

## ABSTRACT

Title: HOW DID YOU GET IN? ATTRIBUTIONS  
OF PREFERENTIAL SELECTION IN  
COLLEGE ADMISSIONS

Archie L. Bates, III, Doctor of Philosophy, 2006

Directed By: Professor Katherine J. Klein  
Department of Psychology

Minorities are often suspected beneficiaries (e.g., Heilman, 1994) of affirmative action—that is, they are individuals who attribute or perceive that others attribute their selection for a job or admission to a school, in part, to preference given to race or gender status. Experimental research has shown that suspected beneficiaries experience negative self-evaluations, yet little research has focused on performance outcomes. I draw upon attribution theory (e.g., Kelly, 1972) and stereotype threat theory (C. M. Steele & Aronson, 1995) to extend the literature by examining the emotions and academic performance of freshmen college students who are suspected beneficiaries. I hypothesize that racial minorities are more likely than are Whites, and women are more likely than are men, to be suspected beneficiaries of racial and gender preference, respectively. These attributions lead to decreased academic self-efficacy and increased evaluation

apprehension and anxiety, which ultimately decrease academic performance.

Additionally, I pose research questions to explore factors that mitigate the effect of attributions on these outcomes.

I use structural equation modeling to test my hypotheses. The results suggest that racial minorities and women are more likely than Whites and men, respectively, to be suspected beneficiaries. Further, attributions of racial and gender preference lead to the hypothesized negative outcomes. I find that past academic performance moderates the relation between attributions of gender preference and anxiety, such that students who scored higher on the SAT and (perceive that others) attribute their admission to gender preference experience more anxiety than do students who scored lower on the SAT and (perceive that others) attribute their admission to gender preference. Additionally, social support moderates the relation between attributions of racial preference and evaluation apprehension, such that students who receive high levels of social support and (perceive that others) attribute their admission to racial preference experience less evaluation apprehension than do students who receive low levels of social support and (perceive that others) attribute their admission to racial preference. Overall, the results support the perception that uncertainty in the selection process can lead to attributions of preferential selection and harmful consequences for racial minorities and women.

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IN COLLEGE ADMISSIONS

by

Archie L. Bates, III

Dissertation submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
2006

Advisory Committee:

Professor Katherine J. Klein, Chair  
Professor Michele Gelfand  
Professor Paul J. Hanges  
Professor Paul Tesluk  
Professor Ian Williamson

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## ACKNOWLEDGEMENTS

I thank the many special people who have supported me throughout the process of me completing my dissertation. My advisor, Katherine Klein, I thank you for always being available and thoughtful and for always challenging me to go beyond expectations. I thank my committee, Michele Gelfand, Paul Hanges, Paul Tesluk, and Ian Williamson, for your great insight and suggestions to enhance this study. COL Barrye Price and COL Donna Brazil, I appreciate your continued words of encourage and reminders to “get it done.” Also, I thank my friends and family, especially my colleagues at the University of Maryland for your assistance and support. Finally, I thank my wife, Jaquetta, and sons, Archie IV and Isaiah, for your understanding, patience, and most of all, your love.

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Affirmative action refers to measures taken by organizations to remedy the effects of past discrimination and promote equal opportunity in education and employment (APA, 1996). Advocates suggest that affirmative action helps minorities to overcome discrimination, increases organizational diversity, and provides a market edge to organizations, in that they benefit from having a diverse workforce (Crosby, Iyer, Clayton, & Downing, 2003). However, the policy has not been without debate (e.g., Carter, 1991; S. Steele, 1990; Wilkerson, 1991; Wycliff, 1990). These authors argued that affirmative action causes individuals to attribute inappropriately minorities' selection to affirmative action. Thus, minorities often are suspected beneficiaries (e.g., Heilman, 1994) of affirmative action— that is, they are individuals who attribute or perceive that others attribute their selection for a job or admission to a school, in part, to preference given to race or gender status. Backlash exists because individuals perceive that suspected beneficiaries are unqualified for positions for which other candidates are qualified. Further, opponents of affirmative action denigrate the policy for perpetuating feelings of self-doubt and low self-esteem among suspected beneficiaries. Several laboratory studies suggest that suspected beneficiaries are stigmatized (e.g., Garcia, Erskine, Hawn, & Casmay, 1981; Heilman & Blader, 2001; Heilman, Block, & Lucas, 1992; Heilman, Block, & Stathatos, 1997) and that they have more negative self-evaluations than do non-beneficiaries (e.g., Heilman, Battle, Keller, & Lee 1998; Heilman, Lucas, & Kaplow, 1990; Heilman, Simon, & Repper, 1987; Turner, Pratkanis, & Hardaway, 1991).

However, several limitations to this line of research exist. First, the preponderance of extant research portrays affirmative action as the selection of minority

members over majority members, without regard to merit (for exceptions, see Heilman et al., 1998; Heilman & Blader, 2001; Evans, 2003). Such scenarios are unlikely to occur in organizations (Reskin, 2000) because the Supreme Court has made illegal this type of affirmation action (Newman, 1989). Instead, organizations typically consider both group membership and merit in the selection process. Second, studies typically portray individuals as being certain that they or others are beneficiaries of affirmative action (for an exception, see Heilman & Blader, 2001). Since organizations are unlikely to publicize the extent to which group membership figures into the selection process, “there most often is ambiguity surrounding the precise reason an individual has been selected” (Heilman & Blader, 2001, p.188). Thus, there is a need for more research on affirmative action as it actually occurs in organizations.

To answer this call, the current study examines the effects that attributions of racial and gender preference have on college students. I propose that racial minority students and women are likely to attribute and perceive that others attribute their college admission to race and gender preference, respectively. Although we have begun to understand suspected beneficiaries’ reactions when they attribute their selection to preferential selection, we know little about how individuals respond when they perceive that others attribute these individuals’ selection to preferential selection. This is an important consideration, as regardless of whether individuals perceive that they are beneficiaries, their perceptions about others’ beliefs might affect them. For instance, Heilman and Alcott (2001) found that women’s perceptions about others’ attributions regarding women’s selection affected women’s self-perceptions. Similarly, I consider the effect of students own attributions and their perceptions of their classmates’ and

instructors' attributions. I suggest that these combined attributions trigger emotions that negatively affect the academic performance of these suspected beneficiaries.

With this research, I also hope to enhance our understanding of the parallels of and distinctions between attributions of race and gender preference. Although the current literature focuses largely on women as suspected beneficiaries, we know very little about how racial minorities respond to attributions of racial preference. Heilman (1994) maintained that race- and gender-based affirmative action “should be regulated by the same dynamics” (p.163), yet limited research does not support her claim. Indeed, in an experiment, Stewart and Shapiro (2000) found that preferentially selected Blacks who received negative performance feedback had higher self-ratings of leadership than did Blacks who were selected based on merit and received positive feedback. Such an effect did not occur for women. As this study is one of only two studies (Brown, Charnsangavej, Keough et al., 2000) of which I am aware that have examined race-based preferential selection, there is a need for more research in this area.

In the present study, I examine attributions among students (cadets) at a military academy located in the United States. A military academy befits this study as it has traditionally had—and it is still largely—a White male-dominated student body. For reasons that I discuss in this paper, racial minority and women students are particularly likely to be suspected beneficiaries of affirmative action in such settings. I draw upon several bodies of relevant theory and research (e.g., attribution theory, stereotype threat theory) to support the argument that attributions of preferential selection negatively affect students who are suspected beneficiaries. In addition, I examine factors (moderators) that may help these students overcome the negative effects of such attributions. First,

however, I present a case for women and racial minorities as being particularly likely to be suspected beneficiaries.

### *Identifying Suspected Beneficiaries*

Again, suspected beneficiaries are individuals who attribute or perceive that others attribute their selection for a job or admission to a school, in part, to preference given to race or gender status. There are at least two reasons why racial minority and women students are particularly likely to be suspected beneficiaries. First, these individuals are indeed more likely than their White male counterparts to be beneficiaries of affirmative action, since some colleges specifically use affirmative action to increase the pool of qualified women and underrepresented minority applicants. Second, even when colleges do not use affirmative action, individuals assume that colleges' use of affirmative action is prevalent, since most of the attention given to affirmative action centers on college admission (Crosby et al., 2003).

Individuals are particularly likely to make these attributions when they are uncertain of the relative weighting of merit and demographic standing in the selection process and when minority members are largely outnumbered. For example, Heilman and Blader (2001) found that undergraduate subjects assumed that a woman described in an experiment was admitted due to affirmative action, only when subjects had no information about whether the school used affirmative action, and the student was the only admitted woman. These individuals' beliefs about the woman's admission did not differ from those of subjects who received explicit information that the school used affirmative action. This study demonstrates that when women are the minority, and there is uncertainty about the use of affirmative action, attributions may be as pervasive as

when there is legitimate reason to believe that affirmative action is in use. The academy studied here—like other traditionally male universities—is one in which there is ambiguity in the selection process, and women are considerably outnumbered. Thus, it may be likely that attributions of preferential selection are pervasive here.

In sum, my argument is as follows. Individuals are likely to believe that colleges frequently use affirmative action in the admissions process. In addition, individuals are likely to know that affirmative action benefits minorities. Racial minorities and women—individuals for whom policymakers designed affirmative action—are likely to perceive that others think that racial minorities and women benefit from affirmative action. Thus, racial minority students are more likely than are White students to believe that others attribute their admission to college, in part, to racial preference. For the same reasons, women are more likely men to believe that others attribute their admission to college, in part, to gender preference.

Further, racial minorities and women are likely to attribute their own admission to race and gender, respectively. To be sure, these individuals are vulnerable to making assumptions regarding their selection for the reasons discussed above—that is, the fact that affirmative action aims to benefit them and the belief that it is pervasive. Even more, Major and her colleagues (e.g., Major, 1994; Major, Feinstein, & Crocker, 1994) contended that minorities are likely to attribute their selection to preference in domains in which they have been traditionally deprived. Colleges and universities are organizations in which racial minorities have experienced substantial discrimination (cf. Braddock & McPartland, 1987). Consequently, racial minority students may attribute their college admission to racial preference. However, on the average, Whites have not endured

systematic discrimination in academic institutions. As a result, they are unlikely to suspect that their admission is recompense for past discrimination.

Consistent with Major and her colleagues' theory, Brown et al. (2000) found that some racial minorities perceive that they are suspected beneficiaries. They examined the relation between college students' attributions of racial preference and academic performance. Students indicated the extent to which they believed that their race helped them get accepted to college. The researchers did not hypothesize group differences in suspicion, yet they found that the combined subgroups of Latino and Black students attributed their college admission to racial preference significantly more than did the combined subgroups of White and Asian students.

I predict a similar finding in the current study. Additionally, I build upon Brown and his colleagues' work by examining whether women are also particularly likely to attribute their admission to gender preference. One may argue that women have not endured the same widespread exclusion from colleges as have racial minorities and may not be as likely as racial minorities to feel that their admission is retribution for past discrimination. However, the dearth of women in traditionally male colleges may cause women to reason that, for example, a college accepted them primarily to increase its enrollment of women. After all, that is one of the goals of affirmative action (Ledvinka & Scarpello, 1991). Thus, I present the following hypotheses, suggesting that racial minorities and women are particularly likely to be suspected beneficiaries of affirmative action:

*H1: Racial minorities are significantly more likely than are Whites to attribute, and perceive that others attribute, their admission to racial preference.*

*H2: Women are significantly more likely than are men to attribute, and perceive that others attribute, their admission to gender preference.*

*Suspected Beneficiaries Stigmatized as Unqualified*

Not surprisingly, the stigma associated with being an affirmative action selectee can be problematic for suspected beneficiaries. I rely upon several bodies of literature to argue that suspected beneficiaries experience negative outcomes. Drawing on attribution theory (e.g., Kelley, 1972; Kelley & Michela, 1980), I begin my argument by discussing the perceptions that others have of suspected beneficiaries. Indeed, this paper centers on suspected beneficiaries' self-perceptions, not on others' perceptions of suspected beneficiaries. However, vital to my argument is the idea that others' perceptions of individuals affect individuals' self-perceptions. In the following sections, I suggest that individuals—including suspected beneficiaries—view suspected beneficiaries as unqualified, and I contend that these views negatively affect suspected beneficiaries' emotions and academic performance.

Attribution theory provides the foundation for my argument. Kelly (1972) theorized that individuals attempt to explain events and behavior by interpreting cause-and-effect relationships. As there may be a number of explanations for individuals' behaviors and outcomes, Kelly (1972) suggested that we deal with this ambiguity by considering both internal (e.g., dispositional) and external (e.g., situational) factors and discounting, or underestimating, one cause when another cause seems more reasonable. Accordingly, due to beliefs about affirmative action, individuals may discount the notion that minorities received admission to college due to their qualifications and may instead



attribute minorities' admission to preferential selection. Heilman and her colleagues (1992) explained the effects preferential selection in terms of attribution theory:

if someone is perceived to be hired as a result of affirmative action, then that affirmative action policy supplies onlookers with a plausible and salient explanation for the selection decision independent of the job incumbent's qualifications for the position. Consequently, the importance of the role of qualifications in the decision process may well be discounted. The employee may be assumed to have been hired only because of his or her minority status, and qualifications may be assumed to have been irrelevant to the selection process. But, because qualifications typically are so central to selection decisions, this assumption, if it is made, leads to another one—that the job incumbent is not competent. Because, if this individual were truly qualified, the reasoning goes, he or she would have been hired without help from affirmative action (Pettigrew & Martin, 1987). (p536).

