

Running head: AFFIRMATIVE ACTION IN SEX-TYPED ACADEMICS

The Effects of Affirmative Action on Perceptions of Women
Entering Male Dominated Academic Programs

by

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A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

Master of Arts

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**The Effects of Affirmative Action on Perceptions of Women Entering Male
Dominated Academic Programs**

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Tara Marie Boyaniwsky

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University
of Manitoba in partial fulfillment of the requirements of the degree
of
Master of Arts**

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Abstract

With the enactment of affirmative action policies and the increase of women in traditionally male dominated areas of work and study, it is important to investigate how people perceive women selected under affirmative action in male sex-typed academic fields. One hundred and fifty seven undergraduates, 112 females and 45 males, reviewed an application package of a male or female student who was accepted to either an Engineering (strongly male sex-typed) or Dentistry (slightly male sex-typed) program at a university that was or was not committed to an affirmative action policy. Participants rated the applicant on measures of perceived competence; interpersonal, activity, and potency characteristics; projected program progress; and the perceived role of qualifications and fairness of the application process. Consistent with the gender stereotyping hypotheses, female applicants were perceived similarly to male applicants in the Dentistry program. Unexpectedly, however, female applicants were also perceived similarly to male applicants in the Engineering program. Contrary to the discounting hypotheses, female applicants associated with affirmative action were perceived just as favorably as applicants not associated with such policies. Discounting of the affirmative action recipients' qualifications was not evident, and the presence of the policy did not affect perceptions of the fairness of the decision process. Overall, female applicants accepted under affirmative action into male sex-typed academics were not discriminated against based on either their gender or the affirmative action label.

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The Effects of Affirmative Action on Perceptions of Women
Entering Male Dominated Academic Programs

In recent years, the increase of multiculturalism in North America has become prevalent in both the employment and academic environments. Legislative mandates, such as affirmative action programs, have been initiated to improve educational and employment opportunities for women, disabled individuals, and ethnic minorities. Such programs have been enacted to prevent prejudice and discrimination in applicant procedures and improve diversity in the workplace.

One of the most important intentions of affirmative action programs is to provide women and visible minorities with opportunities to study or work in fields where they have been traditionally underrepresented. Despite the positive intentions of such programs, research has repeatedly shown that affirmative action policies in organizations stigmatize their intended beneficiaries with inferences of substandard competence (Heilman, Block, & Lucas, 1992; Chacko, 1982; Summers, 1991). Such research suggests that minority applicants associated with affirmative action may face further stereotypes in addition to the existing gender or racial stereotypes, in particular areas of education and employment. For example, previous research (Heilman et al., 1992) has shown that if a female applied for a job which traditionally has been labeled a "man's job", she may be viewed as relatively less competent than a male applicant, based solely on her gender. In addition to the negative evaluation of being female, if she were perceived to be hired under an affirmative action policy, the evaluation of her competency may become even more negative.

Most research and discussion of affirmative action has focused on constitutional factors, such as effectiveness and fairness, while little attention has been given to psychological aspects, such as the perceptions about target group

members who were hired under affirmative action policies. It is critical to investigate the potential damaging perceptions of the affirmative action label in order to prevent further discrimination against women and minority group members. It seems ironic that affirmative action efforts to control such discrimination may actually perpetuate additional stereotypes of underrepresented groups.

Previous research on perceptions of affirmative action has primarily focused on reactions to minority members in employment and organizational environments, with little research in the academic setting (Garcia, Erskine, Hawn, & Casmay, 1981). Since those attempting a professional career are first introduced to the academic environment long before the employment environment, it is important to determine whether the stigma of incompetence found with affirmative action recipients in employment (Heilman et al., 1992; Summers, 1991) would be apparent with recipients in academics. Women and minority members applying to university at the graduate level must go through decision committees and interviews similar to those when applying for a job. Stereotypes based on gender or race may appear in the decision process of accepting women and minorities into academic programs. Furthermore, once women and minorities become students in certain programs, they may be perceived by others as incompetent if they are associated with affirmative action policies. Such negative perceptions may discourage women and minorities from continuing their education or from seeking employment in such areas of expertise. Many women and minorities who experience such discrimination while studying in university may once again experience discrimination in the workplace. Perceptions of incompetence may follow them to the workplace when onlookers assume they were accepted into university and then hired for a job through affirmative action policies. Onlookers

who assume women are incompetent because of their gender and their affirmative action label in the academic domain may maintain or even increase their negative perceptions of the female's perceived incompetence when they form this perception once again in the employment domain. It is therefore important to investigate how women and minorities are perceived in the academic domain when they are accepted into a university which is associated with an affirmative action policy.

The goal of the present study, therefore, was to examine whether and how perceptions of female applicants were influenced by the association with an affirmative action policy in academic programs that are male sex-typed. Previous research (Heilman et al., 1992; Garcia et al., 1981; Summers, 1991) has used attributional consequences of affirmative action, such as the process of discounting, to explain how people evaluate recipients of affirmative action. Therefore, the present study also addressed the process of discounting to further understand how recipients of affirmative action were perceived.

With the increase of women entering areas of education that have traditionally been dominated by men, onlookers may perceive these women negatively based on their gender alone. My research examined whether female applicants entering male sex-typed academics were perceived negatively due to gender stereotypes.

Furthermore, it was thought that if others perceive women in male sex-typed programs to have also benefited from affirmative action policies, a stigma of incompetence may be further added to the negative perceptions based on gender. Finally, then, this research examined whether female applicants accepted into male sex-typed academics through affirmative action were perceived negatively from both the processes of discounting and gender stereotyping.

Affirmative Action

American Legislative Background of Affirmative Action

Affirmative action refers to "both voluntary and mandatory efforts undertaken by federal, state, and local governments; private employers; and schools to combat discrimination and to promote equal opportunity in education and employment for all" (Crosby, 1995, p. 2). Equity legislation in the United States began in the early sixties amidst the civil rights activities (Wilson, 1996). In response to the low employment of racial minorities with defense contractors, John F. Kennedy signed Executive Order 10925 on March 6, 1961. This order first applied the term "affirmative action", and stated that "the contractor will take affirmative action to ensure that applicants are employed, and employees are treated during their employment without regard to their race, creed, color, or national origin" (Wilson, 1996, p.1). Executive Order 10925 was particularly racial based, and was implemented in response to the mobilization of racial minorities during the late-1950s and early-1960s striving for racial integration and social justice. Later, title VII of the Civil Rights Act of 1964 formally and officially designed affirmative action to afford equal treatment to all individuals regardless of their gender, race, religion, ethnic background, or national origin. The term affirmative action is generically used to describe programs which take some kind of initiative to increase or maintain the proportion of women and minority group members within education and employment environments (Johnson, 1990).

A related development of affirmative action concerns the issue of Executive Order 11246 (EO11246) which was brought to law in 1965. As with Title VII of the Civil Rights Act of 1964, EO11246 prohibits discrimination within the workplace on the basis of race, color, religion, sex, and national origin. However, EO11246 differs from Title VII such that it applies only to federal government

contractors and formally requires employers to take affirmative action and prepare an affirmative action plan (Kravitz et al., 1997). In support of affirmative action programs, the government has set up an enforcement agency, the Office of Federal Contract Compliance Programs (OFCCP), for any business that obtains a federal contract. The OFCCP's primary mission is to monitor organizations through on-site visits and reviews of affirmative action documentation.

Both mandates, Title VII of the Civil Rights Act of 1964 and EO 11246, were enacted with optimistic expectations that discrimination in the workplace would gradually decrease while equal opportunity for all individuals would produce a fair and equitable outcome (Kravitz et al., 1997). However, such assumptions were based on an ultimate focus on opportunity rather than on factual results of such affirmative action programs. Therefore, in 1968 the OFCCP began requiring documentation of an affirmative action plan, which included detailed goals and times, and an utilization analysis. Furthermore, in 1971 the OFCCP included the mandate to increase the number of women and minorities in all areas and levels of employment where deficiencies still existed (Sharf, 1998).

Since the enactment of affirmative action in 1964, protection of other dimensions of discrimination have occurred such as age, in the Age Discrimination Act of 1967, and disability, in the Americans with Disabilities Act of 1990. These additional affirmative action programs maintain a focus on employment opportunities based on good faith efforts rather than on documentation and utilization analyses of the original affirmative action policy. Therefore, the affirmative action programs of age and disability seem to be less controversial and receive less attention than affirmative action programs directed at women and ethnic minorities (Kravitz et al., 1997).

Legislative mandates for affirmative action in academics differs from those in organizations. Affirmative action in academics was implemented by Title VI of the Civil Rights Act of 1964 and Title IX of the Educational Amendments of 1972, not EO11246 (Johnson, 1990). Such mandates stated that affirmative action in admissions should only be used as a remedy for past discrimination. In particular, Subpart B of Section 106.17 requires academic institutions to encourage individuals of the previously excluded sex to apply for admission (Johnson, 1990).

Canadian Legislative Background of Employment Equity

Canada's introduction into equity legislation began in 1984 with Judge Rosalie Silberman Abella's report of the Commission on Equality in Employment. Judge Abella coined the term employment equity insisting "the term affirmative action is misunderstood by people, and is ambiguous and confusing" (Parhar, 1999, p.16). Unlike the legislation in the United States, the Canadian commission focused on preferential treatment for four designated groups: women, people with disabilities, racial minority groups, and aboriginal people. While equity policies in the United States were implemented in the early-1960s due to racial discrimination, equity policies in Canada were implemented twenty years later to improve multiculturalism and employment opportunities for women, people with disabilities, aboriginals, and racial minorities.

Many of the recommendations of the 1984 Abella commission were incorporated into the 1986 Employment Equity Act introduced by the federal government. For each province in Canada, provincial human rights codes of employment equity follow the Canadian Charter of Rights and Freedom Sections 15(1) and 15(2). Section 15(1) states that "every individual is equal before and under the law and has the right to equal protection and equal benefit of the law without discrimination, and in particular, without discrimination based on race,

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national or ethnic origin, colour, religion, sex, age, or mental or physical disability” (Ministry of Justice, 1998, p.7). Section 15(2) further suggests that to achieve the equality outlined in 15(1), the government may take positive action to improve opportunities for discriminated groups in Canadian society. Therefore, charter sections 15(1) and 15(2) in combination embrace the concept of equality in Canadian legislation.

In October 1991, the Special Committee for the Federal Employment Equity Act Review was established. The review commission evaluates the numerical representation of the four designated minority groups to determine whether equity in employment is achieved. The committee requires federal employers to implement employment equity programs by following goals and timetables to achieve equal representation of workers. The Canadian Human Rights Commission can furthermore conduct audits to ensure compliance from federal employers (Bond, 1997).

