

# Mothers' Academic Gender Stereotypes and Education-Related Beliefs About Sons and Daughters in African American Families

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The role of African American mothers' academic gender stereotype endorsement in shaping achievement-related expectations for and perceptions of their own children was examined. Mothers ( $N = 334$ ) of 7th and 8th graders completed measures of expectations for their children's future educational attainment, perceptions of their children's academic competence, and academic gender stereotypes. Consistent with hypotheses, mothers held less favorable expectations for sons and perceived sons to be less academically competent than daughters. In addition, mothers reported stereotypes favoring girls over boys in academic domains; stereotype endorsement, in turn, was related to mothers' educational expectations for and beliefs about the academic competence of their own children, even with youths' actual achievement controlled. Negative stereotypes about the academic abilities of African American boys may create a negative feedback loop, thereby contributing to the maintenance of the gender gap in African Americans' educational outcomes.

*Keywords:* gender stereotypes, educational attainment expectations, parents' beliefs about child competence, African Americans

Despite considerable gains of African Americans over the past 30 years across a broad spectrum of achievement indices, males have made less progress than females, particularly with respect to educational attainment (Kaba, 2005). In 2006, 81% of African American women between the ages of 18 and 24 held a high school credential, as compared with 72% of African American men (Ryu, 2008). The gender gap in African American educational attainment is even more striking among postsecondary degree holders. In 2005, African American women earned about twice as many bachelor's degrees as African American men (about 91,000 awarded to women vs. about 46,000 awarded to men; Ryu, 2008). The same pattern held among master's and doctoral degree earn-

ers: African American women earned about 40,000 postbaccalaureate degrees in 2005, whereas about 16,000 such degrees were awarded to African American men during the same year. Although millions of African American boys excel academically, the gender gap in African Americans' educational attainment is larger than that observed for other racial/ethnic groups (see Ryu, 2008, for data comparing the educational attainment gap across racial/ethnic groups) and therefore has been recognized as a significant social issue (Garibaldi, 2007; Tucker & Mitchell-Kernan, 1995; Wilson, 1996).

Given the real-life consequences associated with the gender gap in African Americans' educational attainment, it is not surprising that this issue has been addressed by theorists and researchers from a variety of disciplines. Within psychology, much of the research on gender differences in African Americans' educational outcomes has focused on the motivational difficulties experienced by African American boys as compared with African American girls. This body of research has produced evidence that, compared with African American adolescent girls, African American adolescent boys are less identified with academics (Osborne, 1997; Saunders, Davis, Williams, & Williams, 2004), hold weaker achievement values (Graham, Taylor, & Hudley, 1998; Saunders et al., 2004; Taylor & Graham, 2007), report lower expectations for future educational attainment (Wood, Kaplan, & McLoyd, 2007), and are more likely to perceive barriers to educational and occupational upward mobility (Taylor & Graham, 2007). It is highly likely that boys' lower levels of academic motivation play a role in the gender gap in African American attainment; however, it is important to recognize that boys' attitudes are shaped by forces in their social environments that are often beyond their control. Failure to acknowledge the role of these ecological

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forces may result in a “blame the victim” approach to understanding the academic difficulties of African American boys.

### Parents’ Education-Related Beliefs

One contextual factor that may contribute to the gender gap in African Americans’ educational attainment is gender differences in parents’ beliefs about their children’s academic abilities and potential. Prior theory and research support the tenet that parental beliefs shape children’s related self-beliefs and academic outcomes (e.g., Bleeker & Jacobs, 2004; Eccles & Wigfield, 2002; Neuenschwander, Vida, Garrett, & Eccles, 2007; Tiedemann, 2002). Findings of empirical studies conducted with African Americans are consistent with this theorized pattern of relations. For instance, African American parents’ expectations for their children’s future attainment are related to adolescents’ self-expectations (Trusty, 2002; Wood et al., 2007) and achievement scores (Gill & Reynolds, 1999). In our own research, we have found that African American parents’ educational expectations during youths’ 11th-grade year significantly predict enrollment in college 1 year after high school graduation, an effect that is mediated by youths’ self-expectations (Wood, Kurtz-Costes, & Copping, 2009). Findings of these and a number of other studies (e.g., Benner & Mistry, 2007; Davis-Kean, 2005; Flowers & Flowers, 2008; Halle, Kurtz-Costes, & Mahoney, 1997; Seyfried & Chung, 2002) corroborate the theorized linkages between African American parents’ beliefs and children’s motivation and achievement outcomes. Given this pattern of findings, if African American parents hold less favorable achievement-related beliefs about sons as compared with daughters, then it is plausible that parents’ beliefs mediate the association between African American youths’ gender and their motivational and attainment outcomes.

Parents’ general beliefs about the relative academic competence of boys and girls are one factor that may shape perceptions of their own sons and daughters. Beliefs that depict African American boys as less competent academically than African American girls can be characterized as *academic gender stereotypes*. Stereotypes, as defined by McGarty, Yzerbyt, and Spears (2002), are shared beliefs about a particular social group. These beliefs often have a basis in reality (e.g., many Scandinavians are tall and blond).