Experimental research supports Heilman and her colleagues' assertion. For example, Garcia et al. (1981) presented female and male undergraduates of various races with the applications of a racial minority and a non-minority graduate school candidate. One condition stated that the school was committed to affirmative action, whereas a second condition did not mention the school's policy. As the experimenters predicted, participants evaluated the academic ability of the minority applicant significantly more negatively in the affirmative action condition than in the non-affirmative action condition. Of note, participants' ratings of the non-minority did not differ between the two conditions. In another experiment, Heilman et al. (1992) found that female and male

undergraduates rated the competence of women hired under affirmative action significantly more negatively than women not hired under affirmative action. Heilman et al. (1997) found comparable results in their study of female and male managers' competence ratings of affirmative action and non-affirmative action hires. Lastly, Heilman and Blader (2001) found that undergraduates rated the qualifications of preferentially selected women no differently than they rated women selected based on merit, when women were well-represented in their graduate program cohort. However, when women were solos and received preferential selection, participants rated them as being significantly less qualified than solo women who received merit-based selection. This finding indicates that individuals might be particularly likely to have negative perceptions of preferentially selected women when there are few women in the organization. Individuals may see these women as tokens, hired to fill quotas, rather than hired because of their abilities. At any rate, research suggests that individuals negatively evaluate the abilities of women who are suspected beneficiaries.

#### *The Effect of Others' Attributions on Individuals' Self Perceptions*

Others' attributions of a suspected beneficiary as being unqualified can lead to at least two unfavorable outcomes. First, others may—perhaps inadvertently—treat the individual as being incompetent. As a result, the individual may adopt the view of others, making it a part of his or her self-concept. Second, Heilman (1994) suggested that suspected beneficiaries might experience negative emotions, regardless of others' perceptions of them. I review extant theory and research regarding both these arguments, using this literature to support my hypotheses.

First, I consider the effect of others' perceptions on suspected beneficiaries' self-perceptions. A number of social scientists have theorized linkages between self-perceptions and others' perceptions. Cooley's (1902) theory on the "looking glass self" suggested that the self-concept consists of "the imagination of our appearance to the other person; the imagination of his judgment of that appearance, and some sort of self feeling, such as pride or mortification" (p.184). Said differently, how one perceives oneself is in part a function of one's awareness of and internalization of others' evaluations of oneself. Theories of self-fulfilling prophecy (e.g., Merton, 1948) proposed that others form expectations of a person, whether true or not, and communicate those expectations through various cues, for example, in the way they treat others and the comments they make about others. People often respond to those cues by adjusting their behavior to match others' expectations. In a classic experiment, Rosenthal and Jacobson (1968) provided evidence that children's improvements in intelligence may have been due to the support the children's teachers gave them, thinking that the children were exceptionally talented. Similarly, Eden and Ravid (1982) found evidence that instructors' expectations of military trainees influenced trainees' self-expectations and consequently their performance.

One experiment examined suspected beneficiaries' reactions to what others thought of them. In Heilman and Alcott (2001), female undergraduates served as leaders for a communication exercise with a male teammate (i.e., a confederate). After the exercise, the experimenter revealed to the participant that her teammate attributed the participant's selection for the experiment either to gender preference or to the participant's ability. Results supported the researchers' hypotheses: when a woman

perceived that her teammate attributed the woman's selection for the experiment to gender rather than merit, and the woman had no information about her own task ability, she (a) inferred that her teammate had low expectations of her ability, (b) chose relatively easy tasks to work on, and (c) had low self-perceptions of competence.

Similarly, I predict that others' attributions—perhaps, presumed by suspected beneficiaries—will diminish suspected beneficiaries' academic self-efficacy. Derived from Bandura's (1977, 1982) social cognitive theory, academic self-efficacy refers to one's perceived ability to perform academic tasks at desired levels (Bandura & Schunk, 1981). Research has shown that high academic self-efficacy is related to the use of effective learning strategies (Pintrich & De Groot, 1990), the willingness to undertake challenging tasks (Bandura & Schunk, 1981), increased effort to accomplish tasks (Salomon, 1984; Schunk, 1983), and perseverance in overcoming difficulties (Bandura & Schunk, 1981; Schunk, 1982). Conversely, individuals with low academic self-efficacy tend to experience anxiety, stress, feelings of hopelessness, and difficulties with solving problems (Pajeras, 2002).

I predict that suspected beneficiaries are likely to have low academic self-efficacy. When others perceive a student to be a suspected beneficiary, they will stigmatize the suspected beneficiary as being unqualified and incapable of performing well academically. Then, others will (unintentionally) communicate those expectations to the suspected beneficiary. Internalizing those expectations, a suspected beneficiary may doubt his or her ability to perform well academically. I also expect that even if others do not communicate these expectations, one might perceive that others have low expectations and internalize these perceived, but not actual, expectations.

*The Effect of Individuals' Own Attributions on Their Self-Perceptions*

Of course, students who are suspected beneficiaries may doubt their ability to perform well academically, in spite of others' perceptions. As discussed previously, preferential selection implies that a college selected an individual, in part, due to the individual's minority status. Presumably, the more one attributes one's selection to minority status, the less one attributes one's selection to merit. Hence, students who feel that they have been preferentially selected "are vulnerable to feelings of inadequacy" (Heilman, 1994, p. 129). Further, Heilman explains that these feelings can lead to negative self-evaluations and decreased self-efficacy.

Experimental research substantiates these assertions. For example, Heilman et al. (1987) informed male and female undergraduates that they had been selected based on performance on a pre-test (merit) or gender and had them serve as leaders on a communication task. As predicted, the researchers found that preferentially selected women rated their performance significantly more negatively, viewed their leadership skills as significantly more inadequate, and were significantly more resistant to continuing to serve as a leader than were their merit-based selected counterparts. Several replications of this study (Heilman et al., 1990; Heilman, Rivero, & Brett, 1991; Heilman et al., 1998) found very similar results.

However, one extension of Heilman et al. (1987) resulted in disparate findings. Stewart and Shapiro (2000) tested how undergraduates would react to race- and gender-based preferential selection and performance feedback. Consistent with Heilman et al. (1987), the experimenter told the participants that they were selected for a communication task based on merit or race. Surprisingly, the researchers found no

significant differences in the self-evaluations of women due to selection condition. However, Black participants who received preferential selection and negative performance feedback had more positive self-evaluations than did their Black counterparts who received positive feedback and merit-based selection. That is, contrary to what the researchers expected, Black students who had reason to doubt themselves actually evaluated themselves more favorably than did Black students who had reason to be confident in their abilities. In accordance with Crocker and Major (1989), Stewart and Shapiro contended that preferentially selected Blacks participants may have engaged in self-esteem enhancing strategies to protect themselves against negative group stereotypes and the experimenter's negative performance feedback. Researchers have yet to conduct similar studies on race-based preferential selection. Thus, experimental research suggests that receiving preferential selection leads to negative self-evaluations and self-doubt among women. However, there is a need for more research to determine whether receiving racial preference results in similar outcomes for racial minorities. The present research aims to fill this void in the literature and to add the paucity of field research on women who are suspected beneficiaries.

Thus, I present the following hypotheses, suggesting that students who are beneficiaries of racial and gender preference will experience decreased self-efficacy:

*H3: The more that individuals attribute their admission to (a) racial or (b) gender preference, the lower their academic self-efficacy will be.*

*Stereotype Threat Theory as a Framework for Predicting Other Effects of Attributions*

Stereotype threat theory (e.g., C. M. Steele, 1997; C. M. Steele & Aronson, 1995; C. M. Steele, Spencer & Aronson, 2002) provides another framework from which to

anticipate outcomes of attributions of preferential selection. In order to develop a case for this argument, I first discuss theory of and research on stereotype threat. Then, I explain how a student who is a suspected beneficiary of preferential selection may experience stereotype threat. Building on this line of reasoning, I present hypotheses predicting that students who are suspected beneficiaries will experience increased anxiety and evaluation apprehension and decreased performance.

According to Steele et al. (2002), stereotype threat occurs when one senses that individuals might judge one by a negative group stereotype or fears that one's behavior might confirm that stereotype. In turn, these fears cause one to underperform in a manner consistent with the stereotype. Integral to Steele and his colleagues' theory is that one need not believe that the group stereotype is valid; rather, one needs only to know that the stereotype exists for the threat effect to occur.

Experimental research has provided evidence that stereotype threat negatively affects performance. In a seminal study, Steele and Aronson (1995) found that describing a verbal GRE test as being diagnostic of reading and verbal reasoning skills (i.e., the threat condition, or situation in which one feels vulnerable to confirming a group stereotype) caused Black students to perform significantly worse on the test than did Whites students (after controlling for ability). As predicted, Blacks in the threat condition performed significantly worse than Blacks in the non-threat condition, in which the administrators did not describe the test as being indicative of cognitive ability. The researchers reasoned that Blacks' concern with stereotypes about their inferior verbal ability contributed to their low performance.

Support for stereotype threat theory is robust. In addition to finding similar results in other studies on racial stereotypes (Mayer & Hanges, 2003; McKay, Doverspike, Bowen-Hilton, & Martin, 2002; McFarland, Lev-Arey, & Ziegert, 2003), researchers have found evidence of the threat effect among women taking math tests (Spencer, Steele, & Quinn, 1999) and spatial ability tests (Stangor, Carr, & Kiang, 1998), undergraduate students of low socioeconomic status taking verbal ability test (Croizet & Claire, 1998), the elderly taking tests of memory (Chasteen, Bhattacharyya, Horhota, Tam, & Hasher, 2005), and White men competing in tests of athleticism against Black men (Stone, Lynch, Sjomerling, & Darley, 1998). This array of studies is indicative of the generalizability of the stereotype threat effect.

Again, Steele and his colleagues theorized that certain conditions and emotions underlie the threat effect. The theorists suggest that threat conditions elicit anxiety and concern for how others will assess one's performance. Consequently, Steele and Aronson (1995) examined test anxiety, the disruptive thoughts one feels prior to taking a test (e.g., Baumeister & Showers, 1986), and evaluation apprehension, the unease one experiences when one feels one is being evaluated by others (e.g., Mullen, 1986; Schlenker & Leary, 1982), as mediators of the threat-performance relation. However, they failed to find that anxiety or evaluation apprehension mediated the relation between the stereotype threat and performance relation in any of a series of experiments. They found mixed support for their hypothesis that stereotype threat increased anxiety and evaluation apprehension.

Other researchers (e.g., Mayer & Hanges, 2003; Spencer et al., 1999; Stone et al., 1999) have found that threat conditions increase anxiety and evaluation apprehension.



For instance, Mayer and Hanges (2003) found a significantly positive relationship between the amount of stereotype threat and evaluation apprehension undergraduates experienced while taking a cognitive ability test. Spencer et al. (1999) found that the more undergraduate women experienced stereotype threat while taking a math test, the more anxiety they experienced. Stone and his colleagues (1999) found that the more African-Americans perceived a golf test to be diagnostic of sports intelligence, the more anxiety they experienced while completing the test. There was a parallel result for White participants who perceived the test to be diagnostic of athletic ability. In a study of 28,000 high school students, Osborne (2001) hypothesized that stereotypes about Blacks' and women's performance on achievements tests would function as a threat condition for Blacks and women, respectively. Accordingly, he found that anxiety was a partial mediator of stereotype threat for both groups. One study on preferential selection (Brown et al., 2000) has examined anxiety as a mediator of the threat-performance relation. In this lab study, contrary to their expectations, the researchers found that women selected for a leadership task based on gender did not experience more task anxiety than women selected based on merit. In sum, extant research provides mixed evidence that threat conditions lead to increased anxiety and little indication that threat conditions increase evaluation apprehension.

### *The Academic Setting as a Threat Condition Causing Anxiety and Evaluation*

#### *Apprehension in Suspected Beneficiaries*

I argue that the academic setting is likely to be a threat condition that produces anxiety and evaluation apprehension in students who are suspected beneficiaries. As discussed previously, students who are suspected beneficiaries are stereotyped as being

unqualified and incapable of doing well academically. According to stereotype threat theory, whether suspected beneficiaries believe this stereotype to be true, they are susceptible to worrying about others judging them by this stereotype or performing in a manner consistent with it.