Need for Affirmative Action

Although there has been an increase in employment opportunities for women and minorities, research suggests that gender and race segregation in the workplace, as well as discrepancies in earnings, continues to exist even when women and minority employees have equal qualifications as white male employees (Murrell & Jones, 1995). For example, in the United States in 1994, even after controlling for qualifications, education, and experience, women were earning 72% of men's salaries. In 1992, black men earned 79%, and black women earned 60% of the salaries of white men holding jobs at comparable professional levels (Murrell & Jones, 1995). In 2001, Canadian females average hourly wage was approximately 84% to 89% of Canadian males average wage (Drolet, 2001). Also, from approximately 1991 to 1996, the Canadian Special Review Committee for

employment equity found that representation of women and racial minorities increased by only 3 percent in the Canadian work force. Furthermore, they found that the percentage of aboriginals and people with disabilities employed in Canada represented less than 4 percent of the work force (Wilson, 1996). In addition, many women and minorities continue to be trapped in the service-oriented industries where they are subjected to low salaries, low prestige, and little chance for promotions. In Canada, 70% of women employed are in the area of clerical work, services, and sales (Bond, 1997). Unfortunately, such jobs are most likely the first to be affected by downsizing and women and minorities will be the hardest hit.

Recent research also suggests that women, as students and as faculty members, continue to be underrepresented and marginalised in academics (Prentice, 2000). Such research suggests that even though growing numbers of women are entering higher education in Canada over the last century, women's participation in academics has never been and is still not equal to that of men.

One barrier for women in academics concerns the marginalisation of women on the teaching staffs of Canadian universities. Despite the belief of a dramatic increase of female professors, the rate of women employed as full-time faculty members has only gradually increased throughout the twentieth century, from 15% in 1921, to 24.4% in 1996/97 (Prentice, 2000). Furthermore, the majority of female faculty members hold junior appointments, such as positions of lecturer, and are usually sessional or temporary. While male faculty members hold the majority of full professor ranks, and of senior academic and administrative positions.

There has also been an increase of women attending university as students over the last few decades. Recent research (Prentice, 2000) revealed that the majority (56.1%) of undergraduate students are women. However, this research

suggests that despite women's high representation at the undergraduate level, women are still underrepresented at the graduate level.

In addition to discrimination in salaries and positions, research suggests discrimination in hiring continues to persist. In 1995, an investigation of American university faculty hiring practices found that departments ceased efforts to recruit minorities once the minority goal count was met (Wilson, 1995). For example, departments pulled their advertisement of the position from minority publications if the count was met despite the number of vacancies that occurred thereafter. Clayton and Crosby (1992) found in a series of laboratory studies that almost all people have difficulty detecting a pattern of discrimination unless they are presented with an obvious example or are given access to aggregated data documenting discrimination. Such data is needed to protect decision makers by making them aware of the possibilities of discriminating against minority applicants in an unconscious manner. Affirmative action and employment equity policies provide aggregated data to organizations and allow decision makers to correct imbalances before they reach the point of being obvious and flagrant.

Recent research suggests that there are two different justifications for affirmative action and employment equity programs (Kravitz et al., 1997). First, a compensation justification maintains that affirmative action makes up for previous discrimination against minority group members. For example, a management organization may hire an African American individual on the basis that in the past African Americans have been discriminated against in the employment process, and the management firm is attempting to compensate past rejection with present acceptance. Second, an instrumental (cultural diversity) justification believes that affirmative action enhances the effectiveness of an organization by increasing cultural diversity within the workplace. For example, a management firm may hire

an African American individual in order to improve their understanding and relations with African American clients and customers. Both justifications for affirmative action have been used to propose the need for and use of affirmative action in the academic and employment domains.

Controversy of Affirmative Action

Confusion of what affirmative action is and how it is implemented.

One reason affirmative action may be a strongly debated issue concerns the public's confusion of how affirmative action is defined and implemented (Heilman, Battle, Keller, & Lee, 1998). For instance, "more than 200 newspaper and magazine articles on the topic of affirmative action were published in Canada in 1995 [Canadian News Index, 1995], many of which discussed the controversy over implementation of affirmative action programs" (Maio & Esses, 1998, p. 65). Confusion surrounding such policies is partly due to the idea that affirmative action structures can differ in the degree that group membership and merit play in the decision process. On the hard end of the continuum are affirmative action policies that use group membership as the exclusive criterion. Such policies, in which merit is not measured in the hiring decision are termed "strong preferential treatment" (Kravitz et al., 1997). On the soft end of the continuum are affirmative action policies that include some consideration of group membership but only after qualifications. For example, decisions will favor the more qualified applicant unless both applicants have equal qualifications, then the minority applicant will be favored.

Previous research indicates that people perceive affirmative action to be synonymous with quotas, set-asides, and preferential treatment that benefit women and minorities at the expense of young white males (Heilman et al., 1998). Such opinions show that by and large, the general public may misperceive what type of

affirmative action is used and who benefits or is hurt by such policies. As a result, public perception of affirmative action may be based to a greater extent on social attitudes and beliefs about affirmative action recipients rather than by actual information about the affirmative action policies themselves.

This misperception of affirmative action policies has been found when the affirmative action program is not specifically defined, that is when it is simply mentioned in the form of a statement (Heilman et al., 1998). Therefore, when information is ambiguous to the extent that qualifications or minority status are weighed, people will assume the minority status is the greater criterion in the selection process, and hence the minority applicant is viewed more negatively (Heilman, Rivero, & Brett, 1991). It is very important to make the distinction between the public's assumptions of how affirmative action policies are enacted and what in fact occurs. For instance, it may be that the first criteria in the screening process are qualifications and task competence, whereby all women and minority members selected were in fact quite competent to handle the job. But if the onlooker is not privy to this screening criterion they will continue to stereotype the recipient with a stigma of incompetence due to their beliefs that group membership was the first criterion.

Heilman et al. (1998) investigated whether an individual's understanding of what affirmative action is and how it is implemented can effect his or her attitude. Male and female undergraduates were exposed to selection policies differing in the degree to which merit and group membership were weighted. All selection decisions involved the selection of a female applicant. An ambiguous condition was included to determine whether the absence of explicit information of the affirmative action policy will lead to assumptions that the policy used strong preferential treatment. Their research supports earlier findings that in the absence

of policy information, people assume that affirmative action policies disregard merit criteria.

Perceived fairness of affirmative action.

The heated topic of affirmative action evokes strong emotions from the general public. While many people view affirmative action as an antidote to discrimination against women and minorities, others believe affirmative action promotes discrimination against white males. Through telephone surveys and questionnaires, Kravitz and Van Epps (1995) asked respondents whether they considered affirmative action to be fair or unfair. Their findings indicated that those who considered affirmative action as fair were most likely to include statements of equal opportunity and promotion of diversity in the work place. Those who considered affirmative action as unfair were most likely to include statements of preferential treatment without regard to merit and to reverse discrimination. The public debate of affirmative action typically involves discussions on such issues of procedural fairness, in which equal opportunity and reverse discrimination are the most frequent explanations of perceived fairness or unfairness.

One of the hidden costs of affirmative action is the demotivation and hostility of the nonbeneficiaries who feel they are the victims of reverse discrimination (Heilman, McClullough, & Gilbert, 1996). Typical complaints of affirmative action include that it results in 'reverse discrimination', such that affirmative action penalizes young White men who are not responsible for past discrimination (Kravitz et al., 1997). The perceptions of unfairness is very important in studying peoples' reactions to individuals affected by affirmative action. However, perceived fairness is especially important to those who view themselves as victims and feel they themselves are directly suffering as a

consequence of preferential treatment to others (Heilman et al., 1996).

According to Malos (1996), there has been an increase in the number of gender-based discrimination charges filed by White males from slightly over 3,000 in 1990 to approximately 4,400 in 1993-1994. Therefore, some individuals who do not benefit from affirmative action may feel that such policies take away their opportunities for success and make it more difficult to gain employment (Heilman et al., 1996). However, in 1995 the U.S. Department of Labor analyzed affirmative action reverse discrimination claims and found that a high proportion of such claims lacked any merit. Less than 100 out of the 3,000 filed cases even involved reverse discrimination, and in only six cases were the claims substantiated (Wilson, 1995).

Preferential selection procedures bring about concerns of distributive justice of outcome equity. When people feel they receive rewards that are consistent with their inputs they will perceive a fair distribution of an outcome. The presumption of not having received what one deserves relative to a referent comparison, may fuel perceptions of unfairness (Heilman et al., 1996). Those who feel they may have been intentionally bypassed assume the beneficiary was only selected because of group membership. Such assumptions can evoke feelings of hopelessness and loss of control in those who do not benefit from such programs. For example, Barnes Nacoste (1990) suggests when affirmative action benefits those with a particular ascribed characteristic, such as being a female, males may view such programs as unfair since they themselves are never able to have such a characteristic. The greater the perceived inequity the greater the perceived unfairness of the affirmative action procedures.

Heilman et al. (1996) investigated fairness perceptions and reactions of nonbeneficiaries in sex-based preferential selection. Male participants were given

the role of the subordinate and a female confederate was given the role of the leader on a one-way communication task. While some males were informed that they were either inferior, superior, or equal in ability to the female who was selected to be leader, other males were not informed of their ability.

Results show that the male participants who were not provided with any information of their ability relative to the female leader felt as deserving of the leadership position as those males who were directly told they were of superior ability. These researchers found, "without information to the contrary, our male participants acted as if they were in fact superior, and they evidenced all the negativity that accompanies the perception that they are more deserving of the position than the female beneficiary" (Heilman et al., 1996, p.354). Therefore, even the possibility of preferential treatment for women and minorities may make those who would traditionally have been selected for the jobs feel as though they have been unfairly bypassed.

Target-group versus non-target group members response to affirmative action.

Since a popular assumption of affirmative action is of preferential treatment to women and minority groups and reverse discrimination against white males, research has investigated whether beneficiary groups would support affirmative action programs while nonbeneficiary groups would oppose such programs. Results of such research has found that support for affirmative action is strongly influenced by the perceiver's race, but only slightly influenced by the perceiver's gender (Kravitz et al., 1997).

