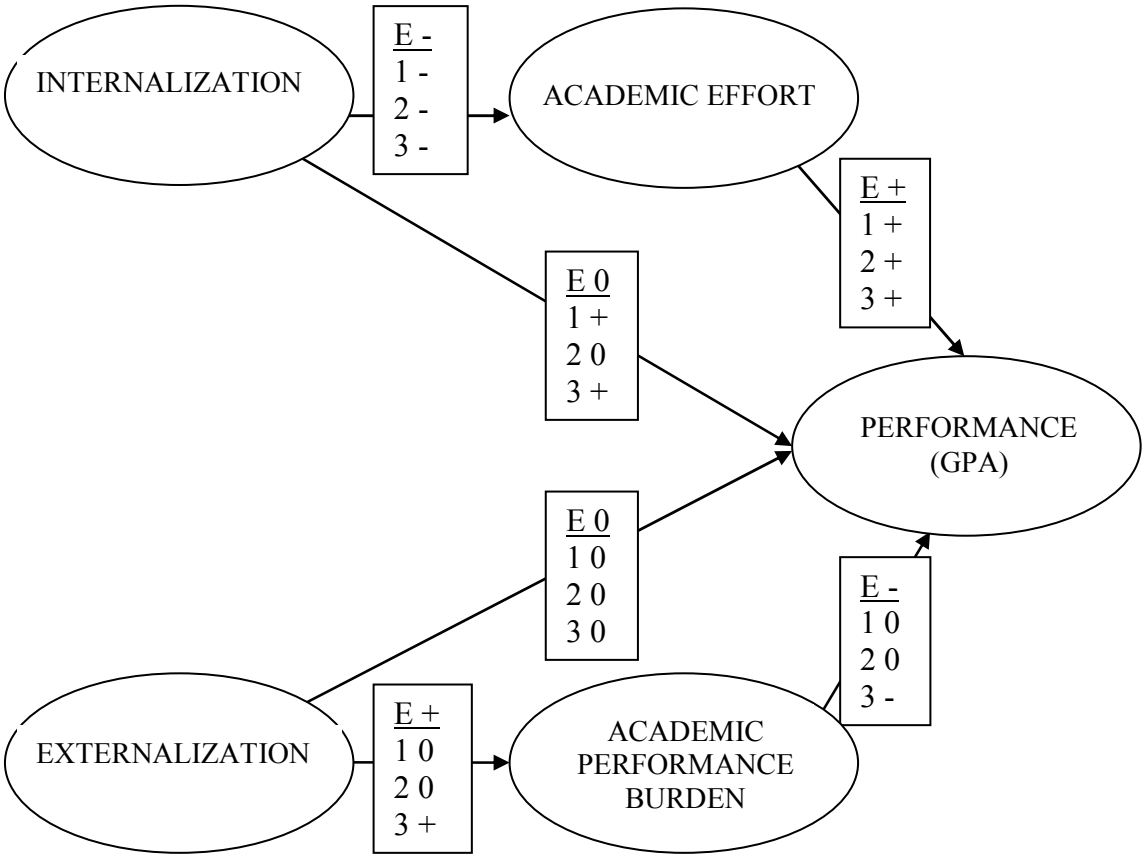
NOTE: The boxes overlaying arrows contain positive (+) and negative (-) signs that indicate the expected direction of the effect based on the theory of stereotype threat. Positive signs (+) represents an expected positive relationship between the two concepts and negative (-) signs represents an expected negative relationship.

Figure 2. Path Diagram for Stereotype Threat



[1] See Table 1 for specification of measures v1-v17.

Figure 3. Directions of Expected vs. Actual Structural Paths between Latent Constructs, by Immigrant Generation



Note: E=expected direction of effect based on stereotype threat theory. 1=first generation, 2=second generation, 3=domestic students. Only significant paths are shown with a + or – sign; all 0's indicate statistically zero coefficients.

Appendix A.