Although I am not aware of a study that has examined evaluation apprehension amongst suspected beneficiaries, researchers have studied anxiety amongst suspected beneficiaries. For example, Heilman et al. (1990) informed male and female undergraduates that they were selected as leader for a communication task based on merit or gender. The researchers found that students selected based on gender reported experiencing significantly more stress while working on the task than did students selected based on merit. They explain their findings in terms of theories of organizational stress (e.g., Glass & Singer, 1982; Edwards, 1992) which hypothesize increased psychological stress symptoms for individuals who feel incapable of meeting task demands. However, in a replication of this study, Brown et al. (2000) found no significant differences in task anxiety between female undergraduates in merit- and gender-based selection conditions. The researchers reasoned that participants might have experienced low task anxiety for the upcoming communication task because they looked forward to the task, after having just completed a presumably difficult task (i.e., a battery of GRE problems). While there is no research of which I am aware that has examined evaluation apprehension amongst suspected beneficiaries, there is modest support for the notion that suspected beneficiaries experience increased anxiety.

Accordingly, Brown et al. (2000) have called for more research—particularly in the organization, as opposed to the lab—in this area. The current study answers this call

by examining whether students who are suspected beneficiaries experience increased anxiety and evaluation apprehension. Thus, I forward the following hypotheses, predicting an effect for women and racial minority students who are suspected beneficiaries:

*H4: The more that individuals attribute their admission to (a) racial or (b) gender preference, the higher their anxiety will be.*

*H5: The more that individuals attribute their admission to (a) racial or (b) gender preference, the higher their evaluation apprehension will be.*

#### *The Academic Setting as a Threat Condition Causing Performance Decrements in Suspected Beneficiaries*

Based on theory and research presented thus far, one may presume that suspected beneficiaries will also experience negative performance outcomes. That is, to this point, I have suggested that suspected beneficiaries have low academic self-efficacy, experience anxiety about their performance, and worry about others negatively evaluating them. It seems logical that these proximal outcomes will ultimately lead to performance decrements.

However, only three studies have examined how preferential selection affects performance. In two lab studies, Nacoste (1989) and Turner and Pratkanis (1993) required subjects to perform a brainstorming task in which they listed as many uses for various objects (e.g., ashtray, towel, burnt match) as they could. Nacoste theorized that preferentially selected men and women would have negative self-evaluations about their task performance, if they thought that affirmative action was an unfair policy. That is, if suspected beneficiaries had reason to question the validity of their selection (i.e., that it

was unmerited), they would also question their task ability, which would result in reduced task performance. However, contrary to Nacoste's hypothesis, individuals who suspected that they were beneficiaries of affirmative action and who thought that affirmative action was unfair outperformed students who believed that they were selected based on merit. Nacoste provided little explanation for his finding, other than asserting that suspected beneficiaries may have felt guilty about being preferentially selected and worked hard to compensate for possible injustice in the selection process from which they benefited.

Turner and Pratkanis (1993) theorized that task conceptualization moderates the effects of preferential selection on performance. That is, they reasoned that a task perceived to be effort-dependent would give preferentially selected individuals a reason to self-handicap: if they performed poorly, they could blame poor task performance on their lack of desire to put forth much effort. On the other hand, a task perceived to be ability-dependent would not present preferentially selected individuals an "out"—they could not reasonably blame poor performance on lack of effort. Based on this reasoning, the researchers hypothesized that women in the former group would not try hard (i.e., they would not attempt to solve many problems) and not perform well, while women in the latter group would try hard and perform well. The researchers' findings supported their hypothesis: women who attributed their selection to gender preference performed significantly worse on the brainstorming task than did women who attributed their selection to merit, only if they also felt that the task required natural ability, rather than effort.

More germane to the current study is aforementioned research by Brown et al. (2000), as the performance measure in their study and the current study is college academic performance. Brown and his colleagues framed their argument in theory of stereotype threat, hypothesizing that attributions of preference would lead to increased task anxiety, decreased effort and, ultimately, decreased academic task performance (Study 1) and academic performance (Study 2). In a lab study (Study 1), Brown et al. (2000) found that female undergraduates selected for a leadership task based solely on gender performed significantly worse on a set of GRE-Analytic problems than did women selected based on gender and merit. However, the researchers found no evidence of increased test-anxiety or decreased effort. In a subsequent field study (Study 2), the researchers found that the more male and female undergraduates attributed their college admission to racial preference, the lower their first year GPA was. Thus, in sum, there is some evidence that suspected beneficiaries experience diminished performance.

Similar to Brown et al. (2000), I predict that attributions of receiving preferential selection will be negatively associated with college academic performance. I hypothesize that suspected beneficiaries experience decreased confidence that their efforts will lead to success, feel distressed when working on academic tasks, and fear that others will negatively evaluate them. As a result, their fears and anxiety might distract them, ultimately leading to decreased performance. Indeed, meta-analyses of research in educational settings have shown a positive relationship between self-efficacy and academic performance (Multon, Brown, & Lent, 1991) and a negative relationship between anxiety and academic performance (Seipp, 1991). Thus, I hypothesize that students who are suspected beneficiaries will experience decreased academic

performance. Further, academic self-efficacy, anxiety, and evaluation apprehension will mediate the relation between attributions of preferential selection and academic performance:

*H6: The more that individuals attribute their admission to (a) racial or (b) gender preference, the lower their academic performance will be.*

*H7: The relationship between attributions of preferential selection and academic performance will be mediated by academic self-efficacy, anxiety, and evaluation apprehension.*

#### *Mitigating the Effect of Attributions*

Although my primary interest is to examine the effect of attributions of preferential selection on students, I am also concerned with understanding how some students overcome these effects. Most likely, some suspected beneficiaries do not experience the negative outcomes that their peers do. If so, what factors help them to overcome the effects of attributions? To answer this question, I consider three factors that might mitigate the effects of attributions: past academic performance, social support, and effort. After discussing research on these factors, I pose research questions to examine the effect of these factors on the relation between attributions of racial and gender preference and the outcomes hypothesized above.

Heilman (1994) suggested that information about the ability of suspected beneficiaries is integral to precluding the negative effects of attributions. She argued that the deleterious effects of preferential selection occur because suspected beneficiaries' "competence is left open to question" (p. 128). Research supports Heilman's claim. For example, Heilman and her colleagues (Heilman et al., 1990) informed female

undergraduates that they received preferential selection or merit-based selection for the leadership position in an experiment. The researchers gave preferentially selected women positive, negative, or no information about their leadership ability, supposedly determined by a (bogus) pre-test. The researchers found that the leadership self-ratings of preferentially selected women in the positive information condition were not significantly different from those in the merit condition. However, preferentially selected women in the no information condition had significantly lower self-ratings than did women selected based on merit. Heilman and her colleagues concluded that suspected beneficiaries who have information that substantiates their abilities are less likely to experience negative self-perceptions than are suspected beneficiaries who lack such information.

Ability information may also determine how perceptions of others' attributions affect suspected beneficiaries. In a previously discussed experiment, Heilman and Alcott (2001) found that when women perceived that their teammates attributed the women's selection to gender preference, women with supposed high ability had significantly higher self-views of competence than did women with supposed low ability. In a second experiment, the researchers found that suspected beneficiaries with supposed high ability chose significantly more challenging tasks than did their counterparts who received no ability information. Thus, the researchers concluded that ability information might cause suspected beneficiaries to accept others' views of them or motivate them to disprove others' views of them, depending on the nature of the ability information.

Heilman adds that in addition to information that confirms the competence of suspected beneficiaries, "social support networks...can go a long way towards dispelling

erroneous notions [that suspected beneficiaries] may have about how [they are] viewed by others” (p. 162). Her contention is that individuals who are close to suspected beneficiaries provide emotional support that prevents them from suffering the negative effects of attributions, such as those hypothesized in this paper. Indeed, Ganster, Fusilier, and Mayes (1986) noted that social support is the principle social factor theorized to alleviate the negative effects of stress (e.g., Abdel-Halim, 1982; Kobasa and Puccetti, 1983; Blau, 1981). Researchers have found social support to be negatively related to anxiety (Cohen & Willis, 1985; Hawkins, 1995; Mounts, 2004) and positively related to college performance (Cutrona, Cole, Colangelo, Assouline, & Russell, 1994). Indeed, encouragement from friends and family may be instrumental in alleviating or preventing the negative emotions that suspected beneficiaries experience. Social support may be particularly helpful for college freshmen who are suspected beneficiaries because freshmen students often rely upon friends and family to cope with the stressful transition to college life (Hays & Oxley, 1986). However, researchers have not examined the effect of social support on suspected beneficiaries.

Conversely, a few researchers have investigated the role of effort amongst suspected beneficiaries, and they have found mixed results. In previously discussed research, Turner and Pratkanis (1993) found evidence of self-handicapping (i.e., the number of problems one attempted to solve) amongst suspected beneficiaries who perceived task performance to be determined by task effort. The researcher asserted that these individuals adopted such a strategy so that they could attribute poor performance to lack of effort, rather than ability. In contrast, Brown et al. (2000) did not find differences in (self-reported) effort between preferentially selected women and merit-based selected



women. The researchers support their findings by highlighting the paucity of research that has found evidence of self-handicapping using effort withdrawal among women.

While I do not necessarily believe that most suspected beneficiaries will put forth decreased effort, I suspect that a number of them will put forth increased effort. That is, if suspected beneficiaries believe that they lack academic ability or perceive that others feel that way about them, they are likely to try hard to achieve academic success or prove wrong those who doubt their ability. Thus, suspected beneficiaries who put forth increased effort might outperform their counterparts who exert less effort. One might apply similar logic to suspected beneficiaries with high ability and suspected beneficiaries who receive emotional support from others. More specifically, these individuals may not experience the negative emotions of their peers with lower ability and who do not receive high levels of emotional support, respectively. Thus, I present the following research questions:

Research questions:

1. Do ability and social support moderate the relation between attributions and (a) academic self-efficacy, (b) anxiety, and (c) evaluation apprehension?
2. Does effort moderate the relation between attributions and academic performance?

## Method

### *Setting and Sample*

Freshmen cadets at a military academy located in the United States participated in the study for research credit in their introductory psychology course. Military academies prepare young men and women for careers as officers in the United States Armed Forces,

with part of the development process being four years of college studies leading to a bachelor of sciences degree. Accepting roughly 10-15% of applicants yearly, academies have stringent admission standards and evaluate candidates on academic performance, proven leadership potential, and physical aptitude. Academies did not accept women until 1976, when Congress authorized their admission. Still, women typically comprise only about 15 to 17 percent of the 1,100 to 1,300 candidates accepted annually to the academy in the current study. Similarly, racial minorities typically represent only about 15-20 percent of an incoming class.

Participants were 249 cadets, of whom 190 (76%) were male, and 59 (24%) were female. Of the participants, 152 (61%) were White; 48 (20%) were Black; 23 (9%) were Latino; 18 (7%) were Asian; five (2%) were of more than one racial minority (e.g., African-American and Latino); and three (1%) were American Indian. This sample represents an oversampling of racial minorities and women from the freshman class, which was 14% female, 7% Black, 7% Latino, and 10% Asian and other racial minorities.

### *Procedure*

Data collection took place at three time periods. For roughly one-half the sample (i.e., 119 participants), Time 1 occurred during the fourth week of classes. Measures included demographics and items assessing the extent to which participants attributed or perceived that others attributed their admission to college to various factors (see description of dependent variables below). The Academy allocates freshmen students for participation in research based on the projected number of studies to take place at the Academy and the projected number of students who desire to participate in research to

earn extra credit. Based on these projections, the Academy initially allocated 120 students to the current study, of which 119 students (one student decided not to participate) actually completed the aforementioned variables at Time 1. After Time 1, the study received an additional 130 students, due to the cancellations of other studies. These students completed the Time 1 measures with the Time 2 measures. Time 2 occurred mid-semester and included measures of effort, social support, academic self-efficacy, anxiety, and evaluation apprehension. I collected Time 3 data—academic performance—at the end of the semester.

### *Independent Variables*

*Demographics.* Participants indicated their gender, which I coded as 0 for male and 1 for female. Additionally, participants indicated their race, which I coded 0 for Whites and 1 for racial minorities (i.e., all races besides Whites).

### *Dependent Variables*

*Attributions of racial preference.* Participants indicated the degree to which they agreed (1 = *strongly disagree* to 5 = *strongly agree*) with a number of statements about themselves, their instructors, and other students attributing participants' admission to each of the following factors: racial preference, gender preference, past academic performance, legacy, leadership potential, and physical aptitude (e.g., "Other cadets probably think that my race helped me get into [the Academy]."). Although primary interest was in attributions of racial and gender preference, the intent of including other variables was to reduce the salience of race and gender to participants, which could have unintentionally increased the likelihood of stereotype threat. The other attribution variables also provide a comparison of the degree to which racial and gender subgroups

attribute their admission to race and gender, respectively, relative to more meritorious factors (see Tables 3-5).

