Gender Differences in Elective Science Course Enrollment:

Influences of Stereotypes and Causal Attributions

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Abstract

Although adolescent girls and women enroll in more science courses in high school and college than their male counterparts, the gender difference is reversed in subsequent employment in science-related fields (Landivar, 2013; NCES, 2013). Traditional gender stereotype endorsement and causal attributions about science success were investigated as predictors of elective science course enrollment in high school students. Participants (N=275) reported science stereotype endorsement and ability attributions for science success during the 10th grade, and transcript data were collected after students' completion of the 12th grade. The relationship between stereotype endorsement and ability attributions was marginally significant for girls. There was a significant gender by stereotype interaction, such that stereotype endorsement predicted ability attributions more strongly for boys than for girls. Ability attributions were related to course enrollment for both boys and girls. However, stereotype endorsement was not related to course enrollment. These results support the hypothesis that ability attributions play a role in students' elective science course selection, and that stereotypes may play a role in maintaining gender disparities in the sciences, particularly through their impact on boys' educational choices.

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Although women's employment in life and physical science occupations has increased since the 1970s, and women are graduating with science degrees at comparable and higher rates than men (Landivar, 2013; NCES, 2013), they are still underrepresented in many areas of science. For example, more men than women are employed in all science occupations with the exceptions of biological/medical scientists, psychologists, social scientists, and health occupations (NSF, 2010). Not only are men employed at almost twice the rate as women in science and engineering occupations, but more women with science and engineering degrees are unemployed as compared to men with science and engineering degrees (1 in 5 women as compared to 1 in 10 men) (Landivar, 2013).

In addition to the underrepresentation of women in STEM employment, there are gender disparities in income. In STEM occupations, which are historically male dominated, workers have higher wages than workers who are in non-STEM occupations. Although the gender wage difference is smaller in STEM fields than in other occupations, men still earn more than women for similar STEM jobs (Beede, et al., 2011). In addition to women's overall lower rates of employment in science domains, women also have poorer representation than men in higher education in specific science domains. Women are graduating with more biological and biomedical science degrees than men, but the reverse is true for physical science degrees (NCES, 2013). For women who do attain a degree in a STEM major, they are more likely to be employed in education or healthcare than men who attain a degree in a STEM major (Beede, et al., 2011).

Trends observed in college degree attainment are similar to the pattern of high school course enrollment. Overall, female adolescents enroll in more science courses than their male peers (Halpern et al., 2007; NCES, 2012), but girls take more biology and chemistry courses than boys, and boys take more physics courses than girls (NCES, 2012).

Researchers have considered course access, school climate, and the interaction of race and gender to explain enrollment in upper level science courses in high school (e.g. Barnard-Brak, McGaha-Garnett & Burley, 2011; Corra, Carter & Carter, 2011). However, existing research does not consider science courses that are taken as graduation requirements contrasted with science courses beyond typical requirements. Generally, science courses are either grouped together as a whole, or only upper level courses are investigated. Elective courses in high school may signal a strong interest in that subject, which may lead to a student pursuing a career in that area. Because elective courses are not required for graduation, students must be otherwise motivated to enroll. This study examines the relationships between students' traditional gender stereotype endorsement in science (that males are better in science than females), their attributions of science success to ability, and their subsequent decisions to enroll in elective science courses.

Science Course Enrollment

Although female students are enrolling in more science courses now than previously, research suggests they may be enrolling in these courses in preparation for medical careers rather than other science careers (Miller, Blessing, & Schwartz, 2006). It is not problematic that women are preparing for careers in medical fields, but rather that women are underrepresented in other science domains. The underrepresentation of women in other science domains leads to a lack of female perspective and loss of talent. One example of how the underrepresentation of female perspective could impact science is through the design of new technology. Because of the different lived experiences of men and women in our society, the perspective that women and men may have on a new technology development could be very different.

In a study on science attitudes more than half of twelfth grade girls indicated that they agreed or strongly agreed that they enrolled in science courses because such courses were required. More than half of twelfth grade boys disagreed or strongly disagreed with the same statement (NCES, 2011). When investigating motivation for plans to major in science, researchers found that high school girls reported considering a science major only because it was required or closely related to medicine. Many of the female participants in the study did not consider the fields and careers that they were interested in entering (medicine, physical therapy, etc.) as being a science (Miller, et al., 2006).