It is well documented that stereotypes about social groups operate through both conscious/explicit and subconscious/implicit mechanisms to influence expectations, perceptions, behavior toward others, and performance (Kunda & Spencer, 2003; Payne, 2006; Schmader, Johns, & Forbes, 2008). For example, Tiedemann (2000) showed that endorsement of gender stereotypes about math abilities was associated with parents’ stereotype-consistent distortions in beliefs about their own sons and daughters. Other research has shown that parental endorsement of gender stereotypes about math and science abilities is linked to greater likelihood of attributing the math and science failures of daughters (vs. sons) to lack of ability (Kizzie, Rowley, Kurtz-Costes, DeSousa, & Wachtel, 2009). Academic stereotype research has most frequently focused either on race differences between the achievement of Whites versus that of other racial/ethnic groups or on gender differences in mathematics and science performance. Beliefs about gender differences in the abilities of African American youth may also be characterized as stereotypes because they are shared cultural beliefs about a social group as illustrated both by research results and

by representations of Black males in the popular media (Hall, 2001; Hudley & Graham, 2001).

According to the *reality principle* of stereotype formation, individuals’ differential beliefs about groups, or stereotypes, are often grounded in their actual experiences with the social world (Oakes, Haslam, & Turner, 1994). If African American adults engage the reality principle in the formation of their academic gender stereotypes, it seems likely that they would endorse a belief that girls as a social group perform better than boys in academic domains. In reality, African American boys experience more academic difficulties and fewer academic successes than their female counterparts (National Center for Education Statistics, 2008; Noguera, 2003; Roderick, 2003). Notable gender disparities favoring African American girls and women have been documented with respect to school achievement (Mickelson & Greene, 2006), referrals to programs for the mentally retarded or learning disabled (Holzman, 2006), participation in honors and advanced courses during high school (Polite & Davis, 1999), high school completion rates (Ryu, 2008), and enrollment in and graduation from institutions of higher education (Garibaldi, 2007; Ryu, 2008).

Given this set of circumstances, the belief that girls generally perform better than boys in academics could be a reflection of African American parents’ real-world observations of their own children, other African Americans within the broader social context, and perhaps even their own lives. This belief would also be consistent with societal stereotypes depicting African American men as possessing characteristics that undermine academic success (Hall, 2001) and with stereotypes reported by African American adolescents (Hudley & Graham, 2001). Although such beliefs about group differences may be grounded in individuals’ actual experiences with and observations of the world, as is the case with other stereotypes, these beliefs about groups may result in perceptions and expectations of individual members of the stigmatized group (in this case, boys) that are unjustifiably negative given the boys’ actual abilities and potential. We tested these hypotheses by measuring mothers’ stereotypes—that is, their reports of differences between the academic abilities of boys and girls in general—and their perceptions of and expectations for their own sons and daughters. Because we controlled for adolescents’ actual achievement, we were able to determine if mothers’ endorsement of gender stereotypes favoring girls resulted in relatively lower expectations and perceptions of sons than of daughters.

### Overview of Present Study

In the present study, we had three main goals. The first goal was to test the hypothesis that African American mothers would hold lower educational attainment expectations for their sons than for their daughters and would rate sons as less academically competent than daughters, even when concurrent academic achievement was controlled. Such findings would be consistent with the notion that academic gender stereotypes influence mothers’ judgments about their children’s academic abilities and potential, above and beyond children’s demonstrated academic performance. The second goal of the study was to assess whether African American mothers, on average, endorse the academic gender stereotype that girls as a social group perform better than boys in academic domains. Finally, we hypothesized that mothers’ academic gender stereotypes would be related to education-related beliefs about

their own sons and daughters in a stereotype-consistent manner. In particular, we predicted that endorsement of the stereotype that girls are superior to boys in academic domains would enhance beliefs (i.e., educational expectations and beliefs about child academic competence) about daughters and dampen beliefs about sons, even when we controlled for youths' academic achievement.

We tested these hypotheses in a sample of mothers of middle school students. We chose this developmental period because middle school has been noted as a particularly vulnerable period for youth as marked by declines in motivation, academic self-concept, and achievement (Eccles & Midgley, 1989; Eccles et al., 1993) and because of youths' increasing awareness of stereotypes in early adolescence (Rowley, Kurtz-Costes, Mistry, & Feagans, 2007). The two outcome variables—parents' perceptions of their children's academic competence and parents' expectations for their children's future educational attainment—were chosen because of empirical evidence linking them to youths' academic outcomes (Neuenschwander et al., 2007; Sirin & Rogers-Sirin, 2004).

## Method

### Participants

Data for the current study were drawn from two separate research projects: the Adolescent Identity Project (AIP) and the Youth Identity Project (YIP). Both projects are longitudinal studies that focus on the development of achievement motivation in African American youth. Many of the research measures used in AIP also appear in YIP, thereby allowing researchers to test some hypotheses by pooling data across the two studies.

