The Influence of Parents' Racial Stereotype Endorsement on Black Students' Beliefs and Self-

Concept

Anna Abate

University of North Carolina at Chapel Hill

Advisor: _____

Abstract

In a sample of 429 African American youth and their parents, I examined the relationships among parents' racial stereotype endorsement, students' 7th grade stereotypes, and students' 10th grade self-concept. The results showed that parents' beliefs did not predict youths' beliefs. However, with school English grades controlled, boys in 7th grade with a more positive perception of Blacks' verbal abilities had higher verbal self-concept in 10th grade, and boys with a more positive perception of Whites' verbal abilities had lower verbal self-concept in 10th grade. The results of this study provide evidence for longitudinal effects of racial academic stereotype endorsement on self-concept and the negative impact that racial stereotypes can have on self-concept. Enhancing Black students' beliefs and increasing their perception of in-group competency may result in self-concept and academic identity development improvement.

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Concept

Although adjectives such as intelligent, feisty, or athletic may appear harmless when

describing a particular individual, they may in fact pose a problem when used to describe an

entire group of people. Many believe that individuals in specific social groups are inferior to

members of other groups in abilities within certain domains (i.e. academics, sports, etc.) These

over-generalized beliefs about a particular group are known as stereotypes and often imply that

all individuals of a group have the same characteristics and abilities. Stereotypes are fixed beliefs

about a particular group or class of people, and they can lead to judgments about the abilities or

attributes of individuals based on their membership in a social group (Cardwell, 1996; Ruble,

Cohen, & Ruble, 2001). Individuals use both academic and non-academic stereotypes as a way

in which to simplify their social world. While stereotypes can be either negative or positive, both

can be harmful. For example, in the academic context, some negative stereotypes portray Black,

Latino and female students as inferior in math and science compared to their peers (Steele &

Aronson, 1995; Steele, 1997). Furthermore, in the non-academic context, students believe Blacks

are better at sports than their White counterparts (Copping, Kurtz-Costes, Rowley, & Wood,

2013).

Researchers have found evidence that stereotypes exist of different genders, races,

cultures, and ethnic groups. For example, Black students, on average, are rated lower in

academic domains than White students (Rowley, Kurtz-Costes, Mistry & Feagans, 2007).

Specifically, Rowley et al. (2007) found that the perceived difference between Black students

and White students in math and science was larger in magnitude than the race group difference in

literacy. In addition, girls are viewed as more competent than boys in verbal domains, and boys

are viewed as more competent in math than in reading/writing (Evans, Copping, Rowley, &

Kurtz-Costes, 2011). At times, individuals' perceptions of their abilities mirror those stereotypes.

For example, girls tend to report greater self-competence in verbal domains, whereas boys tend

to report greater self-competence in mathematics and science (Kurtz-Costes, Rowley, Harris-

Britt, Woods, 2008). In addition, despite their strong performance in mathematics and science as

measured by their school grades, girls have reported lower self-competence in those domains

than boys (Kurtz-Costes et al., 2008).

Consequences of Stereotypes

Academic stereotypes can influence motivation and achievement through many

mechanisms, including decreased performance due to stereotype threat (Kellow & Jones, 2008;

Steele & Aronson, 1995). Although an academic performance gap exists on many measures

between White and Black students, research has shown that lower performance does not

necessarily reflect academic inferiority (Steele & Aronson, 1995). Rather, members of these

groups tend to score lower on tests when reminded beforehand of the negative stereotypes about

their race or gender (Steele & Aronson, 1995). This phenomenon, known as stereotype threat,

refers to being at risk of confirming a negative stereotype about one's group. This fear of

confirming a stereotype can undermine intellectual performance by inhibiting students, thus

causing them to perform below their capabilities.

Stereotype threat impedes fully capable students from reaching their full potential. Not

only does it impair performance, but because stereotype threat also undermines learning, it

causes a "double jeopardy" (Taylor & Walton, 2011). For example, Taylor and Walton (2011)

found that Black students who had studied words in a threatening rather than nonthreatening

environment performed worse on not only the test but also on a non-threatening warm-up phase,

indicating that learning had been impaired. The combination of threat in both the learning and performance environments caused larger cumulative declines in performance than the other conditions.

