Academic Race Stereotypes, Academic Self-Concept, and Racial Centrality in African American Youth

Ndidi A. Okeke, **Lionel C. Howard**, and **Beth Kurtz-Costes**
University of North Carolina, Chapel Hill

Stephanie J. Rowley
University of Michigan, Ann Arbor

Abstract

The relation between academic race stereotype endorsement and academic self-concept was examined in two studies of seventh- and eighth-grade African Americans. Based on expectancy-value theory, the authors hypothesized that academic race stereotype endorsement would be negatively related to self-perceptions. Furthermore, it was anticipated that the relation between stereotype endorsement and self-perceptions would be moderated by racial centrality. The hypothesis was supported in two independent samples. Among students with high racial centrality, endorsement of traditional race stereotypes was linked to lower self-perceptions of academic competence. The stereotype/self-concept relation was nonsignificant among youth for whom race was less central to their identities. These results confirm the supposition of expectancy-value theory and illustrate the interweaving of group and individual identity with motivational beliefs.

Keywords

stereotypes; *motivation*; *racial identity*; *self-concept*

Identity development is particularly important during adolescence, when youth are distancing themselves from parents through increasing expressions of autonomy (Erikson, 1968). In exploring who they are as individuals, adolescents depend on cues from the social environment (Oyserman, Gant, & Ager, 1995). As Erikson (1968) noted, adolescents are "sometimes morbidly preoccupied with what they appear to be in the eyes of others" (p. 128). For racial and ethnic minority youth, the expectations of others may be shaped by stereotypes about racial differences in abilities. Thus, for these youth, identity development entails forging an understanding of how race—including the centrality of race for the individual, as well as the meaning ascribed to race by others in the society—is intertwined with personal identity. In this article, we explore African American adolescents' endorsement of racial stereotypes about academic abilities and the relation between these stereotypes and the self-perceptions of adolescents for whom race is more or less central in their views of themselves.

Correspondence concerning this article should be addressed to Ndidi A. Okeke, Department of Psychology, University of North Carolina at Chapel Hill, CB # 3270, Chapel Hill, NC 27599; okeke@email.unc.edu..

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RACE STEREOTYPES ABOUT ACADEMIC ABILITY

By age 4 or 5, children in North America are aware that race is a human characteristic that is fixed at birth and that membership in a racial group predicts some qualities of group members (Hirschfeld, 1996, 2001). Although much research has examined children's implicit and explicit attitudes toward members of other races (e.g., Aboud, 1988; Baron & Banaji, 2006), relatively little research has examined the age at which children become aware of academic race stereotypes, whether or not children endorse them, and the resulting repercussions for children's views of themselves. These stereotypes would presumably have an important impact on children's identity development as exemplified both by research on gender academic stereotypes as well as the salience and pervasiveness of negative assumptions in the United States about the intellectual abilities of African Americans (Bobo, 2001).

Much of the recent research on race stereotypes has focused on stereotype threat. The concept of stereotype threat was introduced by Steele (1997), who proposed that awareness of a social stereotype that reflects negatively on one's social group can negatively affect the performance of group members. Researchers have consistently found that in a stereotype threat condition, individuals underperform on cognitive tasks compared with nongroup members (Kellow & Jones, 2008; Schmader, Johns, & Forbes, 2008; Steele, 1997; Steele & Aronson, 1995). Because performance decrements will not appear in a threat situation unless individuals are aware of the stereotype, it can be deduced that by high school, youth are aware of stereotypes about race differences in intellectual ability (Kellow & Jones, 2008). Thus, stereotype threat research has yielded indirect evidence that adolescents are aware of stereotypes about race differences in academic skills.

A few studies have examined stereotype awareness and endorsement more directly, and with younger age groups. McKown and Weinstein (2003) examined "stereotype consciousness" in an ethnically diverse sample of children between the ages of 6 and 10. To assess children's ability to infer stereotypes, the authors used a vignette-based experimental task in which children were told about an imaginary land populated by "Greens" and "Blues" where a Green character believed that Blues are not as smart as Greens. Children were also asked to talk about ways in which the real world mirrored the imaginary land. Awareness of broadly held stereotypes increased with age so that by age 10, 80% of ethnic minority children and 63% of majority children were aware of race stereotypes in the broader society (McKown & Weinstein, 2003, Study 1).

McKown and Weinstein (2003) assessed children's awareness, rather than endorsement, of racial views, and their measure encompassed a wide range of racial attitudes and beliefs. Children's own beliefs were assessed by Hudley and Graham (2001), who used a "first impression" task in which African American, Latino, and European American junior high school students were given a series of descriptions of youth and selected which individual from a set of photos corresponded to each description. When presented with a description of a low achiever, participants were more likely to select photos of ethnic minority males than ethnic minority females or majority youth of both genders. Using visual analogue scales on which youth rated the abilities of members of different racial groups in academic and nonacademic domains, Rowley, Kurtz-Costes, Mistry, and Feagans (2007) found that both Black and White middle school youth were more likely than fourth graders to endorse traditional academic race stereotypes (i.e., European Americans are smarter than African Americans). Thus, there is a growing body of research indicating that by the middle school years youth are aware of academic race stereotypes and have some tendency to endorse them. In the current study, we explored whether race stereotype endorsement was related to self-perceptions of academic competence in African American youth.

