Stereotype Threat and School Belonging in Adolescents From Diverse Racial/Ethnic Backgrounds

Zena R. Mello, Robyn K. Mallett, James R. Andretta, Frank C. Worrell

Abstract: *In this study, we extend research on stereotype threat to adolescents and to school belonging. Stereotype threat refers to the impact of societal stereotypes on individual performance. Participants included adolescents from marginalized racial/ethnic minority groups including African Americans, American Indians, and Latinos and nonmarginalized racial/ethnic groups including Asian Americans and European Americans. A subtle manipulation that involved altering the sequence of instruments on a survey was employed to make identity salient and to activate stereotype threat. Results indicated that marginalized minority adolescents in the threat condition reported lower school belonging scores than their counterparts in the nonthreat condition, with a small to medium effect size. Making identity salient did not affect school belonging in nonmarginalized participants. Findings have implications for academic performance in minority adolescents.*

Introduction

Considerable disparities in educational outcomes persist across racial/ethnic minority groups (KewalRamani, Gilbertson, Fox, & Provasnik, 2007). In 2005, just over half of Hispanics and two thirds of African Americans had completed high school by adulthood compared to 90 % of European Americans (KewalRamani, et al., 2007). These disparities have long-term implications, given the strong relationship between educational attainment and earnings in adulthood (U.S. Census Bureau, 2009). A potent explanation for the racial/ethnic patterns in achievement is stereotype threat (Steele & Aronson, 1995). A large literature has emerged showing that when college students from stigmatized minority groups are made aware of negative societal stereotypes about their group, a decline in academic performance is observed. For a recent review, see Davis and Simmons (2009).

However, very little is known about the stereotype threat phenomenon in adolescents, even though this developmental period may be particularly sensitive to stereotype threat. Adolescence is a period of heightened identity formation (Erikson, 1968). For racial/ethnic minority youth, this process involves the consideration of racial or ethnic group membership, which includes associated stereotypes (Phinney, 1990; Spencer, 1995). Instead of stereotype threat, research on racial/ethnic minority adolescents and academic outcomes has focused on school belonging (Faircloth & Hamm, 2005), with studies consistently showing that school belonging positively predicts academic outcomes in adolescents (Osterman, 2000). Thus, in the current study we sought to bring these literatures together, by extending research on

stereotype threat to adolescents and by examining its relationship with school belonging.

Stereotype Threat

Stereotype threat has a negative impact on the academic performance of individuals in marginalized groups (Steele & Aronson, 1995). As Steele (1997) noted, a decline in performance results when individuals are made aware of their membership in a stigmatized group and are in a situation in which a negative stereotype about their group is present. The majority of extant research includes college students as participants and experimental studies conducted in laboratory settings (Steele, 1997; Steele & Aronson, 1995). Researchers typically activate stereotype threat by (a) creating an evaluative situation such as the completion of a high-stakes test, and (b) making racial/ethnic group membership salient. Using this method, Steele and Aronson (1995) showed that African American college students had lower academic scores than their counterparts not exposed to stereotype threat. Similar results were observed with a verbal test in African American college students (Blascovich, Spencer, Quinn, & Steele, 2001).

Several factors have been posited to explain the decrements in academic performance when stereotype threat is activated. These include anxiety (Steele, 1997), a decrease in working memory capacity (Schmader & Johns, 2003), and physiological stress (Schmader, Johns, & Forbes, 2008). For example, Schmader (2010) argued that the process of considering how poor performance on a test may confirm a stereotype taxes cognitive abilities, and, in turn, diminishes performance. In another study, Blascovich et al. (2001) showed that the blood pressure of African Americans increased

in the stereotype threat condition compared to counterparts in the control condition. It is generally believed that encountering negative stereotypes about one's social group will detract from cognitive resources, resulting in a decline in performance (Schmader et al., 2008).