AIP began when students were in middle school (Grade 7 or Grade 8) and included two additional waves of data collection when students were in Grade 11 and Grade 12. Families were recruited from three middle schools in one urban school district and two middle schools in one rural school district in the southeastern United States. According to the U.S. Census Bureau (2009), the total population in 2006 was 246,896 for the urban county (770 persons per square mile) and 48,610 for the rural county (170 persons per square mile). African Americans comprised 37.8% of the urban county's population and 50.1% of the rural county's population. About 51% of data for the present study were drawn from Wave 1 of AIP data collection, which occurred when participants were either in Grade 7 or 8 (2003–2004 and 2004–2005 school years).

YIP began when students were in Grade 5, with additional waves of data collected during Grade 7 and Grade 10, and a fourth wave currently underway for Grade 12. Families were recruited from seven elementary schools in the same urban school district where some of the data for AIP were collected. Data for the present study were drawn from Wave 2 of YIP, by which time participants were attending one of 17 urban middle schools that were either part of or close to the urban school district where data collection was initiated. About 49% of data for the present study were drawn from Wave 2 of YIP data collection, which occurred during students' seventh-grade year (2004–2005, 2005–2006, and 2006–2007 school years).

In both YIP and AIP, data were collected from students, a parent in each household, and classroom teachers. For the present article,

only African American mothers of African American adolescents were included in the sample. Mothers were asked about their race/ethnicity and their child's race/ethnicity on the parent questionnaire, and adolescents were asked to report on their own race/ethnicity. For purposes of the present study, mothers were considered to be African American if they self-identified as such; adolescents were considered to be African American if both they and their mother identified them as such. Individuals who self-identified as multiracial were not included in the sample.

For AIP, approximately 67% of African American seventh- and eighth-grade students who were invited to participate returned a signed parental consent document; of those, 97% ( $N = 253$ ) agreed to participate. Caregiver data were obtained for 78% ( $N = 198$ ) of African American youth participants in AIP. A total of 29 of the responding caregivers were excluded from the analyses presented here either because they were not mothers ( $N = 21$ ), because they were not African American or their race/ethnicity data were not available ( $N = 6$ ), or because they reported that their child was not African American ( $N = 2$ ). Thus, the final sample for the present study included 169 AIP mothers. For YIP, 78% of African American fifth-grade students invited to participate returned signed consent forms; of those, 97% ( $N = 381$ ) agreed to participate. The retention rate for African American youths between Waves 1 and 2 of YIP was 79% ( $N = 301$ ). Of the youths who participated in Wave 2 of YIP, caregiver data were obtained for 86% ( $N = 260$ ). In all, 95 responding caregivers were excluded from the final sample either because they were not mothers ( $N = 42$ ), because they were not African American or their personal race/ethnicity data were not available ( $N = 50$ ), or because they reported that their child was not African American ( $N = 3$ ). In all, the final sample for the present study included 165 mothers from YIP.

Composed of samples pooled across the two studies (Wave 1 of AIP and Wave 2 of YIP), the sample for the present study consisted of 334 African American mothers (72% urban and 28% rural; 37% married and living with partner) reporting on the same number of African American youths (56.3% girls; mean age = 13.4 years,  $SD = 0.8$ ). Thus, mothers reported their educational expectations for and beliefs about the academic competence of 146 sons and 188 daughters. Mothers reported a median annual household income of \$30,000–\$39,999 (range = <\$10,000–\$100,000 or greater). About 10% of mothers had not completed high school, whereas 59% had earned a high school diploma, 10% had earned an associate's degree, and 22% had completed a bachelor's degree or higher. According to school records, 9% of sample youths attended schools where African Americans represented less than 50% of the student body, 60% attended schools where African Americans represented 50–75% of the student body, and the remaining 31% attended schools where greater than 75% of the student population was African American.

### Measures

**Mothers' academic gender stereotypes.** Visual analog scales (VAS) were used to assess mothers' beliefs regarding the competence of boys as a social group and girls as a social group in six academic domains (math, science, reading, writing, grades, and general intelligence). VAS are most commonly used for cases in which researchers wish to reduce constraints on participants' responses; they have been used most commonly to assess individu-

als' experiences of pain (e.g., Kenny, Trevorrow, Heard, & Faunce, 2006). Our rationale for using VAS instead of Likert scales to assess participants' perceptions of group competence stems from the fact that Likert scales have only a few response options, and it is likely that individuals may feel uncomfortable assigning the lowest rating to a particular group. With VAS, individuals may assign a relatively low rating to a group without choosing the lowest category.

In the present study, respondents were asked to place a mark on a 100-mm line to indicate how well they believe children in the target group (i.e., boys or girls) perform within a specified domain. Each item was composed of a verbal descriptor (e.g., "I think that in math boys do this well") and a scale anchored by *Not well at all* on the far left (0 mm) and *Very well* on the far right (100 mm). Separate items were used to assess each academic domain (e.g., math, English, writing) for the target group, and items assessing beliefs about each social group (i.e., boys, girls) were presented on different pages in the questionnaire. For each academic domain, the score for boys was subtracted from the score for girls to yield six stereotype scores; thus, the score for each domain indicates the degree to which the respondent believes that girls perform better than boys within that domain. The six scores were then averaged to compute a single academic gender stereotype score,  $\alpha = .74$ . Constructed in this way, scores greater than 0 indicate that girls are viewed as more competent, scores at or near 0 indicate a belief that boys and girls are equally competent in academic domains, and scores less than 0 indicate that boys are perceived as more competent. The use of VAS measures to assess stereotypes has been validated with other stereotype measures and appears in a number of published studies (e.g., Kurtz-Costes, Rowley, Harris-Britt, & Woods, 2008; Rowley et al., 2007; Woods, Kurtz-Costes, & Rowley, 2005).