ACADEMIC STEREOTYPE ENDORSEMENT AND SELF-PERCEPTIONS OF COMPETENCE

Academic self-concept is the constellation of perceptions that individuals hold about their academic abilities. Self-concepts tend to be shaped by both internal comparisons—for example, viewing oneself as more competent in verbal domains than in mathematics—and external comparisons—evaluating one's abilities compared with those of others (Marsh, 1986, 1990). In addition to being a reflection of actual achievement outcomes, academic self-concept is posited in motivational theories to enhance future performance because the individual's belief in his or her competence leads to greater persistence in the face of failure and greater effort expenditure on difficult tasks (Bandura, 1997; Harter, 1992; Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2005).

Although most of the research examining the motivational value of academic self-concept has been conducted with White samples, the few studies that have been conducted with African Americans generally show positive relations between self-perceptions and achievement. For instance, positive relations have been found between academic self-concept and GPA of African American college students at both historically Black and predominantly White institutions (Awad, 2007; Cokley, 2002; Cokley & Moore, 2007). In a sample of high school students, self-perceptions of ability were positively related to intentions to complete high school for both boys and girls (Saunders, Davis, Williams, & Williams, 2004). Thus, consistent with motivational theories, positive beliefs about one's academic abilities presumably lead to greater achievement striving in African American youth (Bandura, 1997; Graham, 1994).

In their expectancy-value model of achievement motivation, Eccles et al. (1982) theorized that a child's perception of stereotypes directly influences perceptions of his or her own competence. According to this theory, endorsement of traditional academic race stereotypes would lead to lower self-perceptions of academic competence for African Americans. This conclusion is consistent with that of many theorists who posit the centrality of social group membership and social cues for individual identity development (Erikson, 1968; Oyserman et al., 1995; Thompson, 2006).

Given the historical persistence of race stereotypes about intellectual ability and these theoretical arguments linking social group membership to individual identity beliefs, it might be expected that Black Americans would report lower perceptions of academic competence than Whites. However, race comparative studies between African American and European American youth have generally found few differences in self-perceptions of academic competence (see Graham, 1994, for a review). These results would imply that negative stereotypes have no impact on the individual perceived competence of Black youth. Indeed, in research with college students, Major, Spencer, Schmader, Wolfe, and Crocker (1998) found that whereas White students showed lower general self-esteem after receiving failure feedback on a task, African Americans in the study did not show changes in self-esteem based on task feedback (Major, Spencer, Schmader, Wolfe, & Crocker, 1998). Major et al. concluded that African American students either discounted the feedback or had devalued the domain. In a subsequent study, Schmader, Major, and Gramzow (2001) found that African American students in their sample were more likely than Whites to discount academic feedback but did not differ from Whites in devaluing of academics.

To our knowledge, no published research has examined the relation between academic race stereotype endorsement and self-perceptions; however, a few studies have examined the relation between gender stereotypes and self-perceptions of mathematics ability. In a recent investigation in our own laboratory, we found that beliefs that boys are better than girls in mathematics and science were related to self-perceptions of mathematics and science

competence among boys but not among girls (Kurtz-Costes, Rowley, Harris-Britt, & Woods, 2008). However, in a sample of college women, endorsement of traditional stereotypes about women's math ability was negatively related to performance self-esteem (Schmader, Johns, & Barquissau, 2004). In the current study, we examine the relation between academic race stereotype endorsement and self-perceptions of academic ability in African American adolescents. Thus, prior empirical evidence leads to contradictory hypotheses regarding whether or not race stereotype endorsement would be expected to be related to academic self-concept in African American youth. In the present study, we examine a possible moderator that might explain why race stereotypes would be related to self-perceptions in some youth but not others: racial centrality.

THE MODERATING ROLE OF RACIAL CENTRALITY

Although stereotypes may affect the self-perceptions of members of stigmatized groups, this may be the case only for those members whose personal identities emphasize membership in that group (Rosenberg, 1979). It cannot be assumed that race is a central aspect of every African American person's identity. Sellers, Smith, Shelton, Rowley, and Chavous (1998) have conceptualized racial identity in African Americans as a multidimensional construct including four dimensions. *Racial salience* refers to the extent to which race is an important aspect of an individual's self-concept at a particular time in a specific context, whereas *racial ideology* is an individual's attitudes and beliefs regarding how African Americans should act. The third dimension is *racial regard*, or a person's evaluative judgment of his or her race. Two aspects of regard are defined: private (how an individual feels about African Americans) and public (an individual's view of how African Americans are seen by others). *Racial centrality* is the extent to which race is a central aspect of an individual's self-definition. In this project, racial centrality is the variable of interest.