Although it is clear that there are gender differences in high school course enrollment, gender differences in science achievement are less consistent. The National Assessment of Educational Progress reports that in Grade 8 boys are achieving somewhat higher scores than girls in science (NAEP, 2011). Boys also consistently have higher average scores on the science component of the ACT college readiness assessment than girls (NCES, 2011). However, a meta-analysis on achievement differences between genders reveals that girls have higher achievement than boys overall, which includes science achievement (Voyer & Voyer, 2014).

Prior achievement in science courses may lead to enrollment in advanced courses or elective courses. Researchers have found that previous grades in math and science do contribute to the variance in motivation in math and science for adolescents (Leaper, Farkas, Brown, 2012). According to achievement-expectancy theory, individuals who expect to have future success in and who value a domain will be motivated to pursue opportunities within that domain or subject (Eccles & Wigfield, 2002). Based on this theory, students who excel in a subject should be confident of future success in that subject, which might lead to enrollment in more courses, including upper-level courses and electives. Therefore, a student who excels in required science courses would expect future success in the area of science and feel motivated to enroll in science courses beyond the minimum requirements.

Stereotypes and Science Achievement

One possible explanation for the gender disparities in science fields is the perpetuation of gender stereotypes. Stereotypes are an oversimplified way to categorize a group of individuals. In academics, science is considered a non-traditional subject for female students (Halpern, et al., 2007), and males are assumed to be better than females in science subjects. During middle childhood and late adolescence, gender stereotypes become more fixed (Alferi, Ruble, & Higgins, 1996). In high school when students are beginning to have more freedom in course enrollment and planning for their futures, it is unclear if stereotypes influence decisions for course selection and motivation to enroll in specific courses. Factors that may influence students' course selection include social influences, cognitive ability and attitudes towards science. For example, some students may feel as if they need to conform to traditional gender roles and take courses that align with those attitudes. In high school, adolescent boys report higher levels of self-competence in science than girls (Desy, Peterson, Brockman, 2011).

Researchers have identified ways in which stereotypes can influence youths' performance. One way is by shaping students' beliefs about their own ability within the domain. As mentioned above, expectancy-value theory posits that students must believe they are capable of success within a domain in order to be motivated to pursue that field. Causal attributions—the beliefs that individuals hold about the reasons for their successes and failures—reflect their competence beliefs. If a student endorses a negative stereotype about their in-group, they may not attribute their success to ability. Because the student may not attribute his or her success to ability, they may not feel as if they will have future success in an area because they do not believe their success is related to competence.

Because gender stereotypes in science are favorable to boys, girls who endorse gender science stereotypes would be expected to have more negative perceptions of their science ability than boys. Boys experiencing stereotype lift would be aware of the stereotype that boys and men perform better in science than girls and women, and thus experience a motivational boost. Stereotype lift is the phenomenon of experiencing a performance boost due to comparison of an out-group that is stereotyped to not perform as well (Walton & Cohen, 2003). Thus, I hypothesized that traditional stereotype endorsement will be negatively related to ability attributions for science success among girls and positively associated with ability attributions among boys.

Ability Perceptions in Science

When individuals believe that they have natural ability, they are more likely to feel competent in that area (Weiner, 1985). In classic attribution theory, Weiner (1985) defined an attribution as the way that an individual thinks about the causes of success and failure. Specifically related to academics, individuals can attribute their successes and failures to many causes such as effort, ability, task difficulty, and luck. Attributions are classified along three dimensions: locus of control (i.e., external or internal), stability (i.e., constant versus possible of changing) and controllability (i.e., is there individual control over the factor).

Ability is considered a stable and internal attribution (i.e., a characteristic of the individual that is unlikely to change). Because stable causes of success are not expected to change over time, individuals who attribute success to ability expect future successes to occur.

Internal attributions of success are related to how much the success is predicted by individual characteristics, as opposed to external attributions such as luck or task difficulty (Weiner, 1985). Successes are often attributed to internal causes like ability or effort. Thus, attributing success to ability is linked to expectations of future success both because the causal factor is believed to be stable and because it is internal (Weiner, 1985).

Based on attribution theory, students who believe that they have high ability in a subject like science should expect to have continual success in science. Students in early adolescence and late childhood rate girls as a group as being better at science than boys, but girls' self-perceptions of academic ability in science are lower than those of boys (Kurtz-Costes, Rowley, Harris-Britt & Woods, 2008). Consistent with attribution theory, if a girl perceives that her success in science is not related to competence (ability) but rather to effort, she may be less likely to take elective courses in science.