**Mothers' educational expectations.** Mothers' expectations for youths' future educational attainment were assessed with a single item: "How far do you expect your child to go in school?" Response options were as follows: 1 = *some high school*, 2 = *finish high school*, 3 = *some college*, 4 = *finish community college*, 5 = *finish a 4-year college*, 6 = *master's degree*, 7 = *doctoral degree*. This and other comparable single-item measures have been used widely to assess parental expectations (e.g., Benner & Mistry, 2007; Gill & Reynolds, 1999; Kalil, 2002; Mello, 2008; Ou & Reynolds, 2008; Sanchez, Esparza, & Colon, 2008). Thus, whereas each mother reported her beliefs about the abilities of boys and girls, in general, on the stereotype measure, she rated her educational expectations for her own son or daughter on the educational expectations measure.

**Mothers' beliefs about their own child's academic competence.** Mothers were asked to rate the focal child's competence in six academic domains (math, science, reading, writing, grades, and general intelligence) compared with other children in the same age group. Response options ranged from 1 to 7, where 1 = *far below average*, 4 = *average*, and 7 = *far above average*. The average of responses for each of the six domains was computed to create a single score reflecting beliefs about the child's overall academic competence. Alpha reliability for this scale in the current sample was .91.

**Youths' academic achievement.** Youths' concurrent academic achievement is an established correlate of African American parents' expectations for their children's future attainment (e.g.,

Halle et al., 1997); therefore, academic achievement was covaried in all regression analyses. Achievement was assessed with a state-required end-of-grade standardized achievement test in math and reading. Scores were obtained from participating schools, and developmental scale scores for each subtest were converted to standard scores on the basis of statewide performance within a participant's grade level (7 or 8) during the year that the test was taken. Standard scores for math and reading were averaged to yield a single indicator of academic achievement,  $\alpha = 0.88$ . The mean standard achievement test score based on state norms was  $-0.41$  ( $SD = 1.21$ ) for our sample.

**Indicators of socioeconomic status.** Socioeconomic status (SES) is an established correlate of parents' expectations for their children's future educational attainment (e.g., Davis-Kean, 2005); therefore, we controlled variance due to SES in our regression analyses. Following the recommendations of Entwisle and Astone (1994), indicators of SES were entered separately into the regression models. Our indicators of SES were annual household income rated on an 11-point scale (1 =  $< \$10,000$ ; 6 =  $\$50,000$ – $\$59,999$ ; 11 =  $> \$100,000$ ) and the level of education completed by the mother (1 = *less than high school*; 9 = *doctoral degree such as PhD, MD, or JD*).

## Procedure

Active parental consent was required for student participation in the projects. For both studies, youth participants were recruited from their homeroom classrooms by trained research assistants, most of whom were African American. Initial contact with families was made through consent documents sent home with children to be signed by parents and returned to school. Parents had the option of permitting the child to participate without their own participation, of agreeing that both the student and parent would participate, or of declining. Although students of all ethnicities were invited to participate in both studies, only African American participants were the focus of the present study.

For both studies and at all waves of data collection, youths completed surveys in small groups at school. The Wave 1 AIP and Wave 2 YIP youth surveys included various measures pertaining to achievement motivation in African Americans, such as academic self-concept, academic stereotype endorsement, and racial identity/socialization. Once youths had completed surveys at school, a parent questionnaire was mailed to the consenting caregiver, along with a postage-paid return envelope. The parent questionnaires for AIP and YIP included a broad range of measures designed to tap parents' education-related attitudes and beliefs and educationally relevant parenting behaviors. In addition to measures previously described in the present study, parents completed measures designed to assess their attributions about why their children succeed and fail in various school subjects, perceptions of the school context, and racial socialization practices. Parents were also asked to complete measures of racial identity and neighborhood racial composition, as well as several sociodemographic items (e.g., household structure, current occupation). The parent questionnaire typically took 20–30 min to complete. To increase parent response rates, we made reminder phone calls and sent repeat mailings to parents who did not return the survey within a reasonable amount of time. In exchange for completing

research measures, youths received a \$5 gift card to a local eatery, and parents received a modest (\$20–\$25) honorarium.

## Results

Means and bivariate correlations for study variables are presented in Table 1.