We hypothesize that the influence of stereotype endorsement on an individual's self-perceptions will be especially strong if that individual feels strongly connected to the group for whom the negative stereotype applies. If being African American is central to one's self-definition, endorsement of race stereotypes is more likely to negatively influence self-perceptions than if race is not particularly important to the individual. Racial centrality has been posited as a protective factor buffering members of minority groups from discrimination (e.g., Cross, 1991). It is assumed that high centrality is protective because of social support from other group members who also experience discrimination. However, in the case of racial stereotypes, low centrality may be protective, because the stereotype would seem less personally applicable. In a study of racial identity and self-esteem in college and high school students, Rowley, Sellers, Chavous, and Smith (1998) found that students' opinions about African Americans (i.e., private regard) predicted personal self-esteem for African American students with high racial centrality, but not for those with low racial centrality. Gender identification has similarly been shown to moderate the impact of stereotype threat on women's mathematics performance: Only women who were highly identified with their gender showed lower performance in a stereotype threat situation (Wout, Danso, Jackson, & Spencer, 2008).

STUDY 1

We tested our hypotheses in two samples of young adolescents. As described above, we anticipated that academic race stereotypes would be negatively related to academic self-concept for both samples of students. In other words, adolescents who endorse traditional academic race stereotypes (i.e., European Americans are smarter than African Americans) would report lower levels of academic self-concept than adolescents with egalitarian or nontraditional beliefs. We tested this relation while controlling student achievement. In addition, we examined racial centrality (whether race is a central aspect of an individual's

academic self-concept) as a possible moderator: The relation between stereotype endorsement and self-perceptions was expected to be stronger among youth who reported higher levels of racial centrality compared with those with lower racial centrality. Recognizing the limitations of relatively small sample sizes, two independent (yet similar on demographic measures) samples were used to measure the robustness and replicability of the research findings. This study makes a significant contribution to the research literature on stereotypes because no attention had been given to the role of personal race stereotype endorsement in shaping self-perceptions or the potential moderating role of racial centrality in this relation.

METHOD

Participants

The participants in Study 1 were 237 African American students (134 girls, 103 boys) from 5 middle schools in two school districts (one urban, one rural) in the Southeastern region of the United States. Because this work was part of a larger study, an additional 108 students participated who were of other racial or ethnic groups; their data are not included in the present report. A majority of the students in these schools (60% to 80%) were African American. The sample of 237 students included 42 seventh graders and 195 eighth graders with a mean age of 13 years and 8 months (SD = 7.6 months). Parent income data were available for 75.9% of the sample. Among families for whom income data were available, approximately 43.9% reported an annual income of less than $30,000, 39.4% reported an income between $30,000 and $59,000, and 16.7% reported an annual income of $60,000 or more. Parent education data were available for 69.9% of the sample. Of those reporting, approximately 6% reported having attended some high school or less, 19.2% earned a high school diploma or GED, 38.8% had spent some time attending a technical school or college, and 35% earned an associate's degree or higher (e.g., bachelors, master's, or doctorate).

Procedure

Written parental consent was required for study participation. Parents and students were told that the research study was about how parents talk with their young adolescents about race and gender, what factors predict academic success, and differences between boys and girls. Research assistants distributed consent letters to students in their home-room classes. Approximately 67% of the students returned the consent forms, and most of them (97%) agreed to participate. Students were administered self-report questionnaires in small groups at their schools. Research assistants (most of whom were African American) distributed the questionnaires and answered any questions that arose. Additional measures were collected that are not included in this report. Students were given a $5 restaurant gift certificate for their participation.

Measures

Academic race stereotypes were measured using visual analogue scales. Students were asked to mark on a 100-mm line how well African American and European American students perform in several academic domains (i.e., math, science, reading, writing, school grades, and being smart). An example of an item is as follows: "I think that in math, Black children do this well," with "not well at all" on the far left side (0 mm) and "very well" on the far right side (100 mm). The distance in millimeters from the left side of the line was measured for each response, yielding a score between 0 and 100 that indicated the student's perception of the competence of members of that social group in each domain. The perceived group competence of other social groups (e.g., boys, girls) was also assessed; questions about each social group appeared on separate pages, and contrasting social groups (in this case, African Americans and Whites) were never consecutive in the questionnaire. In Study 2, three forms of the survey were used with different sequences of the groups. Analyses of variance confirmed that students'

responses on this measure did not vary as a function of the sequence with which social groups were presented. Each student's scores were averaged across the 6 items to yield a social group competence score, and the student's group competence score for African Americans was subtracted from the student's score for European Americans to yield a single academic stereotype score. Thus, higher scores were an indication of more traditional stereotypes (European Americans are smarter than African Americans), whereas scores near 0 represented egalitarian views, and negative scores indicated nontraditional beliefs. Reliability for the measure was strong, $\alpha = .84$.

Students ranked their academic self-concept on several items by circling a stick figure in a column of 25 figures for each item (Nicholls, 1978). Ratings were made in relation to other agemates on 6 items: math, science, language arts, writing, intelligence, and school grades. Higher scores indicated higher academic self-concept, with a possible score range of 1 to 25. Item scores were averaged across the 6 academic items to yield a single measure of academic self-concept, with a reliability coefficient of $\alpha = .78$.