Preliminary analyses involved comparing a latent variables-based measurement modeling strategy to the traditional summed indexes approach to establish which offered a better fit to our data. First we fit four measurement models—one each for internalization, externalization, academic effort, and academic performance burden—allowing weights given to each indicator of each latent construct to vary for each of our six race-immigrant groups. Next, we compared these results to measurement models that are akin to summed indexes in that they assume no inter-item variability in weighting and measurement error. Based on three measures of model fit commonly used to test goodness-of-fit in structural equation models (the model chi-square, the RMSEA, and the CFI; see Bollen 1989) and t-tests to examine the significance of each indicator in adding value in the measurement of each latent construct for each of the six race-immigrant groups, we examined results from a combination of goodness-of-fit tests as well as significance tests for the factor loadings (weights) of each indicator.

We found that the latent constructs of stereotype threat theory are best modeled using latent variables via measurement models as opposed to summed indexes based on both the goodness-of-fit tests and the t-tests. Specifically, the multiple group confirmatory factor analysis measurement models of the latent constructs have good to strong fit when estimated separately for all six race-immigrant groups (results available upon request). In contrast, the summed index models did not fit well, indicating that an appropriate model should use SEM to handle measurement error and differential weighting of indicators in representing latent concepts. The second step for establishing the value-added of a latent variables approach was to examine the significance and variability in magnitudes of the indicator factor loadings for each latent construct. Results showed the significance and noticeable variation in the magnitudes of each

factor loading for each latent construct, respectively indicating that each variable enhances the measurement of its latent construct and that a summed indexes approach with ordinary least squares regression does not most accurately capture the true variance of the construct it intends to proxy. The unequal weighting for each indicator of a latent construct allowed by the measurement models, on the other hand, uses the joint variance of all indicators, providing a more robust measure of each construct by controlling for the measurement error produced by each indicator on its own.

Appendix B. Regression Coefficients for Effects of Controls on Structural Equation Model of Relationships Between Internalization, Externalization, Disidentification, Academic Performance Burden and Academic Performance