### Overview of Analyses

The analyses were conducted in three stages. In the first stage, we examined the association between youths' gender and mothers' achievement-related beliefs. To this end, we estimated two separate multiple regression models to determine whether youths' gender was significantly related (a) to maternal expectations and (b) to mothers' beliefs about adolescents' academic competence. All multiple regression analyses for this study (including analyses of the interaction effects described later) were conducted using the Mplus Version 5.2 statistical software package (Muthén & Muthén, 1998–2007). We estimated model parameters using full information maximum likelihood (FIML) estimation, which is suitable for use with data sets that include some missing data. (Rates of missing data for mother-reported variables ranged from 0.6% to 9.0%. Mothers whose data were completely missing were not included in the sample. Academic achievement data were missing for 8% of observations.) FIML permits all available data to be included in an analysis and yields parameter estimates that tend to be less biased than those yielded by ad hoc missing data techniques (i.e., listwise deletion, pairwise deletion, mean imputation; Collins, Schafer, & Kam, 2001; Enders, 2001; Schafer & Graham, 2002). Unlike imputation-based techniques for missing data, FIML does not involve estimating values for missing data points. Instead, FIML uses an iterative procedure to estimate the population parameters most likely to have produced the available sample data. Parental education, annual household income, and youths' prior academic achievement were controlled in all regression models.

In the second stage, we used two strategies to assess mothers' endorsement of academic gender stereotypes. First, we conducted a *t* test to compare mothers' beliefs regarding the academic competence of boys in general with beliefs regarding the competence of girls. We then calculated the academic gender stereotype score for each mother (i.e., beliefs about girls' academic competence

minus beliefs about boys' academic competence) and constructed a visual model depicting the distribution of this variable.

In the final stage of the analyses, we assessed the relation between mothers' academic gender stereotype scores and their education-related beliefs about their sons and daughters. We did so by entering the Maternal Academic Gender Stereotype Score  $\times$  Youth Gender interaction term into the original regression models predicting mothers' educational expectations and mothers' beliefs about adolescents' academic competence. We probed significant interactions in the manner recommended by Aiken and West (1991) using an Internet-based interactive calculation tool designed for this purpose by Preacher, Curran, and Bauer (2006). Specifically, simple slopes for the relations between stereotypes and mothers' expectations and perceptions of child competence were calculated and plotted separately for sons and daughters.

### Mothers' Educational Expectations and Perceptions of Academic Competence of Their Sons and Daughters

Regression coefficients for models testing associations of adolescent gender with mothers' expectations and perceptions of child academic competence are presented in Table 2. As hypothesized, mothers of sons held significantly lower expectations for their children than mothers of daughters, even after adolescents' prior achievement and indicators of family SES were controlled,  $B = -.33$ ,  $SE B = .15$ ,  $p < .05$ . Mothers' own education level, annual household income, and adolescents' prior academic achievement were also significantly and positively related to mothers' expectations.

Also consistent with study hypotheses, mothers reported significantly lower perceptions of sons' academic competence as compared with perceptions of daughters' academic competence,  $B = -.24$ ,  $SE B = .12$ ,  $p < .05$ . Mothers' own education level and adolescents' prior academic achievement were also significantly and positively associated with mothers' perceptions of their children's academic competence.

### Mothers' Academic Gender Stereotypes

With respect to general beliefs about boys' and girls' academic competence, mothers reported on the 100-point scales a mean

Table 1  
Means and Bivariate Correlations for Study Variables

Variable	1	2	3	4	5	6	7
1. Maternal education level	—	.31*	.19*	.02	.24*	.22*	-.01
2. Annual household income		—	.29*	.13*	.29*	.21*	-.12*
3. Academic achievement			—	-.10	.35*	.39*	-.05
4. Youth gender (female = 0; male = 1)				—	-.11*	-.12*	-.04
5. Maternal educational expectations					—	.44*	-.27 <sup>a</sup> /.09 <sup>b</sup>
6. Mother's beliefs about child's competence						—	-.27 <sup>a</sup> /.15 <sup>ab</sup>
7. Academic gender stereotype score							—
Mean	3.2	4.2	-0.4	—	5.4	5.0	13.0
Standard deviation	1.4	2.6	1.2	—	1.5	1.1	14.9

<sup>a</sup> Correlation for mothers who reported on sons. <sup>b</sup> Correlation for mothers who reported on daughters.

\*  $p \leq .05$ .

Table 2  
Unstandardized Full Information Maximum Likelihood  
Regression Coefficients for Models Predicting Mothers'  
Education-Related Beliefs From Adolescents' Gender

Variable	Educational expectations		Beliefs about child competence	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Maternal education	0.15*	0.06	0.11*	0.04
Annual household income	0.11*	0.03	0.03	0.02
Academic achievement	0.32*	0.07	0.31*	0.05
Gender (female = 0; male = 1)	-0.33*	0.15	-0.24*	0.12
<i>R</i> <sup>2</sup>	0.19*	—	0.18*	—

Note. *N* = 334.

\* *p* < .05.

score of 74.5 (*SD* = 15.6) for girls and a score of 61.5 (*SD* = 13.1) for boys. A paired samples *t* test revealed that mothers reported significantly higher scores for girls than for boys,  $t(303) = 15.1$ ,  $p < .05$ .

Mothers' mean academic gender stereotype scores (i.e., the average difference between the score for mothers' general beliefs about boys' academic competence subtracted from the score for their beliefs about girls) ranged from -28.2 to 71.6, with a mean of 13.0 (*SD* = 14.9). The distribution of academic gender stereotype scores is presented in Figure 1. Approximately 8% of the sample had stereotype scores favoring boys in academics (i.e., scores less than -5), 25% had relatively neutral stereotype scores (i.e., scores of -5 through 4.99), and 67% had stereotype scores favoring girls in academics (i.e., scores of 5 or greater).