Racial centrality was measured using a subscale of the Multidimensional Inventory of Black Identity (MIBI; Sellers et al., 1998). The MIBI measures four dimensions (centrality, salience, ideology, and regard) of African American identity. We used 6 items in the centrality subscale that were appropriate for young adolescents to measure the extent to which being African American is central to the participants' definition of themselves. On a 5-point Likert-type scale, students rated the extent to which they agreed with each item (e.g., "Being Black is an important part of my self-image"). A higher score on this scale indicates that race is a more central aspect of an individual's definition of self, $\alpha = .74$.

Students in the participating schools were required to take end-of-grade (EOG) standardized tests for math and reading each year. These scores were retrieved from school records at the end of the school year in which questionnaire data were obtained. Raw scores for each subtest were converted into percentile rankings based on statewide performance within each grade. Participants' math and reading percentile scores were averaged and used as an indicator of achievement.

Parents reported their education level on a 10-point scale that ranged from "less than high school" to "completed doctoral or professional degree" (e.g., PhD, MD, JD). Household income was also reported by parents, who could either report income on an annual scale that used $10,000 increments ranging from "less than $10,000 per year" to "more than $100,000 per year," or on a weekly scale that was approximately parallel ("less than $200 per week" to "more than $2,000 per week").

As noted above, 69.9% of the parents provided education and 75.9% income data. Because these variables were controlled in the analyses, mean imputation was used to replace missing data. Students of nonresponding parents did not differ significantly from students of responding parents on measures of academic self-concept, academic racial stereotype endorsement, race centrality, or academic achievement, all Fs < 1.5.

RESULTS

Before conducting our main analyses, we examined descriptive statistics and correlations for the study variables (see Tables 1 and 2). On average, students reported high levels of academic self-concept ($M = 17.0$ on a 25-point response scale) and endorsed relatively traditional academic race stereotypes ($M = 11.3$ on a scale where a score of 0 indicates no race differences). These students were also slightly above the midpoint on the racial centrality scale ($M = 3.6$ on the 5-point scale). As would be anticipated, academic achievement was moderately correlated with academic self-concept, $r(237) = .40$, $p < .01$.

Hierarchical multiple regression analyses were used to examine the extent to which academic race stereotype endorsement and racial centrality contributed to the variability in academic self-concept and whether racial centrality moderated the relation between academic race stereotypes and self-concept. First, analyses were conducted to test the effects of academic race stereotype endorsement and race centrality on academic self-concept, while controlling for student's gender, grade in school (i.e., Grade 7 or 8), percentage of African American students enrolled in the school, parent income, parent education, and academic achievement. The control variables were entered in Model 1, and race stereotypes and racial centrality were added in Model 2 (see Table 3). The full regression model was statistically significant, $F(8, 236) = 7.07$, $p < .001$, with an adjusted R^2 of .17. Next, to test the moderating effect of race centrality on academic race stereotype endorsement, a corresponding interaction term was entered into the analyses as a predictor of academic self-concept (Model 3). To avoid potential problems with multicollinearity, the variables were centered before calculating the interaction term (Aiken & West, 1991). The full regression model was statistically significant, $F(9, 236) = 7.69$, $p < .001$, with an adjusted R^2 of .20. The change in R^2 was significant, and the main effect of academic race stereotypes was qualified by the stereotypes × racial centrality interaction, $\beta = -.19$, $p < .01$ (see Table 3).

To probe the interaction, the conditional effects of race stereotype endorsement at high (at least 1 SD above the mean score), medium (within 1 SD of the mean score), and low (at least 1 SD below the mean score) levels of racial centrality were plotted (see Figure 1). The simple slopes of academic race stereotypes at low and average levels of racial centrality were not statistically significant ($\beta = .09$, $p > .05$ and $\beta = -.03$, $p > .05$, respectively); however, the slope at high levels of racial centrality was significant ($\beta = -.45$; $p < .01$). As expected, when racial centrality was high (1 SD above the mean or higher), the relation was negative, indicating that stronger endorsement of academic race stereotypes was associated with a lower academic self-concept. Stereotypes were unrelated to self-concept among students for whom race was less central (see Figure 1).

STUDY 2

The purpose of Study 2 was to replicate the results of Study 1 with a similar sample. In Study 2, data were drawn from an ongoing longitudinal study aimed at understanding the transition to middle school for African American youth and its implication for their achievement motivation. Therefore, Study 2 participants had enrolled in the longitudinal project when they were in Grade 5. Their Grade 7 reports of the study variables were used for the current article. As in Study 1, we examined the relation between adolescents' stereotypes about race-related differences in academic competence and their perceptions of their own academic competence. Once again, racial centrality was examined as a moderator. Participants in the two studies were similar in age and family income.

METHOD

Participants

Participants in Study 2 were 290 seventh-grade African American students (170 girls, 120 boys) from 17 middle schools in an urban school district in the Southeastern region of the United States. These students had a mean age of 13 years ($SD = 8.3$ months). Racial composition of participating schools ranged from 27% to 98% African American; however, a majority of the sample (64%) attended schools in which 68% or more of the student body was African American, and fewer than 10% of the participants attended schools in which fewer than 45% of the students were African American. Parent income data were available for approximately 80% of the sample. Approximately 51.1% of these parents reported an annual income of less than $30,000, 31.2% reported an income between $30,000 and $59,000, and

17.7% reported an annual income of $60,000 or more. Only 51% of the parents reported their education level. Of those reporting, approximately 12.9% had attended some high school or less, 22.3% earned a high school diploma or GED, 35.7% had attended a technical school or college, and 29.1% had earned an associate's degree or higher (e.g., bachelors, master's, or doctorate).