Science Course Selection

In previous studies, researchers have investigated upper-level science course enrollment in high school or general science enrollment (e.g. Barnard-Brak, McGaha-Garnett & Burley, 2011; Corra, Carter & Carter, 2011; Doran, 1991); however, few have considered science-elective courses in high school. In an early study, Koballa (1988) investigated junior high school girls' intentions to enroll in an elective physical science course in high school. Academic ability, science grades, and attitudes toward science as a subject were unrelated to the intention to enroll in a physical science elective course. Positive attitudes towards enrolling in a physical science elective were the most predictive of intention of enrollment (Koballa, 1988). However, there has been growth in science course enrollment for girls since the 1980s, and the results do not provide information on courses other than physical science. Course planning is likely to change once entering high school, in particular due to course tracking and availability.

Current data show that adolescent girls are taking more biology and chemistry courses than their male peers, but fewer physics courses (NCES, 2012). Many states require biology and chemistry for graduation, but not physics (Educational Commission of the States, 2006). Because physical science courses are not required, female adolescents may feel less motivated to enroll in the courses as electives. It may be that gender differences in enrollment patterns can be explained by the previously mentioned finding that more than half of female students agree or strongly agree to taking science because it is a required course (NCES, 2010). Girls may be taking science only because of the requirements due to gender stereotypes (boys are better at science than girls) or that girls have low ability attributions for their success in science courses.

The Present Study

The present study will add to the literature on motivational factors regarding adolescents' enrollment in elective science courses. In particular I will investigate endorsement of traditional gender science stereotypes, ability attributions, and science elective course enrollment in a sample of high school youth. Four hypotheses will be tested in this study:

Hypothesis 1: Among girls, traditional science stereotype endorsement will be negatively related to ability attributions for science successes.

Hypothesis 2: Among boys, traditional science stereotype endorsement will be positively related to ability attributions for science successes,

Hypothesis 3: For both genders, attributions of ability for science successes will be positively related to enrollment in elective science courses, Hypothesis 4: Students' ability attributions will mediate the relationship between stereotype endorsement and elective course enrollment in science.

Method

Participants

Participants in this study were part of a larger longitudinal study known as the Youth Identity Project. Students, their parents, and their teachers completed surveys when youth were in Grades 5, 7, 10, and 12. Academic transcripts were also collected when students had completed high school. Participants were recruited from public schools in a small city located in the southeastern United States. The sample for the current study consisted of 275 youth (60% girls). Of this sample 60% were African American, 35% White, and 5% other (e.g., Asian, Hispanic). Data reported here include students' Grade 10 survey responses and course enrollment information from Grades 9-12.

Procedure

Participants completed a survey in the 10^{th} grade in small groups during school hours. Research assistants were available if any of the participants had questions while completing the questionnaire. Participants received an incentive at the completion of the survey.

Measures

Ability attributions. To report ability attributions in science, students rated agreement with the statement "When I get an excellent grade on a science test, it is because I am talented in science." Responses were measured on a 7-point Likert scale with response anchors of: *Not at all likely* (1), *neutral* (4), and *extremely likely* (7).

Science gender stereotypes. Stereotype endorsements were measured using visual analogue scales (VAS) that are created by a 100-milimeter line with anchors on each end of "not well at all" and "very well" (Rowley et al., 2007). This measure is used as opposed to a Likert scale to eliminate social desirability effects and allow a broader range of responses. To report stereotype endorsement, participants marked on the VAS line their perceptions of the ability of each gender group (boys or girls). For example, the item, "I think that in science boys do this well" was followed by a VAS line with the anchor of "*not well at all*" at 0 millimeters and "*very well*" at 100 millimeters. The participants were asked to mark the spot between the anchors that corresponded to their beliefs. Their responses were coded on a scale of 0 – 100 by measuring in millimeters the distance from the left end of the scale to the student's mark for that item. Ratings of the two gender groups were on separate pages and were interspersed with other social groups in order to reduce participants' comparison of the two genders. To assess students' gender stereotype endorsement in science, each student's score of girls' science ability was subtracted from his or her score of boys' science abilities. A negative score indicates girls were perceived as being better than boys in science (referred to in this paper as a non-traditional stereotype) and a positive score indicates a perception of boys being better than girls in science (referred to as a traditional stereotype).