### The Relation Between Mothers' Academic Gender Stereotypes and Education-Related Beliefs About Sons and Daughters

Regression coefficients for models that included the interaction term are presented in Table 3. As described previously, two multiple regression analyses were conducted using FIML estimation. The dependent variable in the first analysis was mothers' expectations for their children's future educational attainment, and in the second analysis, mothers' perceptions of children's academic competence.

In the first analysis, the Academic Gender Stereotype Score  $\times$  Youth Gender interaction term was significantly related to mothers' expectations for their children's future attainment,  $B = -.03$ ,  $SE B = .01$ ,  $p < .05$ . The test for simple effects showed that the simple slope of the relation between academic gender stereotypes and expectations for sons was significant, with a negative relation between stereotypes and attainment expectations,  $B = -.02$ ,  $SE B = .01$ ,  $p < .05$ . In other words, mothers of sons who reported that girls are generally more successful academically than boys had relatively lower educational attainment expectations of their sons than mothers of sons who did not endorse the belief that girls are stronger than boys academically. Although the slope for daughters was in the hypothesized (positive) direction, it was not significantly different from zero,  $B = .01$ ,  $SE B = .01$ , *ns*. These results are depicted in Figure 2.

The interaction term was also significantly related to mothers' perceptions of their children's academic competence,  $B = -.03$ ,  $SE B = .01$ ,  $p < .05$ . Simple slopes for the relation between stereotypes and perceptions of child competence were significant both for sons ( $B = -.02$ ,  $SE B = .01$ ) and for daughters ( $B = .01$ ,  $SE B = .005$ ),  $p < .05$ . A plot of this interaction is depicted in Figure 3. Overall, these findings support our hypothesis that academic gender stereotypes shape

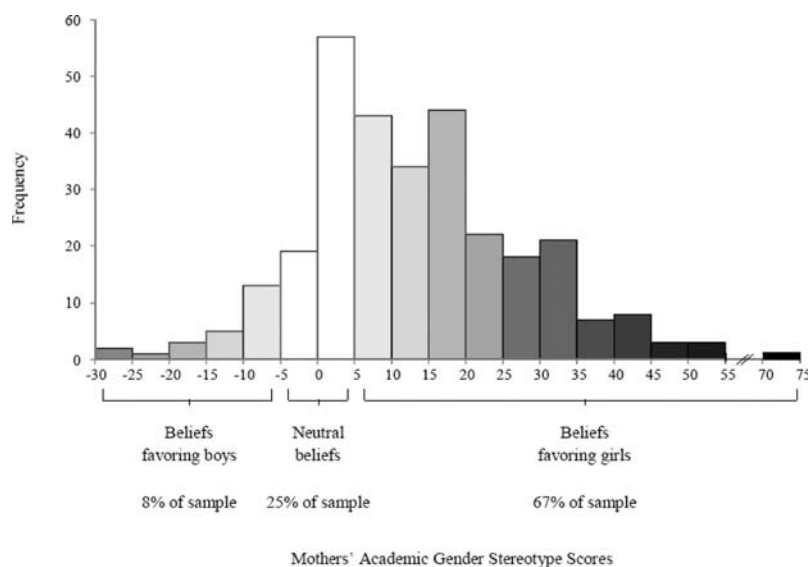


Figure 1. Distribution of mothers' academic gender stereotype scores ( $N = 304$ ). Higher scores are indicative of bias toward girls in academic domains. Darker shading indicates stronger stereotype endorsement.

Table 3  
Unstandardized Full Information Maximum Likelihood  
Regression Coefficients for Models Predicting Mothers'  
Education-Related Beliefs From Adolescents' Gender  $\times$   
Maternal Academic Gender Stereotypes Interaction

Variable	Educational expectations		Beliefs about child competence	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Maternal education	0.14*	0.06	0.10*	0.04
Annual household income	0.10*	0.03	0.03	0.02
Academic achievement	0.31*	0.07	0.30*	0.05
Gender (female = 0; male = 1)	0.05	0.20	0.11	0.15
Academic gender stereotypes	0.01	0.01	0.01*	0.01
Gender $\times$ Stereotypes	-0.03*	0.01	-0.03*	0.01
<i>R</i> <sup>2</sup>	0.21*	—	0.22*	—

Note. *N* = 334.

\* *p* < .05.

mothers' beliefs about sons and daughters in a stereotype-consistent manner, with strongly stereotyped mothers (compared with other mothers) having more positive perceptions of daughters and more negative perceptions of sons with children's actual achievement controlled.