Initially, the intent was to treat participants' (a) own attributions, (b) perceptions about their instructors' attributions, and (c) perceptions of other students' attributions of racial preference as three separate variables. However, I combined the items to form one measure, attributions of racial preference, because the intercorrelations among the three types of attributions were so high (i.e., above .75,  $p < .001$ ). In addition, I conducted an exploratory factor analysis to determine the factor structure of the participants' responses. The pattern of eigenvalues suggested that a one-factor solution best fit the data. The factor explained 80% of the variance. The internal consistency reliability for the ten-item measure was .95. Appendix A lists the items for this scale and all of the following measures.

*Attributions of gender preference.* As above, I combined items measuring participants' attributions with those measuring their perceptions of their instructors' and other cadets' attributions. Again, data analysis supported the decision to create one measure: intercorrelations among the three variables were .80,  $p < .001$ , or above. Exploratory factor analysis supported a one-factor solution, with the factor explaining 81% of the variance. The internal consistency reliability for the ten-item measure was .96.

*Academic self-efficacy.* Following Bandura's (1997) guidance, I developed items designed to reflect efficacy in a variety of specific skills relevant to academic success, including memorization, note taking, and information processing. Participants indicated how certain they were (1 = Very Uncertain to 5 = Very Certain) that they could

accomplish each undertaking (e.g., “Understand information presented in your class”).

Internal consistency reliability for this 7-item measure was .85.

*Anxiety.* The anxiety measure consisted of 4 items adapted from the Spielberger State Anxiety Scale (Spielberger, Gorsuch, & Lushene, 1970). I adapted the items to assess the amount of anxiety participants felt about their academic performance. Response scale was 1 = *strongly disagree* to 5 = *strongly disagree*. A sample item from this scale is “I often feel nervous that I will get bad grades.” Internal consistency reliability for this scale was .86.

*Evaluation apprehension.* I adapted from Spencer et al. (1999) a 4-item measure of evaluation apprehension to assess how often (1 = *very rarely* to 5 = *very often*) participants had feelings that others would evaluate them negatively based on participants’ academic performance. A sample item is “People will look down on me because of my academic performance.” Internal consistency reliability for this scale was .90.

*Social support.* I measured social support using items from Ganster et al. (1986). These items directly assessed participants perception of the frequency (1 = *very rarely* to 5 = *very often*) of support provided by various individuals (e.g., “How often do you rely on each of the following people when things get tough at school?”). Participants indicated the level of support provided by their relatives, friends, and immediate cadet supervisors. Internal consistency reliability for the overall 15-item scaled was .79.

*Effort.* I developed six items to measure how much effort participants felt they exerted towards schoolwork compared to the average freshman cadet (plebe) (1 = much less than the average plebe, 5 = about the same as the average plebe, 9 = much more than

the average plebe). A sample item from this measure is “How much time do you spend on schoolwork?” Internal consistency reliability for this scale was .87.

*Academic Performance.* I obtained participants’ first-semester GPA from the Academy. GPA is based on a 4-point scale for all classes the individual took. In general, cadets at the Academy take the same classes during their first year, with the exception of a small percentage of cadets who validate some courses.

#### *Control Variables*

*Past Academic Performance.* The intent was to examine the level of attributions of racial and gender preference beyond what one would expect due to participants’ ability. Thus, past academic performance, measured by high school GPA and SAT, served as a control variable.

*Group.* This variable identifies when participants responded to the attribution measures that I had originally intended for all participants to complete at Time 1. I coded as 1 the participants who responded to the attributions measures at the beginning of the semester (Time 1) and coded as 2 the participants who responded to the attribution measures mid-semester (Time 2).

#### *Analyses*

To analyze the data, I first conducted t-tests to note mean differences between racial and gender sub-groups. Then, I examined the bivariate correlations among the variables. Next, I used structural equation modeling (SEM) in MPlus 2.01 (Muthen & Muthen, 1998) to test my hypotheses. I employed Anderson and Gerbing’s (1988) two-step approach, whereby I first examined a measurement model (i.e., confirmatory factor analysis), then examined a series of structural models which compared my hypothesized

model with alternative models. To evaluate the adequacy of the measurement and structural models, I used the chi square goodness-of-fit statistic, the comparative fit index (CFI; Bentler, 1990), and the root-mean-square error of approximation (RMSEA; Steiger, 1990). The chi-square values provide a statistical basis for comparing the relative fit of nested models. For the CFI, Medsker, Williams, and Holahan (1994) consider values greater than .90 indicative of good fit. For the RMSEA, Vandenberg and Lance (2000) consider the upper bound of good fit to be .08. Finally, I conducted a series of moderated regression analyses to investigate the research questions.

## Results

### *Preliminary Findings*

Table 1 provides the means, standard deviations, and intercorrelations among the study variables.

*Mean differences between participants in Groups 1 and 2.* As Table 2 shows, there were notable differences between Groups 1 and 2. Group 1 had a significantly larger proportion of racial minorities (53%) than did Group 2 (26%),  $t(247) = 4.37, p < .001$ , and a larger proportion of women (34%) than did Group 2 (14%),  $t(247) = 3.84, p < .001$ . Attributions of racial preference ( $M = 2.35, SD = 1.11$ ) were significantly higher among Group 1 participants than among Group 2 participants ( $M = 1.78, SD = .90$ ),  $t(247) = 4.46, p < .001$ . Attributions of gender preference ( $M = 2.29, SD = 1.11$ ) were significantly higher among Group 1 participants than among Group 2 participants ( $M = 1.75, SD = .83$ ),  $t(247) = 4.39, p < .001$ . Therefore, in subsequent SEM analyses, I compared Groups 1 and 2 to determine whether the model that I proposed held true for both Groups.

*Mean differences in attributions.* Table 3 shows the means and standard deviations of the attribution measures by race. As shown in Table 3, all races attributed their admission to racial preference significantly more than did Whites, and Blacks attributed their admission to racial preference significantly more than did all other races. Again, one of the goals of this study is to examine the difference in attributions between students who are and are not suspected beneficiaries. I theorized that racial minorities are more likely than are Whites to be suspected beneficiaries. Thus, although Blacks' attributions of racial preference were higher than other races, in accordance with my theory, I combined Blacks with other racial groups (i.e., racial minority subgroup) to test my hypotheses.

Tables 4 and 5 present the means and standard deviations of the attributions measures by racial (i.e., White versus racial minority) and gender subgroup, respectively. As expected, Table 4 shows that attributions of racial preference were significantly higher among racial minorities ( $M = 3.03$ ,  $SD = .86$ ) than among Whites ( $M = 1.44$ ,  $SD = .57$ ),  $t(247) = 17.54$ ,  $p < .001$ . In addition, Table 4 shows that attributions of gender preference were significantly higher among racial minorities ( $M = 2.20$ ,  $SD = 1.00$ ) than among Whites ( $M = 1.89$ ,  $SD = 1.01$ ),  $t(247) = 2.34$ ,  $p < .05$ , attributions of past academic performance were significantly lower among racial minorities ( $M = 3.31$ ,  $SD = .70$ ) than among Whites ( $M = 3.58$ ,  $SD = .69$ ),  $t(246) = -2.98$ ,  $p < .01$ , and attributions of leadership were significantly lower among racial minorities ( $M = 3.54$ ,  $SD = .59$ ) than among Whites ( $M = 3.73$ ,  $SD = .55$ ),  $t(246) = -2.62$ ,  $p < .01$ . As expected, Table 5 shows that attributions of gender preference were significantly higher among women ( $M = 3.31$ ,  $SD = .78$ ) than among men ( $M = 1.61$ ,  $SD = .69$ ),  $t(247) = 16.29$ ,  $p < .001$ .



*Relationships between attributions of racial (gender) preference and other study variables.* As predicted, there was a negative relation between attributions of racial preference and both academic self-efficacy ( $r = -.22, p < .01$ ) and academic performance ( $r = -.34, p < .01$ ). As expected, there was a positive relation between attributions of racial preference and both anxiety ( $r = .16, p < .05$ ) and evaluation apprehension ( $r = .24, p < .001$ ).

Similarly, as expected, there was a negative relation between attributions of gender preference and academic self-efficacy ( $r = -.15, p < .05$ ) and a positive relation between attributions of gender preference and both anxiety ( $r = .31, p < .001$ ) and evaluation apprehension ( $r = .25, p < .001$ ). Contrary to expectations, there was a negative, but non-significant, relation between attributions of gender preference and academic performance ( $r = -.08, p = .20ns$ ).

### *Hypotheses Testing*

*Confirmatory factor models.* Figure 1 depicts the hypothesized model for the SEM. First, I estimated an initial measurement (null) model, which yielded good fit indices,  $\chi^2 (663, N = 206) = 1553.17$ , RMSEA = .08, CFI = .91. All indicators exhibited significant ( $p < .05$ ) relationships with their intended latent variables. However, an examination of the modification indices suggested that modifications could improve the model fit. Implementing these modifications, I allowed the error terms of similarly worded items (i.e., two academic self-efficacy items, two evaluation apprehension items, and several items from the various attribution measures) to covary. The final measurement model exhibited good fit indices,  $\chi^2 (649, N = 206) = 1354.72$ , RMSEA = .07, CFI = .93, and was significantly different from the initial measurement model,  $\Delta\chi^2$

(14) = 198.45 ,  $p < .001$ . Thus, I retained the final measurement model as the model from which to compare my hypothesized structural model and alternative models.

*Structural models.* As mentioned previously, the intent was to determine whether race and gender were related to attributions of racial and gender preference, respectively, controlling for ability. Consequently, as Figure 1 shows, I controlled for the effects of past performance (i.e., high school GPA and SAT) by including it as an exogenous variable predicting the two attribution variables (Markel & Frone, 1998). The hypothesized structural model implies that (a) attributions of racial preference and attributions of gender preference mediate the effect of race and gender, respectively, on academic self-efficacy, anxiety, and evaluation apprehension and that (b) academic self-efficacy, anxiety, and evaluation apprehension mediate the effect of attributions of racial preference and attributions of gender preference on academic performance. The hypothesized model exhibited good fit,  $\chi^2 (667, N = 206) = 1608.68$ , RMSEA = .08, CFI = .90, although the model did fit significantly worse than the final measurement model,  $\Delta\chi^2 (18) = 253.96$ ,  $p < .001$ .

I specified an alternative model (Figure 2) in which I removed the paths from the two attribution variables to academic performance, thereby allowing me to determine whether the path from X to Y—in this case, the paths from attributions to academic performance—makes a significant difference in the model fit. The alternative model exhibited good fit,  $\chi^2 (669, N = 206) = 1631.52$ , RMSEA = .08, CFI = .90, although the fit was significantly worse than the fit of the hypothesized structural model,  $\Delta\chi^2 (2) = 22.84$ ,  $p < .001$ , suggesting that I retain the hypothesized structural model with the paths from attributions to performance.

Next, I specified a second alternative model (Figure 3) in which I added paths from race and gender to (a) academic self-efficacy, (b) anxiety, (c) evaluation apprehension. This second alternative model exhibited good fit,  $\chi^2 (661, N = 206) = 1600.15$ , RMSEA = .08, CFI = .90, but the fit was not significantly better than the fit of the hypothesized structural model,  $\Delta\chi^2 (6) = 8.53$ ,  $p = .20ns$ , and the additional paths were not significant. For the sake of parsimony, I retained the hypothesized structural model.

Finally, I used multigroup modeling to determine whether the proposed structural model was applicable to both groups 1 and 2. Again, while Group 1 completed the attribution measures at Time 1, Group 2 completed them at Time 2. Testing for structural invariance across groups determines whether the relationships between the latent variables are the same for each group (Kenny, 2005). Multigroup analysis entails two steps. In the first step, the measurement parameters (i.e., factor loading) and the structural parameters (i.e., regression coefficients) are constrained to be equal across groups. In the second step, the measurement parameters are still constrained to be equal, but the structural parameters are allowed to vary across groups. That is, the paths between the latent variables in the two groups are allowed to vary, in order to determine whether creating new paths between the latent variables creates a better fitting model for one of the groups. The chi-squared difference between the two models determines whether the structural model is invariant between two groups. Implementing this process, I found that the chi-squared was not significant,  $\Delta\chi^2 (13) = 19.73$ ,  $p = .10ns$ , suggesting that the structural model is not significantly different for the two groups.

Figure 1 presents the standardized parameter estimates for the hypothesized model. As Hypothesis 1 predicted, racial minorities were significantly more likely than were Whites to attribute and perceive that others attribute their admission to racial preference ( $\beta = .61, p < .001$ ). As Hypothesis 2 predicted, women were significantly more likely than were men to attribute and perceive that others attribute their admission to gender preference ( $\beta = .77, p < .001$ ).

Hypothesis 3a received full support, as attributions of racial preference ( $\beta = -.24, p < .01$ ) was significantly negatively related to academic self-efficacy. However, Hypothesis 3b did not receive support: attributions of gender preference ( $\beta = -.14, p = .08ns$ ) was not significantly related to academic self-efficacy.