When this threat becomes chronic in a situation, it can lead to disidentification, a reconceptualization of the self and of one's values so as to remove the domain as a self-identity and as a basis of self-evaluation (Steele, 1997). Steele proposed that while this disidentification serves to protect self-esteem in specific domains, it also results in impaired performance, which can be costly especially when the domain is academic (Steele, 1997). Academic disidentification occurs when individuals begin to sever their academic performance from their self-worth, allowing these individuals to maintain positive self-views despite negative academic performance and feedback (Osborne, 1997). Because repeated exposure to stereotype threat may lead to academic disidentification, there may also be deterioration in grades and disengagement from school (Osborne, 1997). As a result, African Americans' self-esteem tends to be less responsive to academic failure or success compared to European Americans' (Osborne, 1995). Osborne (1995) further revealed that while African American students identified with academic performance in eighth grade, they had weaker identification by the tenth grade. These results indicate that for many youth, the disidentification process begins between eighth and tenth grade. Therefore, research on youths' stereotype endorsement during middle school and early high school years may provide beneficial information for developing interventions to reduce the harmful effects of stereotype threat.

Although academic stereotypes can influence motivation and achievement negatively through stereotype threat and disidentification, some individuals may experience stereotype lift. Stereotype lift occurs when performance is enhanced due to awareness that an out-group is

negatively stereotyped (Walton & Cohen, 2003). In other words, performance is enhanced

through a downward social comparison with the out-group (Kellow & Jones, 2008). Walton and

Cohen (2003) found that White students link intellectual tests to negative stereotypes

automatically. Therefore, stereotype lift is driven by negative stereotypes about the out-group

rather than by positive stereotypes about the in-group.

Self-Concept

Because of its strong relationship with several outcomes, such as an individual's self-

esteem, academic success, and creativity, self-concept is considered to play a crucial role in

academic identity development. In general, self-concept is an individual's perceptions of

himself/herself that are formed through life experiences (Dixon & Kurpius, 2009). Specifically,

academic self-concept is the collection of perceptions that individuals hold about their academic

abilities (Marsh, 1986; 1990). Academic self-concepts develop over time and tend to be shaped

by both internal comparisons—viewing oneself as more competent in one domain rather than in

another—and external comparisons— evaluating one's abilities compared with those of others

(Okeke, Howard, Kurtz-Costes, & Rowley, 2009). Furthermore, academic self-concept can be

divided into subcategories or domains, such as mathematical or verbal ability (Dixon & Kurpius,

2009). For example, a student who receives high grades in math but not English may have a have

a higher math self-concept than a verbal self-concept.

Because academic self-concept is positively related to many constructive outcomes such

as achievement, autonomy, and career aspirations, high academic achievement in youth is

dependent on the development of a positive academic self-concept (Dixon & Kurpius, 2009).

Furthermore, academic self-concept is a strong predictor of truancy, such that students with low

academic self-concept are more likely to withdraw from school (Dixon & Kurpius, 2009). Self-

concept has been shown to significantly affect subsequent academic interest, school grades, and standardized test scores (Marsh, Trautwein, Ludtke, Koller, & Baumert, 2005).

Endorsement of race academic stereotypes is related to students' self-perceptions and behaviors in the stereotyped domain. For example, Rowley and colleagues (2007) found that although girls receive higher grades than boys in mathematics and science, boys tended to have higher math/science self-concepts than girls. These results imply that traditional stereotypic beliefs may have a large impact on the development of a student's self-concept. Subsequent research has shown that Black students—particularly Black boys—who endorse traditional academic race stereotypes hold lower perceptions of their own academic abilities than those students who do not (Evans, Copping, Rowley, & Kurtz-Costes, 2011). Therefore, endorsement of traditional academic stereotypes may be detrimental to Black students and their development of a strong academic self-concept.

Parental Stereotype Endorsement

Parents play a crucial role in the development of children's beliefs and judgments. Children incorporate their parents' evaluations into their own self-judgments during the early elementary school years (Tiedemann, 2000). At this time, children draw from their perceptions of adults' beliefs to form their own beliefs about different social groups and develop stereotype awareness. For example, parents who endorsed traditional gender stereotypes about math viewed their daughters as less capable in math than their sons (Tiedemann, 2000). On the other hand, parents who did not hold gender math stereotypes showed no significant differences in the attribution of math ability to their children (Tiedemann, 2000). In other words, the parents' gender stereotypes interacted with the gender of the child, and predicted their specific beliefs about their children's mathematical ability. Despite the fact that there were no gender differences

in school math grades, these beliefs then predicted the child's self-concept of mathematical

ability to the detriment of girls in the sample (Tiedemann, 2000). Children's reports of their own

race stereotypes are correlated with their perceptions of adults' race stereotypes for both

academics and sports (Copping, Kurtz-Costes, Rowley, & Wood, 2013). Therefore, children

form their self-perceptions and beliefs not just on the basis of their performance, but also on the

messages and opinions of their parents.