Kinder and Sanders (1990) conducted a survey whereby they described an affirmative action program that would benefit Blacks in employment and in college admission decisions. The affirmative action program in the employment decisions

were strongly favored by 64% of the Black respondents while only 6% of White respondents favored such a program. The affirmative action program in the academic decisions were strongly favored by 63% of the Black respondents while only 9% of White respondents favored such a program. Bobo and Smith (1994) found similar results with support of quotas. Quotas in employment was favored by 75% of Blacks and 18% of Whites, and quotas in education was favored by 74% of Blacks and 31% of Whites. These surveys suggest that affirmative action policies are supported more by the target-group than by the non-target group when looking at race.

In Nosworthy, Lea, and Lindsay (1995), 192 non-Black Canadian students evaluated various affirmative action policies which would benefit Black students at their university. Support was strongest for the use of advertising and providing additional fellowships for Black students, while support was weakest for the use of quotas and the lowering of standards for Black students.

Most research on affirmative action programs has found weak if any gender differences in support for such programs (Kravitz et al., 1997). Summers (1995) asked male and female respondents to evaluate different types of affirmative action. Both males and females responded positively to the special training program designed to educate women and minorities for certain jobs. Both males and females responded negatively to the differential scoring of selection testing. However, it was also found that females evaluated quotas (a more extreme form of affirmative action) more positively than did males.

Stigma of Incompetence for Recipients of Affirmative Action

Difference between perceptions of and actual competence.

Swann (1984) proposes that often with social stereotypes, perceivers may become highly certain of their expectancies and elicit support for them when they

receive consensual validation of the expectancies from a majority of the population. Therefore, it is important to recognize that it is the perception that an individual succeeded because of preferential selection that sets the negative stigmatization of recipients in motion, not the actuality of preferential selection. There is also a clear distinction between people's perceptions of the target's competence and the target's actual competence. There is a widely shared perception that affirmative action selects women and minorities because of who they are not because of what they can do (Northcraft & Martin, 1982). This perception, which may or may not coincide with reality, creates the stigma of incompetence on those who benefit from affirmative action.

With the variety of procedures, and the differing weights put on demographics and on qualifications, affirmative action policies leave a great deal of information ambiguous for both recipients and non-recipients. Both groups are left to ponder what extent, if any, group membership played in the decision process. For example, an organization or university selection committee will not disclose information about the selection process or the extent group membership had on the decision. It is therefore important to emphasize that research on perceived competence of affirmative action recipients is based on others' perceptions of the target's competence which in no way reflects an accurate account of the target's actual competence.

Stigma of incompetence of individual and group recipients of affirmative action.

A frequent criticism of affirmative action programs is that people will stigmatize women and ethnic minorities hired under such programs as having substandard competence to perform the job (Heilman et al., 1991). Previous research has shown that minority members selected under an affirmative action

program are perceived as relatively less competent. Heilman et al. (1992, Study 2) asked white male employees of various companies to evaluate the competence of a minority co-worker assumed to be hired under affirmative action. The relationship between perceptions of low competence and an affirmative action label was demonstrated not only when the minority co-worker was a white female but also when the co-worker was a black male or black female.

Opponents of affirmative action argue that the presence of affirmative action reinforces the notion that minority members are inferior and thus require preferential assistance to succeed in employment and education. Maio and Esses (1998) suggest such a consequence of affirmative action could increase negative intergroup attitudes. These researchers investigated whether stigmatization associated with affirmative action affects perceptions of groups and of individual group members in the same way. They suggest that the "benefits of affirmative action for individual group members (e.g., promotions) may be more tangible than the abstract benefits for target groups (e.g., higher group status)" (Maio & Esses, 1998, p. 66). Fifty one Canadian undergraduates were given a fictitious editorial positively describing an unfamiliar immigrant group, and the group was or was not described as being able to benefit from affirmative action programs. Participants were asked to rate their perceptions of the group, the group's immigration, and immigration in general. Results showed that when affirmative action was mentioned, the perceptions toward the group, the group's immigration, and immigration in general were all less favorable than when affirmative action was not mentioned. This study found that "participants assumed that the group was less competent and less valuable as immigrants, simply because the group would benefit from the policy" (Maio & Esses, 1998, p. 71). Maio and Esses suggest that the group's mere eligibility for affirmative action may be perceived as an indication that

the group is inferior and needs help to succeed. In addition, they suggest that affirmative action may be seen as benefiting the immigrant group at a cost to one's own group. Therefore, research suggests that majority members may view women and minorities selected with affirmative action as less competent than those selected without affirmative action, and this stigmatization may generalize to evaluations of the target group as a whole.

Attributional Consequences of Affirmative Action

The stigma of incompetence that plagues recipients of affirmative action can be accounted for by existing attribution theories. More specifically, Kelley's (1971) two attributional processes, discounting and augmentation, may be used to gain a deeper understanding of why negative stereotypes of incompetence are associated with affirmative action beneficiaries. While affirmative action may be successful in increasing the number of women and minorities in the workplace, it may also affect the attributional process. For instance, whatever success is achieved by such groups, they are not perceived as responsible for their success (Garcia et al., 1981).

Kelley's (1971) discounting principle indicates that "the role of a given cause in producing a given effect is discounted if other plausible causes are also present" (p. 8). Therefore, the mere presence of an affirmative action policy may provide a plausible and salient cause to explain success of women and minorities in academic or employment domains. For instance, when a female is hired for a job one explanation for the event is that the female possesses the necessary qualifications and is competent to handle the job. In the absence of any alternative explanation, this reason would be seen as the primary cause for the hiring of the female. However, if the female is hired for the job under an affirmative action policy, the affirmative action policy represents an alternative explanation for the

hiring decision. The discounting principle implies that when two possible causes for an effect are made available one cause will be solely preferred. If people choose to believe the female was hired because of preferential treatment, the role of qualifications in the decision process are discounted (Heilman et al., 1998). Therefore, assuming the female was hired primarily because of her minority membership people may discount her qualifications and perceive her as incompetent. The discounting results because qualifications are typically central to hiring decisions. If the importance of the role of qualifications is discounted, this leads to yet another assumption about the female's competence. Heilman et al.'s (1992) research on affirmative action in gender-typed jobs described earlier provides support for the discounting dynamic mediating the stigmatization process. Their results indicated that participants did indeed discount the role of qualifications and assumed that the hiree was selected primarily because of his or her minority status.

In addition to the discounting process, the augmentation principle may also be used to explain how perceptions of competence can be effected by the affirmative action label. Augmentation of a cause's influence occurs when an outcome of the cause takes place in the presence of an inhibiting factor (Summers, 1991). The presence of the inhibiting factor may result in an enhancement or amplification of the influence of the cause. For example, if a female is hired for a job in an organization that does not have an affirmative action policy, the anti-affirmative action position may be perceived as an inhibitory influence. Therefore, the female's success will result in enhanced perceptions of her qualifications and competence to handle the job. The promoted female's qualifications may be augmented and she may be seen as highly competent.

Garcia et al. (1981) asked male and female undergraduates to evaluate a minority student applying to a psychology graduate program. Based on Kelley's (1971) discounting and augmentation principles, they predicted the minority applicant would be perceived as less qualified when the university was said to be committed to an affirmative action program. Results supported the use of both discounting and augmentation principles. If the applicant was accepted by the university that was committed to an affirmative action policy, the policy provided a plausible cause to explain the applicant's acceptance which led to the discounting of the role of qualifications in the decision process. If the applicant was rejected by the university that was committed to an affirmative action policy, the policy provided an external inhibitory cause which lead people to attribute the applicant's failure to internal causes, such as lack of qualifications.

Sex-Typing in Academics

In the last thirty years there has been an increase of women and minority members in traditionally majority members' fields of employment and education (Prentice, 2000). Despite this increase, sex-typing of particular areas persists (Dryburg, 1999; Morgan, 1992). Male sex-typing of certain areas in education and employment has resulted in persisting low representation of certain women in some fields. Such occupations are described as 'sex-typed' when a very large majority of individuals in the area are of one sex and where there is an associated expectation that this is normative.

Attributions of success or failure may also differ in sex-typed occupations and fields of study. Bond (1981) suggests that people attribute unexpected "sex-inappropriate" success and failures to external and unstable traits, while expected "sex-appropriate" performance to internal and stable traits. Such that if a female succeeded in a male dominated occupation, people will attribute her success as

temporary and based on luck. If the female succeeded in a female dominated occupation, though, people will attribute her success as somewhat consistent and based on her qualifications and ability. Therefore, "to the extent to which behavioral deviations from sex-role stereotypes are discounted rather than perceived as indicative of the actor's true character or skills, these stereotypes will sustain themselves regardless of the degree to which they reflect reality" (Bond, 1981, p. 114). Gender bias is based upon attitudes and behaviors toward women and men, which reflects stereotypical beliefs about the nature and roles of the sexes rather than upon independent valuation of individual abilities and experiences.

Male Sex-Typed Academic Areas

Men and women in the student population continue to segregate to particular university academic programs. For example, percentages of women in Arts, Humanities, and Education are much higher than in fields such as Physical Sciences and Engineering (Kimura, 1997). Even though female enrollment in Engineering and Science has increased over the past forty years, female students today remain disproportionately underrepresented in these fields. In 1960, only 10% of the scientists and less than 1% of the engineers employed in the United States were women, while in 1988, women represented 30% of scientists, and 4% of engineers (Morgan, 1992). This data suggests both Science and Engineering are male sex-typed areas of interest, with Engineering especially so.

Morgan (1992) researched college students' perceptions of the low representation of women in Science and Engineering. Male and female students indicated that the fear of resentment from male colleagues was a major barrier to women's participation in both fields. This study found that 19.6% of the students perceived male colleagues' resentment of women in Science, while 21.3% of the students perceived this barrier to women in Engineering. Additional reasons for

women's low representation in these fields included perceptions that the jobs were too demanding for a woman to combine with family responsibilities, that most parents discourage their daughters from training in such fields, and that such jobs require skills and characteristics which women do not have. No gender differences were found in participants' responses to the barriers women face in Science and Engineering.

Affirmative Action in Sex-Typed Areas

When women obtain positions in areas that are strongly male dominated through affirmative action negative perceptions of their competence may arise from both their minority gender and the affirmative action recipient label. In fact, negative evaluations of the minority members in untraditional fields may be further exacerbated when affirmative action is present in the selection process. In addition, negative evaluations of the minority members selected under affirmative action should still occur even when none would have occurred in the absence of affirmative action. This prediction stems from the idea that if the discounting principle is in fact the process which allows affirmative action to attach a stigma of incompetence onto its recipients, this stigma should occur regardless of the degree to which women and minorities are typically seen to be qualified for a job. Discounting the minority's qualifications as an explanation of being hired creates a negative evaluation of the minority's competence, which is separate and distinct from ordinary gender stereotyping processes.