Hypothesis 4a did not receive support, as attributions of racial preference was not significantly related to anxiety ( $\beta = .11, p = .16ns$ ). However, attributions of gender preference was significantly positively related to anxiety ( $\beta = .32, p < .001$ ), providing support for Hypothesis 4b.

Both Hypotheses 5a and 5b received support. Attributions of racial preference ( $\beta = .21, p < .01$ ) and gender preference ( $\beta = .27, p < .001$ ) were significantly positively related to evaluation apprehension.

As Hypothesis 6a suggested, attributions of racial preference ( $\beta = -.33, p < .001$ ) was negatively related to academic performance. Yet, attributions of gender preference ( $\beta = .05, p = .96ns$ ) was not significantly related to academic performance.

Also, the model showed that academic self-efficacy and evaluation apprehension partially mediated the effect of attributions of racial preference on academic performance, and evaluation apprehension partially mediated the effect of attributions of gender

preference on academic performance. Thus, the model provided modest support for Hypothesis 7. Additionally, the model showed that attributions of racial preference fully mediated the effect of race on academic self-efficacy and evaluation apprehension, and attributions of gender preference fully mediated the effect of gender on anxiety and evaluation apprehension.

### *Research Questions*

Tables 5-11 shows the results of the moderated regression analyses for the research questions. The first research question asked whether ability and social support moderated the relation between the attribution variables and (a) academic self-efficacy, (b) anxiety, and (c) evaluation apprehension. To examine ability as a moderator, I used both high school GPA (not shown in the tables) and SAT in the moderated regression analyses. The analyses showed that SAT moderated the relationship between attributions of gender preference and anxiety, such that cadets who scored higher on the SAT and (perceive that others) attribute their admission to gender preference experience more anxiety than students who scored lower on the SAT and (perceive that others) attribute their admission to gender preference ( $\beta = .14, p < .05$ ) (see Figure 4). SAT was not a significant moderator of the relation between attributions of racial preference and the abovementioned outcomes, and high school GPA was not a significant moderator in any of the analyses. Social support moderated the relation between attributions of racial preference and evaluation apprehension, such that students who receive high levels of social support and (perceive that others) attribute their admission to racial preference experience less evaluation apprehension than students who receive low levels of social

support and (perceive that others) attribute their admission to racial preference ( $\beta = -.13$ ,  $p < .05$ ) (see Figure 5).

The second research question asked whether effort moderated the relation between attributions and academic performance. The regression analyses showed that effort was not a significant moderator of either of the attribution variables on academic performance.

### Discussion

The objective of this study was to investigate the effects of attributions and perceived attributions of racial and gender preference among college students. I proposed that these attributions would result in negative emotions and decreased performance for suspected beneficiaries of affirmative action. To test these notions, I assessed students' attributions and their perceptions of their peers' and college instructors' attributions of racial and gender preference at the beginning of an academic semester. At mid-semester, I assessed the levels of academic self-efficacy, anxiety, and evaluation apprehension that students experienced. Finally, I obtained students' academic performance (GPA) at the end of the first semester. Below, I summarize and discuss the results of this study. Then, I provide practical and theoretical implications based on these findings and discuss the strengths and limitations of the research. In conclusion, I offer future research directions for the study of suspected beneficiaries of affirmative action.

#### *Summary and Discussion of Findings*

*Racial minorities and women as beneficiaries of affirmative action.* The current research provides further evidence that affirmative action has stigmatized some minority

groups. Similar to previous research (Heilman et al., 1998; Brown et al., 2000), the present study found that racial minorities are more likely than are Whites and women are more likely than are men to (perceive that others) attribute their college admission to racial and gender preference, respectively. Consistent with Major and her colleagues (e.g., Major, 1994; Major, Feinstein, & Crocker, 1994), I found that ambiguity regarding the college admission process may cause individuals to attribute minorities' admission to demographic status. One might expect that past academic performance would be the impetus behind these attributions; that is, one's relatively low past academic performance would cause individuals to attribute one's admission to racial or gender preference. However, beyond past academic performance, race and gender predicted attributions of racial and gender preference, respectively.

*Suspected beneficiaries' negative emotions.* Perhaps, the above findings would not be a cause for concern if these attributions were not associated with negative emotions. The research showed that attributions of racial preference were significantly negatively related to academic self-efficacy and significantly positively related to evaluation apprehension. Similarly, attributions of gender preference were significantly positively related to anxiety and evaluation apprehension. These findings are similar to the findings of previous research on women as suspected beneficiaries (see Kravitz, Harrison, Turner et al., 1997 for a detailed review) which have shown that being a suspected beneficiary is associated with negative self-evaluations, feeling of inadequacy, and lack of confidence. The results are particularly intriguing for women. Heilman (1994) suggested that "if...a woman is confident of her ability, she should not be at all adversely affected by preferential selection and may very well thrive, not suffering in her

self-view or derogating her performance” (p.135). The results of this study were on the contrary. On the average, women had reason to be as confident in their academic abilities as men were: women did not differ from men in their past academic performance and did not differ from men in their perception that past academic performance led to their admission. However, unlike men, to some degree, women still perceived that they received preference due to their gender, and these perceptions were associated with negative emotions.

However, some of the current study’s findings were consistent with Heilman (1994). She suggested that various “target” groups experience similar harmful outcomes due to the attributions people make. The current study found this to be true, as suspected beneficiaries of racial preference and gender preference experienced similar negative emotions. Suspected beneficiaries of racial preference did not appear to engage in self-esteem enhancing strategies as did participants in Stewart and Shapiro’s (2000) study. The difference may lie in the nature of the two studies. Stewart and Shapiro evaluated participants’ task performance. As the researchers noted, participants probably evaluated themselves positively to shield their self-esteem from the experimenters’ negative feedback. In the current study, researchers had no face-to-face contact with participants and provided no evaluation of the participants. Thus, participants had no compelling reason to present themselves in a positive light.

Although I found that being a suspected beneficiary of gender preference was related to increased anxiety, I did not find a similar effect for suspected beneficiaries of racial preference. This finding is one of the few differences between the two types of attributions. Perhaps, an explanation for this finding is as follows. The anxiety measures



in the current study assessed the extent to which participants worried about their academic performance. Perhaps, suspected beneficiaries of racial preference accept the idea that they will not excel academically and as a result do not experience high anxiety. On the other hand, suspected beneficiaries of gender preference might have relatively high academic aspirations and as a result feel nervous about not meeting those expectations. Thus, they are anxious about their schoolwork.

*The effect of suspected beneficiaries' emotions on performance.* Also, consistent with Heilman (1994), I found that attributions and the associated negative emotions that suspected beneficiaries experience are negatively related to performance. Yielding mixed results, only three experiments (Nacoste, 1989; Turner & Pratkanis, 1993; Brown et al. 2000) and one organizational study (Brown et al., 2000) had previously examined the actual performance of suspected beneficiaries, and arguably only the latter study used a performance measure that is generalizable to organizations. Like Brown and his colleagues, I found that attributions of racial preference were related to academic performance. Prior to this study, researchers had not found links between being a suspected beneficiary, experiencing negative emotions, and experiencing decreased performance. For example, prior research (Heilman et al., 1990) had examined only the link to self-efficacy indirectly (e.g., the desire to be a leader for a task). A wealth of research on self-efficacy (e.g., Bandura, 1997) has shown that the belief that one can produce a desired effect is associated with task success. However, the current study provided evidence that suspected beneficiaries of racial preference are less likely than those who are not suspected beneficiaries of racial preference to have these beliefs. Consequently, these suspected beneficiaries may be less likely than are their counterparts

to reach the desired level of academic performance. Additionally, in accordance with Steele and his colleagues (Steele and Aronson, 1995; Steele et al., 2002), the academic setting seemed to act as a threat condition for suspected beneficiaries of racial and gender preference. Perhaps, while conducting schoolwork, suspected beneficiaries became distracted by or anxious because of their concerns about performing in accordance with group stereotypes, which may have caused them to experience performance decrements.

*Moderators.* Unfortunately, this study found little evidence of factors that mitigate the effect of attributions. Heilman (1994) posed that information that confirms one's ability would give women confidence. Conversely, suspected beneficiaries of gender preference with high SAT scores experienced more anxiety than did suspected beneficiaries of gender preference with low SAT scores. This finding was opposite from what I had predicted. However, as mentioned above, it seems reasonable that individuals might be anxious if they (perceive that others) attribute their admission to gender preference, and they are actually quite capable academically. Such individuals may be overly concerned about not performing to their potential.

I did find that social support attenuates the effect of attributions of racial preference, such that students who receive high levels of social support and (perceive that others) attribute their admission to racial preference experience less evaluation apprehension than do students who receive low levels of social support and (perceive that others) attribute their admission to racial preference. Suspected beneficiaries of racial preference who receive a vote of confidence from their friends, relatives, and peers are less likely than those who do not receive such support to worry about how others judge them. This finding seems intuitive: discussing personal problems with others and

receiving reassurance from them should ease the pressure suspected beneficiaries feel from others' evaluations.

### *Implications*

*Affirmative action in organizations.* While the above findings might appear to shed a negative light on affirmative action, the intent of this study was not to criticize the policy itself. To be sure, I began this paper by presenting some of the advantages of affirmative action, and I realize that the policy has benefited many individuals. However, I also realize that the policy often creates an air of ambiguity around the selection of minorities. This ambiguity can cause minorities to wonder whether they are deserving of or qualified for benefits they receive or cause them wonder if others question their ability. These concerns may become so overwhelming that they affect individuals' emotions and performance.

Organizations play an influential role in minimizing the negative outcomes associated with affirmative action. Affirmative action includes a host of strategies, including actively recruiting from the minority population, training minority applicants, conducting job training for minorities, and posting job openings to ensure that all groups of people are aware them (Turner & Pratkanis, 1994). For example, many colleges and universities recruit from inner-city schools to increase the number of minority applicants that they receive (Crosby et al., 2003). Organizations that use affirmative action should expand the pool of qualified applicants and use a range of affirmative action strategies to achieve diversification. These actions help minority members to become and feel qualified. In addition, making organizational members aware of these various strategies should help alleviate the perception that affirmative action equates to the selection of

minority members over more qualified majority members. These actions should also reduce the likelihood that others will perceive that minority member are unqualified selectees. In addition, organizations should implement systems that build the efficacy of their minority employees and students. For instance, colleges should institute emotional and practical support programs that help build academic confidence in their minority students.

### *Limitations and Strengths*

Although this study contributes to the literature in a number of ways, it has its limitations. First, characteristics of the sample and setting may limit the generalizability of the study's results. Military academies have admitted women for roughly 30 years. Academies are predominately White and male and have a more masculine culture than most college and universities. Accordingly, this was ideal setting for this type of study, but it is also a rarity. Additionally, Blacks and Latinos made up the majority (73%) of the racial minority sample. Researchers who conduct similar studies on more racially and gender diverse samples may find different results than I did.

As is the case with many studies on issues of diversity, this study had a small sample of minorities. However, the number of minorities in the study is representative of the number of minorities in the student body. Paradoxically, the small number of minorities is perhaps one of the characteristics of the organization that resulted in the study's findings. That is, as Heilman and Blader (2001) showed, being one of a few from one's demographic group contributes to one feeling that one is a beneficiary of affirmative action. Nonetheless, having a larger sample of minorities might have allowed

me to investigate differences between racial minorities who were high and low in attributions of affirmative action.

Another limitation is that I was unable to capture many of the participants' responses regarding attributions at the beginning of the semester. Instead, these participants responded to the attribution measures mid-semester and at the same time that they responded to measures regarding their emotions. Thus, the study suffers from single-source bias. Nonetheless, I did measure attributions at the start of the semester for a large number of the participants and early in the academic careers of all participants. The study's design allowed me to measure attributions made early-on and relate these attributions to future performance. Thus, the current study improved upon Brown and his colleagues' study, which related attributions to previously earned grades.

Finally, I made efforts not to prime participants to wonder about the extent to which race and gender played a role in their college admission, as doing so would have possibly introduced stereotype threat. It is likely that students had already contemplated why the Academy admitted them. My intent was to examine the effect of those thoughts, rather than cause them to occur.

### *Future Directions*

Many important questions remain unanswered. For instance, what other outcomes do suspected beneficiaries experience? Do they engage in self-limiting behaviors? For instance, do they shy away from taking advanced or difficult courses? Do they choose what they believe to be easy college majors? Are there any positive outcomes associated with being a suspected beneficiary of affirmative action? For example, do individuals who feel that they received preference from an organization feel

especially committed to the organization? Research geared towards answering these questions would advance the literature on suspected beneficiaries of affirmative action.

Future research would also benefit from a multi-method approach. For instance, in addition to assessing individuals' perceptions of others' attributions, researchers should assess others' actual attributions of individuals' selection. This design would facilitate a comparison of individuals' attributions and others' actual, rather than perceived, attributions. Interestingly, such a study design could provide an intervention for individuals who incorrectly perceive that others think that they are beneficiaries of affirmative action. For such individuals, invalidating their misgivings and confirming their abilities would likely be advantageous.

