Immigrant and Domestic Minorities' Racial Identities and College Performance

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7,991 words
(excluding title/abstract)

Abstract

Stereotype threat theory provides an explanation for academic underperformance among American domestic minority students. Increasingly, however, today's minority college students are of immigrant backgrounds. It is unclear whether the theory is applicable in this context: Immigrant minority students may not identify with the same racial paradigm that makes domestic minorities susceptible to stereotype threat. In this paper, we address two questions. First, do immigrant minority students experience stereotype threat differently from domestic minorities? Second, does the theory explain academic performance differences between domestic and immigrant minorities? Using data from the National Longitudinal Study of Freshmen, we find that immigrants are resilient against the performance-depressing effects of stereotype threat experienced by domestic minorities. The results imply a nuanced revision of the theory.

Academic underperformance among racial minorities in the U.S. is well-documented (Bowen and Bok 1998; Massey et. al. 2003). Minority students, particularly American-born black and Hispanic students (henceforth 'domestic minorities') tend to perform less well on exams and earn lower grades than predicted based on their standardized aptitude exam scores (such as the SAT). Furthermore, minority students tend to perform less well than equally-qualified whites, even after controlling for differences in prior academic achievement, parental education, and family socioeconomic status.

Stereotype threat theory is an empirically supported explanation for the lower academic performance of minority students relative to equally-qualified whites (Steele 1988a, 1988b, 1992). One claim of stereotype threat theory is that minority students' lower performance stems from being preoccupied by the possibility of confirming negative stereotypes about the intelligence and academic capabilities of their racial group.

Stereotype threat affects the academic performance of domestic minority students in the United States. Increasingly, however, today's minority college students are foreign-born immigrants or have immigrant parents (henceforth 'immigrants'). Immigrant minority students, however, may not identify with and fit into the same racial paradigm that makes domestic minorities susceptible to stereotype threat.

In this paper, we answer two questions. First, do immigrant minority students experience stereotype threat differently from domestic minorities? Second, to the extent that immigrants do experience stereotype threat differently from domestic minorities, how does the theory of stereotype threat need to be modified to explain immigrant minority academic performance?

Background

The growth of the U.S. immigrant population that began after the Immigration and Nationality Act was passed in 1965 was marked by a shift in the racial/ethnic origins of immigrants. Whereas 71 percent of immigrants between 1882 and 1896 were of northern European background, today, over 85 percent of immigrants are from Asia or the Americas (with a majority from Mexico) (Deaux 2006; Massey 1995). As of 2005, 25 percent of the U.S. population was comprised of first-generation immigrants or their second-generation children of minor age (Camarota 2005; Lee and Bean 2004).

Reflecting the increased share of non-white immigrants in the U.S. population, first generation immigrants alone comprised an all-time high of 12 percent of undergraduates at American colleges and universities as of 2003-2004 (Pew Hispanic Center 2006).

Much of the literature on immigrant academic achievement finds a strong immigrant advantage in academic performance for particular immigrant groups when they are compared to *domestic minority* students in the United States (Kasinitz 2008; Mollenkopf, Kasinitz, and Waters 2008; Bankston 2004; Portes and Zhou 1993). At the same time, black and Hispanic immigrants perform less well, on average, than *equally-qualified* whites when controlling for social class and prior academic achievement (Harris, Jamison, and Trujillo 2008; Feliciano 2005; Bankston 2004). The reasons for minority underperformance in spite of the educational advantages associated with coming from immigrant families who have high educational expectations for their children are not well understood (Kao and Tienda 1995; Waters 1999).

The theory of stereotype threat offers an explanation for (domestic) minority student underperformance that has been well-supported both in laboratory experiments (Steele 1988a, 1988b, 1992) and in social settings using surveys (Massey and Fischer 2005). The theory of stereotype threat states that (domestic) minority students are aware of negative stereotypes about the intellectual abilities of their racial group in American society (Steele and Aronson 1995). As a result of fear of confirming these stereotypes about their intellectual inferiority, minority students experience psychological stress that prevents them from concentrating during exams or while engaging other activities that will be evaluated by professors. This stress leads to their performing more poorly than they otherwise would if negative stereotypes about their racial group were not present.

One of the first empirical, non-laboratory investigations of whether minority students experience stereotype threat in their daily lives at selective, four-year colleges was conducted by Massey and Fischer (2005). In conducting a survey designed specifically to measure the extent to which stereotype threat dampens students' performance in college, Massey and Fischer rely on Steele (1988a, 1988b) and Steele and Aronson's (1995) basic assumption that students are motivated to think well of themselves and their own racial group. They assume students also want members of other racial groups to think well of them,

too. Therefore, surveys ask minority students about the extent to which they perceive whites to think less of their racial group's intellectual abilities. These items offer an estimate for how much psychological burden minority students experience as a result of negative, external stereotypes about their racial group. In addition to psychological burden, minority students who perceive negative stereotypes about their racial group from the outside may begin to believe these stereotypes have some truth to them. If they begin to internalize these negative stereotypes, they are likely to disengage from studying as hard, thinking that studying will not compensate for their lack of inherent intelligence.

Massey and Fischer (2005) found empirical support that stereotype threat operates through two simultaneous mechanisms for minority college students at selective colleges and universities: the externalization and internalization of negative stereotypes, as shown in Figure 1. *Externalization* is the process through which students perceives *others* outside their racial group (namely, whites) to harbor negative stereotypes about their group's aptitude. The psychological stress resulting from externalization is manifested as anxiety about one's own ability, which is referred to as *academic performance burden* (Massey and Fischer 2005). In this model, *internalization* is the process through which students *consciously* buy into negative stereotypes about their own racial group's lack of inherent intelligence and develop some degree of fatalism. This fatalism then leads minority students to disengage from their studies by reducing their level of academic effort, for example studying fewer hours. Some researchers (i.e. Steele and Aronson 1995) call the type of disengagement that results from internalization *disidentification* because students disidentify from academic achievement as an indication of their self-worth. Massey and Fischers' (2005) results show that when a student experiences some amount of both internalization and externalization, resulting anxieties increase the probability of that student performing poorly.

[Figure 1. Conceptual Model of Stereotype Threat]

While stereotype threat theory has received strong empirical support in explaining racial and ethnic differences in academic performance among domestic black and Hispanic students, a key limitation is that it does not address heterogeneity within minority groups. Given the growing proportion of

immigrant minority college students on college campuses, particularly at selective, four-year institutions, empirical research should be conducted to determine whether the theory can explain performance differences among minority groups of varying immigrant backgrounds. Recent immigrants, for example, may not have internalized the stereotypes that make the theory a powerful explanation for underperformance among domestic minorities. Second generation immigrants may begin to experience externalization as a result of growing up in American society and being familiar with racial stereotypes, but may also compensate for these negative stereotypes by working harder because of pressure from immigrant parents to succeed academically.

Previous research indicates that internalization and externalization interact fluidly with each other and with other mediators of social context. Research by Deaux (2006) addresses the effects of externalization on the process of immigrant identity formation in the United States. Deaux shows that stereotypes on the part of those outside their group, like whites and Asians, are important factors at the societal and group levels that influence the ways in which black and Hispanic immigrant students' identities take shape. Immigrants enter a context defined at the macro level by elements of policy and social representations. Driven by whites, social representations of their group impact immigrants' notions of their receiving society and their opportunities within it (Deaux 2006). These effects of macro level representations on immigrants' realized opportunities, however, are mediated by more targeted attitudes and stereotypes about their group's condition at the meso level, based on factors like immigrants' social class and the presence or absence of ethnic enclaves within which immigrants may receive social support and form immigrant subcultures (Deaux 2006).