Parents' endorsements of traditional academic stereotypes not only play a critical role in

children's developing beliefs and perceptions, but they also predict the child's later career

choices. In one study, mothers' beliefs about their middle school children were related to their

adolescents' self-perceptions after high school (Bleeker & Jacobs, 2004). Specifically, mothers

who reported higher perceptions of their adolescents' future success in math-oriented careers had

children who in return reported higher math-science career self-efficacy (Bleeker & Jacobs,

2004). Thus, parents' stereotypes and perceptions may significantly impact their children's

career aspirations and choices (Jacobs & Eccles, 1992).

Specific Aims

In the present study I examine the influence of parents' racial stereotype endorsement on

Black students' 7th grade beliefs and later 10th grade self-concept. Because most research on the

influence of parents' stereotype endorsement focuses on gender stereotypes, the current study

aimed to examine the effects of parents' racial academic stereotype endorsement. Copping et al.,

(2013) suggest that because children spend much of their time in the company of their parents

and teachers, these influential adults may be critical in reducing stereotypical ideation. The

results may prove beneficial for further research into parental race socialization and the creation

of interventions that focus on positive development of Black students' academic self-concept.

For domains of both math and verbal skills, and for perceptions of Black students and White students, parents' beliefs (as reported when youth are in Grade 7) are expected to predict youths' beliefs.

Among Black students, stereotype endorsement is expected to be negatively related to academic self-concept. Because research has found that parents' early perceptions of their adolescents' abilities were related to adolescents' math-science self-efficacy 2 years after high school, I am interested in examining the longitudinal effects of racial academic stereotype endorsement on self-concept (Bleeker & Jacobs, 2004). Specifically, for domains of both math and verbal skills, students' Grade 7 perceptions of Blacks are expected to positively predict their Grade 10 self-concept, and students' Grade 7 perceptions of Whites are expected to negatively predict their Grade 10 self-concept within each academic domain. In addition, parents' Grade 7 perceptions of Blacks are expected to predict students' Grade 10 self-concept within each domain, and that relationship will be mediated by youths' perceptions of the competence of Blacks.

Method

Participants

The participants in this study were recruited as subjects in the longitudinal Youth Identity Project. The participants were enrolled in the study in the fifth grade and underwent follow up assessments in the seventh, tenth, and twelfth grades. Although the study included students from various ethnic and racial backgrounds, the sample used for the current study was a subset of the sample composed of 429 Black students (242 girls, 187 boys) from middle schools and high schools in the Southeastern region of the United States. I used data collected at the seventh grade assessment and tenth grade assessment. Between 7th and 10th grade, the retention rate was

approximately 76%. The study recruited new participants and gained approximately 200 new

students by the 10th grade assessment, but they were not included in the current paper. Only

students with data from seventh grade and tenth grade were used in the analyses. At the seventh

grade assessment point, the average age of the participants was 13 years old. At the tenth grade

assessment point, the average age of the participants was 15.87 years old. Of the 259 parents,

219 are mothers, 17 are fathers, 14 are grandparents, 4 were guardians, and 3 were other. The

average education level was technical school, and the average income was between $30,000 and

$39,999.

Procedure

Students provided written consent before participating in the study. Consent forms were

distributed in English and math classrooms in participating schools. In 7th grade, parents had to

return a letter in order to give permission for the student to participate. In the 10th grade, letters

were mailed to parents in order to give them the opportunity to refuse their child's participation.

If the parent did not refuse, students were given surveys at school. The students completed self-

report questionnaires that were administrated by research assistants in their classrooms. The

research assistants, Black and White female doctoral students, answered any questions that the

students had during this period. Parents either completed a similar self-report questionnaire at a

public library or at home returning it by mail.

Measures

Academic Race Competence Ratings. Visual analogue scales were used to measure

parents' and students' academic race stereotypes (Kurtz-Costes et al., 2008). Parents and

students marked on a 100-mm line how well they believed Black and White students did in

different academic subjects such as mathematics, English, science, reading, school grades, and

the extent to which they were smart. Non-academic domains such as sports, music, and making friends, were also measured; however, the present study focuses specifically on mathematic and verbal competence ratings. Single items were used to measure math competence of Blacks, math competence of Whites, verbal competence of Blacks, and verbal competence of Whites. For example, in the seventh grade and tenth grade assessment, the math competence of Blacks item was worded "I think that in MATH Black children do this well" with "not well at all" on the far left side (at 0 mm) and "very well" on the far right side (at 100 mm). At the seventh grade assessment, the verbal competence item was worded "I think that in READING Black children do this well." In the tenth grade assessment, the verbal competence item was worded "I think that in ENGLISH Black children do this well." These two items were worded based on the developmental level of the students and the phrases they were most likely using in school. Parents and students placed a mark on each line, and the distance from the left was measured, creating a score between 0 and 100. To control for order effects, two different forms of the questionnaire were used in which the sequence of the social groups varied.