Another addition to the literature would be research examining why some individuals are more likely than others are to attribute or perceive that others attribute their selection to affirmative action. For instance, Pinel and her colleagues' (Pinel, 1999; Brown and Pinel, 2003) theory on stigma consciousness suggested that people differ in how self-conscious they are about stereotypes that could apply to them. Research that includes such measures may help to explain why some individuals are more likely than are others to feel as though they are beneficiaries of affirmative action

Lastly, one of the aims of this study was to assess individuals' attributions and their perceptions of others' attributions. The notion was that others' attributions would affect the self. The current study showed that attributions and perceptions of others' attributions were closely related. However, a key question is which way the direction of influence points. On the one hand, one might attribute one's selection to affirmative action, and then assume that others make the same attribution. On the other hand, one

may perceive that others suspect that one is a beneficiary, so others' perceptions become part of one's own perception. Both lines of reasoning are logical and deserving of attention.

### *Conclusion*

In this study, I explored students' attributions and their perceptions of others attributions for their college admission. I found that racial minorities and women attribute their admission to race and gender and that these attributions are associated with negative emotions and decreased academic performance. The title of this paper rhetorically asked, "How did you get in?" Most students are uncertain of the answer to this question. For some students, the attributions that they and others make appear to cause negative emotions, thus diminishing students' performance.

Table 1

*Means, Standard Deviations, and Intercorrelations Among the Study Variables*

	Mean	SD	1	2	3	4	5	6	7
1. Race	.39	.49							
2. Gender	.24	.43	.10						
3. Group	1.52	.50	-.27***	-.24***					
4. SAT	1240.40	139.19	-.40***	.03	.18**				
5. High School GPA	3.71	.41	-.30***	.03	.17*	.35***			
6. Attributions of racial preference	2.06	1.04	.75***	.09	-.27***	-.34***	-.32***		
7. Attributions of gender preference	2.01	1.01	.15*	.72***	-.27***	-.09	-.10	.30***	
8. Attributions of physical aptitude	3.17	.83	-.12	-.03	.17**	-.21***	-.04	-.00	.08
9. Attributions of leadership potential	3.66	.57	-.17**	-.08	.09	.03	.11	-.21***	-.09
10. Attributions of legacy	1.87	.93	.06	.03	.00	-.05	-.05	.17**	.15*
11. Attributions of past academic performance	3.48	.70	-.19**	.09	.14*	.46***	.58***	-.30***	-.01
12. Academic Efficacy	3.80	.58	-.08	-.03	.07	.16*	.20**	-.22***	-.15*
13. Anxiety	3.23	.90	.12**	.20***	-.20*	-.23***	-.14*	.16**	.30***
14. Evaluation Apprehension	2.52	1.06	.21***	.18**	-.01	-.29***	-.21**	.24***	.25***
15. Social Support	3.60	.53	.10	.00	-.01	-.09	-.06	.08	.02
16. Effort	5.76	1.39	.09	-.01	-.22***	-.21***	.07	.01	-.05
17. Academic Performance	2.76	.65	-.32***	.06	.14*	.60***	.49***	-.34***	-.08

*Note.* Whites were coded 0, and all other races (i.e., racial minorities) were coded 1. Students who completed the attribution measures at Time 1 were coded 1; students who complete them at Time 2 were coded 2. Men were coded 0; women were coded 1. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



Table 1 (cont.)

	8	9	10	11	12	13	14	15	16
1. Race									
2. Gender									
3. Group									
4. SAT									
5. High School GPA									
6. Attributions of racial preference									
7. Attributions of gender preference									
8. Attributions of physical aptitude									
9. Attributions of leadership potential	.13*								
10. Attributions of legacy	.02	.10							
11. Attributions of past academic performance	-.03	.22***	-.05						
12. Academic Efficacy	.08	.11	-.07	.37***					
13. Anxiety	.02	.04	.08	-.24***	-.47***				
14. Evaluation Apprehension	.12	.02	.04	-.20***	-.35***	.62***			
15. Social Support	.07	.15*	-.02	.03	.19**	.04	.03		
16. Effort	-.02	.03	-.02	.04	.19**	.16*	.05	.11	
17. Academic Performance	-.19**	-.02	-.03	.49***	.33***	-.35***	-.41***	.15*	.14*

*Note.* Whites were coded 0, and all other races (i.e., racial minorities) were coded 1. Students who completed the attribution measures at Time 1 were coded 1; students who complete them at Time 2 were coded 2. Men were coded 0; women were coded 1. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2

*Means and Standard Deviations of the Attribution Measures by Group*

	<b>Attributions</b>					
	Race	Gender	Past academic performance	Leadership potential	Physical aptitude	Legacy
<b>Sub-group</b>						
Group 1	2.35 <sub>a</sub> (1.11)	2.29 <sub>a</sub> (1.11)	3.38 <sub>a</sub> (.68)	3.60 <sub>a</sub> (.55)	3.03 <sub>a</sub> (.78)	1.87 <sub>a</sub> (.87)
Group 2	1.78 <sub>b</sub> (.90)	1.75 <sub>b</sub> (.83)	3.57 <sub>b</sub> (.71)	3.71 <sub>a</sub> (.59)	3.30 <sub>b</sub> (.85)	1.87 <sub>a</sub> (.98)

*Note.* Group 1 completed the attribution measures at Time 1, and Group 2 completed them at Time 2. N for Group 1 = 120; Group 2 = 129. The higher the mean, the more the attribution. Means within a column with different subscripts differ significantly at  $p < .05$ . Standard deviations are in parentheses.

Table 3

*Means and Standard Deviations of Various Attribution Measures by Race*

	<b>Attributions</b>					
	Race	Gender	Past academic performance	Leadership potential	Physical aptitude	Legacy
<b>Sub-group</b>						
White	1.44 <sub>a</sub> (.57)	1.89 <sub>a</sub> (1.01)	3.58 <sub>a</sub> (.69)	3.73 <sub>a</sub> (.55)	3.25 <sub>a</sub> (.83)	1.82 <sub>a</sub> (.94)
Asian	2.91 <sub>c</sub> (.78)	2.11 <sub>a</sub> (1.03)	3.44 <sub>a</sub> (.70)	3.42 <sub>a</sub> (.64)	3.17 <sub>a</sub> (.77)	1.98 <sub>a</sub> (.90)
Black	3.29 <sub>b</sub> (.76)	2.32 <sub>a</sub> (1.00)	3.17 <sub>b</sub> (.65)	3.46 <sub>a</sub> (.60)	3.06 <sub>a</sub> (.86)	2.00 <sub>a</sub> (.88)
Latino	2.67 <sub>c</sub> (.96)	2.04 <sub>a</sub> (1.02)	3.60 <sub>a</sub> (.70)	3.78 <sub>a</sub> (.48)	2.85 <sub>a</sub> (.69)	1.68 <sub>a</sub> (.96)
American Indian	3.17 <sub>c</sub> (.85)	2.77 <sub>a</sub> (.99)	3.56 <sub>a</sub> (.38)	3.45 <sub>a</sub> (.23)	2.93 <sub>a</sub> (.75)	1.90 <sub>a</sub> (.56)
Mixed	2.52 <sub>c</sub> (.92)	1.68 <sub>a</sub> (.63)	2.80 <sub>a</sub> (.86)	3.66 <sub>a</sub> (.76)	3.42 <sub>a</sub> (.86)	2.46 <sub>a</sub> (1.05)

*Note.* N for Whites = 152; Blacks = 48; Latino = 23; Asian = 18; Mixed = 5; American Indian = 3. The higher the mean, the more the attribution. Multiple comparisons of means determined using Scheffe tests. Means within a column with different subscripts differ significantly at  $p < .05$ . Standard deviations are in parentheses.

Table 4

*Means and Standard Deviations of the Attribution Measures by Racial Subgroup*

	<b>Attributions</b>					
	Race	Gender	Past academic performance	Leadership potential	Physical aptitude	Legacy
<b>Sub-group</b>						
Whites	1.44 <sub>a</sub> (.57)	1.89 <sub>a</sub> (1.01)	3.58 <sub>a</sub> (.69)	3.73 <sub>a</sub> (.55)	3.25 <sub>a</sub> (.83)	1.82 <sub>a</sub> (.94)
Racial Minorities	3.02 <sub>b</sub> (.86)	2.20 <sub>b</sub> (1.00)	3.31 <sub>b</sub> (.70)	3.54 <sub>b</sub> (.59)	3.04 <sub>a</sub> (.80)	1.94 <sub>a</sub> (.91)

*Note.* N for Whites = 152; racial minorities (i.e., all other races) = 97. The higher the mean, the more the attribution. Means within a column with different subscripts differ significantly at  $p < .05$ . Standard deviations are in parentheses.

Table 5

*Means and Standard Deviations of the Attribution Measures by Gender Subgroup*

	<b>Attributions</b>					
	Race	Gender	Past academic performance	Leadership potential	Physical aptitude	Legacy
<b>Sub-group</b>						
Men	2.00 <sub>a</sub> (1.06)	1.61 <sub>a</sub> (.68)	3.44 <sub>a</sub> (.74)	3.68 <sub>a</sub> (.59)	3.18 <sub>a</sub> (.83)	1.85 <sub>a</sub> (.91)
Women	2.22 <sub>a</sub> (.97)	3.31 <sub>b</sub> (.78)	3.59 <sub>a</sub> (.56)	3.57 <sub>a</sub> (.50)	3.13 <sub>a</sub> (.81)	1.92 <sub>a</sub> (1.00)

*Note.* N for males = 190; females = 59. The higher the mean, the more the attribution. Means within a column with different subscripts differ significantly at  $p < .05$ . Standard deviations are in parentheses.

Table 6

*SAT as a Moderator of the Relationship Between Attributions and Academic Self-Efficacy*

	DV = Academic Self-Efficacy		DV = Academic Self-Efficacy	
Attribution Variable	-.21***	-.21***	-.11	-.10
SAT	.09	.09	.15*	.15*
Attributions of Racial PreferenceXSAT		.00		
Attributions of Gender PreferenceXSAT				-.09
$R^2$	.06***	.06***	.04*	.05***
$\Delta R^2$	.06***	.00	.04*	.01

*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 7

*SAT as a Moderator of the Relationship Between Attributions and Anxiety*

	DV = Anxiety		DV = Anxiety	
Attribution Variable	.11	.13	.27***	.26***
SAT	-.19**	-.19**	-.21***	-.20***
Attributions of Racial Preference X SAT		.10		
Attributions of Gender Preference X SAT				.14*
$R^2$	.06***	.07***	.13***	.15***
$\Delta R^2$	.06***	.01	.13***	.02**

*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 8

*SAT as a Moderator of the Relationship Between Attributions and Evaluation Apprehension*

	DV = Evaluation Apprehension		DV = Evaluation Apprehension	
Attribution Variable	.19**	.20*	.23***	.22***
SAT	-.22***	-.21***	-.27***	-.26***
Attributions of Racial Preference X SAT		.08		
Attributions of Gender Preference X SAT				.08
$R^2$	.11***	.12***	.13***	.14***
$\Delta R^2$	.11***	.01	.1***	.01

*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



Table 9

*Social Support as a Moderator of the Relationship Between Attributions and Academic Self-Efficacy*

	DV = Academic Self-Efficacy		DV = Academic Self-Efficacy	
Attribution Variable	-.24***	-.25***	-.15*	-.16*
Social Support	.20**	.20***	.19**	.20**
Attributions of Racial Preference X Social Support		.08		
Attributions of Gender Preference X Social Support				.07
$R^2$	.09***	.10***	.06***	.07***
$\Delta R^2$	.09***	.01	.06***	.01

*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 10

*Social Support as a Moderator of the Relationship Between Attributions and Anxiety*

	DV = Anxiety		DV = Anxiety	
Attribution Variable	.17**	.16*	.31***	.31***
Social Support	.03	.03	.03	.04
Attributions of Racial Preference X Social Support		.01		
Attributions of Gender Preference X Social Support				.09
$R^2$	.03*	.03*	.10***	.10***
$\Delta R^2$	.03*	.00	.10***	.00

*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 11

*Social Support as a Moderator of the Relationship Between Attributions and Evaluation Apprehension*

	DV = Evaluation Apprehension		DV = Evaluation Apprehension	
Attribution Variable	.24***	.25***	.25***	.25***
Social Support	-.01	.01	.02	.03
Attributions of Racial Preference X Social Support		-.13*		
Attributions of Gender Preference X Social Support				.01
$R^2$	.06***	.06***	.06***	.06***
$\Delta R^2$	.06***	.01*	.06***	.00