The extent to which positively-biased macro-level depictions of one's group foster educational and occupational success likely varies by social class (often based on skill level upon entry into the United States) and length of residence in the United States. Highly-skilled immigrants arriving in the United States from groups who have, on average, experienced upward mobility in the first and/or second generation are predisposed to optimism about their opportunities for upward mobility. Their optimism is reinforced by positive macro-level social depictions of their work ethic, intelligence, and the high value

placed on their contributions to the development of the economy, science, and technology. Access to relatively secure, high-paying jobs, home ownership, neighborhoods with good schools, and other opportunities further facilitate their upward mobility. High-skilled immigrants' desires for upward mobility are facilitated by material, social, and cultural resources.

Low-skilled immigrants, on the other hand, tend to encounter negative stereotypes at the macro level and often lack the material and in some cases linguistic resources that would help them counteract negative stereotypes at the individual level. As a result, low-skilled immigrants' attitudes about their own opportunities may be less optimistic. Integration into a segment of society that enables the maintenance of cultural and linguistic norms from the sending society as well as the adoption of particular middle-class American norms that facilitate upward mobility (what scholars like Alejandro Portes and Ruben Rumbaut (2001) call 'selective acculturation') is less likely. For low-skilled immigrants, dreams of upward mobility are less likely to become reality. Nevertheless, some low-skilled immigrants may still achieve educational and occupational success (Bankston 2001; Portes and Rumbaut 2001). When immigrants move into an ethnic enclave, ethnic cohesion may facilitate movement into the middle class. For example, low-skilled immigrants may receive start-up capital to become petty entrepreneurs from more established co-ethnics as repayment for working as low-skilled labor for a period of time (Portes and Rumbaut 2001). Skill-level upon entering the United States is the greatest predictor of the segment of American society into which immigrants become a part, but assimilation into that segment of society increases with duration in the United States.

With assimilation, immigrants become more aware of the social and educational realities resulting from factors like racism and segregation (Portes and Rumbaut 2001). Residential segregation in minority neighborhoods is associated with increased rates of school dropout and out of wedlock childbirths, decreased rates of college attendance, graduation and gainful employment, and lower incomes (Waters 1999). Due to a selection process that disproportionately sorts minority immigrants who pursue higher education into two-year colleges, a recent report by the Pew Hispanic Center (2005) reports that, "Hispanic undergraduates are half as likely as their white peers to complete a bachelor's degree—a

disparity at least as large as the disparity in finishing high school." The Pew report further points out that, although Hispanics continue to increase their absolute numbers in college, they are falling even farther behind whites in baccalaureate completion (Fry 2005). Of the immigrant undergraduate students who started college in 1995, only 23 percent completed a bachelor's degree after five years (Pew Hispanic Center 2006). Given these realities, one could hypothesize that black and Hispanic students are equally likely to be affected by negative stereotypes that they form about *their own* racial group as those that may exist about their aptitude from whites and others outside their group. Their family's duration in the United States, the depictions and stereotypes of their group to which they are exposed in childhood and adolescence combine with their educational opportunities to shape students' self-identities, even among those who make it to selective colleges and universities.

The analysis in this paper rests on important distinctions between domestic minorities (students who are American-born and whose parents are American-born), first generation immigrants (who were born outside the U.S. and immigrated at an early age and thus attended high school in the U.S.) and second generation immigrants (who were born in the U.S. but who had at least one parent born outside the U.S). Note that the immigration literature often refers to the people we call first generation as the "1.5 generation" because these students spend a large portion of their youth in the United States and therefore do not experience the same unfamiliarity with the structure of American society and its institutions as people who did not immigrate until adulthood (Portes and Rumbaut 2001). The first generation students in our sample do *not* include foreign students (who come to the U.S. specifically to attend college).

We distinguish between first and second generation immigrant students because we hypothesize that duration in the United States has an effect on the degree and manner in which students experience stereotype threat. Presumably, the particular experience of having immigrated to the U.S. oneself as a first generation immigrant may lead to a stronger identification with a non-American identity, or certainly one in which students do not see themselves as being as intimately a part of the racial paradigm that marks blacks and Hispanics as less intelligent or academically inclined than whites. As a result, they may be aware of negative stereotypes about people of their same race, but may not be negatively affected by them

because they do not identify with the targeted group. Or, other factors, like a strong work ethic, may help them overcome the stereotypes' potentially performance-depressing effects. On the other hand, second generation immigrants, as a result of having been in the United States longer than their first generation counterparts and likely grown up in the U.S. their entire lives, may be more likely to identify with the racial paradigm that stigmatizes black and Hispanic students. At the same time, second generation immigrants may have also adapted certain coping mechanisms against racism and negative stereotypes and/or have pressure to perform well in school from their immigrant parents. Together, these factors may prevent negative stereotypes from lowering the performance of second generation students.

The distinctions between first generation, second generation, and domestic minority allow us to identify not only whether immigrants' self-identities are, by virtue of being first or second generation immigrants, different from each other and from those of domestic blacks and Hispanics, but also whether black and Hispanic immigrants are viewed by *others* (i.e. members of other races) as being distinct from domestic blacks and Hispanics. If first generation immigrants do experience stereotype threat to some extent, it is likely to be through externalization rather than internalization. Second generation students, who may be able to overcome the negative effects of these stereotypes, are also unlikely to show the performance-depressing effects of stereotype threat, but may do so to a lesser extent than first generation immigrants as a result of their families' longer exposure to the negative stereotypes.

Data and Methods

Sample

The data used in this study are from the National Longitudinal Survey of Freshmen*,* a stratified random sample of 3,924 college students who entered 28 different selective, four-year colleges and universities throughout the U.S. 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 through high school and were then 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 randomly-selected 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 85.8 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. The baseline and two follow up surveys from the spring of first and second years, respectively, are those used in this paper.

Our analyses rely on a restricted sample consisting of 991 black students and 874 Hispanic students, for a total sample of n=1,865. White and Asian students are eliminated from the dataset because prior work indicates that stereotype threat is relevant only to black and Hispanic students (because these are the two primary racial groups that experience academic underperformance). From the well-established finding that duration in the U.S. plays an important role in identifying the effect of stereotype threat, our analyses separate students not only by race (the most specific unit permitted by cell size given that nationality-level analysis would prohibit the use of regression analysis), but also by immigrant generation. Throughout the analyses, data are disaggregated by race and immigrant generation so that models for first generation blacks, second generation blacks, domestic blacks (third generation or later American natives), first generation Hispanics, second generation Hispanics and domestic Hispanics are all estimated separately.

Variables

The dependent variable in our analyses is academic performance, which is measured by an average of each student's grades from the spring and fall of 2000. Our key predictors of performance, internalization, externalization, disidentification, and academic performance burden—the relevant constructs of stereotype threat (see Figure 1)—are each measured using a series of survey items. For example, internalization is measured by respondents' perceptions of the intelligence, work ethic, and persistence (the tendency of group members to complete tasks) of members of his or her own racial/ethnic group. Table 1 shows the specific items used to measure each of these constructs of stereotype threat.

[Table 1. Indicators and Dimensions of Stereotype Threat Used in Analyses]

In addition to these key variables, we include controls for demographic and background characteristics, including 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). We include these variables as controls because demographic and social class backgrounds vary within black and Hispanic communities of all immigrant/domestic backgrounds. Not all immigrants of the same race leave their sending society with the same resources (financial, human, social capital), nor do they encounter the same receiving contexts. Upon arrival, for example, different ethnic groups of blacks may make very different choices about how to adapt to the environment around them.

We also control for a measure of racial exposure—the percentage of friends who are black or Hispanic, respondent's social distance to whites, the strength of respondent's racial ("in-group") identity, and the darkness of respondent's skin color. High levels of in-group identity can provide a buffer against the negative effects of stereotype threat and more same-race friends or greater social distance from whites may lead to higher in-group identity. However, at the same time, students who arrive on majority white campuses from majority-minority neighborhoods may be more affected by stereotype threat as a result of not having developed a coping mechanism to counterbalance stereotypes about one's intellectual inferiority (Portes and Rumbaut 2001).