To date, the only research examining affirmative action in sex-typed areas has been strictly focused on sex-typed occupations rather than sex-typed academic fields. Heilman et al. (1992, Study 1) investigated the effects of the affirmative action label with the sex-type of an occupation. Participants of both genders reviewed the application material of a male or female for a job that was either

strongly male sex-typed or a slightly male sex-typed job. The female applicant was either hired with or without an affirmative action program. The authors predicted that the "affirmative action status [would] negatively affect the perceived competence of women hirees for both the electrician job (for which we expected to be devalued even without association with affirmative action) and the laboratory technician job (for which we expected little, if any, devaluation of women without association with affirmative action)" (Heilman et al., 1992, p. 536). As expected, the affirmative action status "exacerbated the negative evaluation of a female hiree's competence when the job was strongly male sex-typed and she already was disadvantaged because of her sex", also the female hired under affirmative action was perceived as less competent even when the job was merely "minimally male sex-typed and being a woman posed no particular disadvantage with respect to evaluation" (Heilman et al., 1992, p. 539). Furthermore, their results supported the discounting phenomenon such that participants rated the extent to which qualifications played a role in the hiring process as significantly less for the affirmative action hirees in both sex-typed occupations.

In addition to measuring perceived competence of the female hiree, Heilman et al. (1992) also investigated whether the affirmative action label would produce negative perceptions on other work-related measures, such as characterizations of potency (e.g., strong), activity (e.g., hardworking), interpersonal attributes (e.g., likable), and prognoses of career progress. It was found that the affirmative action label created a perception of passivity for female hirees that did not occur without the label. For example, the male and female hired without affirmative action in both sex-typed jobs were not found to differ on activity, however, females hired under affirmative action were characterized as

significantly less active than both males and females hired without affirmative action. The affirmative action label also exacerbated the perceived lack of potency typically ascribed to women. While there was no significant effects for interpersonal characteristics, prognoses of career progress also indicated negative evaluations of hirees based on their gender. Overall, male hirees were expected to advance in their careers much faster and more successfully than female hirees, regardless of whether the female was hired with or without affirmative action. The affirmative action status had no effect beyond those negative evaluations produced by sex alone. Being a female in both the strongly and slightly male sex-typed occupations was apparently sufficient to produce low expectations of career progress.

Summers (1991) investigated how males and females would view a female's qualifications for a promotion in a traditionally male dominated occupation. Male and female participants were asked to evaluate a female recently promoted in a management position. Summers predicted that as members of the out-group, males would most likely evaluate the female using a traditional feminine stereotype. Since the stereotype of a female (e.g., passive and sensitive) contradicts the masculine stereotype of a manager (e.g., analytic and competitive) it was predicted males would have more negative expectations of the female's qualifications than female participants. As members of the in-group, females should be more likely to identify with the female hiree and less likely to use gender stereotypes in making judgments of the female hiree's qualifications. Furthermore, Summers investigated whether the affirmative action label would effect the evaluations of the female hiree in the male occupation of management. Support was found for both the discounting and augmentation processes. Summers found the male-female difference in evaluations was found to be dependent upon the female being hired

with or without affirmative action. When the female was perceived to be hired under an affirmative action policy both males and females discounted the woman's qualifications which led to a stigma of incompetence. However, when the female was hired without an affirmative action policy, female participants, in contrast to male participants, augmented the female hiree's qualifications and evaluated the hiree as competent. Therefore, female participants may have viewed the management organization's anti-affirmative action position as an inhibitory factor which was overcome by the promoted hiree's competence and necessary qualifications. Summers suggests that male participants, on the other hand, may have continued to discount the female's qualifications in the anti-affirmative action condition on the basis of an inclination to view females in terms of a traditionally feminine stereotype. Since the feminine stereotype is incongruent with the requirements of the management position, the female was perceived to be less competent.

The Present Study

Despite the large number of universities and colleges in North America using affirmative action policies in the application process, the majority of studies on affirmative action focus on the employment domain. Even though Canadian universities implement affirmative action in the hiring of employees rather than the acceptance of students, it is important to understand how affirmative action recipients are perceived when entering the area of academics. In addition, the only study which has examined affirmative action in specific sex-typed areas (Heilman et al., 1992) has focused on sex-typed areas of employment. To date no research has examined the area of affirmative action in sex-typed academic programs. It is important, though, to examine whether the stigma of incompetence found with affirmative action recipients in sex-typed fields of employment (Heilman et al.,

1992) would be evident with affirmative action recipients in sex-typed fields of academics.

To address this lack of research, the present study investigated the effects of affirmative action programs on perceived competence of students in the academic domain. The goal of the present study was to examine whether and how perceptions of female applicants were influenced by the association with an affirmative action policy in academic programs that are male sex-typed. To further understand perceptions of females accepted with affirmative action into male sex-typed academics, this study explored the underlying processes of discounting and gender stereotyping, both separately and in combination.

It was important to examine affirmative action in the academic domain because education is the first environment women encounter in their careers. If negative evaluations of their competency resulted from the affirmative action label at the academic stage, it may discourage them from furthering their education or from seeking employment in male dominated areas. Furthermore, it was thought that if people perceived female affirmative action recipients negatively in academics, this may carry over or become more extreme if presented with the female recipients in the employment domain.

In particular, I was interested in how those selected under affirmative action programs were perceived when applying to graduate programs that varied in degree of being male sex-typed. An initial pilot study was conducted to examine onlookers' perceptions of sex-typed academic programs. In this pilot study, 22 undergraduates estimated the percentages of males and females in a variety of different graduate programs. Based on these responses, the Engineering program was chosen as the strongly male sex-typed program because participants believed that ($M = 74\%$) of Engineering students were male while only ($M = 24\%$) were

female. The Dentistry program was chosen as the slightly male sex-typed program because participants indicated that ($M = 61\%$) of Dentistry students were male while ($M = 39\%$) were female. Furthermore, t-tests revealed that the Engineering and Dentistry programs were not perceived differently on seven 9-point semantic differential scales. The pilot study's mean ratings of perceived difficulty of the Engineering and Dentistry programs are presented in Table 1.

In the main study, male and female participants were asked to review an application package of a student who applied and was accepted to a graduate school. The university was or was not committed to an affirmative action policy, and the applicant was applying to either an Engineering or a Dentistry program. The applicant was either a male or a female, and the female was or was not associated with affirmative action. No affirmative action male applicant was included because such an applicant would not be credible nor make sense given the male sex-typed nature of the programs. Therefore, this study consisted of a 2 (program sex-type: strongly male, slightly male) by 3 (applicant: male, female, affirmative action female) design. Based on previous research (Garcia et al., 1981; Kravitz et al., 1997) which indicated no gender differences in participants' perceptions, I predicted no participant gender differences on the dependent measures.

For the present study, hypotheses were based on the processes of discounting and gender stereotyping. Based on the discounting principle, it was proposed that female applicants associated with affirmative action would be perceived negatively compared to male and female applicants not associated with affirmative action. Based on gender stereotyping, it was proposed that female applicants would be perceived negatively in the Engineering program (strongly male sex-typed) but not in the Dentistry program (slightly male sex-typed).

Consistent with previous research findings (Heilman et al., 1992), it was expected that gender stereotypes would only influence perceptions of competence, interpersonal characteristics, and projected program prognoses. Therefore, interactions between program sex-type and applicant are predicted only for these variables.

Perceived Competence Hypotheses

I hypothesized a two-way interaction between program sex-type and applicant on the measure of perceived competence. First, when affirmative action was not mentioned, it was predicted that female applicants would be perceived as less competent than male applicants in the Engineering program, while it was predicted that male and female applicants in the Dentistry program would be perceived similarly on perceived competence. Furthermore, the female applicant in the Engineering program was expected to be perceived as less competent than the female applicant in the Dentistry program. Based on gender stereotypes, the female applicant in the strongly male sex-typed Engineering program, compared to the slightly male sex-typed Dentistry program, was predicted to be stereotyped as incompetent based solely on her gender.

Second, I predicted that in both graduate programs, the female applicants accepted under affirmative action would be perceived as less competent than the male and female applicants accepted without affirmative action. Based on Kelley's (1971) discounting theory, it was thought that the affirmative action label would provide a plausible cause to explain the minority's acceptance into the graduate program. The new plausible cause was expected to lead to discounting the minority's competence and qualifications to handle the program. Furthermore, I predicted that the female applicant accepted with affirmative action into the Engineering program would be perceived as the least competent, followed by the

female applicant accepted with affirmative action into the Dentistry program.

Based on Heilman et al.'s (1992) research on female affirmative action recipients, it was thought that the negative evaluations of a female's perceived competency based on her gender may become even more negative if she were perceived to be selected under an affirmative action policy. Therefore, affirmative action females in Engineering were expected to be discriminated against because of their gender and their association with affirmative action, whereas affirmative action females in Dentistry were expected to be discriminated against solely on their association with affirmative action.

In addition to measures of perceived competence, I was also interested in whether the affirmative action label would produce negative evaluations in other academic perceptions, such as characterizations of interpersonal (i.e., likable-unlikable), potency (i.e., strong-weak), and activity (i.e., hardworking-lazy) attributes. It was important to investigate whether other negative inferences were associated with the affirmative action label which might affect perceptions of an individual's effectiveness and success within an academic program. My predictions of these characterizations in the academic domain were based on Heilman et al.'s (1992) findings in the employment domain and on Kelley's (1971) discounting theory. It was thought that if people choose to believe female applicants were accepted primarily because of their minority status, people would discount the role of qualifications in the decision process. The discounting process may in turn lead to negative evaluations on such characterizations.

Interpersonal Characteristics Hypotheses

I hypothesized a two-way interaction between program sex-type and applicant on interpersonal characteristic measures. First, I predicted that in both programs male applicants, as compared to female and affirmative action female

applicants, would be perceived the most positively on interpersonal characteristics. Second, I predicted that the female accepted into the Engineering program would be perceived more negatively on interpersonal traits than the female accepted into the Dentistry program. And third, I predicted that the female accepted into Engineering under affirmative action would be perceived the most negatively, followed by the female applicant accepted into Dentistry under affirmative action.

Based on gender stereotypes, it was hypothesized that female applicants entering strongly male dominated areas, more so than those entering slightly male dominated areas, would be seen as deviating from their feminine role and feminine characteristics. On the other hand, male applicants entering male dominated programs would be perceived as following their masculine role by entering areas which emphasizes male characteristics. Finally, I expected affirmative action female applicants to be perceived the most negatively on interpersonal ratings because of gender stereotypes and the affirmative action stigma working together. Once again it was believed that the combination of the two stereotypes would be especially harmful for women in strongly male sex-typed areas such as Engineering.