Measures and procedure

Similar measures were used for both Studies 1 and 2. Alpha reliabilities of the measures varied slightly across the two studies. Reliabilities of measures in Study 2 are as follows: *Academic Self-concept* α = .80; *Academic Race Stereotypes* α = .86; and *Racial Centrality* α = .74. Because state percentile rank scores were not available, standardized achievement scores were calculated based on the raw EOG standardized test scores for math and reading. Parent education and income data collected from an earlier time point (fifth grade) were used for missing data in Grade 7; mean imputation was used in cases were data were missing at both time points. There were no significant differences in mean stereotype, racial centrality, or academic self-concept scores between children of responding and nonresponding parents. The same participant recruitment and data collection procedures were used as in Study 1; however, all the research assistants for Study 2 were African American.

RESULTS

Descriptive statistics and correlations for Study 2 are presented in Tables 4 and 5. On average, this sample of African American students reported high levels of academic self-concept ($M = 16.6$ on a 25-point response scale) and endorsed relatively traditional race stereotypes ($M = 10.3$). Students' mean racial centrality score was slightly above the scale midpoint, $M = 3.6$.

To examine the extent to which academic race stereotype endorsement and racial centrality contributed to the variability in academic self-concept and the extent to which race centrality moderates the relation between stereotype endorsement and academic self-concept, we again used hierarchical multiple regression analyses. As in Study 1, control variables (gender, percentage of African American students enrolled in the school, parent income and education, achievement scores) were simultaneously entered as predictors of academic self-concept. In Model 2, academic race stereotypes and racial centrality were also added as predictors (see Table 6). The full regression model was statistically significant, $F(7, 289) = 8.62$, $p < .001$, with an adjusted R^2 of .16. The main effects of academic achievement and academic race stereotypes were significant, $\beta = .38$ and $-.25$, respectively, $ps < .001$.

To test the moderating effect of racial centrality on academic race stereotype endorsement, those variables were centered at their means, and the interaction of the two was entered into the analyses as a predictor of academic self-concept (Model 3). The full regression model was statistically significant, $F(8, 289) = 9.38$, $p < .001$, with an adjusted R^2 of .19. The change in R^2 was significant, and the main effect of academic race stereotypes was qualified by the stereotype × centrality interaction, $\beta = -.21$, $p < .001$ (see Table 6).

Examination of the interaction term revealed that the simple slope of academic race stereotypes was significant at average and high levels of racial centrality, $\beta = -.20$ and $-.51$, respectively, $p < .01$. As expected, among students who were high in racial centrality, beliefs that African Americans are not as strong academically as European Americans were associated with lower academic self-concept. The relation between academic race stereotype endorsement and academic self-concept was nonsignificant among students with low race centrality. The conditional effects of race stereotype endorsement at high (1 *SD* above the mean score), medium (mean score), and low (1 *SD* below the mean score) levels of racial centrality are plotted in Figure 2.

DISCUSSION

Because academic underachievement continues to disproportionately affect African American students from all geographical areas in the United States (National Center for Education Statistics, 2007), it is important to understand the factors that influence achievement motivation in African American youth. Beliefs about competence influence actual achievement outcomes because of their motivational effect, particularly on challenging tasks and in response to failure (Eccles & Wigfield, 2002; Marsh & Craven, 2006; Marsh et al., 2005; Ryan & Deci, 2000). The goal of the current project was to examine the relation between academic race stereotypes and self-perceptions of academic competence in African American adolescents and to determine if this relation differed for youth with high versus low race centrality. For both samples of students, racial centrality moderated the relation between academic race stereotypes and academic self-concept: Endorsement of traditional academic stereotypes was related to lower academic self-concept only among youth for whom being African American was a central aspect of their identity.

STEREOTYPES AND PERCEPTIONS OF THE SELF

Classic psychological theory posits the importance of social group membership in shaping individual identity (Erikson, 1968; Thompson, 2006), and expectancy-value theory also suggests that individuals' stereotype endorsement will be related to their self-perceptions (Eccles et al., 1983). Thus, stereotypes about race differences in ability would be expected to influence self-perceptions of ability for members of negatively stereotyped groups. However, indirect evidence has not always supported this relationship. For instance, robust literature has shown few race differences between African Americans and European Americans in academic self-concept (Graham, 1994), and in the domain of gender, endorsement of stereotypes about gender differences in mathematics and science was unrelated to self-perceptions of mathematics and science self-concept among eighth-grade girls (Kurtz-Costes et al., 2008). Taken together, these results imply that the link between social stereotypes and individual self-perceptions may differ depending on developmental status (e.g., identity issues may be less defined among young adolescents than among older adolescents and young adults), social status (i.e., the relation might be stronger for the positively stereotyped social group than for the negatively stereotyped group), and social group (i.e., race stereotypes may have different meaning than gender stereotypes, thus showing a different relation to self-perceptions of competence).