Finally, following convention in the sociology of higher education literature that estimates the amount of academic underperformance minority students experience, we include controls for students' degree of academic preparation before arriving in college, which includes the number of Advanced Placement courses taken in high school, cumulative high school grade-point average, students' self-rated score for their own level of preparation, and the median SAT score of their college or university. Controlling for these confounding factors allows us to isolate the effects of the precise mechanism described above.

The fact that students in the selective universities in this sample are already a highly select group leads to conservative estimates of the effects of stereotype threat. To the extent immigrants at four-year universities do experience stereotype threat, it is likely that effects would be even *more* pronounced among a sample of students at non-selective colleges or universities. The findings reported here, however,

are limited in generalizability to black and Hispanic students attending the 28 selective colleges and universities in our sample.

Methods

Figure 2 shows a path diagram used to model stereotype threat. Each circle represents a latent construct from the stereotype threat conceptual model shown in Figure 1, and arrows between latent constructs represent regression paths. Squares represent observed variables that are used to measure each construct and are identified by their corresponding variable number and explained in Table 1.

[Figure 2. Path Diagram for Stereotype Threat]

We use a multiple group structural equation modeling (SEM; see Bollen 1989) approach to investigate our research questions. SEM analyses allow us to investigate the measurement properties of indicators of the latent constructs shown in the conceptual model presented in Figure 1. One of our questions is whether these concepts—in particular, internalization, externalization, disidentification, and academic performance burden—"work" the same way for members of different racial and immigrant groups. That is, do they measure the same phenomena? If they do not, and measurement differences are ignored, then apparent differences between race and immigrant groups may not, in fact, reflect real differences in the conceptual model; they may simply reflect measurement differences. SEM allows us to differentiate substantive versus measurement differences. Along these same lines, stereotype threat has typically been investigated using OLS regression modeling with summed indexes for internalization, etc. A summed indexes approach, however, assumes all measures of internalization (and other constructs) are equally-valid measures of the construct. SEM allows us to relax that assumption.

Our analysis employs the following strategy. First, we estimate separate measurement models (confirmatory factor analyses) for internalization, externalization, and academic performance burden for each race and immigrant group. Measurement models are not estimated for disidentification, because we have only one measure for this construct. As a result, the mechanism between internalization, disidentification, and academic performance is valid only if greater internalization is associated with fewer hours spent studying (our measure of disidentification). After establishing the measurement models

(e.g., their reliability and validity by race and immigrant group), we compare these results to measurement models that are equivalent to summed indexes that have been used in previous literature.

Once the measurement components of the analyses are complete, we estimate a full multiple-group SEM model testing the conceptual model shown in Figure 1. This SEM model is shown in Figure 2. At this stage of the analysis, our goal is to investigate whether the model holds for all six race-immigrant groups, and identify whether there are racial and/or immigrant differences in the structural model. After determining that differences exist between immigrants and domestic minorities, while race differences do not, we estimate a final model. In the full SEM models, we control on a number of background characteristics.

Results

The first step in our analyses was to estimate measurement models for each construct, including internalization, externalization, disidentification, and academic performance burden for each racial and immigrant group. Disidentification only had one indicator, and so no investigation of its measurement could be undertaken. However, the remaining constructs were each measured by at least three indicators, allowing us to consider whether there were measurement differences between groups.

[Table 2. Mean Values of Summed Indexes and Indicators, by Race and Immigrant Generation]

First, Table 2 shows the means of each indicator for each construct, as well as the means obtained if one assumes there are no measurement differences between groups and simply constructs summed indexes. Standardized mean values of control variables by race and immigrant generation are also shown in Table 2 (unstandardized mean values of the controls are shown in Appendix Table 1) and indicate no systematic pattern by race or immigrant generation. The descriptive statistics in Table 2 also show that, while there are some differences in the means of the summed indexes, and their constituent items, overall there are few identifiable patterns in the means across race and immigrant generation. First, the means for Hispanics tend to have greater variation than those for blacks for most constructs. For example, for the internalization construct, the means for blacks and the means for Hispanics are comparable; however, the range of the means for Hispanics seems to fully encapsulate the means for blacks. Second, the means for

the academic performance burden measures seem consistently lower for Hispanics than for blacks. Third, the means for academic performance seem slightly higher for Hispanics than for blacks, regardless of generation.

However, although the means show no strong, clear patterns, it is still likely that the items have differential weight and variability across race and immigrant group in their ability to measure these latent constructs. Our next step in the analyses, therefore, was to estimate measurement models for each construct across groups and compare them to results of measurement models that assume no inter-group variability in weighting and measurement error.

[Table 3. Results of Multiple Group Analysis Comparing Full Measurement Models]

Table 3 shows the results of comparing measurement models for internalization, externalization, and academic performance burden that allow differential weighting and measurement error to models that are equivalent to summed indexes; that is, models in which the factor loadings are constrained to 1 for all indicators and measurement error is assumed to be 0. The table reports three measures of model fit for each of the multiple group models: the model chi-square, the RMSEA, and the CFI, each of which are common goodness-of-fit measures for SEMs (see Bollen 1989). For the full measurement model for internalization, the chi-square was 8.912 (10 d.f., $p>0.05$) and was not statistically significant, indicating a good fit of the model to the data. The RMSEA and CFI for this model were 0 and 1, respectively, confirming the excellent fit of this measurement model to the data. In contrast, the model for this construct equivalent to using summed indexes did not fit well. The model chi-square was 113.73 (37 d.f., $p<0.001$), the RMSEA was 0.083, and the CFI was 0.86. These values suggest this model does not fit particularly well. A difference chi-square test comparing these models yielded a difference chi-square of 104.82 (27 d.f., $p<0.001$), indicating a significant loss of fit between the summed-index model and the model that allowed measurement variation and controlled on measurement error. Similar findings emerge for the other constructs. For externalization, the full measurement model yields a chi square of 78.82 on 25 d.f. ($p<0.001$). While this chi square suggests poor fit, the RMSEA was 0.03 and the CFI was 0.94, indicating good fit. In contrast, the chi-square for the summed index model was 1680 on 65 d.f.,

indicating poor fit, and the RMSEA and CFI were 0.29 and 0.00, respectively suggesting very poor fit. The chi-square difference test indicated a highly significant difference in fit between the full measurement model and the summed-index model (chi-square=1607.18, 40 d.f., $p<0.001$). For academic performance burden, the full measurement model yields a chi square of 138.30 on 44 degrees of freedom ($p<0.001$). Although this fit is somewhat poor, the RMSEA of 0.08 and the CFI of 0.95 indicates good fit. The summed index, however, indicates poor fit for each goodness-of-fit measure, with chi-square of 1020.53 on 99 degrees of freedom, RMSEA of 0.17 and CFI of 0.53. Once again, the chi square difference test suggested that the summed index model fit considerably less well than the full measurement model (difference chi square=882.23, 55 d.f., $p<0.001$).

All in all, these results suggest that a model that captures differential measurement and error across race and immigrant generation is warranted when assessing the interrelationship among these constructs. The implications of these findings are that, if measurement differences are ignored, the estimates of the structural relationship between the constructs may be biased due to measurement differences. Our structural equation models compensate for measurement differences and are therefore free of these biases.

Our next step in the analyses was to estimate full structural models for the proposed interrelationships between the latent constructs discussed above as shown in Figure 2. Figure 2 is the extension of the conceptual model shown in Figure 1 but includes the measurement models discussed above. Our first step in these analyses was to determine whether these models fit the data for each of the 6 race and immigrant generation groups.