Elective science course enrollment. Academic transcripts available at the end of the 12th grade were used to obtain information about students' enrollment in elective science courses. North Carolina students were required to take three science courses (biology, environmental science and a physical science) (Public Schools of North Carolina, 2012). Science courses taken beyond the three required courses were considered electives. Students' scores reflected the number of courses taken in addition to the three required.

Results

Means and standard deviations of study variables are reported in Table 1. Descriptive statistics for each gender are reported in Table 2. Both boys and girls reported stereotypes that were close to zero, indicating, on average, that youth perceived no gender differences in science ability. However, the large standard deviations showed that some youth reported traditional stereotypes, and others reported non-traditional beliefs favoring girls. Results show that girls have significantly higher science grades than boys, however boys reported significantly higher ability attributions than girls. There were no group differences for stereotype endorsement. Only 65 participants (29 boys, 36 girls) of the sample did not enroll in an elective science course. Eighty-seven students (28 boys, 59 girls) enrolled in one elective course, 70 (26 boys, 44 girls) enrolled in two, 31 (19 boys, 12 girls) enrolled in three, and 22 (8 boys, 14 girls) enrolled in four.

Stereotypes Predicting Ability Attributions

In order to test the relationship between stereotype endorsement and ability attributions, a regression analysis was run. The variables entered included stereotype endorsement, child's gender, and the gender by stereotype interaction. The gender by stereotype interaction was constructed by multiplying gender by stereotype endorsement scores. Parent education and youth's Grade 10 science grades were entered as control variables. Stereotype endorsement was the dependent variable.

The model including all participants was significant, $F(2, 274) = 16.82$, $p < .001$ for predicting ability attributions (Table 3). Because the interaction of Gender x Stereotype was significant, $\beta=.24$, we probed the interaction to investigate the nature of this relationship. For girls, the simple slope is -.01(.006), $t=1.667$, $p=.10$. The simple slope for boys is .031(.0071), $t=4.352$, $p<.001$.

These results support Hypothesis 2 and provide marginal support for Hypothesis 1. Girls' perceptions that boys excel in science compared to girls are associated with a lower likelihood of endorsing ability for science successes, whereas boys who endorse traditional stereotypes are more likely to attribute their science successes to ability. The gender by stereotype interaction can be seen in Figure 1.

Ability Attributions Predicting Science Elective Course Enrollment

The relationship between ability attributions and science elective course enrollment was also tested through a regression equation. The predictor variables entered were ability attributions, child's gender, and the gender by attributions interaction. The control variables in the model were Grade 10 science grade and parent education. Students' number of elective science courses was the dependent variable.

The model was significant, $F(2, 274) = 9.36$, $p < .001$ (see Table 6). Significant relationships between course enrollment in science elective courses and Grade 10 science grade, parent education, and ability attribution were found. This result supports the hypothesis that ability attributions predict science course enrollment. However, there was no significant relationship between science course enrollment and student gender.

Relationship Between Stereotype Endorsement and Elective Course Enrollment Mediated by Ability Attributions

Stereotype endorsement did not predict elective course enrollment, $F(2,274)=7.74$, $p<.001$ (see Table 5). The hypothesis that the relationship between stereotype endorsement and elective course enrollment is mediated by ability attributions was not supported.

Discussion

In contrast to the traditional stereotype that boys are better at science than girls, students in this sample reported egalitarian beliefs or very slight advantages for girls. These results may be explained by science grades. On average, girls did have higher grades in science than boys. Therefore, both boys and girls probably noticed that and perceived girls as being better at science due to their academic performance. When specifically considering girls, another explanation for why girls reject the typical stereotype could be explained by the social status theory. According to the social status theory, in this situation, girls would be less likely to endorse a stereotype that is negatively related to their own group (Rowley, et al., 2007).