The negative relationship between stereotypes and self-concept in the current study was found in two samples at a developmental period that is critical in terms of establishing trajectories for future education. In most public education districts, it is in middle school that tracking begins in a serious fashion, particularly for mathematics classes. Thus, educational pathways are established in middle school, particularly in eighth grade when youth make decisions about enrollment in high school courses for the subsequent year. Perceptions of individual and group competence are probably significant factors that shape, directly and indirectly, students' confidence in their ability to handle honors and advanced placement coursework that will permit them to be competitive applicants for higher education.

LOW RACIAL CENTRALITY AS A PROTECTIVE FACTOR

Although membership in a stigmatized group might lead to more negative self-perceptions, Rosenberg (1979) theorized that identification with a relevant social group is a precondition for negative influences of stereotype endorsement. Our results confirm Rosenberg's ideas, while also showing the complexity of ways in which race shapes identity development. The present results appear to call into question the common view of racial centrality as a buffer to negative outcomes. For instance, whereas studies show that group centrality reduces the

negative effects of racial discrimination on mental health (e.g., Neblett, Shelton, & Sellers, 2004), there is also evidence that women who are highly gender identified show greater decrements in mathematics performance than less gender-identified women in a stereotype-threat situation (Wout et al., 2008). Thus, racial centrality may play different roles for various attitudes, beliefs, and behavioral outcomes. Feeling connected to a group may make one resilient in the face of racial discrimination yet vulnerable in the face of negative racial stereotypes. Further research is needed to clarify the nature of these results.

One condition that must be met in order for a stereotype to influence self-perceptions is that the characteristic for which the stereotype applies be personally applicable to that individual. Our results highlight the importance of measuring racial centrality when examining race constructs. These results are consistent with the finding of stereotype threat researchers that stereotypes are most detrimental when group membership is salient to the individual. In the case of stereotype threat research, salience has been experimentally manipulated through task characteristics. In the current research, group membership varied in salience as a stable attribute of the individual participants.

LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

Firm conclusions about causality in the stereotype/self-perception relation cannot be drawn from this work because our data are cross-sectional. Research suggests that by middle school, students are aware of and sometimes endorse societal stereotypes (McKown & Weinstein, 2003; Rowley et al., 2007). This awareness and endorsement could lead to lowered self-perceptions among low-status group members. However, self-perceptions of competence are malleable throughout childhood and adolescence as youth respond to life experiences. Youth who view themselves as weak academically may be more vulnerable to believing race stereotypes about Black inferiority than youth with more positive self-perceptions, independent of actual achievement. Thus, stereotypes may have a negative influence on self-perceptions, or youth with low perceptions of competence may be more vulnerable to stereotypes. It is important to note that actual achievement was controlled in our analyses; thus, it is not the case that the stereotype–self-concept relation was due to differing achievement levels among these students. Longitudinal research is needed to better understand the causal paths and mechanisms in this relation.

In addition to these questions about the direction of influence, additional research is needed to trace the developmental progression of race stereotype endorsement and its impact on self-perceptions. Research by Rowley et al. (2007) showed that whereas elementary school students report in-group biases, viewing their racial group as better than others across domains, by the middle school years youth are aware of and sometimes endorse negative stereotypes about self-relevant social groups. Thus, our results point to the importance of middle school as a key time for understanding the influence of racial stereotypes on students' self-perceptions. Both cognitive maturational factors and school contextual factors probably play a significant role in shaping these processes (Rowley, Kurtz-Costes, & Cooper, in press). In middle school, youth are more likely than at younger ages to be academically tracked, with minority and poor students disproportionately represented in low-achieving tracks (Mickelson & Heath, 1999). Consequently, students may notice similarities and differences between those who are grouped together and hypothesize about the meanings of these groups (Bigler & Liben, 2007). In addition, increased cognitive abilities and an increased focus on peers may lead to greater awareness of social group membership in early adolescence.

In addition to the developmental ramifications of stereotype endorsement, theorists should consider ways in which social stereotypes are intertwined with the individual's changing self-concept. On average, academic self-concept is high in early childhood and decreases steadily

across childhood and adolescence (Marsh, 1989). The decrease in self-perceptions and motivation during the transition to middle school is well established and has been linked in part to increased salience of grades and other achievement indicators in middle school (Eccles et al., 1993; Simmons & Blyth, 1987). Thus, growing awareness of negative views of one's social group may account for some of the decline in self-perceptions and motivation for ethnic minority youth.

Research should also investigate the causes of individual differences in stereotype endorsement among African American youth and in other factors that lead to individual differences in the stereotype–self-concept relation. Although students in these two samples gave White students a 10- or 11-point advantage, on average, in academic ability, not all students in the sample rated Whites as better than African Americans. Individual factors linked to personality, school characteristics, and other experiences probably shape the extent to which youth endorse stereotypes and whether or not stereotypes are related to their own self-perceptions. For example, youth who have learned more about the history of racism and discrimination in our country might be more likely than less-informed peers to attribute race differences in academic performance to systemic racism rather than to individual ability. Thus, these youth might recognize that European American youth are higher achievers on average than African Americans in their school but might be less likely to view this information as personally relevant. Schools in which the manifold contributions of African Americans are a prominent part of the curriculum and that feature successful African American role models are likely to lead both to enhanced academic motivation among Black students while simultaneously creating an environment that minimizes the potential negative effects of race stereotypes.