[Table 4. Changes in Structural Equation Model Fits by Estimation Strategies]

When we estimate the structural models simultaneously for all 6 groups, but allow all parameters to vary by group, we find that the model fits well (see Table 4). The model chi-square was 1838.97 (1335 d.f., $p<0.001$), which is statistically significant, indicating poor fit, and the CFI was 0.88, indicating adequate fit. However, the RMSEA was 0.04, indicating good fit. As a next step in the analysis, we constrained the measurement and structural models to be equivalent across immigrant generations, but allowed them to

vary across racial groups. Those results yielded a model that fit well in general (i.e., chi-square of 1877.9, 1261 d.f., $p>0.05$, but RMSEA=0.04 and CFI=0.88). However, the model fit was significantly worse than that of the initial model in which race and immigrant groups were allowed to vary (the difference in chi-square was 38.93, 26 d.f., $p<0.05$). We then estimated a model in which parameters were allowed to vary across immigrant generation (distinguishing between first, second, and third or higher 'domestic' generations, but where racial differences were not considered. This model produced a chi square of 1870.74 (1356 d.f., $p<0.001$), indicating poor fit, but the RMSEA was still 0.04, and the CFI was 0.88. The fact that the chi- square difference test suggested that this model did not fit worse than the original model indicated that racial differences are insignificant but immigrant generation differences are the salient line along which variation in stereotype threat exists.

As a final test, we collapsed our immigrant generation groups into two groups: immigrants versus domestic minorities. Our results indicated that there were significant measurement and structural differences between first and second generation immigrants (difference chi square test was 40.77, 27 d.f., $p<0.05$), suggesting significant differences between first and second generation immigrants that require them to be estimated separately.

Table 5 shows the results of a final model in which we allowed parameters to vary across immigrant generation, but not across race. In this model, shown in Figure 2, we estimated the structural paths between the constructs of internalization, externalization, disidentification, academic performance burden and academic performance, fully operationalizing the conceptual diagram shown in Figure 1 via the SEM shown in Figure 2. Regression coefficients for the effects of each of the control variable on the latent variable onto which it is regressed are shown in Appendix Table 2. No systematic patterns are found by race or immigrant generation.

[Table 5. Results of Structural Equation Model Results Showing Relationships Between Internalization, Externalization, Disidentification, Academic Performance Burden and Academic Performance]

The overall model fit indexes shown in Table 5 suggest the model fits relatively well. While the model chi square is statistically significant (chi-square=1870.74, d.f.=1356, $p<0.001$), the RMSEA suggests that

the model fits quite well (0.040), and the CFI suggests the model fit is adequate (CFI=0.88). The structural paths vary across generation and the directions of significant coefficients are shown by immigrant generation in Figure 3.

[Figure 3. Direction of Significant Paths in Full Structural Equation Model]

The effect of externalization on academic performance burden is statistically 0 for both first and second generation immigrants. Externalization increases performance burden significantly for domestic minority students, with a one unit increase in externalization associated with a 0.14 unit increase in performance burden, which is in line with what would be expected based on stereotype threat theory. The effect of academic performance burden on performance is positive (and significant) for first generation students, with a one unit increase in performance burden associated with an increase in performance of 0.13 standardized grade-points. The effect is not significant for second generation immigrants. As theoretically expected for domestic minorities, performance burden is associated with a decrease in performance by a significant 0.06 standardized grade-points. 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 structural equation modeling. While the direction of the effect of internalization on disidentification is positive for all three groups, as we would expect, it is only significant for first generation and domestic students but statistically zero for second generation immigrants. For first generation students, a one unit increase in internalization is associated with an increase in disidentification of 0.26 standardized units. For domestic students, the increase is of a slightly smaller magnitude—0.105 standardized units. Similarly, the effect of disidentification on performance is negative for all groups, as we would expect, but only significantly negative for domestic students. For domestic students, a one unit increase in disidentificaiton is associated with a 0.06 standardized unit decrease in grade-point. The direct effect of internalization on performance is positive for all three groups but only statistically significant for first generation and domestic students. For first generation students, a one unit increase in internalization is associated with a 0.23 standardized unit increase in grade-point. For

domestic students, a one unit increase in internalization is associated with a smaller magnitude increase of 0.13 standardized unit increase in grade-point average, which runs counter to the theory of stereotype threat, indicating that the path of disidentification does not fully capture the mechanism through which internalization is associated with an increase in performance. The direct effect of internalization of performance is statistically zero for second generation immigrants.

As an alternate approach to SEM, this model was also analyzed using path analysis, which models the full SEM but relies on summed indexes rather than freed factor loadings for each measure of a given latent construct. The results from the path analysis aligned with those from the SEM presented in Table 5. The direction and magnitudes matched for almost all regression paths, and in some cases the magnitudes were larger in the full SEM than expected. Some of the regression coefficients were less significant in the full SEM compared to the path analysis, suggesting slightly weak correlations between latent variables and their measures.

Discussion and Conclusion

Stereotype threat theory has historically been tested in *laboratory experiments* among domestic African-American college students. This is one of the first studies to examine how well stereotype threat theory works to explain academic underperformance in *social settings* using survey data. Previous research (see Massey and Fischer 2005) confirms that stereotype threat operates according to the same conceptual model shown in Figure 1 of this paper, but the analyses presented here shed considerable light on the importance of heterogeneity among minority college students by immigrant generation. Our findings indicate that racial differences between black and Hispanic students are only secondary to the differences that exist between first generation, second generation, and domestic minority students. Our findings point to an immigrant advantage in academic performance, but it is important to keep in mind that our sample consists of a highly-selected group of students who have already overcome barriers to four-year, selective college enrollment (Kasinitz et al. 2008; Portes and Rumbaut 2001, 2006).

The findings with regard to domestic minority students are consistent with prior work that shows domestic minority students experience stereotype threat in social settings through internalization and

externalization (Massey and Fischer 2005). Our findings further conclude that both parts of the mechanism previously posited hold even once measurement error is eliminated. The findings for the phenomenon of internalization among domestic minority students are particularly significant, suggesting that, to the extent domestic minority students in our sample internalize negative stereotypes about their own racial group's intellectual abilities negative stereotypes are associated with increases in disidentification from academic performance as a measure of self worth. Increases in disidentification are associated with depressed academic performance. To the extent that domestic minorities disidentify from academic performance as an indicator of self-worth, they study less and perform worse. However, because the direct path between internalization and performance is significant, disidentification is not the only pathway in effect. The fact that the direct effect of internalization on academic performance is positive, however, indicates that internalization has other affects that are not tested here but which actually *increase* academic performance. The other effects of internalization not tested here likely counterbalance the negative effects of disidentification, leading to the positive direct path between internalization and academic performance. This finding calls into question the validity of oppositional culture theory (Fordham and Ogbu 1986).

While the effects of internalization on academic performance are complex, the path for explaining the association between externalization and academic performance are thorough. The fact that the direct path between externalization and performance does not gain empirical support suggests that the mechanism of performance burden explains most of the association between externalization and performance. Through the psychological stress associated with domestic minority students' perceptions of others' negative stereotypes, domestic minority students experience decreases in academic performance.

While we find the conceptual model posited through previous research to be essentially valid for domestic minority students, it is evident that across immigrant generations, stereotype threat does not operate through the same mechanisms as for domestic minorities. Rather, it appears that first and second generation immigrants are resilient against the performance-depressing effects that our analyses, like that of others, show to depress the performance of domestic minority students. Drawing on past research, there

are two likely theoretical explanations for the strong resilience of first generation immigrants in particular, and the somewhat less-strong resilience of second generation students. First, both first and second generation immigrants have parents who encourage, and in some cases pressure, their children to do well in school. Past research indicates that immigrant parents teach their children that education is a primary path for upward mobility in the United States (Kao and Tienda 1995; Waters 1999; Portes and Rumbaut 2006). As Kao and Tienda (1995) show, immigrant parents play a critical role in instilling their children (particularly second generation youth) with high educational expectations (though performance itself varies by ethnicity). Immigrant parents also instill their children with optimism that they can achieve through hard work. Second, work by Mary Waters (1999) suggests that it is likely that immigrant students adhere strongly to 'immigrant' identities that tie them to the national origin of the country from which they originated rather than the aggregate racial categories that predominate in the United States. By identifying as 'Mexican' or 'Nigerian', for example, instead of as Hispanic or black, respectively (Portes and Rumbaut 2006), first and second generation immigrants are less susceptible to the negative stereotypes that exist in American society about the aggregate racial category (black or Hispanic) with which many Americans would identify them.