Self-Concept. Self-concept was measured by asking participants to rate their own competencies compared to other students in their grade. This measure had seven columns each with 25 stick figures (Nicholls, 1978). Students circled a figure in each column to indicate his or her competence in various domains (i.e. verbal, math, and science, etc.) as well as overall grades and intelligence. Anchors at the top indicated "the best" and anchors at the bottom indicated "the worst" for each item. Similar to the competence ratings, the verbal domain was referred to as "reading" for the students in seventh grade and "English" for the students in tenth grade.

Other Variables. Parents reported family income either on an 11-point scale in $10,000 increments, ranging from under $10,000 yearly to over $100,000 yearly or on a parallel weekly

scale, ranging from less than $200 per week to more than $2,000 per week. Parents also reported

their own education level by checking the highest level attained on a 10-point scale. The levels

of education included: Less than high school, some high school, high school graduate, GED,

some technical school, some college, Junior College Degree (AA, AS), College Graduate (BA,

BS), Master's Degree, and Doctoral or Professional Degree (PhD, MD, JD, etc.). In addition,

students' achievement was measured with End-of-grade standardized North Carolina test scores

for math and reading, self-reported grades, and copies of report cards and transcripts. Both

students and parents completed other measures that are not reported here.

Results

Means and standard deviations of parents' beliefs, income, and education are reported in

Table 1. Means and standard deviations of students' perceptions of group competence, self-

concepts, and grades are in Table 2. Table 3 shows the correlations for all of the variables, and

Table 4 shows the correlations for all of the variables by gender. As can be seen in those tables,

perceptions of math and verbal competence within each racial group were highly correlated both

for parents and students, ranging from $r(143) = 0.61$ to $r(143) = 0.75$. These results indicate that

as the student or parent's perception of competence for a particular race in one domain increases,

the perception of competence for the same race in the other domain also increases. These trends

can also be seen in girls and boys separately. In addition, there is a significant, moderate positive

correlation between girls' perceptions of Blacks' math competence and parents' perceptions of

Blacks' math competence, $r(82) = 0.24$ and between girls' perceptions of Blacks' verbal

competence and parents' perceptions of Blacks' verbal competence, $r(82) = 0.25$. This result

indicates that as the parents' perceptions of Blacks' math and verbal competence increases, the

girls' perceptions of Blacks' math and verbal competence also increases. There is also a

significant, moderate positive correlation between girls' math self-concept and girls' math grade, $r(82) = 0.44$. Furthermore, there is a significant, moderate positive correlation between boys' English self-concept and their perception of Blacks' verbal competence $r(59) = 0.35$. This result indicates that as boys' perceptions of Blacks' verbal competence increase, their English self-concept also increases.

Hypothesis 1: Parents' Perceptions of Race Group Competence Predict Youths' Perceptions of Race Group Competence

I expected that for the domains of both math and verbal skills, and for perceptions of Black students and White students, parents' beliefs would predict youths' beliefs. To test this hypothesis, I used regression analyses to predict math competence ratings of Black students (see Table 5), verbal competence ratings of Black students (see Table 6), math competence ratings of White students (see Table 7), and verbal competence ratings of White students (see Table 8). In each equation, household income, parent education level, and youths' domain-specific (math or English) grades were entered as control variables.

For the first regression, youths' perceptions of Black children's math competence was the dependent variable, and parents' perceptions of Black children's math competence, parents' perceptions' of White children's math competence, and the three control variables were predictor variables. The model was not significant, $F(5, 172) = .524$, $p = 0.76$.

For the second regression, youths' perceptions of Black children's verbal competence was the dependent variable, and parents' perceptions of Black children's verbal competence, parents' perceptions of White children's verbal competence, and the three control variables were predictor variables. The full regression model was not significant, $F(5, 173) = 1.04$, $p = 0.40$.

For the third regression, youths' perceptions of White children's math competence was the dependent variable, and parents' perceptions of White children's math competence, parents' perceptions of Black children's math competence, and the three control variables were predictor variables. The model was significant, $F(5, 174) = 2.43$, $p = 0.04$, R-square = 0.07 Individual beta weights showed that only students' math grades accounted for a significant proportion of unique variance in youths' perceptions of White children's math competence, $\beta = 0.16$, $t = 2.06$, $p = 0.04$. Students with higher math grades had more positive perceptions of Whites' math abilities.