Stereotypes and Ability Attributions for Science Success

The first hypothesis predicted that traditional stereotype endorsement among girls would be negatively related to ability attributions for science success. The results indicated that this relationship was only marginally significant. Because the result was only marginally significant, and given that girls did not report significant gender stereotypes favoring boys, it seems as if stereotypes may not play a large role in ability attributions for science success outcomes among girls. However, boys had higher ability attributions than girls, indicating that they are more likely than girls to attribute their science successes to science ability. Perhaps school or classroom climate contributes to girls' ability attributions. Previous researchers have investigated how classroom environments and teacher perceptions can influence girls' motivation in science courses (Spearman & Watt, 2013). In particular, the classroom structure influenced girl's motivation in junior secondary science classrooms (Spearman & Watt, 2013). This could also play a factor in high school course enrollment, as girls who are not motivated in classroom environments in general science courses will not feel inclined to take elective science courses. Furthermore, researchers have investigated the way that teachers interact with students based on gender interactions (male teacher, female student, etc.) and found that in math and language classrooms there are gender disparities in the interactions between teachers and students (Duffy, Warren & Walsh, 2001). In language classrooms, both male and female teachers interacted with boys more than girls, and in math classrooms female teachers interacted with boys more. Although science was not investigated, similar patterns could be observed. If girls are noticing that teachers do not interact with them as much in a science classroom they may feel as if they have less ability in the subject. In turn, boys could notice that they receive more attention than girls and feel as if they have more ability in science. If girls do not feel as if the environment or teacher are welcoming in science classrooms, they may consider pursuing other elective course offerings.

However, for boys, the hypothesis that traditional stereotype endorsement would be positively related to ability attributions for science success was supported. The more that a boy endorsed traditional science stereotypes, the more he attributed his success in science to his personal ability. This result is an indication of the phenomenon of stereotype lift (Walton & Cohen, 2003). The boys who endorsed the stereotype that boys are better at science than girls were most likely to attribute their success to personal ability. The gender differences that were found in this study do not depict girls as perceiving themselves poorly in science, but that boys with a higher sense of entitlement rate their ability as higher. Further investigation of the relationship between stereotype endorsement and ability attribution could examine potential differences for other racial groups or subject matter for electives. For example, researchers have found that stereotype lift is present for girls when considering language classes, which are traditionally female-dominated fields (Latsch & Hannover, 2014). Perhaps there are interactions at the intersection of race and gender. Studies that have investigated upper level course enrollment have results that considered the intersection of race and gender. For these studies, researchers suggested that for some individuals, race was a more significant predictor of course enrollment than gender (Corra, Carter, & Carter, 2011). However, this study only investigated upper level courses in a specific science area. Further investigation could see if the relationship that race predicts course enrollment holds true for science elective courses.

On average, students held egalitarian views regarding performance in science by gender. In contrast to the traditional stereotype that boys are better at science than girls, students in this sample reported egalitarian beliefs or very slight advantages for girls. These results may be explained by science grades. On average, girls did have higher grades in science than boys. However, boys who do well in science attribute their success to personal ability but girls are not. Therefore, both boys and girls probably noticed that girls have higher grades in science and perceived girls as being better at science due to their academic performance. When specifically considering girls, another explanation for why girls reject the typical stereotype could be explained by the social status theory. According to the social status theory, in this situation, girls would be less likely to endorse a stereotype that is negatively related to their own group (Rowley, et al., 2007).

Ability Attributions and Science Course Enrollment

For both genders, ability attributions for science success predicted science elective course enrollment, supporting hypothesis three. As stated before, correlational analyses cannot determine the bidirectional effect of these variables. Perhaps individuals who perceive themselves as high in science ability believe that they will have success in elective science courses, and therefore enroll in such courses. However, it could also be that individuals who take more elective science courses believe their successes are due to ability. Those with extensive science coursework may therefore have stronger ability attributions than those who do not take elective science courses.

Consistent with prior research, grades predicted motivation to enroll in science electives for both genders. When grades predict motivation to enroll in science electives, there could be an issue of upward mobility. Students who are already doing well in science are continuing to take more science courses than those who are not. This raises the question of who has access to enroll in science electives. Do the students who have previously excelled feel more comfortable taking elective courses than students who have not excelled? It is important to note that this research is correlational, so it cannot be determined if grades cause a student to enroll in science electives. An example of this would be a student who decided to enroll in more elective science courses (or not) because of prior performance as compared to a student who is otherwise motivated to enroll in elective science courses and therefore has an interest in the material, which produces better grades.