First and second generation immigrants also differ with respect to their responses to stereotype threat. In particular, because first generation immigrants are least embedded in the racial paradigm of the United States *and* have overcome many psychological and emotional as well as physical burdens as a result of the process of immigrating, first generation immigrants have already had experience channeling stress, such as that posed by academic performance burden, into positive outcomes—like *increases* rather than decreases in academic performance. On the other hand, to the extent that first generation immigrants internalize negative stereotypes about their racial group, increases in disidentification (fewer hours spent studying) explain only part of the effects of internalizing negative stereotypes about one's racial group. The finding that the direct effect of greater internalization is associated with an *increase* in academic performance indicates that first generation immigrants are aware of negative stereotypes about their racial group but do not buy into these negative stereotypes about their intellectual inferiority in a way that

depresses performance. Rather, internalization operates through another mechanism that leads to increases in academic performance.

Second generation immigrants, by being more integrated into the racial paradigm of the United States, are in some ways more disadvantaged than their first generation counterparts. Perhaps as a result of living their entire lives in the United States, often in minority neighborhoods with poor (and poor-performing) schools, second generation black and Hispanic immigrants do not experience the same performance-enhancing effects of internalization as their first generation counterparts. Because both first and second generation immigrants have a similar mean level of internalization, it is likely that internalization is associated with performance through some other mechanism than disidentification. One explanation for second generation immigrants' lack of association between internalization and disidentification is that second generation students have developed psychological coping strategies that prevent internalization from leading to less academic effort. For example, second generation students may overcome internalization by working harder. At the same time, second generation immigrants lack the ability of their first generation counterparts to translate academic performance burden into academic *gains*. However, performance burden does not significantly depress academic performance, indicating that second generation students resist the performance-depressing effects of academic performance burden to a certain extent (Massey 1995).

Overall, there are some advantages to being a second generation immigrant. Although generally embedded in minority and often poor neighborhoods, second generation immigrants are nonetheless raised in immigrant households, which are often accompanied by distinct co-ethnic and familial support systems, which play an important role in transmitting values and norms of hard work. Second generation students are taught to persist against the barriers posed by poor schools and to believe in education as a gateway for social mobility (Portes and Rumbaut 2006, 2006; Kasinitz et al. 2008). These beliefs and norms are transmitted through mechanisms of social control among families and communities. Even though second generation students, as a result of their family's greater exposure to disadvantage, may otherwise been more susceptible to negative stereotypes about their racial group than first generation

students, immigrant parents and communities help buffer second generation students from translating internalization into fewer hours spent studying..

The limitations of these findings are also important. They point to the need for further investigation of the pathways through which the internalization of negative stereotypes operate once measurement error is eliminated and differences between immigrant groups are taken into account. The limitations of this research fall into three general categories. The first relates to issues of construct validity. As hours studied is the single indicator for disidentification, we cannot measure how well hours studied truly captures disidentification and not some other endogenous factor (like increasing/decreasing difficulty of classes leading to more/less time spent studying respectively). Nevertheless, our finding that domestic minority students do study less the greater their level of internalization is reinforced by experimental work that comes to the same conclusions (Steele 1988a, 1988b) and therefore merits further survey-based investigation with other student populations.

Second, while we find that more of the variation in the effects of stereotype threat on academic performance lies with immigrant generation than with racial differences between black and Hispanic students, aggregation at the level of race misses much of the variation that exists along lines of ethnicity/national origin (Portes and Rumbaut 2001, 2006). Unfortunately, due to small sample sizes, we were unable to disaggregate students by country of ethnic origin as well as immigrant generation. There is reason to believe, however, that ethnic origin may emerge as a primary line along which students experience differences in the effects of stereotype threat by immigrant generation. Future research should examine students by country of ethnic origin rather than aggregate racial categories, especially since immigrants tend to identify within these categories rather than aggregate racial groups.

Third, to the extent that these findings indicate that immigrants are quite resilient against the effects of stereotype threat but that domestic minority students generally experience stereotype threat as previously posited, future research should investigate the effects of stereotype threat among younger-aged students who are less selected than black and Hispanic students at the selective four-year universities in this sample. Future research should also consider the effects of stereotype threat on elementary and high

school-aged students of different ethnic origins and immigrant generations. Doing so will help identify whether effects are more or less pronounced at younger ages *and* investigate the effects among a less-selected group of students who more closely represent school-aged children in the United States today.

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Table 1. Indicators and Dimensions of Stereotype Threat

Internalization

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

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.

Disidentification

8. How many hours (between 0-120) do you spend studying in the average seven-day week during the academic year?

Academic Performance Burden

9. 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.
10. On a scale of 0 (total disagreement) to 10 (total agreement), if I excel academically, it reflects positively on my racial or ethnic group.
11. 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.
12. On a scale of 0 (total disagreement) to 10 (total agreement), I don't want to look foolish or stupid in class.
13. On a scale of 0 (total disagreement) to 10 (total agreement), if I don't do well, Whites will look down on others like me.

Academic Performance

14. Students' second and third semesters average grade-point-average (GPA).

NOTE: The number to the left of each indicator is used to identify that variable in Figure 2 and subsequent analyses.

Table 2. Mean Values of Summed Indexes[1] and Indicators, by Race and Immigrant Generation

Summed Indexes	Black 1st Gen	Black 2nd Gen	Black Dom	Hispanic 1st Gen	Hispanic 2nd Gen	Hispanic Dom
Internalization (INT)	**7.58**	**7.51**	**7.56**	**7.38**	**7.60**	**7.69**
	(3.66)	**(3.16)**	**(3.28)**	**(3.13)**	**(3.28)**	**(3.03)**
Own group's intelligence (0-6)	2.45	2.40	2.40	2.45	2.60	2.73
	(1.06)	(1.00)	(1.00)	(1.06)	(1.03)	(.96)
Own group is hard working (0-6)	2.52	2.46	2.56	2.48	2.44	2.38
	(1.29)	(1.05)	(1.12)	(1.07)	(1.17)	(1.06)
Own group perseveres (0-6)	2.61	2.65	2.60	2.45	2.56	2.58
	(1.31)	(1.11)	(1.16)	(1.00)	(1.08)	(1.01)
Externalization (EXT)	**19.83**	**19.70**	**19.39**	**20.34**	**20.00**	**19.33**
	(9.99)	**(9.76)**	**(10.01)**	**(10.45)**	**(9.78)**	**(9.68)**
Whites treat other races equally or discriminate (0-10)	6.58	7.20	7.17	6.49	6.43	6.24
	(2.22)	(1.96)	(2.04)	(2.37)	(2.05)	(2.03)
Asians treat other races equally or discriminate (0-10)	6.28	6.43	6.26	6.06	5.64	5.43
	(2.32)	(2.33)	(2.38)	(2.17)	(2.44)	(2.38)
Instructors' stereotypes do not affect evaluations of members of stereotyped groups (0-10)	3.49	3.22	3.04	4.22	4.02	3.93
	(2.73)	(2.95)	(2.83)	(3.11)	(2.79)	(2.80)
Students' stereotypes do not affect evaluations of members of stereotyped groups (0-10)	3.48	2.85	2.92	3.57	3.91	3.73
	(2.72)	(2.52)	(2.76)	(2.80)	(2.50)	(2.47)
Disidentification (DIS)	**31.05**	**29.81**	**26.12**	**32.50**	**27.83**	**27.82**
Average number of hours studied/7-day week (0-120) (/-10 in analysis so scale reversed)	31.05	29.81	26.12	32.50	27.83	27.82
	(15.80)	(17.30)	(14.30)	(17.50)	(15.00)	(14.50)
Academic Performance Burden (APB)	**25.03**	**25.41**	**24.47**	**21.62**	**21.62**	**20.44**
	(13.93)	**(15.50)**	**(14.57)**	**(14.80)**	**(14.35)**	**(13.91)**
Instructors think less of me for having difficulty in class (0-10)	2.55	2.67	2.10	2.49	2.48	2.21
	(2.52)	(2.63)	(2.46)	(2.53)	(2.38)	(2.33)
Excelling academically reflects positively on my racial/ethnic group (0-10)	6.52	6.60	6.82	5.60	5.64	5.48
	(2.67)	(3.37)	(2.99)	(3.31)	(3.24)	(3.03)
Doing poorly academically reflects negatively on my racial/ethnic group (0-10)	5.77	5.51	5.89	4.67	4.61	4.36
	(2.91)	(3.27)	(3.16)	(3.27)	(3.22)	(2.90)
I don't want to look foolish or stupid in class (0-10)	5.64	5.86	5.46	5.31	5.25	5.06
	(3.09)	(3.17)	(3.05)	(3.00)	(2.84)	(2.86)
Self-consciousness of how whites perceive me (0-10)	4.55	4.77	4.20	3.55	3.64	3.33
	(2.74)	(3.06)	(2.91)	(2.69)	(2.67)	(2.79)
Academic Performance (GPA)						
Average Second and Third Semester GPA	3.03	3.02	2.99	3.14	3.12	3.19
	(.50)	(.43)	(.50)	(.40)	(.46)	(.50)
N (=1865)	79	180	732	171	427	276