Potency Hypothesis

In terms of potency, I hypothesized a main effect for the applicant. I predicted that the female applicant would be perceived as less potent than the male applicant, and the affirmative action label would exacerbate the perceived lack of potency, regardless of the sex-typed graduate program. It was thought that when females were presumed to be accepted because of their minority status and not their qualifications, the perceived lack of potency typically ascribed to women would become even more negative.

Activity Hypothesis

In terms of activity, I hypothesized a main effect for the applicant. In both graduate programs, I predicted no differences in evaluations of the male and female applicants, however, those females associated with affirmative action would be characterized as less active. It was thought that when affirmative action was present, people would discount the role of qualifications, including the individual's activity level, in the decision process. It was furthermore thought that the association with an affirmative action policy would create an impression of passivity for female recipients that would not have existed without the association.

Projected Program Progress Hypotheses

I also investigated participants' predictions of each applicant's progress through the particular programs. I hypothesized a two-way interaction between program sex-type and applicant on program progress expectations. First, regardless of program, I predicted that male applicants, as compared to female and affirmative action female applicants, would be perceived with the highest expectations of progress. Second, when affirmative action was not mentioned, I predicted that the female applicant in the Engineering program would receive lower prognoses than the female applicant in the Dentistry program. Third, I predicted that the affirmative action female applicant in the Engineering program would be perceived with the lowest expectations of program progress, followed by the affirmative action applicant in the Dentistry program.

Based on gender stereotypes, it was thought that being a male applicant in both programs would pose no disadvantage due to the male sex-typed nature of the programs. On the other hand, it was anticipated that people would perceive that female applicants were more likely to struggle with adapting to male dominated disciplines, and this would be especially difficult in the strongly male sex-typed

graduate program. Furthermore, it was thought that if the female was accepted under an affirmative action policy, her qualifications would be discounted, which in turn would result in the female being perceived as even less likely to succeed in the program.

Perceived Fairness Hypothesis

To try to capture the assumptions being made about the procedures used to select women through affirmative action, I also looked at the perceptions of fairness and the extent to which qualifications played a role in the decision process. I hypothesized a main effect for applicant on the perceived fairness of the decision process. I predicted that participants in the affirmative action female applicant conditions would perceive the decision process to be less fair than participants in the male and female applicant conditions. Participants in the male and female applicant conditions (without affirmative action) were expected to perceive the decision process with similar ratings of fairness. This hypothesis was based on the reasoning that an affirmative action recipient's qualifications would be discounted if it was assumed the recipient's minority status was the basis for acceptance. It was thought that feelings of inequity would result from the affirmative action conditions, which in turn would lead to perceptions of unfairness.

Role of Qualifications Hypothesis

Finally, I hypothesized a main effect for applicant on the perceived role of qualifications in the decision process. I predicted that in both programs, the role of qualifications would be rated as less important for females hired under affirmative action than for either the males or females not associated with affirmative action. I expected no differences in perceptions regarding the role of qualifications in the decision process for the male and female applicants accepted without affirmative action. This hypothesis was based on the discounting principle such that when

affirmative action was mentioned, the role of qualifications would be discounted and the applicant would be assumed to have been accepted primarily because of their minority status.

Method

Participants and Design

One hundred and fifty seven undergraduates, 112 females and 45 males, enrolled in Introductory Psychology at the University of Manitoba participated in the study. Students participated collectively, and received partial course credit for their participation. Introductory students, who were beginning their undergraduate programs ($M = 19.03$, $SD = 2.00$ for age in years) were used as participants to ensure that the participants did not have prior knowledge of specific graduate programs or graduate applicant procedures.

The hypotheses were tested using a 2 (program sex-type: strongly male vs. slightly male) X 3 (applicant: male vs. female vs. affirmative action female) factorial design. Therefore, I experimentally manipulated the program sex-type and applicant.

Program sex-type was manipulated by selecting academic programs that differed in the degree to which they were perceived to be male sex-typed. In this study, male sex-typed programs were defined by the perceived proportion of males and females in each program. In the pilot study, Engineering was chosen as the strongly male sex-typed program with 74% male students and Dentistry was chosen as the slightly male sex-typed program with 61% male students. Participants in the strongly male sex-typed conditions reviewed an application of a student who applied and was accepted to the Engineering program. Participants in the slightly male sex-typed conditions reviewed an application of a student who applied and was accepted to the Dentistry program.

With regard to applicant, the student accepted was either a male or a female, and the female either was or was not associated with affirmative action. To manipulate the affirmative action status, there either was or was not an affirmative action statement appearing on the bottom of the application form. The statement was typed in bold letters to ensure it was salient to participants. The statement read, "This university is committed to an affirmative action policy. We encourage diversity in the workplace, and we do not discriminate on the basis of sex, race, color, national origin, age, or religion in any of our policies or procedures. Women and members of minority groups are especially encouraged to apply." This statement did not appear in the no affirmative action conditions.

Therefore, participants were randomly assigned to one of the six experimental conditions. For the Engineering program, 26 participants reviewed the male applicant, 27 the female applicant, and 27 the affirmative action female applicant. For the Dentistry program, 22 participants reviewed the male applicant, 27 the female applicant, and 26 the affirmative action applicant. Male and female participants were distributed in roughly equal proportions across the experimental conditions.

Procedure

Participants were told they were participating in a study investigating "university application and selection procedures." The experimenter indicated that they would be reviewing and evaluating an application package belonging to a student who recently applied and was accepted into a graduate program. After obtaining informed consent (see Appendix A), the experimenter distributed the application package and the dependent measures to participants in a single stapled booklet. The application package included an official university letter, the applicant's personal application form, and a brief questionnaire.

The first page of the package was the official university information letter, which contained information about the graduate program, either Engineering or Dentistry. This letter provided standard information about the university, such as the good academic reputation, research facilities, and available courses. However, the name of the university was crossed out to ensure that participants did not have prior knowledge of particular programs or university procedures. The experimenter explained to participants that the university's name was not mentioned for privacy reasons. For participants in the affirmative action conditions, the affirmative action statement was typed in bold at the bottom of this letter (see Appendix B). For participants in the no affirmative action conditions, this letter did not include the affirmative action statement (see Appendix C).

The second page of the package was the student's application form. This form described the personal background and academic qualifications of the applicant. The male applicant, Eric Johnson (see Appendix D), and the female applicant, Lisa Johnson (see Appendix E), were chosen to ensure that sex, not race, was the basis of the applicant's affirmative action status. All applicants had identical backgrounds and qualifications. The applicants were described very briefly and had average backgrounds and qualifications. The average image was chosen because evaluations of the applicant could be affected if the applicant was said to have exceptionally good or exceptionally bad qualifications (Summers, 1991). Therefore, the applicant was described as a single 24 year old, with a 3.5 grade point average. Involvement in school and work activities, such as research and volunteer work, were included in order to balance the school qualifications with outside activities.

After reviewing the university information letter and the personal application form, participants were asked to complete the questionnaire (see

Appendix F) Participants were asked to evaluate the applicant on a number of traits and respond to questions regarding the perceived competence and expected program progress of their particular applicant. They also answered questions regarding the perceived fairness and the role of qualifications in the decision process. Finally, participants completed a number of questions serving as manipulation checks of the program sex-type and the applicant. After completing the questionnaire, participants were debriefed (see Appendix G) and thanked for their participation.

Dependent Measures

The dependent measures for this study were based on those developed by Heilman et al. (1992). For the purpose of this study, some measures were reworded to correspond with the academic domain.

Perceived competence. To assess perceived competence, the key dependent variable in the study, participants were asked to respond to five semantic differentials (competent-incompetent, intelligent-unintelligent, qualified-unqualified, effective-ineffective, decisive-indecisive) and two questions using 9-point scales. The first question asked, "How competently do you expect this student to perform in this graduate program?" Participants responded using a 9-point scale with endpoints labeled 1 (not at all competently) and 9 (very competently). The second question asked, "How effective do you think this student will be at doing the school work?" Participants responded using a 9-point scale with endpoints labeled 1 (not at all effective) and 9 (very effective). A reliability analysis of the seven items revealed the measures formed a reliable scale, Chronbach's alpha = .88. The average of the seven items was taken as the mean perceived competence rating, with higher ratings indicating higher perceived competence.

Interpersonal characteristics. Using a series of 9-point semantic differentials, participants evaluated applicants on eight interpersonal characteristics (likable-unlikable, unpleasant-pleasant, disagreeable-agreeable, helpful-not helpful, cooperative-uncooperative, trustworthy-untrustworthy, bright-dull, respectful-disrespectful) Ratings for the eight interpersonal traits formed a reliable scale (Chronbach's alpha = .75) and were combined into a single score, where the average ratings of the traits produced a mean interpersonal characteristic rating. Therefore the higher the mean the more favorable the perceptions on the interpersonal traits.

Potency. Ratings of the three 9-point potency questions (strong-weak, timid-forceful, tough-soft) were combined and formed a moderate reliable scale, Chronbach's alpha = .53. The average of the responses to items comprising the scale produced a mean potency rating. Therefore the higher the mean the more favorable the perceptions on the potency traits.

Activity. A reliability analysis of the four 9-point activity questions (hardworking-lazy, gives up easily-persistent, energetic-sluggish, inefficient-efficient) indicated that the measure formed a moderate reliable scale, Chronbach's alpha = .56. These items were then combined into a single score where the average of the responses was taken as the mean activity rating. Therefore the higher the mean the more favorable the perceptions on the activity traits.

Projected program prognoses. Participants were asked two questions regarding the applicant's expected progress in the academic program. The first question asked, "How likely do you think this student will receive high grades in this graduate program?" Participants responded using a 9-point scale with endpoints labeled 1 (not at all likely) and 9 (very likely). The second question asked, "If this student finishes this graduate program, how quickly do you think it

will happen?" Participants responded using a 9-point scale with endpoints labeled 1 (not at all quickly) and 9 (very quickly). Ratings on these two questions formed a reliable scale, Chronbach's alpha = .72, and were averaged to represent the mean projected program rating. Therefore the higher the mean the more favorable the program progress rating.

Perceived fairness. To assess the perceived fairness of the application process, participants were asked to rate on a 9-point scale, "To what extent do you think the application process had been . ." with endpoints labeled as 1 (not at all fair) and 9 (completely fair). Therefore the lower the mean the lower the perceived fairness of the decision process.