For the fourth regression, youths' perceptions of White children's verbal competence was the dependent variable, and parents' perceptions of Black children's verbal competence, parents' perceptions of White children's verbal competence, and the three control variables were predictors. The regression model was not significant, $F(5, 176) = 1.70$, $p = 0.14$. Therefore, Hypothesis 1 was not supported: Parent beliefs did not predict youths' beliefs in any of the equations.

Hypothesis 2: Youth Grade 7 Perceptions of Race Group Competence Predict Youth Grade 10 Self-Concept

I expected that for domains of both math and verbal skills, students' perceptions of Black students in 7th grade would positively predict their self-concept within that academic domain in 10th grade and that students' Grade 7 perceptions of White students would negatively predict their Grade 10 self-concept within that academic domain. To test this hypothesis, I used regression analyses to predict Grade 10 math self-concept (see Table 9) and Grade 10 verbal self-concept (see Table 10).

For the first regression, youths' math self-concept in 10th grade was the dependent variable and youths' perceptions of Black and White children's math competence in 7th grade,

household income, parent education level, and youth math grade were predictor variables. The

model was significant, $F(5, 157) = 3.67$, $p = 0.004$, R-square = 0.11. Individual beta weights

showed that only students' math grades, $\beta = 0.22$, $t = 2.74$, $p = 0.01$, and parents' education, $\beta =$

0.23, $t = 2.47$, $p = 0.02$, individually accounted for a significant proportion of unique variance in

youths' perception of 10th grade math self-concept. Students with higher math grades in 7th grade

and with better-educated parents had higher math self-concept in 10th grade.

For the second regression, students' Grade 10 verbal self-concept was the dependent

variable, and youths' Grade 7 perceptions of Black and White children's verbal competence,

household income, parent education level, and youths' Grade 7 English grades were predictor

variables. The model was significant, $F(5, 158) = 3.63$, $p = 0.004$, R-square = 0.10. Individual

beta weights showed that students' Grade 7 perceptions of Black competence were positively

related, and students' Grade 7 perceptions of White competence were negatively related to Grade

10 verbal self-concept, $\beta = 0.19$, $t = 2.49$, $p = 0.01$, and $\beta = -0.26$, $t = -3.30$, $p < 0.001$,

respectively. Students in 7th grade with a more positive perception of Blacks' verbal abilities had

a higher verbal self-concept in 10th grade and students with a more positive perception of

Whites' verbal abilities had a lower verbal self-concept in 10th grade. Therefore, Hypothesis 2

was supported with regard to verbal self-concept, but not math self-concept.

Hypothesis 3: Youth Group Competence Perceptions Mediates the Relationship between

Parents' Group Competence and Youth Self-Concept

I expected that parents' perceptions of Black students would predict students' Grade 10

self-concept within each domain, and that relationship would be mediated by youths' perceptions

of the competence of Black students. However, due to the nonsignificant relationship between

parents' perceptions of Black students and youths' perceptions of the competence of Black

students, Hypothesis 3 was not tested.

Evans, et al. (2011) found that race-based competence ratings were related to the

academic self-views of Black boys, but not Black girls. Their analyses showed that while boys'

self-competence ratings were based on their perceptions of both their race and gender group,

girls' self-concepts were related only to their perceptions of the competence of girls. Because of

my own findings and the results of Evans, et al. (2011), I tested my hypotheses again, conducting

separate regression analyses within each gender.

Hypothesis 1: Parents' Perceptions of Race Group Competence Predict Youths'

Perceptions of Race Group Competence Within Gender

To test this hypothesis again, I conducted regression analyses separately for boys and

girls to predict math competence ratings of Black students, verbal competence ratings of Black

students, math competence ratings of White students, and verbal competence ratings of White

students.

 For the four regressions, youth's perceptions of Black and White students' math and

verbal competence were the dependent variables and parents' perceptions of Black and White

students' math and verbal competence, household income, parent education level, and students'

grades were the predictor variables. None of the regressions were significant, and all had F

values less than 2.00 and p values greater than 0.10. As a result, Hypothesis 1 was not supported

for either boys or girls.

Hypothesis 2: Youth Grade 7 Perceptions of Race Group Competence Predict Youth Grade

10 Self-Concept within Gender

To test this hypothesis again, I used separate regression analyses of girls and boys to examine math self-concept and verbal self-concept based on perceptions of Black students' competence. For the first regression, youths' math self-concept in 10th grade was the dependent variable and youths' perceptions of Black and White children's math competence in 7th grade, household income, parent education level, and youths' math grades were predictor variables (see Table 11 and Table 12). The model was significant for girls, $F(5, 92) = 4.18$, $p = 0.002$, R-square = 0.19. Individual beta weights showed that only girls' math grades accounted for a significant proportion of unique variance in the girls' 10th grade math self-concept, $\beta = 0.31$, $t = 3.05$, $p = 0.0001$. Girls with higher math grades in 7th grade had a higher math self-concept in 10th grade. The model was not significant for boys, $F(5, 59) = 1.59$, $p = 0.18$, R-square = 0.12.