NOTE: Standard deviations in parentheses.

[1] Means of internalization, externalization, and academic performance burden are summed means of their respective indicators.

Table 3. Results of Multiple Group Analysis Comparing Full Measurement Models to Summed Indexes Across Race and Immigrant Generation Groups[1]

	Confirmatory Factor Analysis			Summed Index			Difference χ^2 (d.f.)
Latent Construct[3]	**χ^2 (d.f.)**	**RMSEA**	**CFI**	**χ^2 (d.f.)[2]**	**RMSEA**	**CFI**	
Internalization	8.91 (10)	.00	1.00	113.73 (37)**	.08	.86	104.82 (27)**
Externalization	78.82 (25)**	.03	.94	1680.00 (65)**	.29	.00	1607.18 (40)**
Academic Performance Burden	138.30 (44)**	.08	.95	1020.53 (99)**	.17	.53	882.23 (55)**

*Significant at 5%; ** Significant at 1% (two-tailed tests).

[1] Each of the six race and immigrant generation groups is estimated separately for purposes of estimating the fit of both the confirmatory factor analyses and the summed indexes.

[2] Factor loadings for all indicator variables are set to 1 (within and across race and immigrant generation groups). Residual variances are equal across groups for each indicator variable.

[3] Disidentification and academic performance are not shown here because each has a single indicator and therefore a CFA-summed index comparison does not apply.

Table 4. Changes in Structural Equation Model Fits by Estimation Strategies

Model	Chi-square (d.f.)	Diff in Chi-sq (d.f.)	Goodness of Fit Measures
All groups estimated separately	1838.97 (1335)**		CFI .88 RMSEA .04
Blacks and Hispanics estimated separately	1877.90 (1361)**	38.93 (26)*	CFI .88 RMSEA .04
Immigrant generations estimated separately	1870.74 (1356)	31.77 (21)	CFI .88 RMSEA .04
First and second generations collapsed ('immigrant') vs. domestics	1879.74 (1362)*	40.77 (27)*	CFI .88 RMSEA .04

*Significant at 5%; **Significant at 1% (two-tailed tests).
Changes in significance are relative to 'All groups estimated separately'.

Table 5. Results of Structural Equation Model Results Showing Relationships Between Internalization, Externalization, Disidentification, Academic Performance Burden and Academic Performance

	Standardized Coefficients			
	1st Gen	2nd Gen	Domestic	Expected[3]
Structural Parameters for Paths Between Constructs[1]				
Externalization → Academic Perf. Burden (APB)	-.10	-.02	.14**	+
	(.11)	(.06)	(.06)	
APB → Academic Performance (GPA)	.13*	-.02	-.06*	-
	(.07)	(.05)	(.04)	
Externalization → Academic Performance (GPA)	.13	.00	.02	-
	(.12)	(.07)	(.02)	
Internalization → Disidentification	.26***	.04	.11***	+
	(.12)	(.05)	(.04)	
Disidentification → Academic Performance (GPA)	-.06	-.07	-.06**	-
	(.06)	(.05)	(.03)	
Internalization → Academic Performance (GPA)	.23**	.04	.13***	-
	(.11)	(.06)	(.04)	
N (=1865)	250	607	1008	
Chi-squared (d.f.)	1870.740 (1356)***			
RMSEA	.04			
CFI	.88			

NOTE: Reporting standardized coefficients. Standard errors in parentheses.

* Significant at 10%; ** significant at 5%; *** significant at <1% (two-tailed tests)

[1] Structural residual error correlations are estimated between internalization and externalization and between academic performance burden and disidentification. Measurement error correlations are estimated between indicators v6 and v7 and v10 and v11 (variables outlined by number in Table 1).

[2] See Table 1 for list of variables by number.

[3] Expected directions of effects based on traditional version of stereotype threat theory.

Appendix Table 1. Mean or Percentages for Control Variables, by Race and Immigrant Generation

	Black 1st Gen	Black 2nd Gen	Black Domestic	Hispanic 1st Gen	Hispanic 2nd Gen	Hispanic Domestic
Demographic (DEM)						
Male (=1)	.38	.35	.34	.43	.42	.42
	(.49)	(.48)	(.47)	(.49)	(.49)	(.49)
Intact Family (=1)	.52	.56	.49	.61	.69	.65
	(.49)	(.49)	(.50)	(.48)	(.46)	(.48)
# Dependents (0-18yrs) (=1)	2.06	2.02	1.83	1.87	1.92	1.95
	(1.30)	(1.09)	(1.04)	(1.01)	(1.07)	(.97)
Socio-Economic Status (SES)						
One parent has B.A. (or equivalent) (=1)	.30	0.38	.40	.42	.36	.46
	(.46)	(.49)	(.49)	(.50)	(.49)	(.50)
Two parents have B.A. (or equiv.) (=1)	.09	0.10	.12	.13	.08	.15
	(.28)	(.29)	(.34)	(.35)	(.27)	(.38)
One parent has Advanced Degree (=1)	.41	0.48	.35	.43	.40	.40
	(.49)	(.50)	(.48)	(.50)	(.49)	(.49)
Two parents have Advanced Degree (=1)	.18	0.22	.13	.18	.13	.17
	(.39)	(.43)	(.34)	(.39)	(.35)	(.37)
% of college paid for by family (%/10)	4.19	4.62	4.01	4.82	5.18	5.30
	(1.12)	(1.15)	(1.11)	(1.27)	(1.23)	(1.15)
Ingroup Exposure (IEX)						
% of same-race friends growing up (%/10)	4.99	4.38	4.99	5.57	3.74	2.82
	(1.12)	(1.07)	(1.07)	(1.17)	(.93)	(.77)
Social distance from whites growing up (0-10)	4.66	4.42	4.48	3.80	3.6	3.49
	(1.22)	(1.55)	(1.63)	(1.69)	(1.73)	(1.67)
Strength of ingroup identity (0-10)	4.15	4.16	4.57	3.25	3.49	3.14
	(1.75)	(1.87)	(1.79)	(1.72)	(1.82)	(1.79)
Skin color (0-10)	5.56	5.39	4.80	3.12	2.73	2.49
	(2.30)	(2.17)	(2.04)	(1.79)	(1.65)	(1.68)
Academic Preparation (DAP)						
Number of AP Courses Taken	2.65	2.81	2.53	3.02	3.40	2.99
	(2.06)	(1.88)	(1.95)	(1.97)	(2.24)	(2.06)
High School GPA (0-4)	3.63	3.61	3.57	3.72	3.70	3.74
	(.32)	(.30)	(.37)	(.31)	(.32)	(.31)
Self-rated preparation (0-10)	5.39	5.38	5.68	5.49	5.60	5.47
	(1.50)	(1.62)	(1.69)	(1.63)	(1.64)	(1.68)
Median SAT of One's College/University	1308	1345	1311	1323	1340	1333
	(95.08)	(89.83)	(92.57)	(78.55)	(76.29)	(83.67)
N (Total=1865)	79	180	732	171	427	276

NOTE: Standard deviations in parentheses.