Endorsement of science stereotypes was not a predictor for course enrollment, which did not support the final hypothesis. To have a mediation of ability attributions for the relationship between science stereotypes and science elective course enrollment, a significant relationship between endorsement of science stereotypes and science elective course enrollment was needed. From this, it can be presumed that the endorsement of science stereotypes is not a motivational factor when considering course enrollment. As stated before, ability attributions were a predictor for course enrollment. When considering pathways for motivation to enroll in elective science courses, individual ability attributions is a stronger predictor than stereotype endorsement.

Understanding Causes of Gender Differences in STEM Careers

Overall, the results indicate that stereotype endorsement and ability attributions may have a more significant role in the development of science motivation for boys than for girls. When considering previous research that girls and boys have different motivations within science, the results support that claim. Perhaps boys do in fact take science courses because they feel as if they have natural ability, whereas girls take science courses to reach other goals (like working in the medical field). To increase the presence of girls in the science domain, combatting common stereotypes is not the only pathway, and may not be the best pathway. It may be more useful to present girls with jobs in the science field that might interest them. If stereotypes are not the reason that girls are avoiding careers in the sciences, perhaps there are other factors that should be investigated. Some of the other factors that may contribute to girls not pursuing careers in science could include gender and social roles of women, the intersection of work and family life, as well as potential sexism. When considering a career, many women also consider their roles in a family. It may be that women believe that careers in science and technology fields are not conducive for their roles in a family like being a partner, daughter, or mother. Many previous researchers have considered some of these ideas (see Blickenstaff, 2005 for an overview of theories).

In this study I only investigated students' high school elective science course enrollment across subfields of science. Further investigations should examine the gender differences in enrollment of specific elective courses (natural sciences or physical sciences). This information would be useful to see if there are differences between enrollment of specific domains, which is typical of college enrollment. For example, although stereotypes may not influence course selection for girls overall, it may have a different pathway for natural sciences such as a biology elective versus a physical science like physics.

A follow-up of these individuals to see what careers and college majors the participants pursued would add to the investigation. A follow-up study of the individuals could see if the trends in high school are consistent over the transition to college as well as career paths. If specifically looking at students who continued their education, there may be differences specific to the types of schools that students attended (large research universities, community colleges, technical programs, small private universities, etc.). In this follow-up study, individuals could be asked about how likely they feel that they will pursue a career in science, or if already employed, if their job is related to science in any way. We could then see if high school course enrollment for science electives is predictive of majoring in science in college or a career in science.

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Table 1

Means and Standard Deviations of Study Variables

Variable	*M*	*SD*
Grade 10 Science Grade	84.49	10.46
Grade 10 Gender Stereotype – Science	-4.42	20.36
Ability Attribution	2.77	1.54
Parent Education	6.59	2.12
Number of science courses above minimum	1.48	1.20

Table 2

Boys' and Girls' Science Grades, Gender Science Stereotypes, Attributions, and Science Electives

	Girls		Boys			
	M	*SD*	*M*	*SD*	*t*	*df*
Grade 10 Science Grade	85.5	10.17	82.96	10.76	1.98*	273
Grade 10 Gender Stereotype – Science	-5.76	20.50	-2.42	20.08	-1.33	273
Ability Attribution	3.99	1.67	4.78	1.67	-3.84**	273
Parent Education	6.50	2.22	6.74	1.96	-.92	273
Number of science electives	1.45	1.16	1.54	1.25	-.60	273

*$p < .05$
**$p < .01$

Table 3

Regression Results: Science Stereotype Endorsement Predicting Science Ability Attributions

Variable	*B*	*SE B*	β
Stereotype Endorsement	-.01	.01	-.12
Grade 10 Science Grade	.05	.01	.30**
Parent Education	.06	.05	.07
Gender	1.03	.19	.30**
Gender by Stereotype Interaction	.04	.01	.30**
$R^2 = .23$			

*$p < .05$
**$p<.01$

Table 4

Regression Results: Ability Attributions Predicting Science Elective Course Enrollment

Variable	*B*	*SE B*	β
Grade 10 Science Grade	.02	.01	.21**
Parent Education	.08	.03	.15*
Gender	.18	.40	.07
Ability Attributions	.13	.06	.18*
Gender by Attribution Interaction	-.03	.08	-.07
$R^2 = .15$			

*$p < .05$
**$p < .01$

Table 5

Regression Results: Stereotype Endorsement Predicting Science Elective Course Enrollment