For the second set of regression analyses, youths' verbal self-concept in 10th grade was the dependent variable and youths' perceptions of Black and White children's verbal competence in 7th grade, household income, parent education level, and youth language arts grade were predictor variables (see Table 13 and Table 14). The model was not significant for girls, $F(5, 91) = 1.07$, $p = 0.38$, R-square = 0.06. However, the model was significant for boys, $F(5, 61) = 4.97$, $p < 0.001$, R-square = 0.29. Individual beta weights showed that boys' perceptions of Black competence and boys' perceptions of White competence accounted for a significant proportion of unique variance in boys' 10th grade verbal self-concept, $\beta = 0.40$, $t = 3.70$, $p = 0.001$ and $\beta = -0.29$, $t = -2.55$, $p = 0.01$, respectively. Boys in 7th grade with a more positive perception of Blacks' verbal abilities and a more negative perception of Whites' verbal abilities had higher verbal self-concept in 10th grade. Hypothesis 2 was supported for the prediction of boys' verbal self-concept only.

Hypothesis 3: Youth Group Competence Perceptions Mediates the Relationship between Parents' Group Competence and Youth Self-Concept Within Gender

Once again, due to the nonsignificant relationship between parents' perceptions of Black students and youths' perceptions of the competence of Black students, Hypothesis 4 was not tested.

Discussion

Traditional race stereotypes may have a large impact on the development of students' self-concept and as a result, play a crucial role in their academic identity development. In addition, academic stereotypes can influence motivation and achievement negatively through stereotype threat and disidentification. Therefore, it is important to understand the relationship between academic race stereotypes and academic self-concept. Furthermore, parents often influence the development of their children's beliefs and judgments, and endorsement of traditional academic stereotypes by both parents and students may be detrimental to Black students and their development of a strong academic identity.

The goal of the current study was to examine the influence of parents' racial stereotype endorsement on Black students' 7th grade beliefs and later 10th grade self-concept and to explore the longitudinal effects of students' racial academic stereotype endorsement on their self-concept in math and verbal domains. Although there was a moderately positive correlation between girls' perceptions of Blacks' math competence and parents' perceptions of Blacks' math competence, my study showed that overall, parent beliefs did not predict youths' beliefs. While I predicted that for domains of both math and verbal skills, students' Grade 7 perceptions of Blacks would positively predict their Grade 10 self-concept, and students' Grade 7 perceptions of Whites would negatively predict their Grade 10 self-concept within each academic domain, only boys in

7th grade with a more positive perception of Blacks' verbal abilities had a higher verbal self-concept in 10th grade. In addition, boys with a more positive perception of Whites' verbal abilities had a lower verbal self-concept in 10th grade. I expected that parents' perceptions of Black students would predict students' Grade 10 self-concept within each domain, and that this relationship would be mediated by youths' perceptions of the competence of Black students. However, the lack of a significant relationship between parents' beliefs and students' beliefs indicated that the hypothesis regarding mediation would not be significant.

Study Implications: Influence of Parents

Classic developmental theory posits that parents play a critical role in the development of their children's beliefs and attitudes. Within the realm of academic stereotypes and motivational beliefs, Copping, et al. (2013) discovered that children's reports of their own race stereotypes were correlated with their perceptions of adults' race stereotypes for both academics and sports. The youth participants in Copping et al.'s (2013) sample reported adults hold more traditional academic stereotypes than those endorsed by the youth themselves. However, Copping et al. measured youths' perceptions of their parents' stereotypes rather than parents' reports. Given the lack of relationship between parents' views and students' views in the current study, perhaps the students in Copping et al. incorrectly perceived their parents' views. However, previous research has found that parents' stereotype beliefs predicted the child's self-concept (Tiedemann, 2000). In the current study, I tested whether parents' beliefs about specific racial groups impact the child's beliefs about the group. Although parents' beliefs may influence the child's perception of himself/herself, perhaps the parents' beliefs do not influence the child's perception of the entire group.

Furthermore, the current study looks at competency ratings rather than stereotype endorsement. Therefore, if the study had focused on stereotype endorsement, results similar to previous research may have been found. If a student believes that Black students do moderately well in math, but White students do very well in math, he/she may be endorsing the academic race stereotype. If the student's parent believes that Black students do poorly in math, but White students do moderately well in math, he/she also may be endorsing the academic race stereotype. As a result, the student and the parent may have a different perception of the competency of each group that do not correlate even though their stereotype endorsement is similar. In other words, it is likely that parents' perceptions of the difference between the competence of Blacks and Whites might be correlated with their children's perceptions of the difference in competence.