Appendix Table 2. Regression Coefficients for Effects of Controls on Internalization, Externalization, Disidentification, Academic Performance Burden and Academic Performance within Full SEM

Standardized Coefficients

	1st Gen	2nd Gen	Domestic
Internalization (INT)			
Demographic (DEM)			
Male (=1)	.51***	.07	.06
Intact Family (=1)	-.04	.05	.09
# Dependents (0-18yrs) (=1)	.20	-.15	.02
Socio-Economic Status (SES)			
One parent has B.A. (or equivalent) (=1)	.00	.05	-.07
Two parents have B.A. (or equiv.) (=1)	-.23	-.12	-.04
One parent has Advanced Degree (=1)	-.61***	-.01	.05
Two parents have Advanced Degree (=1)	.19	-.09	-.11
% of college paid for by family (%/10)	.06	.06	.02
In-group Exposure (IEX)			
% of same-race friends growing up (%/10)	-.31**	-.20*	-.24***
Social distance from whites growing up (0-10)	.04	-.09	-.08
Strength of in-group identity (0-10)	-.11	.15	.02
Skin color (0-10)	.11	-.02	-.03
Academic Preparation (DAP)			
Number of AP Courses Taken	.10*	.05	-.03
High School GPA (0-4)	.02*	.01	-.01
Self-rated preparation level (0-10)	.07*	.04	-.02
Median SAT of One's College/University (/100)	.05*	.02	-.01
Externalization (EXT)			
Demographic (DEM)			
Male (=1)	-.13	-.04	-.19***
Intact Family (=1)	-.06	.07	-.02
# Dependents (0-18yrs) (=1)	.48***	.02	-.02

Socio-Economic Status (SES)			
One parent has B.A. (or equivalent) (=1)	-.23	-.00	-.04
Two parents have B.A. (or equiv.) (=1)	.01	-.37***	.10
One parent has Advanced Degree (=1)	.10	.04	.06
Two parents have Advanced Degree (=1)	-.37**	-.19	-.06
% of college paid for by family (%/10)	.13	.08	-.09
In-group Exposure (IEX)			
% of same-race friends growing up (%/10)	.25*	.06	.06
Social distance from whites growing up (0-10)	-.07	.03	.06
Strength of in-group identity (0-10)	.02	.40***	.32***
Skin color (0-10)	.04	.13	.09
Academic Preparation (DAP)			
Number of AP Courses Taken	.12	-.09	.02
High School GPA (0-4)	-.13	-.01	-.06
Self-rated preparation level (0-10)	.06	.18*	.01
Median SAT of One's College/University (/100)	.02	.10	.03
Disidentification (DIS)			
Demographic (DEM)			
Male (=1)	-.26**	-.03	-.05
Intact Family (=1)	-.15	.09	.04
# Dependents (0-18yrs) (=1)	.07	.11	-.00
Socio-Economic Status (SES)			
One parent has B.A. (or equivalent) (=1)	.12	.03	.03
Two parents have B.A. (or equiv.) (=1)	.08	-.01	.04
One parent has Advanced Degree (=1)	.10	.08	-.01
Two parents have Advanced Degree (=1)	.18	-.14	.05
% of college paid for by family (%/10)	-.04	.02	.05

In-group Exposure (IEX)			
% of same-race friends growing up (%/10)	-.30**	-.03	-.04
Social distance from whites growing up (0-10)	.10	-.05	-.01
Strength of in-group identity (0-10)	.01	-.13	.02
Skin color (0-10)	.14	.12	.05
Academic Preparation (DAP)			
Number of AP Courses Taken	.04	.09***	.07***
High School GPA (0-4)	.01	.02***	.01***
Self-rated preparation level (0-10)	.03	.08***	.06***
Median SAT of One's College/University (/100)	.02	.04***	.03***
Academic Performance Burden (APB)			
Demographic (DEM)			
Male (=1)	-.13	-.01	.13**
Intact Family (=1)	.08	-.00	.07
# Dependents (0-18yrs) (=1)	-.17	.03	.00
Socio-Economic Status (SES)			
One parent has B.A. (or equivalent) (=1)	-.12	-.04	-.01
Two parents have B.A. (or equiv.) (=1)	.15	-.00	-.03
One parent has Advanced Degree (=1)	-.01	.08	-.02
Two parents have Advanced Degree (=1)	.08	-.04	.02
% of college paid for by family (%/10)	.24*	.07	.03
In-group Exposure (IEX)			
% of same-race friends growing up (%/10)	.24	-.02	.05
Social distance from whites growing up (0-10)	-.34**	.18**	.00
Strength of in-group identity (0-10)	.33***	.17*	.07
Skin color (0-10)	-.05	.06	.01
Academic Preparation (DAP)			
Number of AP Courses Taken	.00	-.10	.07
High School GPA (0-4)	-.21*	.17*	-.07
Self-rated preparation level (0-10)	.32***	-.13	-.05
Median SAT of One's College/University	.03	.00	-.12***

Academic Performance (GPA)			
Demographic (DEM)			
Male (=1)	-.40***	-.07	-.07*
Intact Family (=1)	.17	.15*	.02
# Dependents (0-18yrs) (=1)	-.22*	-.12	-.00
Socio-Economic Status (SES)			
One parent has B.A. (or equivalent) (=1)	.07	.05	-.04
Two parents have B.A. (or equiv.) (=1)	-.12	.10	.07
One parent has Advanced Degree (=1)	.46***	-.11	.03
Two parents have Advanced Degree (=1)	-.29**	.15	.02
% of college paid for by family (%/10)	-.12	.08	-.01
In-group Exposure (IEX)			
% of same-race friends growing up (%/10)	.02	.13	-.08*
Social distance from whites growing up (0-10)	.08	.22***	.03
Strength of in-group identity (0-10)	.01	-.15	.12**
Skin color (0-10)	.08	.00	-.06
Academic Preparation (DAP)			
Number of AP Courses Taken	.04	.02	.19***
High School GPA (0-4)	.36***	.18**	.30***
Self-rated preparation level (0-10)	.09	.05	.01
Median SAT of One's College/University (/100)	-.07	.00	-.11***
N (=1865)	250	607	1008
Chi-squared (d.f.)	1870.740 (1356)***		
RMSEA	0.04		
CFI	0.88		

NOTE: Reporting standardized coefficients. See Table 1 for list of variables by number.
*Significant at 10%; **significant at 5%; ***significant at <1% (two-tailed tests).