Most of the research on stereotype threat has focused on African Americans, although research with Latinos has shown similar effects. Gonzales, Blanton, and Williams (2002) examined stereotype threat in Latino college students. Results from this study indicated that Latinos scored lower on a test of math and spatial ability than their nonthreatened counterparts. In another study of Latino college students, Schmader and Johns (2003) reported that when a test of working memory was described as a measure related to intelligence, participants in the threat condition scored lower than those not in the threat condition.

Extant research on stereotype threat and adolescents is limited, although adolescence is an especially relevant developmental period to examine stereotype threat. Individuals in this age group are forming an identity (Erikson, 1968). Adolescents from racial/ethnic minority backgrounds also develop a racial/ethnic identity that includes affiliation with a particular racial/ethnic group and the understanding of the stereotypes associated with membership (Phinney, 1990; Spencer, 1995). Stereotypes about academic performance are negative for marginalized racial/ethnic groups, such as African Americans, American Indians, and Latinos. In contrast, stereotypes about the academic performance of nonmarginalized racial/ethnic groups including European American and Asian American are positive. Thus, research on identity formation and racial/ethnic minority adolescents indicates individuals in adolescence will show similar stereotype threat patterns as college students.

A small body of research has examined stereotype threat in adolescents. In a study of high school freshman, African Americans had lower scores on academic tests than European Americans in the same threat-activated condition (Kellow & Jones, 2008). Arbuthnot (2009) examined eighth grade African American students in relation to test-taking strategies. Results indicated that when placed in a high-stereotype threat condition, students employed less advanced test-taking strategies than other conditions. Good, Aronson, and Inzlicht (2003) designed an intervention program for seventh graders that focused on teaching strategies to overcome the anxiety-producing effects of stereotype threat. Adolescents were mentored by college students who encouraged participants to consider intelligence as malleable or as a function of particular educational contexts. Participants were female, minority, and low-income. Results indicated that standardized test scores in mathematics were higher for those participants in the intervention condition compared to those in the control condition.

Research with children provides support for the examination of stereotype threat in adolescents. In a study of Asian American girls, Ambady, Shih, Kim, and Pittinsky (2001) showed a decrease in cognitive performance for participants confronted with a negative stereotype about females and an increase in cognitive performance for participants exposed to positive stereotypes about Asian Americans. McKown and Strambler (2009) showed that African American and Latino children aged 5 to 11 who were aware of broadly held stereotypes about racial/ethnic groups exhibited the stereotype threat effect on a standardized memory task. In sum, research consistently shows when exposed to negative group stereotypes in an evaluative

situation, stereotype threat effects emerge on several indices of academic performance.

School Belonging

School belonging is a particularly important factor for the promotion of academic achievement in racial/ethnic minority adolescents (Osterman, 2000). Osterman reviewed the research on school belonging and indicated that definitions of the construct included adolescents' sense of belonging, relatedness, or connection to school, as well as school or classroom membership. Osterman reported that studies have shown school belonging predicted academic outcomes such as achievement, motivation, and the likelihood of dropping out of school, as well as positive attitudes toward class work, teachers, and peers. This author argued that students' sense of belonging to school influences both commitment to school and engagement with school activities, and that these behaviors are directly related to academic outcomes.

Extant research provides support for the positive association between school belonging and academic outcomes. Goodenow (1993) examined school belonging in early adolescents and reported that school belonging predicted academic expectations, values, and performance. Archambault, Janosz, Jean-Sebastien, and Pagani (2009) showed that low levels of school engagement, a conceptually-similar construct to school belonging, predicted high school dropout among adolescents in French-Canadian schools. Faircloth and Hamm (2005) reported that the relationship between motivation and achievement was best predicted by school belonging in African American and Latino adolescents. Sirin and Rogers-Sirin (2004) showed that school engagement positively predicted academic achievement in a subsample of the National Longitudinal Study of Adolescent Health (ADD Health). Participants included middle-class, those living in a household with an income greater than $50,000.00, and were African American adolescents aged 12 to 19. In another analysis of the ADD Health data that included 9th through 11th grade African American students, Sirin and Rogers-Sirin (2005) reported that school belonging positively predicted academic performance.