Another limitation of the study may be the threat of social desirability effects. In the current study, students and parents may not have reported their honest beliefs about the abilities of Blacks and Whites because they might think it is more socially acceptable to have a different view.

Study Implications: Stereotypes and Self-Concept

Academic stereotypes can influence motivation and achievement through many mechanisms, and stereotype endorsements may have lasting effects. The simple knowledge that stereotypes exist may put a student under stereotype threat and undermine his/her intellectual performance (Steele & Aronson, 1995). In addition, self-concept plays a crucial role in academic identity development as it significantly affects academic interest, school grades, and standardized test scores (Marsh, Trautwein, Ludtke, Koller, & Baumert, 2005). It is important therefore to understand students' perceptions of racial competencies in order to develop early interventions

that will focus on positive and lasting development of Black students' academic self-concept and reduce the negative effects associated with racial stereotype endorsement.

The results of this study provide evidence for longitudinal effects of racial academic stereotype endorsement on self-concept and the negative impact that racial stereotypes can have on self-concept. This study showed that the beliefs of Black boys' in 7th grade could impact their self-concept nearly three years later. As their perception of White students' verbal competence increased, their own verbal self-concept decreased. As their perception of Black students' verbal competence increased, their verbal self-concept also increased. Because the significant results were found while controlling for English grades, the results were not driven by achievement. Therefore, improving Black students' perceptions of their in-group's competence may increase their self-concept and positively impact their academic identity development several years later. However, the current study did not control for earlier self-concept, and therefore, it is possible that the causality operates in the opposite direction. For example, boys with a lower verbal self-concept may view Blacks as relatively less competent rather than boys who view Blacks as relatively less competent have a lower self-concept.

Suggestions for Future Research: Gender Differences

The gender differences found in the current study indicate that boys and girls perceive academic stereotypes differently. My results may be explained by previous research from Evans, et al. (2011), who found that while boys' self-competence ratings were based on their perceptions of both their race and gender group, girls' self-concepts were related only to their perceptions of the competence of girls. My results indicate that for girls, racial competencies do not predict their self-concept, and instead, math grade predicted girls' later math self-concept. Therefore, while girls' perception of racial competencies does not impact their self-concept, their

perception of gender competencies may. Because race is only one of the many social identities, gender may be a more salient identity to girls.

The lack of significant results for boys' perceptions of Blacks' math competence may also be explained by gender stereotypes. Copping et al. (2013) found that girls tend to report greater self-competence in verbal domains, whereas boys tend to report greater self-competence in mathematics. Stereotype lift occurs when performance is enhanced due to awareness that an out-group is negatively stereotyped (Walton & Cohen, 2003). Therefore, boys may experience stereotype lift by connecting their self-concept in math domains with their beliefs about gender competencies and gender stereotypes rather than racial stereotypes. If they believe that boys perform better than girls in math, they may endorse that stereotype and ignore the stereotype that Blacks perform worse in math than Whites. Because of the positive association with the gender stereotype, the racial stereotype may not be as salient. Therefore, boys' perceptions of gender competencies in math may be a better predictor of math self-concept than their perception of racial competencies.

While racial stereotype endorsements may impact self-concept, gender stereotype endorsements may also have a significant impact. Therefore, these gender differences in racial stereotype endorsements should be further studied. In addition, future researchers should examine the intersection of gender and racial stereotype endorsement and its influence on self-concept. Students may endorse multiple stereotypes that may impact their self-concept. In order to provide the most beneficial educational programming, the impact of multiple stereotype endorsements should be examined. Future research should continue to study the longitudinal effects of perceived competence and academic self-concept in order to determine when interventions would be the most beneficial. Interventions that enhance Black students' beliefs

about the academic competence of their racial and gender in-groups might result in improved

self-concept and academic identity.

References

Bleeker, M. M., & Jacobs, J. E. (2004). Achievement in math and science: Do mothers' beliefs

matter 12 years later? *Journal of Educational Psychology, 96* , 97-109.

Cardwell, M. (1996). *Dictionary of Psychology*. Chicago IL: Fitzroy Dearborn.