Figure 1. Conceptual Model of Stereotype Threat

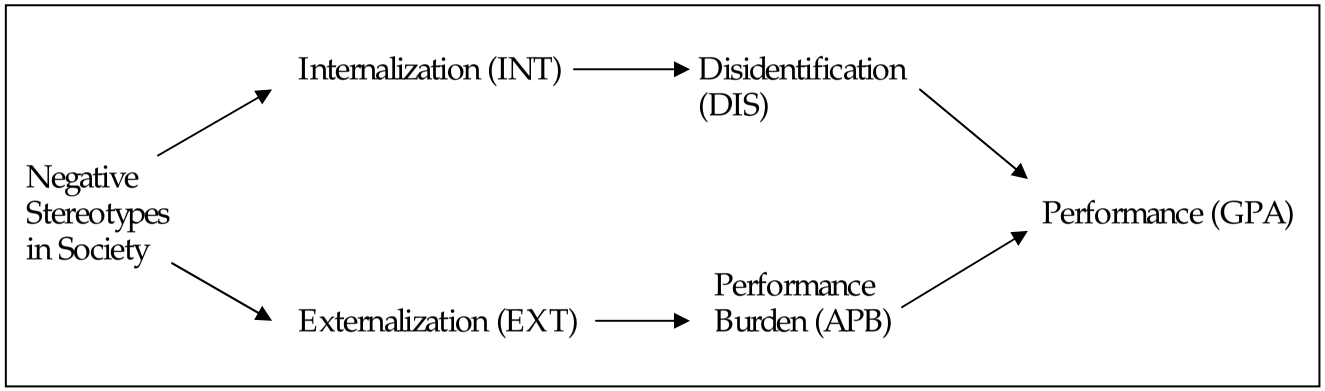
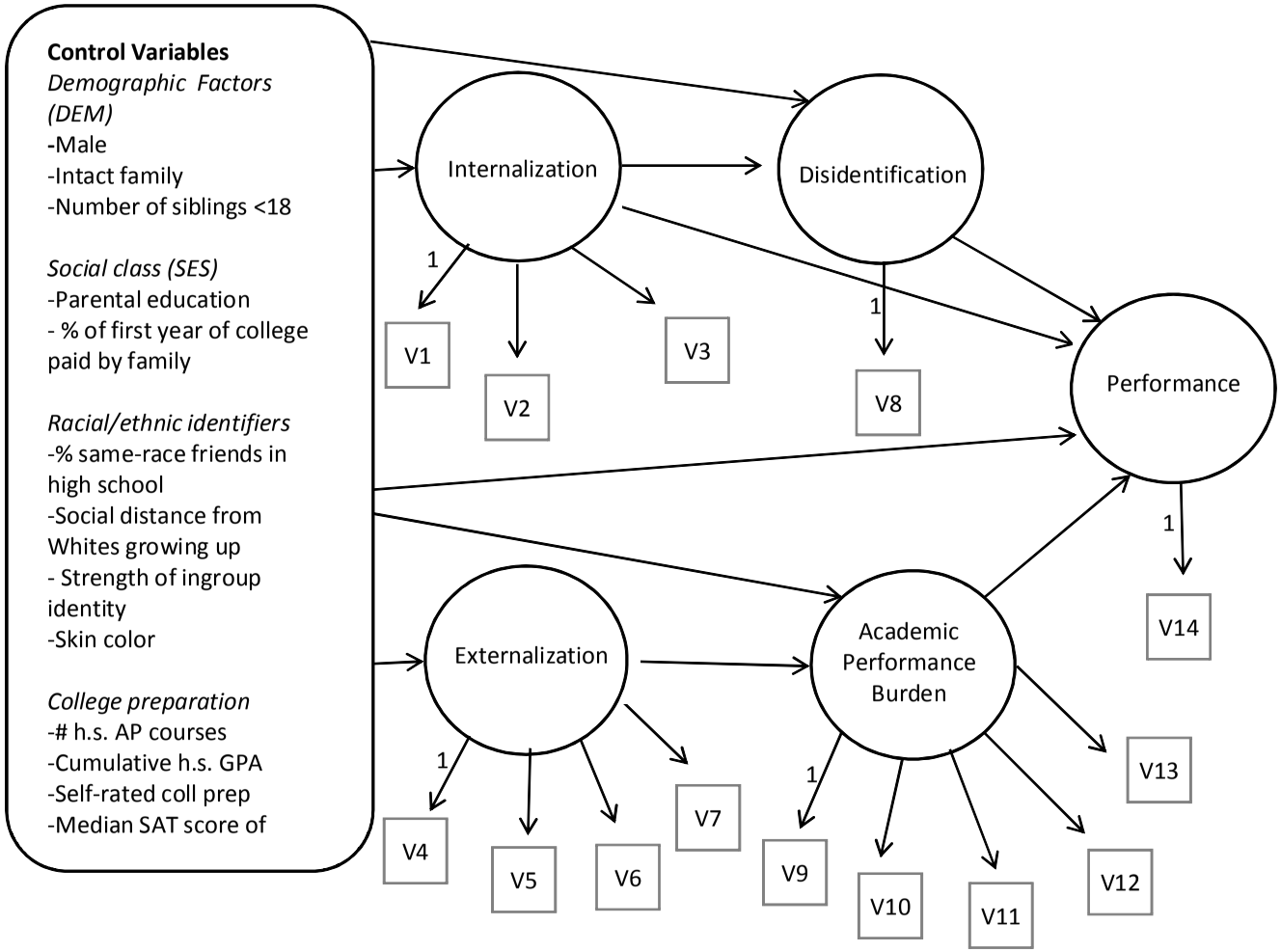
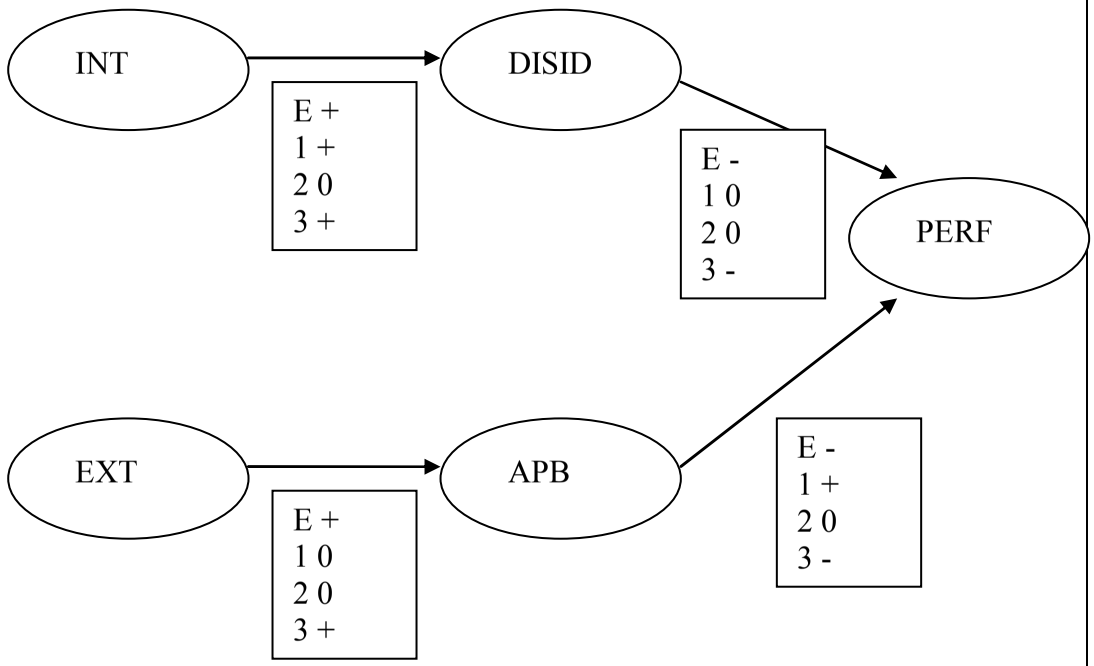


Figure 2. Path Diagram for Stereotype Threat



Note: See Table 1 for measurement specification of variables 1-14 (v1-v14).

Figure 3. Direction of Significant Paths in Full Structural Equation Model, by Immigrant Generation, Compared to Expected Direction of Effects Based on Stereotype Threat Theory



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.