Role of qualifications. The last seven questions concerned the perceived role of qualifications in the decision process. The first four questions were developed by Garcia et al. (1981). Participants responded to the first and second questions on a 9-point scale with endpoints labeled 1 (much lower) and 9 (much higher). These questions asked participants to "Indicate whether you think the student's GPA was higher or lower than the average GPA of all those who applied to the program," and to "Indicate whether you think the student's GPA was higher or lower than the average GPA of all those who were accepted into the program." Participants responded to the third and fourth questions on a 9-point scale with endpoints labeled 1 (much less qualified) and 9 (much more qualified). Participants were asked to "Indicate whether you think the student's overall qualifications were higher or lower than of all those who applied to the program," and to "Indicate whether you think the student's overall qualifications were higher or lower than of all those who were accepted into the program." The fifth, sixth, and seventh questions regarded the role qualifications played in the decision process and were rated on 9-point scales with endpoints labeled 1 (not at all) and 9 (completely). The

questions asked: "to what extent do you think this student was accepted because of their qualifications to perform well in the program?", "to what extent do you think this student was in fact qualified to perform well in the program when accepted?", "to what extent do you think this student was accepted into the program because of affirmative action policies?" Ratings of these seven items formed a reliable scale, Chronbach's alpha = .85, and were averaged to produce a mean acceptance due to qualifications rating. Therefore, the higher the mean the higher the perception that qualifications were important in the decision process.

Manipulation Checks

To check the manipulation of academic program sex-type, participants were asked to, "Estimate the percentage of males and females currently enrolled in this particular graduate program." Participants were also asked to evaluate the program, on seven 9-point scales (boring-interesting, easy-difficult, relaxed-stressed, challenging-unchallenging, demanding-undemanding, strenuous-easeful, complicated-uncomplicated) to ensure the programs were perceived similarly. Next, to check that the applicant manipulation was effective, participants responded to three questions. First, participants reported the sex of the applicant whose materials they reviewed to ensure the participants were aware of the sex of the applicant. Second, participants recalled, with a yes or no answer, "Does the university have an affirmative action policy?" Third, to ensure participants had some knowledge of what affirmative action was, they were asked to briefly explain what they believed an affirmative action policy was. Finally, participants indicated their first language, gender, age, and ethnic background, for the purpose of controlling these potential confounds.

Results

Preliminary analyses indicated no differences in the ratings of male and

female participants. All main effects and interactions with the participants' gender variable were non significant ($ps > .12$). Therefore, the data was collapsed across this variable for all analyses reported.

Manipulation Checks

One hundred and fifty five participants (98.9%) correctly indicated whether they were evaluating a male or female applicant. Two participants were dropped from the analyses for incorrectly recalling the applicant's sex.

To check the program sex-type manipulation, analysis of the mean percentages of each gender in the two programs revealed a significant effect for program, $F(2, 155) = 5.04, p < .001$, with the Engineering program perceived as strongly male sex-typed and the Dentistry program as slightly male sex-typed. Participants perceived the Engineering program to have more male students ($M = 71.9\%$) than the Dentistry program ($M = 62.1\%$). These results are similar to those found in the pilot study.

To verify that participants perceived the two graduate programs similarly, a 2 (program: Engineering vs. Dentistry) \times 3 (applicant: male vs. female vs. affirmative action female) MANOVA was conducted on the seven bipolar items. The MANOVA revealed no significant main effects for program, Multivariate $F(7, 143) = .04, p > .63$, or applicant, Multivariate $F(14, 288) = .10, p > .43$, and no interaction, Multivariate $F(14, 288) = .04, p > .96$. Therefore, the choice of the Engineering and Dentistry programs were effective in portraying strongly and slightly male sex-typed programs that were not perceived to differ with respect to difficulty. These results are similar to those of the pilot study.

The majority of participants in the affirmative action conditions (72.2%) correctly indicated that the university they reviewed was committed to an affirmative action policy. Participants in the affirmative action condition who

responded incorrectly, indicated on the open-ended question that they were aware the university had such a policy, yet were not sure whether the policy was implemented for their particular applicant. The majority of participants in the non-affirmative action conditions (91.3 %) indicated that they did not know whether the university was or was not committed to an affirmative action policy. Since no affirmative action statement was included for the non-affirmative action conditions, participants' responses seem logical.

The open-ended question examining participants' perceptions of affirmative action indicated that, consistent with previous research (Heilman et al., 1992), participants in the affirmative action conditions assumed these policies gave preferential treatment to individuals based on their minority membership. In contrast, participants in the non-affirmative action conditions did not know what affirmative action was. This lack of knowledge of affirmative action may also explain why the participants could not indicate whether or not the university was committed to such a policy.

Dependent Measures

Preliminary analysis involved the correlations among the dependent measures. This analysis revealed that there were positive correlations among all dependent measures ($ps < .05$). For example, these correlations indicated that higher competence ratings are associated with higher ratings on the role of qualifications in the decision process, and higher competence ratings are associated with projected program prognoses. All correlations among the dependent measures are presented in Table 2.

Univariate 2 (program: engineering vs. dentistry) \times 3 (applicant: male vs. female vs. affirmative action female) ANOVAs and planned comparisons using two-tailed t-tests were conducted to test each of the hypotheses. Means based on

program and applicant conditions for each of the dependent variables are presented in Table 3.

Perceived competence.

The ANOVA on the perceived competence measure indicated that the interaction between program sex-type and applicant was not significant, $F(2, 155) = .12, p > .89$. In addition, main effects for program, $F(1, 155) = .15, p > .69$, and applicant, $F(2, 155) = .36, p > .69$, were not significant. Although the ANOVA revealed no significant interaction, planned comparisons using two-tailed t-tests were conducted to test the specific perceived competence hypotheses.

First, when affirmative action was not mentioned, I predicted similar perceived competence ratings for male and female applicants in the Dentistry program, while I predicted the female applicants to be perceived as less competent than males in the Engineering program. Furthermore, I hypothesized the female applicant in the Engineering program to be perceived as less competent than the female applicant in the Dentistry program. As expected, male and female applicants were perceived similarly with regards to competency in the Dentistry program, $t(47) = -.19, p > .85$. However, there were no significant differences between male and female applicant's perceived competence in the Engineering program, $t(51) = -.16, p > .87$. Furthermore, there was no significant difference between female applicants in the Engineering and Dentistry graduate programs. Therefore, inconsistent with the gender stereotyping hypotheses, female applicants were not perceived differently than male applicants, nor were female applicants viewed differently in the strongly and slightly male sex-typed programs.

Second, I predicted that in both programs the female applicants accepted under affirmative action would be perceived as less competent than the male or female applicants accepted without affirmative action. Furthermore, I expected the

affirmative action female applicant in the Engineering program to be perceived less competently than the affirmative action female applicant in the Dentistry program. Planned comparisons indicated that the affirmative action female applicants were perceived to be just as competent as the non-affirmative action female applicants ($t(52) = .27, p > .78$ in Engineering, and $t(51) = .92, p > .36$ in Dentistry) and the male applicants, ($t(51) = .14, p > .89$ in Engineering, and $t(46) = .59, p > .56$ in Dentistry). Furthermore, when affirmative action was mentioned, female applicants in Engineering and Dentistry were perceived as equally competent ($t(51) = .59, p > .56$). Therefore, inconsistent with previous research (Heilman et al., 1992), female applicants associated with affirmative action were not negatively perceived as incompetent based on their gender or the affirmative action label.

Interpersonal characteristics.

The ANOVA on the mean interpersonal characteristics indicated that the two-way interaction between program sex-type and applicant was not significant, $F(2, 155) = .25, p < .78$. Furthermore, the main effects for program, $F(1, 155) = 1.73, p > .19$, and applicant, $F(2, 155) = .03, p > .97$, were not significant. Although the ANOVA revealed no significant interaction, independent samples t-tests were conducted to further test the interpersonal characteristic hypotheses.

First, I expected that in both programs, male applicants would be perceived the most positively on interpersonal characteristics. Second, I predicted the female applicant in the Engineering program to be perceived more negatively than the female applicant in the Dentistry program. And third, I predicted the affirmative action female in Engineering would be perceived the most negatively, followed by the affirmative action female in Dentistry. Independent samples t-tests revealed that in both programs, male applicants were perceived similarly on interpersonal traits to female applicants accepted without affirmative action, ($t(51) = .24, p > .81$

in Engineering, and $t(47) = -.49, p > .62$ in Dentistry), and female applicants accepted with affirmative action, ($t(51) = .53, p > .59$ in Engineering, and $t(46) = -.42, p > .62$ in Dentistry). Furthermore, female applicants were perceived similarly in both Engineering and the Dentistry ($t(52) = .66, p > .51$), as were the affirmative action female applicant in both male sex-typed programs ($t(51) = .34, p > .74$). Finally, no significant differences were found between the female applicants accepted with or without affirmative action in either graduate program ($t(52) = .28, p > .77$ in Engineering, vs. $t(51) = .01, p > .98$ in Dentistry). In short, applicants' gender or association with an affirmative action policy did not effect how they were perceived on interpersonal characteristics.

Potency.

The ANOVA on the potency measure indicated no significant main effects for the applicant, $F(2, 155) = .23, p > .79$, or program, $F(1, 155) = .001, p > .79$. In addition, the interaction between program and applicant was not significant, $F(2, 155) = .20, p > .82$. Two tailed t-tests were conducted, though, to explore the potency hypothesis.

I predicted that regardless of program, the female applicants would be perceived as less potent than the male applicants, and the affirmative action female applicants would be perceived even more negatively. No significant differences between the applicant conditions on the potency measures were found. Female applicants associated with affirmative action were perceived similarly on potency traits with both male applicants, ($t(99) = -.65, p > .52$) and female applicants not associated with affirmative action ($t(105) = -.10, p > .92$). Furthermore, when affirmative action was not mentioned, female and male applicants were also perceived similarly with respect to potency, ($t(100) = -.61, p > .54$). The stereotypical perception of a lack of potency previously found to be ascribed to

women (Heilman et al., 1992) was not evident. In addition, the association with a preferential policy did not effect how females were perceived on the potency traits.

Activity.

The ANOVA was predicted to reveal a main effect for applicant, however no such main effect was found, $F(2, 155) = .52, p > .59$. In addition, neither the main effect for program, $F(1, 155) = .18, p > .59$, nor the interaction between program and applicant were significant, $F(2, 155) = .43, p > .65$. I predicted that in both graduate programs, there would be no differences in activity evaluations for the male and female applicants, yet I did expect that females associated with affirmative action would be characterized as less active. Independent sample t-tests indicated that as expected, there were no significant differences between male and female applicants in either graduate program ($t(100) = -.95, p > .35$). However, there were also no significant differences between affirmative action female and male applicants ($t(99) = -.12, p > .91$) or between affirmative action female and non-affirmative action female applicants ($t(105) = .89, p > .38$). In sum, the association with an affirmative action policy did not create an impression of passivity for female recipients.