*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

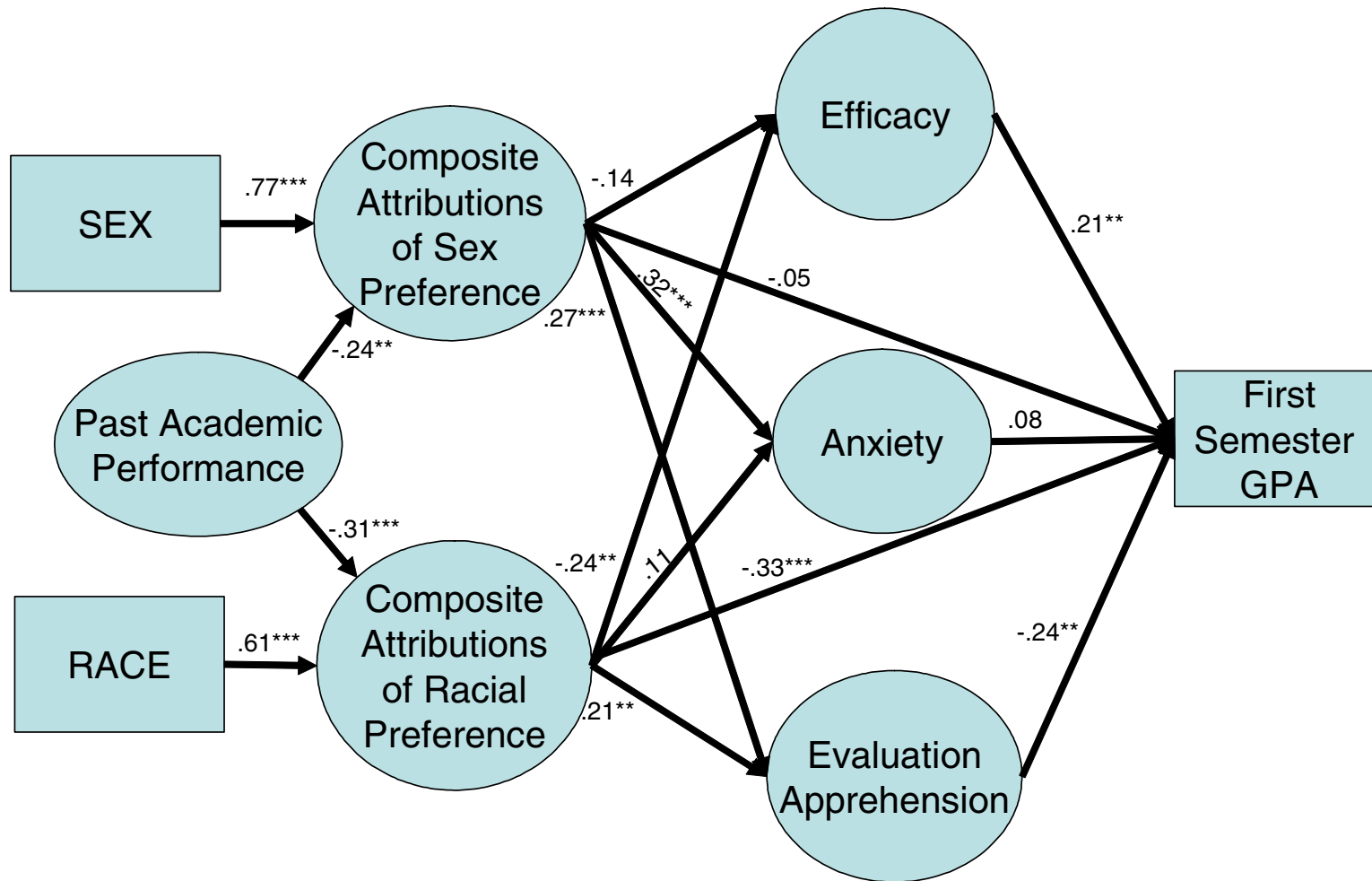
Table 12

*Effort as a Moderator of the Relationship Between and Attributions and Academic Performance*

	DV = Academic Performance		DV = Academic Performance	
Attribution Variable	-.34***	-.35***	-.08	-.08
Effort	.13*	.13*	.13*	.14*
Attributions of Racial Preference X Effort		-.12		
Attributions of Gender Preference X Effort				-.02
$R^2$	.14***	.15***	.02	.02
$\Delta R^2$	.14***	.01	.02	.00

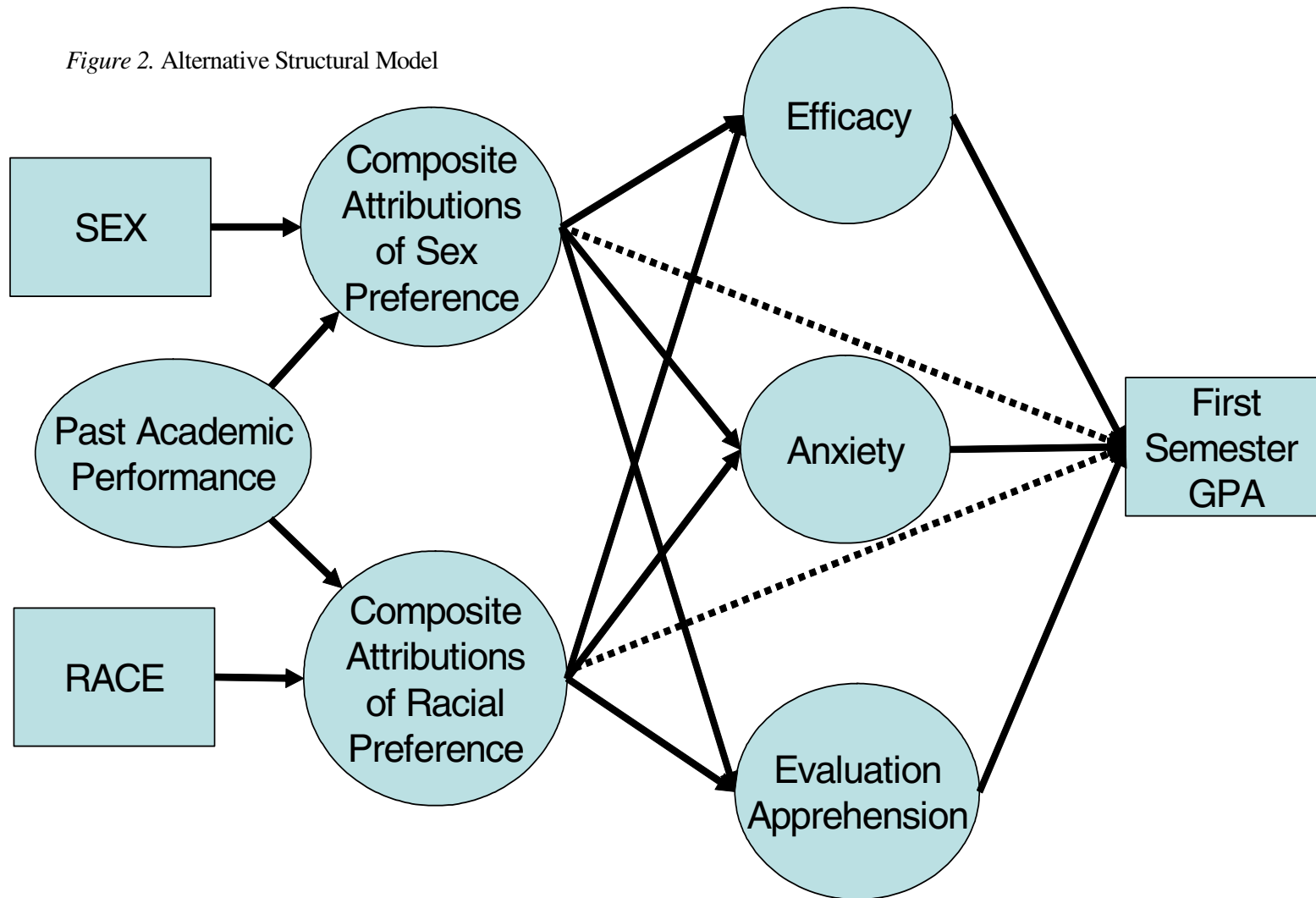
*Note.* Values listed are standardized regression coefficients. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Figure 1. Hypothesized Structural Model



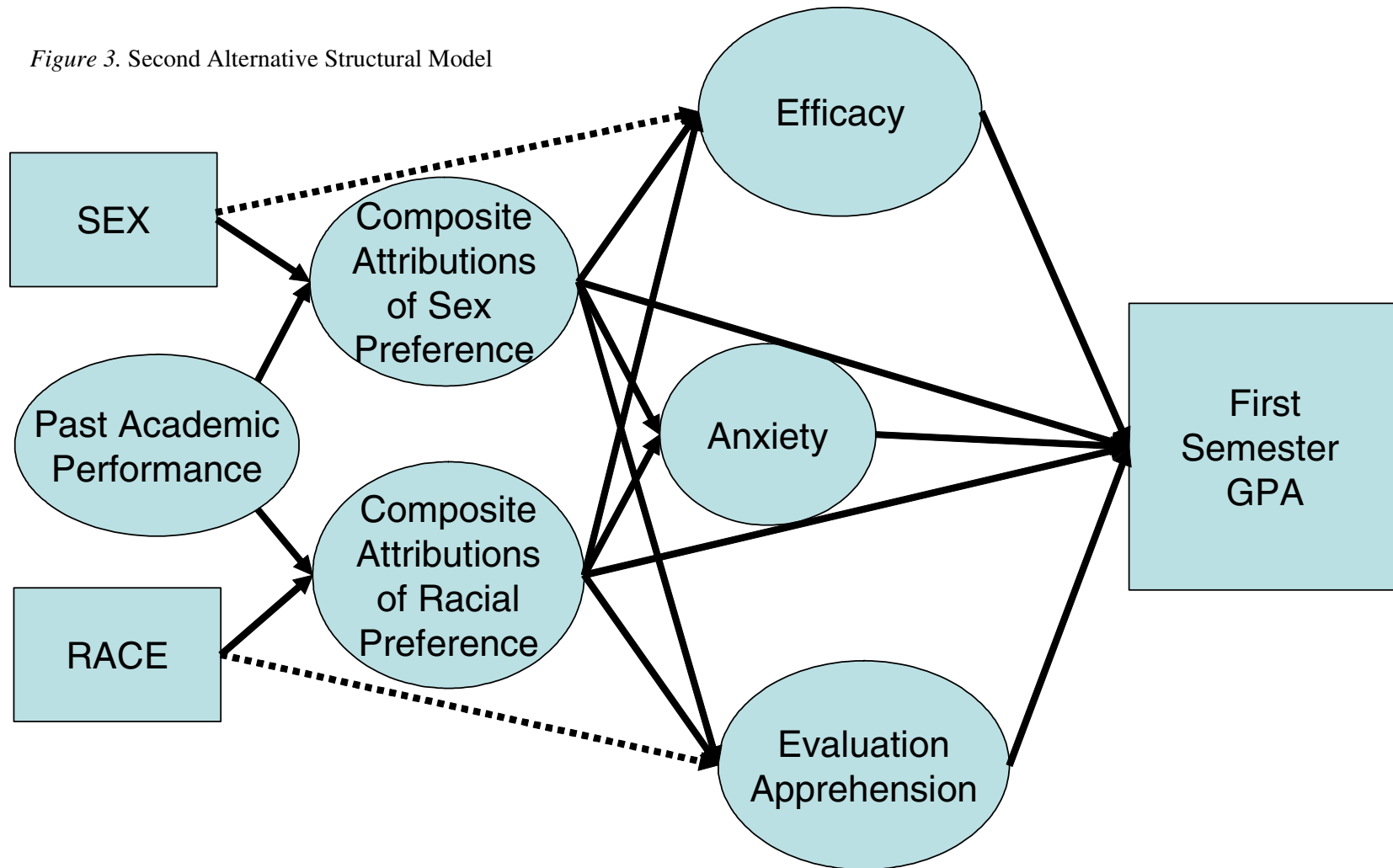
Values listed are standardized regression coefficients. \* $p = .05$  \*\*  $p = .01$  \*\*\*  $p = .001$

Figure 2. Alternative Structural Model



Note: Dashed line indicates path that is removed from the hypothesized structural model.

Figure 3. Second Alternative Structural Model



Note: Dashed line indicates path that is added to the hypothesized structural model.