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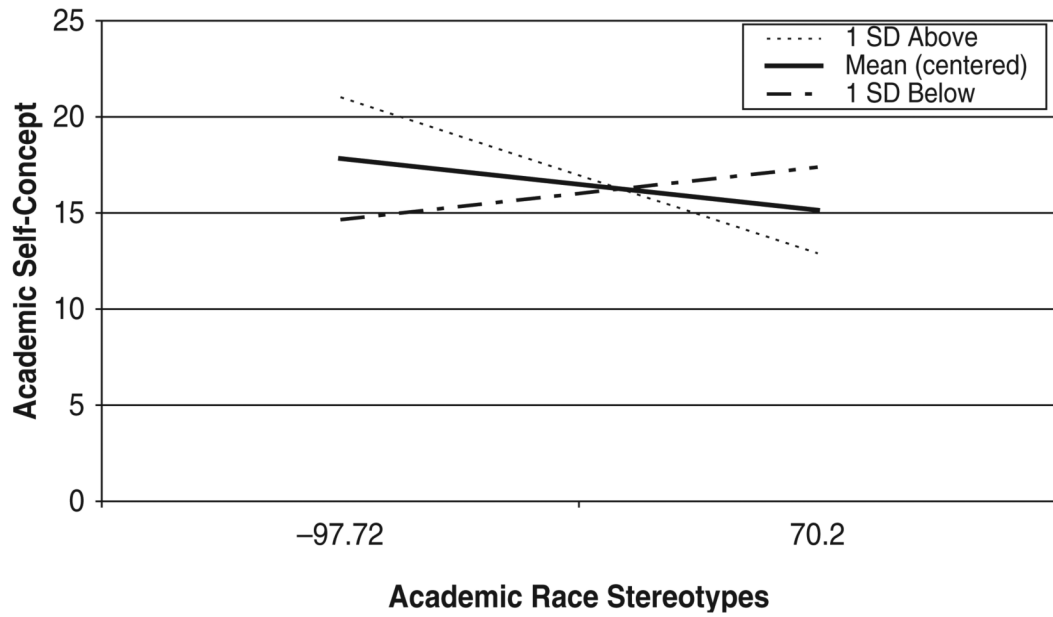
Figure 1.
Study 1: Academic Race Stereotype Endorsement Is Negatively Related to Academic Self-Concept for Youth Who Are High in Racial Centrality but Not Among Those Who Are Average or Low in Racial Centrality
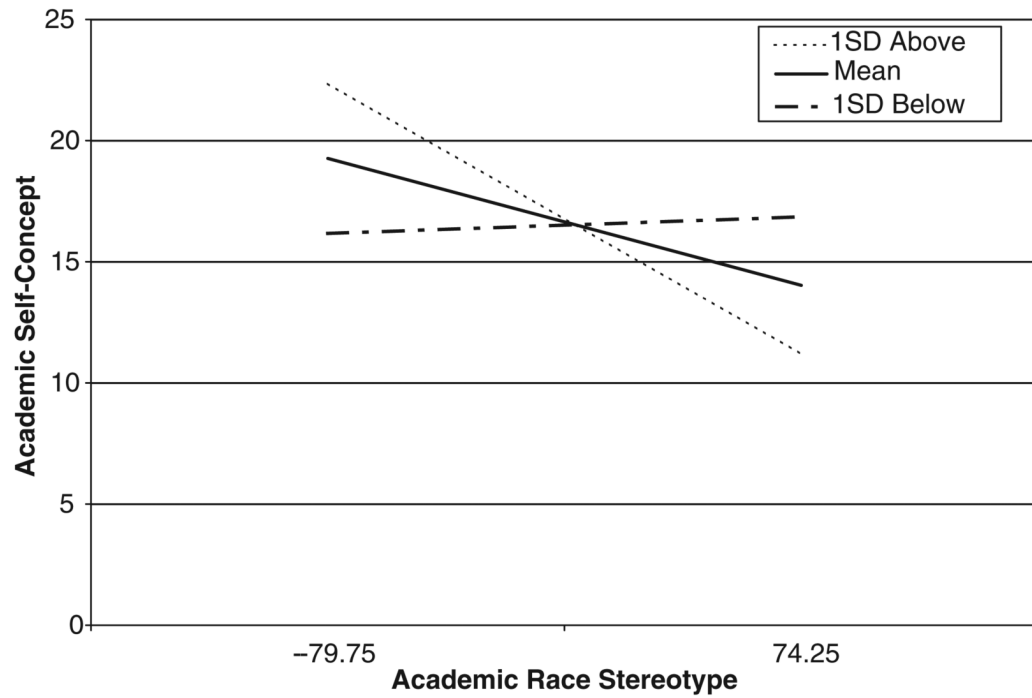
Figure 2.
Study 2: Academic Race Stereotype Endorsement Is Negatively Related to Academic Self-Concept for Youth Who Are High and Average in Racial Centrality but Not Among Those Who Are Low in Racial Centrality