In a retrospective study of school belonging, Pittman and Richmond (2007) found that college student reports of school belonging, both about high school and college, positively predicted academic achievement and perceived competence in college. Similarly, Walton and Cohen (2007) demonstrated that when African American participants learned they would have few friends in their reported field of study, both their sense of belonging and sense of potential in their future field of study decreased dramatically compared to European Americans. Moreover an intervention that attenuated doubts about belonging increased academic achievement.

The Present Study

The present study sought to extend research on stereotype threat to adolescents and to school belonging by addressing three interrelated research questions. First, does stereotype threat manifest in adolescents? Given that the few extant studies on stereotype threat with children or adolescents have showed similar results with college students (Arbuthnot, 2009) we expected to observe comparable findings. Second, what is the relationship between stereotype threat and school belonging? Prior research shows that school belonging

consistently and positively predicts academic outcomes (Osterman, 2000), so we expected that school belonging would have a similar relationship with stereotype threat as performance on standardized tests; thus, increasing stereotype threat would be associated with reports of school belonging that were lower than nonstereotyped participants. Third, does a subtle manipulation manifest stereotype threat? Specifically, does simply drawing attention to one's racial/ethnic group in a nonevaluative situation prime stereotype threat? Given the interest in stereotype threat topic, we sought to provide information about the methods used to assess the topic.

Method
Participants
Participants included 301 adolescents in the following self-reported racial/ethnic groups: African American ($n = 33$, 11%), Asian American ($n = 76$, 25%), European American ($n = 123$, 41%), Latino ($n = 31$, 10%), American Indian ($n = 3$; 1%), Multi-Ethnic ($n = 29$, 10%), other ($n = 5$; 2%), and missing ($n = 1$; .5%) categories. The sample ranged in age from 12 to 19 ($n = 16$, SD = 1.25), was 60% male ($n = 180$), and included students in Grades 6 to 12.

We classified individuals who reported membership in multiple groups into a single racial/ethnic category, with membership in an ethnic minority group treated as dominant. Thus, a participant who reported both African American and European American group membership was classified as African American. The recoded sample included 35 African Americans (12%), 85 Asian Americans (29%), 123 European Americans (41%), 34 Latinos (11%), 15 American Indians (5%), and the remaining participants in multiple group ($n = 3$; 1%), other ($n = 5$; 2%), and missing ($n = 1$; .5%) categories. It is worth noting that analyses were conducted with both forms of racial/ethnic group categorization and no differences were observed.

Measures
Multigroup Ethnic Identity Measure (MEIM)
The *MEIM* measures affiliation with a racial/ethnic group (Phinney, 1992). It includes 20 items rated on a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The *MEIM* consists of two subscales—ethnic identity (EI; Α = 0.71) and other group organization (OGO; Α = 0.69). An example of an EI item is, "I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs," and an example of an OGO item is, "I like meeting and getting to know people from ethnic groups other than my own." Ratings are made on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). Alphas for the current study were as follows: ethnic identity (Α = 0.84) and other group organization (Α = 0.73).

School Belonging
School belonging was measured with the item: "To what extent do you experience a sense of exclusion or a sense of belonging at your school?" This item has been used effectively in prior research on school belonging (Sidanius, Van Laar, & Levin, 2004). Participants responded on a 7-point Likert scale ranging from 1 (*strong sense of exclusion*) to 7 (*strong sense of belonging*). Average school belonging was 5.32 (SD = 1.65).

Control Variable
Socioeconomic status (SES) was included as a control variable. Cohen and Sherman (2005) argued for the inclusion of control variables that eliminate confounding variation among racial/ethnic groups in stereotype threat studies. SES was measured with one item, "How would you describe your family's socioeconomic status?" Participants chose which SES group best described their family's SES on a 7-point Likert scale that ranged from 1 (*poor*) to 7 (*wealthy*). The average SES was 4.20 (SD = 1.29).