### Discussion

African American boys show lower rates of academic success on a variety of indices compared with European American boys and with African American girls (e.g., Holzman, 2006; Noguera, 2003; Roderick, 2003; Ryu, 2008). Parents' beliefs about children's academic potential are an established predictor of African American boys' and girls' academic outcomes (Benner & Mistry, 2007; Gill & Reynolds, 1999; Halle et al., 1997; Sirin & Rogers-Sirin, 2004). With these points in mind, in the present study, we focused on gender differences

in African American mothers' education-related beliefs about their children. Specifically, we examined the relations between African American mothers' academic gender stereotypes and their educational attainment expectations and perceptions of academic competence of their sons and daughters. A majority (67%) of the mothers in our sample endorsed the stereotype that boys are less competent than girls in academic domains. More important, the relative strength of stereotype endorsement was related both to mothers' expectations for the eventual educational attainment of their children, as well as to their perceptions of their children's academic competence. Compared with other mothers, mothers who strongly endorsed the stereotype that girls are more competent than boys in academic domains viewed daughters as more capable and sons as less capable. These associations were statistically significant even when youths' actual achievement was controlled, suggesting that social stereotypes about African American boys led to biased perceptions on the part of mothers.

### Gender Stereotypes About the Academic Abilities of African American Youth

The vulnerability of African American boys in academic settings is well documented, with gender differences in educational attainment highly pronounced at the upper educational levels (i.e., in terms of recipients of PhD and MD degrees; Hoffman, Llagas, & Snyder, 2003; Ryu, 2008). In spite of negative societal stereotypes about the academic abilities of African American students in general and boys in particular (Bobo, 2001), millions of African American boys do well in school. Results of the current study are consistent with the idea that parents' gender stereotype endorsement may shape the achievement outcomes of African American youths indirectly via its influence on parents' beliefs about children's academic potential.

Eccles et al. (1983) theorized that both parents' general and child-specific beliefs are played out in parental behaviors that shape the achievement striving of children. We extended the findings of prior research by demonstrating that mothers' stereotypes about gender differences in the academic abilities of African American youth—which probably emerge from actual gender dif-

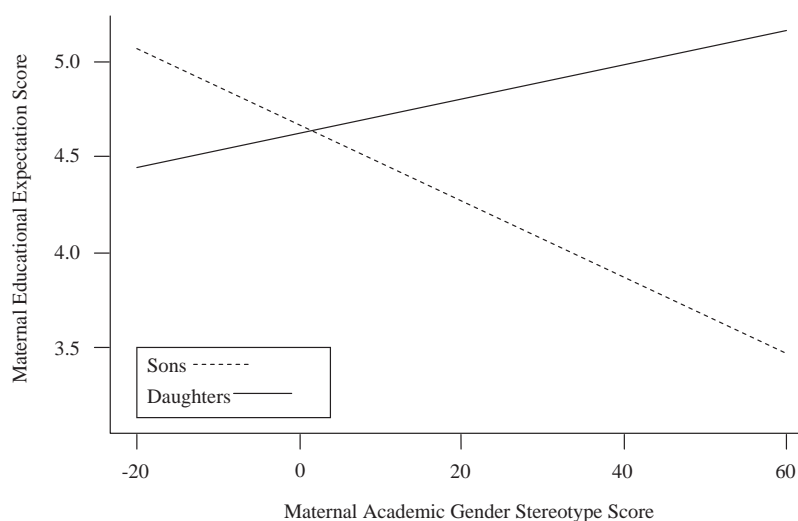


Figure 2. The relation between mothers' academic gender stereotypes and educational expectations for sons and daughters. For sons,  $B = -.02$ ,  $SE B = .01$ ,  $p < .05$ . For daughters,  $B = .01$ ,  $SE B = .01$ ,  $ns$ .

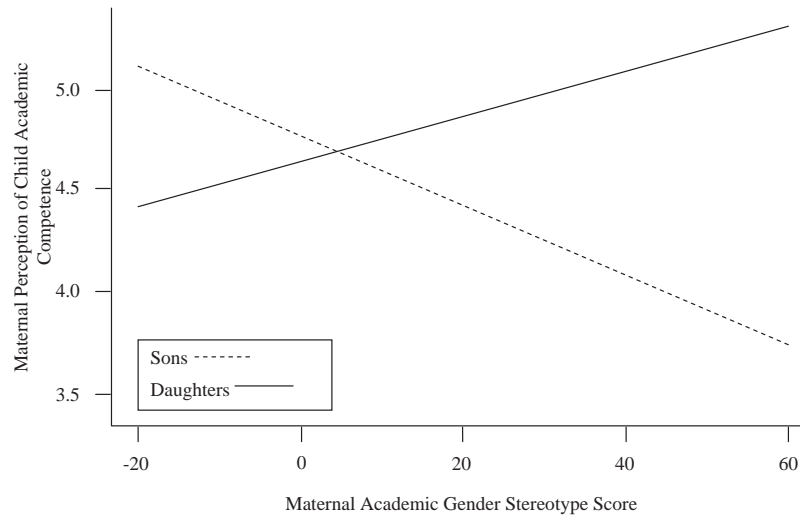


Figure 3. The relation between mothers' academic gender stereotypes and beliefs about the academic competence of sons and daughters. For sons,  $B = -.02$ ,  $SE B = .01$ ,  $p < .05$ . For daughters,  $B = .01$ ,  $SE B = .01$ ,  $ns$ .

ferences in achievement outcomes—are associated with parents' perceptions of their own children. Prior research had shown ways in which parents' and youths' gender stereotypes are related to motivational beliefs and achievement in the domain of mathematics (e.g., Bleeker & Jacobs, 2004; Kurtz-Costes et al., 2008; Tiedemann, 2000). The current study extends these prior results in two important ways.