TABLE 1

Descriptive Statistics for Study 1 Variables ($N = 237$)

Study Variables	Mean (SD)	Minimum	Maximum
Academic self-concept	17.2 (3.7)	1.8	25.0
Academic competence			
Blacks	65.3 (17.4)	1.9	100.0
Whites	76.7 (16.4)	1.0	100.0
Race stereotypes	11.3 (21.0)	−97.9	70.2
Racial centrality	3.6 (0.75)	1.5	5.0
Academic achievement	43.4 (24.1)	1.0	99.0

TABLE 2

Intercorrelations of Study 1 Variables

Study Variable	1	2	3	4	5	6	7	8
1. Race stereotypes	—							
2. Academic self-concept	−.091	—						
3. Racial centrality	.026	.047	—					
4. Achievement	.052	.396**	.117	—				
5. Gender[a]	−.017	.147*	.067	.008	—			
6. Percentage African American students	.185**	.029	−.034	.178**	−.133*	—		
7. Parent income	.029	.045	.022	.015	.057	−.024	—	
8. Parent education	.080	−.032	−.129*	−.016	.078	−.009	.458**	—

[a]
0 = girls; 1 = boys.

*
$p < .05$.

**
$p < .01$.

TABLE 3

Hierarchical Regression Analyses Predicting Academic Self-Concept: Study 1 ($N = 237$)

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Grade in school	-.87	.67	-.09	-.84	.67	-.09	-1.02	.66	-.11
Gender (M = 1; F = 0)	1.01	.44	.14*	1.02	.44	.14*	1.06	.44	.14*
Percentage African American	-.04	.05	-.07	-.03	.05	-.05	-.04	.04	-.06
Parent income	.08	.11	.05	.08	.11	.05	.05	.11	.03
Parent education	-.15	.15	-.07	-.14	.15	-.06	-.12	.15	-.05
Achievement	.06	.01	.40**	.06	.01	.41**	.06	.01	.38**
Race stereotypes				-.02	.01	-.10+	-.02	.01	-.09
Race centrality				-.07	.29	-.01	.03	.29	.01
Stereotype × centrality							-.04	.01	-.19**
R^2		.19			.20			.23	
Adjusted R^2		.17			.17			.20	
F for change in R^2		8.88**			1.52			10.29**	

NOTE: Academic race stereotypes and race centrality were centered at their means.

[+] $p < .10$.

[*] $p < .05$.

[**] $p < .01$.

TABLE 4

Descriptive Statistics for Study 2 Variables (*N* = 290)

Study Variables	*Mean* (SD)	*Minimum*	*Maximum*
Academic self-concept	16.6 (4.1)	4.0	24.7
Academic competence			
Blacks	67.3 (15.7)	25.3	100
Whites	77.6 (16.8)	11.6	100
Race stereotypes	10.3 (20.4)	−79.75	74.2
Racial centrality	3.6 (0.74)	1.0	5.0
Academic achievement	−0.024	−2.05	2.26

TABLE 5

Intercorrelations of Study 2 Variables

Study Variable	1	2	3	4	5	6	7	8
1. Race stereotypes	—							
2. Academic self-concept	$-.19^{**}$	—						
3. Racial centrality	.002	.02	—					
4. Academic achievement	$.16^{**}$	$.34^{**}$	.08	—				
5. Gender[a]	$-.05$	$-.01$	$-.02$	$-.11$	—			
6. Percentage African American students	$-.08$	$-.02$	$-.05$	$-.10$	.06	—		
7. Parent income	.07	.08	$-.04$	$.29^{**}$	$.14^*$	$-.12^*$	—	
8. Parent education	.05	.09	$-.09$	.11	$-.03$	$-.02$	$.21^{**}$	—

[a] 0 = girls; 1 = boys.

* $p < .05$.

** $p < .01$.

TABLE 6

Hierarchical Regression Analyses Predicting Academic Self-Concept: Study 2 ($N = 290$)

Variable	Model 1			Model 2			Model 3		
	B	SE B	β	B	SE B	β	B	SE B	β
Gender (M = 1; F = 0)	.26	.47	.03	.20	.46	.02	.12	.45	.02
Percentage African American	.01	.02	.01	−.01	.02	−.003	.001	.02	.001
Parent income	−.05	.10	−.03	−.04	.10	−.02	−.01	.10	−.01
Parent education	.12	.12	.06	.13	.11	.06	.17	.11	.08
Achievement	1.52	.26	.34**	1.68	.26	.38**	1.74	.25	.39**
Race stereotypes				−.05	.01	−.25**	−.03	.01	−.17**
Race centrality				−.01	.30	−.001	.04	.30	.01
Stereotype × centrality							−.05	.02	−.21**
R^2		.12			.18			.21	
Adjusted R^2		.10			.16			.19	
F for change in R^2		7.50**			10.21**			12.31**	

NOTE: Academic race stereotypes and race centrality were centered at their means.

* $p < .05$.

** $p < .01$.