Procedure
Participants were recruited from four high schools in Midwestern and Western states (one and three, respectively). Schools were identified through nonprobability sampling. Principals at the high schools volunteered their schools for the purpose of the present study. We were unable to determine the response rate; given the numbers of students in attendance on the day of data collection was not ascertained. Study materials were distributed through the schools. Adolescents who returned completed materials comprised the convenient sample.

We divided participants into marginalized (African American, American Indian, and Latino, $n = 84$; 28%) and nonmarginalized groups (European American, Asian American, $n = 217$; 72%). Marginalized groups reflected racial/ethnic minorities associated with broadly held negative stereotypes regarding academic achievement.

Stereotype threat was activated by varying the sequence of questions in the survey. We randomly assigned participants to complete a survey with a demographic form soliciting their racial/ethnic group, SES, and a measure of ethnic identity (i.e., the *MEIM*; Phinney, 1992) either before or after reporting school belonging. Reporting racial/ethnic group identification before school belonging should prime stereotype threat for members of marginalized groups. Prior research with children has shown how presenting pictures of stereotyped racial/ethnic groups evokes the stereotype threat phenomena (Ambady et al., 2001).

Results
Analytic Strategy
We used ANCOVA to examine the effect of the threat condition on school belonging for marginalized and nonmarginalized groups, with SES as a control variable. The model included school belonging as the outcome variable and the following predictors: (a) a dichotomous term indicating marginalized or nonmarginalized group membership, (b) a dichotomous term indicating the threat condition, (c) an interaction term generated by the product of marginalized group and threat condition, and (d) SES. Dichotomous terms were set to values of "1" and "0." Statistical significance was determined with *p*-values less than 0.05. Finally, we interpreted the effect size of results based on guidelines proposed by Tabachnick and Fidell (1996), with Η² the suggested estimate for the strength of association in an ANCOVA.

Preliminary Analyses
Preliminary analyses included the examination of SES across racial/ethnic group membership. A one-way ANOVA indicated that SES varied among racial/ethnic groups with a small effect size, $F(6, 291) = 3.67$, $p < .001$, Η² = .07. Asian American adolescents had

the highest overall SES ($M = 4.67$, $SD = 1.02$), followed by African Americans ($M = 4.40$, $SD = 1.67$), European Americans ($M = 4.00$, $SD = 1.26$), American Indians ($M = 3.93$, $SD = 1.53$), and Latinos ($M = 3.79$, $SD = 1.17$). SES was included as a control variable in analyses.

Primary Analysis

Table 1 shows results from the ANCOVA. There was a main effect for marginalized group membership on school belonging ($p < 0.01$), with participants in marginalized groups (i.e., African American, American Indian, and Latino) reporting lower school belonging than their nonmarginalized counterparts (European American and Asian American). Most pertinent to the current study was the significant interaction of group membership and threat condition in predicting school belonging ($p < 0.01$). The effect size for this result was small to medium (i.e., $H^2 = 0.27$). Figure 1 shows marginalized participants in the threat condition reported lower school belonging scores than marginalized participants in the nonthreat condition ($M_{threat} = 4.54$; $M_{nonthreat} = 5.55$) and nonmarginalized participants in the threat or nonthreat conditions, respectively ($M_{threat} = 5.55$; $M_{nonthreat} = 5.41$). School belonging scores did not differ between nonmarginalized participants according to threat condition.

Discussion

We showed that adolescents from racial/ethnic minority backgrounds, such as African American, American Indian, and Latino reported lower school belonging scores than their counterparts when stereotype threat was activated. Simply bringing to mind one's membership in a group that is marginalized was associated with feeling excluded from one's school. These findings extend research on stereotype threat in at least three ways. First, they suggest that adolescents are a meaningful age group for research on stereotype threat. Second, stereotype threat can have an effect on school belonging, an attitudinal variable with a consistent positive relationship to academic outcomes. Third, they show that even a subtle manipulation of identity salience in a nonthreatening context can activate a form of stereotype threat.