First, prior research had not examined links between parents' stereotypes and their expectations of their children's eventual educational attainment—a factor that has been shown to be robustly related to child academic outcomes (e.g., Ensminger & Slusarcick, 1992; Neuenschwander et al., 2007; Sirin & Rogers-Sirin, 2004). Second, to our knowledge, parents' gender stereotypes had not been researched previously within an African American sample. The negative impact of stereotypes regarding race differences in academic ability has been well established (Steele, 1997; Steele & Aronson, 1995). In addition to confronting stereotypes linked to race, African American boys face the additional challenge posed by social expectations that African American boys perform more poorly than African American girls (Noguera, 2003; Roderick, 2003). As predicted, African American mothers in the current study held lower expectations for the future attainment of sons than of daughters, and a sizeable percentage of mothers endorsed the social stereotype that girls are more capable than boys in school. Most important, the strength of gender stereotype endorsement was related to mothers' competence perceptions and educational attainment expectations for their children, with children's achievement controlled, such that mothers' endorsement of stereotypes about gender differences in academic abilities was linked to a positive bias for daughters and a negative bias for sons.

Parents' education-related beliefs are probably expressed through behaviors that communicate perceptions and expectations to children, which in turn may influence children's own academic beliefs and motivation. Parents who perceive boys as less competent than girls may undermine boys' confidence in their own abilities, thereby dampening their sons' achievement orientation (Neuenschwander et al., 2007). When children are perceived as

less capable, parents and teachers are less likely to encourage them to take challenging coursework, even when children's achievement scores qualify them for advanced classes (Hrabowski, Maton, & Greif, 1998). As has been found with teachers' expectations (e.g., Jussim & Harber, 2005), parents' expectations may become a self-fulfilling prophecy, such that the academic difficulties of African American boys lead to lowered expectations, which then cause teachers and parents to foster the successful achievement of girls more than that of boys—thus leading to further gender differences in outcomes. This possible pattern of events underscores the urgency of addressing the societal and institutional factors that undermine the educational outcomes of African American males (Rowley, Kurtz-Costes, & Cooper, in press).

### Developmental Considerations and Implications for Future Research

To the extent that youth are aware of their mothers' expectations and perceptions, our results have important implications for the development of young adolescents' beliefs about their own abilities and their developing goals and values. Future research should examine the ways in which the gendered expectations and perceptions of African American parents are expressed to children. Parents' explicit and implicit expression of their achievement expectations, as well as parent behaviors (e.g., choices of books and toys for their children; enrolling children in camps that provide opportunities for academic identification and enrichment) are fertile grounds for future study.

In addition, longitudinal designs should be used to clarify causal paths in the relations observed in the present study. For instance, although we hypothesized that stereotypes shape competence perceptions, it is plausible that the reverse is the case. For example, because of their higher physical activity levels, young boys might be perceived by their parents as less capable academically than young girls. These biased perceptions, in turn, might lead to gender stereotypes about academic ability that are not completely grounded in children's actual competencies.



The current research was conducted with mothers of seventh and eighth graders. Middle school is a time when many youth show decreases in achievement motivation (Eccles & Midgley, 1989; Eccles et al., 1993). Because ability tracking and other tangible indicators of achievement become more numerous and salient in middle school (e.g., honor rolls published in local newspapers, academic awards, and so on), it is likely that group differences in achievement become more visible to youth and their parents during this period. In addition, young adolescents' growing awareness of race and gender as significant social categories are likely to increase the potential power of stereotypes in shaping youths' beliefs (Rowley et al., 2007). Future researchers should address the developmental trajectories by which youth become aware of stereotypes and the mechanisms through which stereotypes enhance or impede achievement striving at different developmental periods. For instance, whereas parents' and teachers' beliefs and behaviors affect students' motivation throughout the primary and secondary education years, peers wield increasing influence as youth enter adolescence.

The findings of the present study also highlight the need to examine the contribution of contextual factors, including parents' education-related beliefs, to the gender gap in African Americans' educational outcomes. Within psychology, much research has focused on maladaptive education-related attitudes as a main source of African American boys' academic difficulties, whereas less attention has been given to the role of factors external to the child. Although mothers were the focus of the current study, other research has documented the impact of teachers' expectations on children's performance (Jussim & Harber, 2005; Jussim, Harber, Crawford, Cain, & Cohen, 2005). As central socializing agents in the lives of children and adolescents, parents and teachers shape children's developing values, interests, activities, and opportunities as well as their beliefs about their own competence (Eccles et al., 1983; Frome & Eccles, 1998). Much of the research on teacher expectations has focused on race or gender without an examination of the interaction of the two. Thus, additional research is warranted to provide better understanding of the factors at work in shaping the educational experiences of African American boys.

Finally, more research is needed to provide understanding of the factors that lead to successful academic achievement and educational attainment in African American boys and men. Policies and programs designed to enhance the educational outcomes of African American males will benefit from consideration of the contextual factors that undermine these boys' academic outcomes in addition to their personal beliefs and attitudes.

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