Copping, K. E., Kurtz-Costes, B., Rowley, S. J. and Wood, D. (2013), Age and race differences

in racial stereotype awareness and endorsement. *Journal of Applied Social Psychology*,

43: 971–980. doi: 10.1111/jasp.12061

Dixon, S., & Robinson Kurpius, S. (2009). Academic self-concept. In B. Kerr (Ed.),

Encyclopedia of giftedness, creativity, and talent. (pp. 5-7). Thousand Oaks, CA: SAGE

Publications, Inc. doi: http://dx.doi.org.libproxy.lib.unc.edu/10.4135/9781412971959.n3

Evans, A. B., Copping, K. E., Rowley, S. J., & Kurtz-Costes, B. (2011). Academic self- concept

in Black adolescents: Do race and gender stereotypes matter? Self and Identity, 10, 263–

277.

Jacobs, J. E., & Eccles, J. S. (1992). The impact of mothers' gender-role stereotypic beliefs on

mothers' and children's ability perceptions. *Journal of Personality and Social Psychology*,

63, 932– 944.

Kellow, J. T., & Jones, B. D. (2008). The effects of stereotypes on the achievement gap:

Reexamining the academic per- formance of African American high school students. The

Journal of Black Psychology, 34, 94–120.

Kurtz-Costes B, Rowley SJ, Harris-Britt A, Woods TA. Gender stereotypes about mathematics

and Self-Perceptions of Ability in Late Childhood and Early Adolescence. Merrill-Palmer

Quarterly. 2008; 54(3):386–409.

Marsh, H. W., Trautwein, U., Ludtke, O., Koller, O., & Baumert, J. Academic self-concept,

interest, grades, and standardized test scores: Reciprocal effects models of casual

ordering. *Child Development* vol. 76 (2005). pp. 397–416.

http://dx.doi.org.libproxy.lib.unc.edu/10.1111/j.1467-8624.2005.00853.x

Marsh, H. W. (1986). Verbal and math self-concepts: An internal/external frame of reference

model. *American Educational Research Journal*, *23*, 129-149.

Marsh, H. W. (1990). A multidimensional, hierarchical self-concept: Theoretical and empirical

justification. *Educational Psychology Review*, *2*, 77-172.

Nicholls, J. G. (1978). The development of the concepts of effort and ability, perception of

academic attainment and the understanding that difficult tasks require more ability. *Child

Development*, *49*, 800-814.

Okeke, N.A., Howard, L.C., Kurtz-Costes, B., & Rowley, S.J. (2009). Academic race

stereotypes, academic self-concept, and racial centrality in African American youth.

Journal of Black Psychology, 35, 366-387. doi: 10.1177/0095798409333615

Osborne, J.W. (1995). Academics, self-esteem, and race: A look at the underlying assumptions

of the disidentification hypothesis. *Personality and Social Psychology Bulletin, 21*(5),

449-455.

Osborne, J. W. (1997). Race and disidentification. *Journal of Educational Psychology*, *89*(4),

728-735.

Rowley, S.J., Kurtz-Costes, B., Mistry, R., & Feagans, L. (2007). Social status as a predictor of

race and gender stereotypes in late childhood and early adolescence. *Social Development*,

16(1), 150-168.

Ruble, T. L., Cohen, R., & Ruble, D. N. (2001). Sex stereotypes. *American Behavioral Scientist, 27*, 339-356.

Steele, C. M., & Aronson, J. (1995) Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*(5), 797-811.

Steele CM. A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*. 1997; 52(6):613.

Taylor, V. J., & Walton, G. M. (2011). Stereotype threat undermines academic learning. *Personality and Social Psychology Bulletin, 37*(8), 1055-1967.

Tiedemann, J. (2000). Parents' gender stereotypes and teachers' beliefs as predictors of children's concept of their mathematical ability in elementary school. *Journal of Educational Psychology, 92* , 144-151.

Walton, G. M., & Cohen, G. L. (2003). Stereotype lift. *Journal of Experimental Social Psychology*, *39*, 456-457.

Table 1

Means and Standard Deviations for Parent Variables

	Perception of Verbal Competence		Perception of Math Competence		Income Before Taxes	Parent Education
	Black	White	Black	White		
Parents of Girls						
M (SD)	62.60 (18.22)	73.80 (19.26)	62.21 (17.01)	71.52 (18.29)	3.69 (2.33)	5.10 (2.03)
	n = 142	*n* = 139	*n* = 142	*n* = 140	*n* = 145	*n* = 152
Parents of Boys						
M (SD)	62.37 (17.51)	72.47 (17.88)	64.33 (18.20)	68.51 (18.37)	4.49 (2.78)	5.41 (2.19)
	n = 101	*n* = 100	*n* = 101	*n* = 100	*n* = 102	*n* = 105
Total						
M (SD)	62.51 (17.89)	73.24 (18.67)	63.09 (17.51)	70.27 (18.35)	4.02 (2.55)	5.23 (2.09)
	n = 243	*n* = 239	*n* = 243	*n* = 240	*n* = 247	*n* = 257