The results provide support for additional research on stereotype threat in adolescents and are consistent with the limited prior research with this age group (e.g., Arbuthnot, 2009; Kellow & Jones, 2008) and children (McKown & Strambler, 2009; McKown & Weinstein, 2003). Developmental theory has highlighted the salience of identity in adolescence (Erikson, 1968) and more recent theorizing has extended the adolescent focus on identity to cultural identities such as race and ethnicity in minority adolescents (Phinney, 1990; Spencer, 1995). Because adolescents in minority groups are engaged in reflection about their racial/ethnic identity and what it means in the context of the larger society, they may be particularly sensitive to the stereotypes about their racial/ethnic group membership.

Previous research on African American adolescents has indicated that stereotype threat affects performance on standardized tests (Kellow & Jones, 2008) and the cognitive processing required to access appropriate test-taking strategies (Arbuthnot, 2009). The present study showed that stereotype threat also has a negative effect on attitudes about school belonging. These findings have implications

Table 1

Examining School Belonging by Marginalized Racial/Ethnic Group Membership and Stereotype Threat Condition

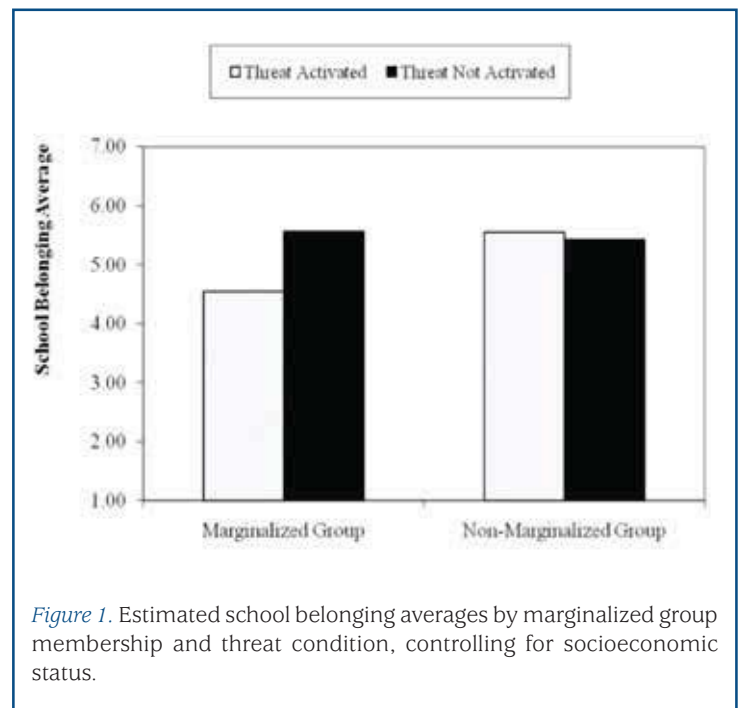| Source	Sum of Squares	df	Mean Square	F
Model	61.47	4	15.37	6.3***
Marginalized Group	17.86	1	17.86	7.32**
Threat Condition	7.94	1	7.94	3.26
Marginalized Group X Threat Condition	18.40	1	18.40	7.54**
Socioeconomic Status	4.91	1	4.91	2.01
Error	663.25	272	2.44	

$***p < 0.001$, $**p < 0.01$.

Figure 1. Estimated school belonging averages by marginalized group membership and threat condition, controlling for socioeconomic status.

for educators working with minority adolescents. School belonging is an important predictor of school functioning and has been described as especially useful topic for adolescents from stigmatized minority groups (Faircloth & Hamm, 2005).

We used a subtle manipulation to invoke stereotype threat, and produced results similar to those shown in laboratory studies (e.g., Steele & Aronson, 1995). Specifically, we activated stereotype threat by placing questions soliciting racial/ethnic group membership and ethnic identity either before or after a question on school belonging in a self-report survey. Our findings indicate that simply considering one's membership in a marginalized racial or ethnic group such as African American, American Indian, or Latino may call to mind stereotypes of underperformance. Even in the absence of negative feedback on an evaluative test, members of marginalized groups may be aware of stereotypes with their group and experience a sense of threat. These findings are consistent with those of Ambady et al. (2001) who also employed a subtle manipulation to activate stereotype threat in a study with participants in kindergarten through grade 2. Specifically, the authors used a picture-coloring task to activate stereotypes about gender and racial/ethnic groups. The current study provides preliminary evidence that the phenomenon is robust enough to appear in a survey research design.