Variable	*B*	*SE B*	β
Grade 10 Science Grade	.03	.01	.26**
Parent Education	.09	.04	.16**
Gender	.15	.14	.06
Stereotype Endorsement	.00	.00	-.01
Gender by Stereotype Interaction	.00	.01	.01
$R^2 = .13$			

*$p < .05$
**$p<.01$

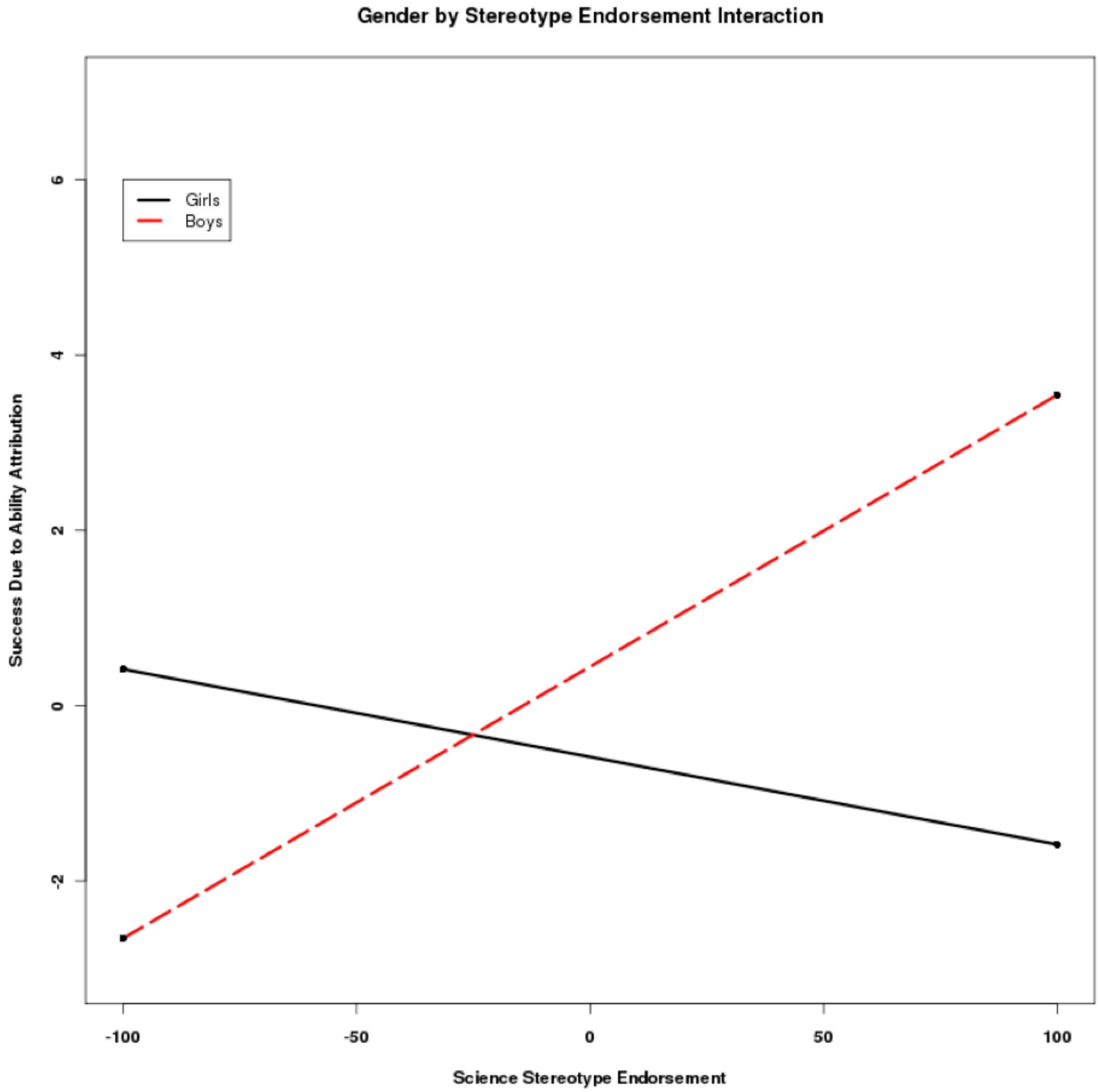

Figure 1: Interaction of science stereotype endorsement and success due to ability attributions by gender. The relationship is significant for boys but not girls.