Standardized Coefficients

Variables[1]	Immigrant Generation	Internalization		Externalization		Effort		Academic Perf. Burden		Performance	
		Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
Male	1	0.29**	(0.11)	0.12	(0.19)	-0.38*	(0.18)	0.04	(0.13)	-0.13	(0.14)
	2	0.04	(0.09)	0.05	(0.10)	0.09	(0.10)	0.03	(0.08)	-0.05	(0.08)
	3	0.12*	(0.05)	-0.17***	(0.04)	-0.17**	(0.05)	0.10	(0.04)	-0.06	(0.04)
# of Dependents	1	0.07	(0.11)	0.29	(0.16)	0.20	(0.17)	-0.14	(0.13)	-0.13	(0.13)
	2	-0.21*	(0.10)	0.08	(0.10)	0.08	(0.10)	0.05	(0.08)	-0.10	(0.08)
	3	0.01	(0.05)	-0.03	(0.05)	0.05**	(0.05)	-0.01	(0.04)	-0.01	(0.04)
Intact Family	1	0.10	(0.12)	-0.10	(0.15)	0.28	(0.18)	0.03	(0.13)	0.16	(0.13)
	2	0.04	(0.10)	0.12	(0.10)	0.02	(0.10)	0.10	(0.09)	0.14	(0.08)
	3	0.08	(0.05)	-0.01	(0.05)	0.15	(0.06)	0.06	(0.05)	0.01	(0.04)
1 parent B.A.(Ref=No parents B.A.)	1	-0.08	(0.12)	-0.27	(0.17)	0.16	(0.18)	0.01	(0.15)	0.03	(0.14)
	2	0.04	(0.11)	-0.07	(0.11)	0.18	(0.11)	0.17	(0.10)	-0.08	(0.09)
	3	0.00	(0.06)	-0.06	(0.05)	0.02	(0.06)	-0.03	(0.05)	-0.02	(0.04)
2 parents B.A.	1	-0.05	(0.12)	-0.14	(0.16)	0.22	(0.19)	-0.01	(0.14)	-0.24	(0.14)
	2	-0.11	(0.11)	-0.39***	(0.11)	0.09	(0.11)	0.05	(0.09)	0.14	(0.08)
	3	-0.04	(0.06)	0.02	(0.05)	-0.04	(0.06)	-0.04	(0.05)	0.07	(0.04)
1 parent Advanced Degree	1	-0.31*	(0.14)	-0.11	(0.18)	0.22	(0.21)	-0.04	(0.15)	0.19	(0.15)
	2	0.01	(0.12)	0.08	(0.12)	0.00	(0.12)	0.16	(0.10)	-0.06	(0.09)
	3	0.04	(0.06)	0.06	(0.05)	-0.16**	(0.06)	-0.03	(0.05)	0.06	(0.04)
2 parents Advanced Degree	1	-0.13	(0.12)	-0.28	(0.20)	0.17	(0.20)	0.20	(0.15)	-0.05	(0.14)
	2	-0.01	(0.12)	-0.01	(0.12)	-0.07	(0.12)	0.15	(0.10)	0.02	(0.09)
	3	0.01	(0.06)	0.03	(0.06)	-0.04	(0.06)	-0.01	(0.05)	0.07	(0.04)
% of college paid by family (%/10)	1	-0.07	(0.13)	0.02	(0.17)	-0.37	(0.19)	0.31*	(0.14)	0.09	(0.16)
	2	0.05	(0.10)	0.13	(0.10)	-0.14	(0.11)	0.05	(0.09)	0.13	(0.08)
	3	0.02	(0.06)	-0.04	(0.05)	0.02	(0.06)	0.05	(0.05)	0.03	(0.04)
# AP Courses	1	0.16	(0.12)	0.14	(0.17)	0.04	(0.19)	-0.03	(0.14)	0.17	(0.13)
	2	0.15	(0.11)	0.05	(0.11)	-0.05	(0.11)	-0.03	(0.09)	0.04	(0.08)
	3	0.06	(0.05)	-0.01	(0.05)	-0.01	(0.06)	0.03	(0.05)	0.17***	(0.04)
Self-rated preparation (0-10)	1	0.07	(0.13)	0.16	(0.19)	-0.35	(0.23)	0.19	(0.16)	0.18	(0.16)
	2	-0.17	(0.10)	0.07	(0.12)	-0.18	(0.10)	-0.15	(0.09)	0.17	(0.08)
	3	0.01	(0.05)	0.03	(0.05)	-0.07	(0.05)	-0.07	(0.04)	0.01	(0.04)
Hours Work for Pay (/10)	1	0.03	(0.11)	-0.13	(0.16)	0.05	(0.17)	0.03	(0.13)	-0.14	(0.12)
	2	-0.08	(0.10)	0.11	(0.10)	0.02	(0.10)	-0.09	(0.08)	-0.07	(0.08)
	3	-0.01	(0.05)	-0.03	(0.05)	-0.02	(0.05)	0.04	(0.04)	0.10	(0.04)
High School GPA (0-4)	1	-0.01	(0.12)	-0.22	(0.15)	-0.03	(0.18)	-0.10	(0.13)	0.24	(0.13)
	2	-0.03	(0.10)	0.01	(0.10)	0.41***	(0.10)	0.15	(0.09)	0.11	(0.09)
	3	0.03	(0.03)	0.01	(0.03)	0.20***	(0.06)	-0.14***	(0.03)	0.19***	(0.04)

*Significant at .05, **Significant at .01, *** Significant at .001. One-tailed test.

NOTE: Reporting Standardized coefficients. Model includes university-level fixed effects. Effects of regression paths between constructs in full SEM shown in Table 4.

[1] See Table 2 for fuller description of control variables.