Limitations, Future Directions, and Implications

This study has limitations that should be explored in future research. First, the marginalized minority sample in the current study was too small to separate participants into individual racial/ethnic groups. An important direction for future research would involve conducting similar research with specific racial/ethnic groups such as African Americans, American Indians, and Latinos. Second, we used a single item to measure school belonging. Even though this method has proved effective for assessing school belonging in prior studies (e.g., Sidanius et al., 2004), research should examine more nuanced school belonging measures.

Third, future research may further examine SES. Although this variable was controlled for statistically, the marginalized racial/ethnic minority participants in this study were disproportionally from lower-SES groups compared to nonmarginalized adolescents. There is some research suggesting that students from low-SES backgrounds are more vulnerable to stereotype threat than those from high-SES backgrounds (Croizet & Claire, 1998). In this particular study, low-SES participants included those with parents who were employed in occupations, such as manual labor, whereas high-SES included managers and professionals. Further, SES was positioned with racial/ethnic group identity in the survey used for the current study. This prohibited the separate examination of SES and racial/ethnic group membership.

Finally, we used nonprobability sampling to identify the high schools that we used to recruit participants. Given that our study relies on a volunteer or convenience sample, we were unable to estimate sampling error (Pedhazur & Schmelkin, 1991). Further, we did not identify the number of adolescents in attendance in the high schools on the days of data collection, which prohibits the calculation of response rate. The nature of the sample in this study greatly limits its generalizability. Future research is needed that employs probability sampling.

Nonetheless, this study has implications for educators who focus on adolescents who are at risk for poor educational outcomes. As noted, the educational and occupational disparities between marginalized (i.e., African Americans, American Indians, and Latinos) and nonmarginalized (i.e., European Americans and Asian Americans) adolescents are striking. Identifying mechanisms that may facilitate positive outcomes for marginalized adolescents is critically important. Further, adolescents complete high school graduation exams and other tests (e.g., SAT) that have important consequences for college enrollment and employment. If something as simple as changing the ordering of demographic questions and a measure of ethnic identity can mitigate the effects of stereotype threat, this change is worth making.

Last, adolescence may be a particularly useful period for interventions, given the salience of this construct in this period. Indeed, Good et al. (2003) have shown that an intervention program addressing a mediating mechanism of stereotype threat, such as anxiety, can counteract the adverse effects of stereotype threat in minority adolescents. In sum, this study suggests that we should pay considerably more attention to the role of stereotype threat in marginalized racial/ethnic minority adolescents.

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Authors

Zena R. Mello, Ph.D., is an Assistant Professor of Psychology at the University of Colorado, Colorado Springs. Her research interests focus on factors that promote well-being in racial/ethnic minority and low-socioeconomic status adolescents, with an emphasis on (a) time perspective, a cognitive-motivational concept that comprises thoughts and attitudes toward the past, the present, and the future; and (b) perceptions of barriers to school and work given demographic group membership.

Robyn K. Mallett, Ph.D., is an Assistant Professor of Psychology at Loyola University Chicago. Her research investigates pathways to positive intergroup relations by examining the cognitive, emotional, and behavioral components of intergroup contact.

James R. Andretta is a postdoctoral fellow in the Child Guidance Clinic, Superior Court of the District of Columbia. His research interests include stereotype threat, time perspective, school belonging, risky behavior, recidivation, and academic motivation.

Frank C. Worrell, Ph.D., is a Professor in the Graduate School of Education at the University of California, Berkeley, where he serves as Director of the School Psychology program, Faculty Director of the Academic Talent Development Program, and Faculty Director for the California College Preparatory Academy. His research centers on academic talent development, the relationship of psychosocial variables to academic and psychological functioning, and the translation of research findings into school-based practice.