Projected program progress.

The ANOVA indicated no significant interaction between program sex-type and applicant on program prognoses, $F(2, 155) = .27, p > .76$. The main effects for program, $F(1, 155) = .09, p > .76$, and for applicant, $F(2, 155) = 1.60, p > .20$, were also not significant. Planned comparisons using two-tailed t-tests were conducted to test the projected program progress hypotheses.

First, regardless of program, I expected the male applicants to be perceived with the highest expectations of progress. Second, I predicted that the female applicant in Engineering would receive lower prognoses than the female applicant

in Dentistry. Furthermore, I expected the affirmative action female applicant in Engineering to receive the lowest expectation of program prognoses, followed by the affirmative action female applicant in Dentistry. The t-tests revealed that male applicants were perceived to progress through both programs similarly to female applicants accepted without affirmative action ($t(100) = -.68, p > .50$) and female applicants accepted with affirmative action ($t(99) = 1.10, p > .28$). Furthermore, the t-tests revealed that the female applicant in Engineering was perceived to progress through the program similarly to the female applicant in Dentistry ($t(52) = -.23, p > .82$). Similarly, t-tests indicated that when affirmative action was mentioned, female applicants were perceived to progress with a similar rate and with similar success in both programs ($t(51) = .32, p > .75$). Finally, female applicants accepted with affirmative action were not perceived to progress differently than females applicants accepted without affirmative action in either program ($t(52) = .84, p > .40$ in Engineering, and $t(51) = 1.52, p > .13$ in Dentistry). Therefore, no differences in program progress were evident in the applicant conditions. Simple being a female or being associated with an affirmative action policy was not sufficient to negatively effect how female applicants were perceived to progress through male sex-typed programs.

Perceived fairness.

I predicted that in both programs, the decision process associated with affirmative action would be perceived as less fair than the decision process for the male and female applicants accepted without affirmative action. The ANOVA on perceived fairness revealed no significant main effects for applicant, $F(2, 155) = 2.01, p > .13$, or for program, $F(1, 155) = 2.01, p > .15$. Furthermore, no significant interaction between program and applicant was found, $F(2, 155) = .61, p > .54$. Independent two-tailed t-tests indicated that the decision process for affirmative

action female recipients was perceived to be just as fair as the decision process for male applicants ($t(99) = -1.89, p > .16$) and for female applicants accepted without affirmative action ($t(105) = -.46, p > .65$). Association with an affirmative action policy did not effect how fair the decision process was perceived in the acceptance of female applicants in male sex-typed programs.

Role of qualifications.

Regardless of program, I predicted the female applicants accepted with affirmative action would be perceived to have been accepted much less on the basis of qualifications than the male and female applicants accepted without affirmative action. The ANOVA indicated no significant main effects for applicant, $F(2, 155) = 1.64, p > .19$, or for program, $F(1, 155) = .87, p > .35$. In addition, the interaction between program and applicant was not significant, $F(2, 155) = .20, p > .81$. Independent two-tailed t-tests revealed that the role of qualifications in the acceptance decision was similar for all applicant conditions. The role of qualifications for affirmative action females was perceived similarly as for the male applicants ($t(99) = 1.83, p > .17$) and for the female applicants not associated with affirmative action ($t(105) = 1.01, p > .31$). In sum, perceptions of the role of qualifications in the decision process were not affected by the presence of an affirmative action policy favoring female applicants.

Discussion

Based on the discounting principle, it was proposed that the association with affirmative action would negatively affect perceptions of female applicants in both strongly and slightly male sex-typed academic programs. Based on gender stereotypes, it was expected that female applicants would be negatively perceived in Engineering (strongly male sex-typed) but not in Dentistry (slightly male sex-typed). Contrary to these hypotheses, perceptions of female applicants accepted

into male sex-typed programs under affirmative action were not influenced by the discounting principle or gender stereotypes.

The principle of discounting was proposed to account for negative perceptions of affirmative action recipients. However, my results indicated that female applicants associated with affirmative action were not perceived negatively on competency, potency, activity, and interpersonal characteristics. In addition, affirmative action female applicants were perceived to progress with similar speed and success through both programs as male and female applicants accepted without affirmative action. The role of qualifications in the decision process captured the fact that the discounting principle was not being applied to participants in this study. It was expected that the presence of the affirmative action policy would provide an alternative reason (acceptance based on gender not qualifications) for the acceptance of female affirmative action recipients. Contrary to expectations, perceptions of the role of qualifications in the decision process were similar for applicants accepted with and without affirmative action. Therefore, the role of qualifications was perceived by all participants, regardless of condition, to be important. Furthermore, my results indicate that the presence of an affirmative action policy did not influence perceptions of how fair the decision process was with regards to the acceptance of female applicants. Since the affirmative action recipients' qualifications were not discounted, feelings of inequity did not lead to perceptions of unfairness of the decision process. Consistent with this finding, the perceived role of qualifications was positively correlated with the perceived fairness. The female applicants associated with affirmative action were perceived just as favorably as applicants not associated with such policies. Discounting the affirmative action recipients' qualifications did not occur and the presence of the policy did not effect how fair the decision process was perceived.

Inconsistent with the gender stereotyping hypotheses, female applicants were not perceived differently than male applicants, and the female applicants were not perceived differently in the strongly and slightly male sex-typed programs. In both programs, female applicants not associated with affirmative action were perceived similarly to male applicants on competency, potency, activity, and interpersonal characteristics. In addition, female applicants were perceived to progress through both programs just as quickly and as successfully as male applicants. Consistent with my predictions, female applicants were not negatively discriminated against in the slightly male sex-typed program Dentistry. Unexpectedly however, even in the strongly male sex-typed program (Engineering), where female students were perceived to be highly underrepresented, female applicants were perceived similarly to male applicants. These favorable perceptions of female applicants in the Engineering program suggests that gender stereotyping of female applicants did not occur in this study.

Finally, this study investigated whether female applicants accepted with an affirmative action policy experienced discrimination based on their association with affirmative action in addition to their gender. Inconsistent with this hypothesis, female applicants accepted into the strongly male sex-typed program under affirmative action were perceived similarly to the other applicant and program conditions. Therefore, affirmative action female applicants in Engineering were not perceived negatively based on gender or based on the further addition of the affirmative action stigma.

Implications of the Findings

Overall, my hypotheses based on gender stereotypes, discounting, and the combination of the two were not supported. However, the data revealed particular insights into perceptions of female applicants entering male dominated areas of

education (e.g., Engineering) and of females associated with affirmative action.

Female applicants were not perceived to be disadvantaged based on their gender in either male sex-typed program. Despite the consensus that Engineering was an area of education that is greatly dominated by male students, people did not discriminate against female students entering this program. One explanation for the similar perceptions of male and female students in areas where females have been traditionally underrepresented may lie in the dynamic gender stereotypes of women. With the increasing number of women entering male dominated areas, the roles of women and men may have become more similar. Diekmann and Eagly (2000) propose that aspects of gender stereotypes are greatly influenced by perceived change in the status of the minority group in the social world. As gender stereotypes reflect perceptions of men and women in social roles, perceptions of men and women will change as their status in social roles change. Since the distribution of men and women in academics has become more equivalent, perceptions on certain characteristics of men and women may have become more similar. Furthermore, if perceivers believe greater role similarity between men and women will continue to occur in the future, "they should also project the continued erosion of sex differences" (Diekmann & Eagly, 2000, p. 1172). One explanation for similar perceptions of male and female applicants in this study then is that the female applicants were no longer seen as a disadvantaged group. With the social roles of male and female applicants merging together, the sexes may be viewed as more similar in their characteristics. Therefore, Diekmann and Eagly's (2000) argument that stereotypes of women encompass women's change of social status over time supports the present study. These researchers found that stereotypes of women have changed while stereotypes of men have remained relatively stable. In fact, Diekmann and Eagly (2000) suggested that the change in the stereotypes of

women have become more similar to the stereotypes of men. The change in women's traditional roles and characteristics influence the process of stereotyping, "surely, stereotypes of groups are marked by their current status and by the work that their members currently do, but they are also marked by change in group members' typical roles and responsibilities" (Dickman & Eagly, 2000, p. 1186). The finding that male and female applicants were perceived similarly even in the Engineering program suggests that perceived roles of males and females are becoming more egalitarian and in turn, the sexes are being viewed as more similar in their characteristics included in this research.

The shifting standards model (Biernat & Kobrynowicz, 1997; Biernat, Manis, & Nelson, 1991) may also provide an explanation for the similar perceptions of male and female applicants in the male sex-typed academic programs. The shifting standards model focuses on how observers use different judgment standards to evaluate individuals from different stereotyped groups. This model proposes that people use within-category reference points to evaluate group members on stereotype-relevant dimensions. In the present study, then, competency evaluations of the female applicants may have been compared against specific standards set for females, while competency judgments of the male applicants may have been compared against specific standards set for males. The competency standards for females, though, may be set at a lower rate than the competency standards for males. Such reasoning implies that even though this study indicated similar competency perceptions of male and female applicants in the two programs, it may not be accurate to conclude that gender stereotypes were inoperative. For example, if participants held the stereotype that "females are less competent than males in Engineering", they would evaluate the competence of the female applicants against lower standards for females, and the competence of male

applicants against higher standards for males. Therefore, "it may not be appropriate to directly compare the subjective evaluations given to a male and female target: because each is judged relative to his or her sex, the meaning of an evaluation is category specific (e.g., "she's good for a woman" may mean something quite different than "he's good for a man")" (Biernat & Kobrynowicz, 1997, p. 545). Overall, the minimal criteria to qualify one as competent in Engineering may have been lower for female applicants than male applicants. This shifting standards framework suggests that the subjective scales used in the present research "may produce what appears to be small gender stereotype effects (or null effects), even when the respondents believe that male and female targets are substantially different with respect to the attribute being judged" (Biernat et al., 1991, p. 489). Furthermore, Biernat and Kobrynowicz (1997) suggest using an objective response rating scale, where measurement units take on the same meaning for all individuals regardless of social group membership. Therefore, future research should include both objective and subjective measures of competency to determine the actual influences of gender stereotypes and discounting on competence ratings of females accepted into male sex-typed programs through affirmative action.