Figure 4. SAT as a Moderation of the Relation Between Attributions of Gender Preference and Anxiety

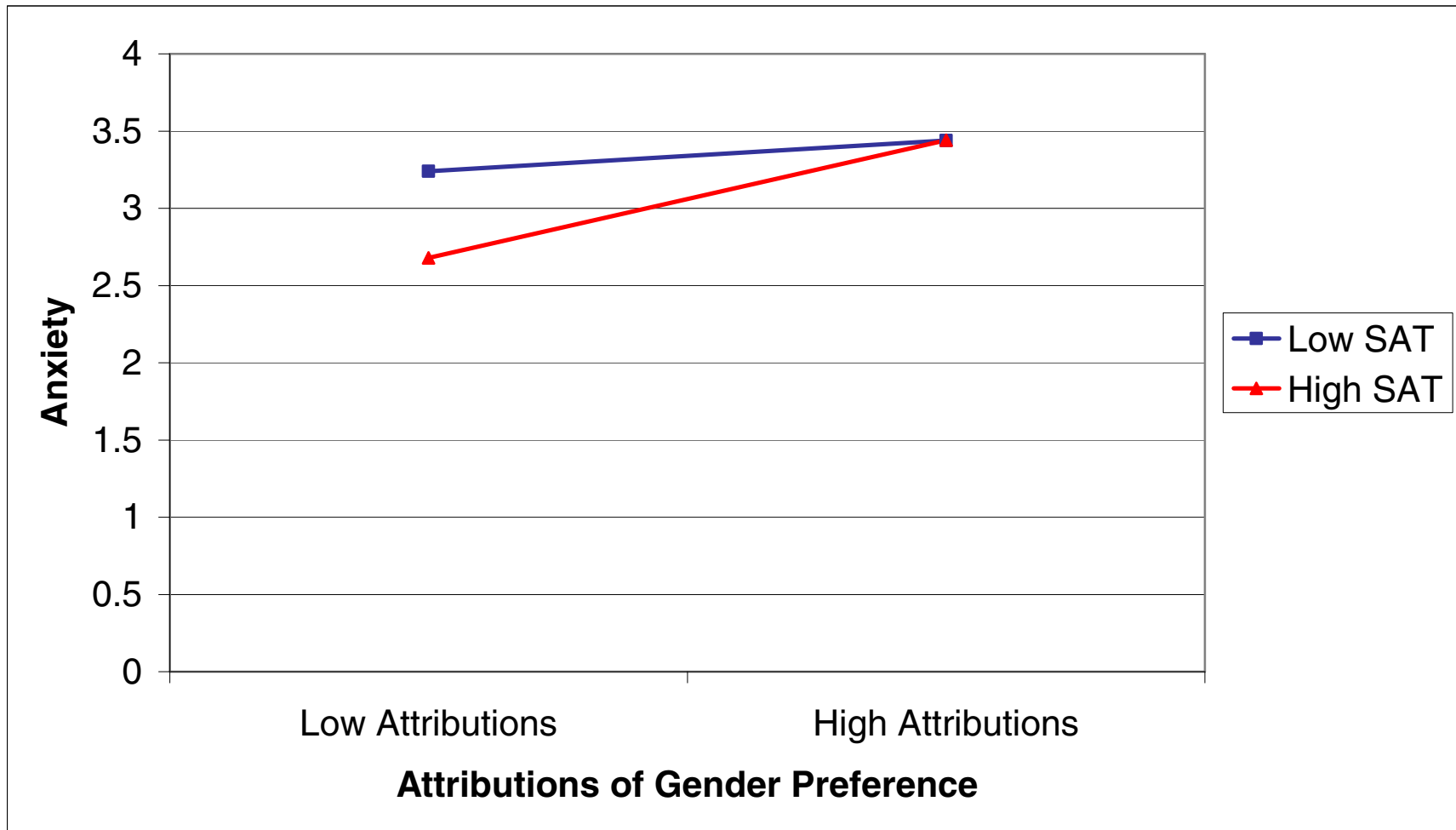
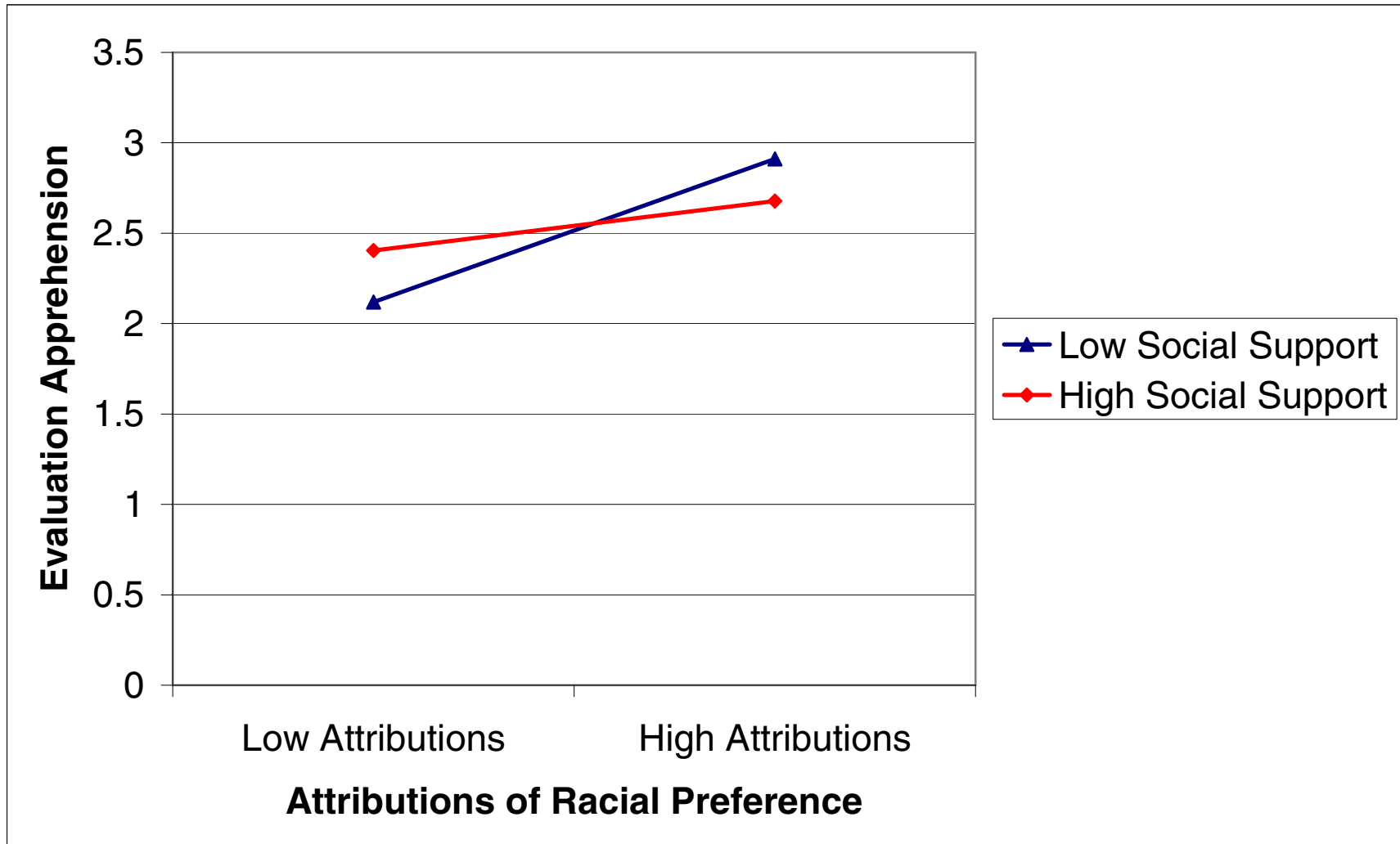




Figure 5. Social Support as a Moderation of the Relation Between Attributions of Racial Preference and Evaluation Apprehension



## APPENDIX

I used the following measures in my study. All measure were on a five-point Likert scale, except where indicated.

### *Attributions of Racial Preference*

What is your opinion of why you were accepted to [the Academy]?  
 [the Academy] admitted me partly because the Army needs more officers of my racial/ethnic background.  
 My race helped me to get admitted to [the Academy].  
 I probably would not be at [the Academy], if it were not for my race/ethnicity.  
 I bet that my race/ethnicity made it easier for me to get accepted to [the Academy].

In your opinion, why do your instructors think that you were accepted to [the Academy]?  
 My instructors probably think that I was admitted to [the Academy] because the Army needs more officers of my racial/ethnic background.  
 Other cadets probably believe that [the Academy] admitted me partly because the Army needs more officers of my race/ethnicity.  
 Other cadets probably think that my race/ethnicity helped me to get admitted to [the Academy].  
 I bet that other cadets think that my race/ethnicity made it easier for me to get accepted to [the Academy].  
 My instructors probably believe that my race/ethnicity helped me get admitted to [the Academy]. .93  
 I bet that my instructors think that my race/ethnicity made it easier for me to get accepted to [the Academy].

### *Attributions of Gender Preference*

What is your opinion of why you were accepted to [the Academy]?  
 [the Academy] admitted me partly because the Army needs more officers of my gender.  
 My gender helped me to get admitted to [the Academy].  
 I probably would not be at [the Academy], if it were not for my gender.  
 I bet that my gender made it easier for me to get accepted to [the Academy].

In your opinion, why do your instructors think that you were accepted to [the Academy]?  
 My instructors probably believe that [the Academy] admitted me partly because the Army needs more officers of my gender.  
 Other cadets probably think that my gender helped me to get admitted to [the Academy]. .94  
 I bet that other cadets think that my gender made it easier for me to get accepted to [the Academy].  
 Other cadets probably believe that [the Academy] admitted me partly because the Army needs more officers of my gender.  
 I bet that my instructors think that my gender made it easier for me to get accepted to [the Academy].

My instructors probably think that my gender helped me to get admitted to [the Academy].

*Attributions of Past Academic Performance*

Other cadets probably believe that my academic ability helped me get into [the Academy].

Other cadets probably think that I got into [the Academy] largely because I had good grades in high school.

Other cadets probably believe that [the Academy] admitted me because of my strong academic record.

My instructors probably believe that my academic ability helped me get into [the Academy].

My instructors probably think that I got into [the Academy] largely because I had good grades in high school.

My instructors probably believe that [the Academy] admitted me because of my strong academic record.

*Attributions of Leadership Potential*

Other cadets probably think that my leadership ability helped me get into [the Academy].

Other cadets probably believe that I got into [the Academy] because I had a record of leadership experience.

Other cadets probably feel that had it not been for my leadership experience, I would not be at [the Academy].

My instructors probably think that my leadership ability helped me get into [the Academy].

My instructors probably believe that I got into [the Academy] because I had a record of leadership experience.

My instructors probably feel that had it not been for my leadership experience, I would not be at [the Academy].

*Attributions of Physical Aptitude*

Other cadets probably think that my athletic ability helped me get into [the Academy].

Other cadets probably believe that [the Academy] admitted me largely because I am an athlete.

Other cadets probably feel that had it not been for my athletic accomplishments, I would not be at [the Academy].

My instructors probably think that my athletic ability helped me get into [the Academy].

My instructors probably believe that [the Academy] admitted me largely because I am an athlete.

My instructors probably feel that had it not been for my athletic accomplishments, I would not be at [the Academy].

*Attributions of Legacy*

Other cadets probably think that I got into [the Academy] in part because I have family members who are [the Academy] grads.

Other cadets probably think that [the Academy] admitted me in part because of my family's record of military service.

I bet other cadets think that my family's history of military service helped me get accepted at [the Academy].

My instructors probably think that I got into [the Academy] in part because I have family members who are [the Academy] grads.

My instructors probably think that [the Academy] admitted me in part because of my family's record of military service.

I bet my instructors think that my family's history of military service helped me get accepted at [the Academy].

*Academic Self-Efficacy*

How certain are you that you can do each of the following?

Do well academically at [the Academy].

Hold a high academic standing in your class when you graduate.

Finish assignments by deadlines.

Take good notes during class instruction.

Understand information presented in your classes.

Complete your academic requirements, even though you have other demands on your time.

Remember information that you will need for tests.

*Anxiety (Spielberger, Gorsuch, & Lushene, 1970)*

I am worried about my academic performance.

I often feel nervous that I will get bad grades.

I often feel indecisive when I am conducting schoolwork.

I feel uneasy about how my grades will turn out.

*Evaluation Apprehension (Spencer, Steele, & Quinn, 1999)*

People will look down on me because of my academic performance.

My grades will lead people to think that I have low ability.

My performance in school will make people question my ability to be an officer.

My grades will cause people to question whether I should remain at [the Academy].

*Social Support* (Ganster, Fusilier, and Mayes, 1986)

How often does your team leader do things to make your life easier for you?

How easy is it to talk with your team leader?

How often do you rely on your team leader when things get tough at school?

How often does your team leader listen to your personal problems?

How often does your team leader reassure you when you experience doubt?

How often do your friends do things to make your life easier for you?

How easy is it to talk with your friends?

How often do you rely on your friends when things get tough at school?

How often do your friends listen to your personal problems?

How often do your friends reassure you when you experience doubt?

How often do your relatives do things to make your life easier for you?

How easy is it to talk with your relatives?

How often do you rely on your relatives when things get tough at school?

How often do your relatives listen to your personal problems?

How often do your relatives reassure you when you experience doubt?

*Effort*

Using a number 1 through 9, answer the following questions, comparing yourself to the average plebe.

How much time do you spend on schoolwork?

How much effort do you put into your schoolwork?

How much effort do you put into completing all of your homework?

How much of your free time (e.g., weekends) do you spend on schoolwork?

How much effort do you put into earning high grades?

How much time will you spend trying to find the answer to a hard problem?

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