Next, the findings of this study are an important addition to previous research investigating perceptions of female affirmative action recipients. To date, only one other study has looked at how female applicants are perceived in sex-typed areas (Heilman et al., 1992). Inconsistent with this previous study, the present research did not find that female applicants were negatively perceived based on their gender or their association with affirmative action. However, there are two key aspects that differ between the present study and Heilman et al.'s study (1992) which may aid in the understanding of the complexity of affirmative action.

First, this study investigated affirmative action female applicants in male sex-typed academic areas rather than employment areas. Klugel and Smith (1983) found there was greater support for affirmative action policies in the area of education (range from 24% to 30.9%) than in the area of employment (range from 10.7% to 17.5%). Therefore, the findings of the present research in the area of academics may be partially explained by the stronger acceptance of affirmative action and affirmative action recipients in education.

Second, Heilman et al.'s study (1992) was conducted in the United States almost a decade ago, while the present study in Canada incorporates current beliefs and issues. The political climate in the USA when affirmative action was first introduced may differ substantially than the present political beliefs in Canada. Since more women are entering male dominated areas of work and study, acceptance of women in higher status positions and universities may have increased since Heilman et al.'s study. Hence, there is a possibility that acceptance of affirmative action policies has also gained support over the past ten years. There is a need, though, for research to study cultural influences on reactions to affirmative action and changes in attitudes towards affirmative action over time in both Canada and the United States.

Study Limitations

One limitation of the main study concerns participants' apparent lack of knowledge of affirmative action policies. Since the affirmative action statement used for this study described what such a policy entails, it seems logical that participants who viewed the statement were able to correctly define what affirmative action is. However, those participants who did not view the statement were unable to accurately describe an affirmative action policy. In fact, most participants in the non-affirmative action conditions did not even recognize the

term "affirmative action." The pilot study though revealed that almost all participants knew what affirmative action was. However, all participants in the pilot study were from a single Introductory Psychology class, which may lead to the possibility they were exposed to lectures or discussions on such policies. In addition, the term "affirmative action" to Canadian students may not have the same influence on their perceptions of recipients than the term "employment equity." Since Canadians have greater exposure to the employment equity term, the use of the affirmative action term may not have revealed accurate perceptions of the minority group (females) receiving preferential treatment. However, the affirmative action term was chosen since this study emphasized preferential treatment of female students applying to a university for their education, not female professors applying to a university for employment. Using the affirmative action term in this study is further justified since previous research conducted in Canada has also used the affirmative action term successfully with Canadians (Maio & Esses, 1998; Nosworthy et al., 1995).

For this study, the manipulation of program sex-type was related to the proportion of male students compared to female students. The Engineering program was chosen as the strongly male sex-typed program since the perceived percentage of students resembled a 75% male to 25% female split, while the Dentistry program was chosen as the slightly male sex-typed program since the perceived percentage of students resembled a 60% male to 40% split. Even though both programs were perceived to be male dominated with respect to the greater proportion of male students, this does not necessarily imply the program was perceived as male "sex-typed" on other aspects. For example, there is a possibility male and female students in Engineering and Dentistry would be perceived differently on agentic and communal traits. Therefore, the manipulation of strongly

and slightly male sex-typed programs was limited to merely representing the proportion of male students to female students without including perceptions of male and female students on agentic and communal traits.

As with much psychological research, questions need to be raised concerning the apparent realism in the findings. Even though students were purposely chosen as participants (since the study involved perceptions of students applying to academic programs) actual applicants in real life universities may be perceived quite differently by their peers than by participants in this experiment. More specifically, female affirmative action recipients in Engineering may be perceived much more negatively by fellow students in real university situations where there is a limited number of educational opportunities and competition for acceptance is fierce. In real life, vested interests and personal gain or loss of a program spot may influence perceptions of female applicants given preferential treatment. Concerns of distributive justice and outcome equity may be apparent with real life situations, while ignored by undergraduates in the present study. Finally, participants in this study were not personally affected nor did they have anything at stake when rating the graduate school applicant. Therefore, although this controlled study had the advantage of increased validity, external validity was sacrificed.

And finally, a possible limitation of this study concerns the lack of male participants. With 112 female and 45 male participants, analyses of any possible participant gender effects may not have resulted in an accurate reflection. For instance, even though the participants of this study accurately reflect the proportion of male and female students in Introductory Psychology, the participants do not represent gender proportions of the general population.

Future Research

In the present study, the student's application form only briefly described the student's personal background and qualifications, such as the undergraduate university that was attended and their GPA. Such lack of detail concerning the applicant's qualifications may raise questions concerning the applicant's competency. Darley and Gross (1983) found that onlookers require sufficient evidence to decide on the accuracy of a stereotype before making stereotypic judgments of individual group members. Since participants were not provided with sufficient information describing the applicant, participants may have refrained from making unjustified stereotypic ratings of female applicants accepted into male sex-typed programs under affirmative action. Future research needs to investigate whether the incorporation of more detailed information concerning the applicant's specific qualifications may affect how others perceive the applicant's competency. Even though in this study no negative effects of the affirmative action label were found, further research needs to study situations where others have complete information about the minority group member.

While this study investigated female applicants entering male dominated areas under affirmative action, future research should also investigate how male applicants accepted into female sex-typed programs under affirmative action would be perceived. Since males are typically perceived as the majority group who reaps full advantages over minority groups, such research may prove to be very interesting. However, when considering areas such as Nursing or Social Work, men clearly have a minority status. Furthermore, males have not entered female oriented academics or occupations to the same degree that females have entered male dominated domains over the years. Since the change in the males' social role is much more limited than that of females, the gender stereotypes for males may be

much more stable. As Diekmann and Eagly (2000) suggest, "stereotypes about women thus portrayed them as extremely dynamic, whereas stereotypes about men portrayed them as relatively unchanging" (p. 1183).

This study investigated how a female selected under affirmative action was perceived by others with regards to competency. However, future research needs to explore how being selected under affirmative action affects the recipient's self-evaluations of perceived competence. Being selected for a male sex-typed position with an affirmative action policy may negatively affect the female's feelings of her own competency in the position. For example, the female may feel uncertain how to attribute her success. If she attributes her success to her sex by receiving preferential treatment in the affirmative action program, she may perceive herself as lower in competency than if she attributed her success to her abilities and qualifications. In addition, if the female internalizes other people's possible negative perceptions of her competency, she may create the self-fulfilling prophecy that produces the very performance others expect.

Conclusion

The present research addressed the process of discounting and gender stereotypes to understand how recipients of affirmative action were perceived in sex-typed academic programs. My results indicate that perceptions of female applicants accepted into male sex-typed programs with affirmative action were not discriminated against based on their gender or on the affirmative action label.

Affirmative action policies have been enacted in universities and organizations to prevent discrimination against women and minorities in applicant procedures. Even though affirmative action policies in Canadian universities are implemented with female employees and not students, there is a strong need to study perceptions of female students entering male sex-typed academic programs

through preferential treatment. It is only when we have a better understanding of how affirmative action recipients are perceived by others can we confirm whether the positive intentions of affirmative action policies are, in fact, positive.

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Appendix A

Informed Consent

I agree to participate in the experiment "Toronto" which is being conducted by Tara Boyaniwsky and Dr. Marian Morry, and has been reviewed by the Department of Psychology's Ethics Committee at the University of Manitoba. I have been told that this experiment involves reviewing a student's graduate application package and then completing a brief questionnaire. I understand that the experimental session will last approximately 40 minutes, and I will receive course credit for my participation. I understand that all information obtained will be kept confidential. I have been informed that my name and student number will NOT be associated in any way with my responses. Finally, I understand that participation in this study is voluntary and that I am free to withdraw my consent to participate, in whole or in part, at any time without penalty or loss of my experimental credit.

Your signature below indicates that you have read and understood the preceding form and you freely give your consent to participate in this research.

Name (please print) _____

Signature _____

Date of Participation _____

Appendix B

Official Letter from University with an Affirmative Action Policy

January 7, 1999

Dear Prospective Student:

The Department of Engineering /Dentistry at the University of _____ was established in 1968 and has a long-standing academic reputation of providing excellent educational opportunities throughout Canada. The Department includes 16 faculty members, 7 adjunct faculty members, and approximately 15 support staff.

The goals of the Department of Engineering /Dentistry are to provide students with high quality education, to actively perform applied research, and to provide professional and public service through hands-on training. Instructional techniques in Engineering /Dentistry include classroom lectures, seminars, and laboratory practice. All students must complete a thesis in their final year of the program.

The Department's active role in research has contributed to a wide range of technological advance along with numerous awards and honours in the field. Research facilities include computer-based laboratories with the latest computer equipment, statistical packages, and technical staff.

Please feel free to contact us for further information on the Engineering / Dentistry program or the variety of teaching, research, and professional services we offer to our students.

Sincerely,

William P. Lebow, PhD
Graduate Head

THIS UNIVERSITY IS COMMITTED TO AN AFFIRMATIVE ACTION POLICY. WE ENCOURAGE DIVERSITY IN THE WORKPLACE, AND WE DO NOT DISCRIMINATE ON THE BASIS OF SEX, RACE, COLOR, NATIONAL ORIGIN, DISABILITY, AGE, OR RELIGION IN ANY OF OUR POLICIES AND PROCEDURES. WOMEN AND MEMBERS OF MINORITY GROUPS ARE ESPECIALLY ENCOURAGED TO APPLY.

Appendix C

Official Letter from University Without an Affirmative Action Policy

January 7, 1999

Dear Prospective Student:

The Department of Engineering / Dentistry at the University of _____ was established in 1968 and has a long-standing academic reputation of providing excellent educational opportunities throughout Canada. The Department includes 16 faculty members, 7 adjunct faculty members, and approximately 15 support staff.

The goals of the Department of Engineering / Dentistry are to provide students with high quality education, to actively perform applied research, and to provide professional and public service through hands-on training. Instructional techniques in Engineering / Dentistry include classroom lectures, seminars, and laboratory practice. All students must complete a thesis in their final year of the program.

The Department's active role in research has contributed to a wide range of technological advance along with numerous awards and honours in the field. Research facilities include computer-based laboratories with the latest computer equipment, statistical packages, and technical staff.

Please feel free to contact us for further information on the Engineering / Dentistry program or the variety of teaching, research, and professional services we offer to our students.

Sincerely,

William P. Lebow, PhD
Graduate Head

Appendix D

Male Student's Personal Application Form

THE UNIVERSITY OF [REDACTED] CANADA FACULTY OF GRADUATE STUDIES APPLICATION FOR ADMISSION PHONE [REDACTED] FAX: [REDACTED]

PART A: TO BE COMPLETED BY THE STUDENT

FAMILY SURNAME	JOHNSON									
GIVEN NAMES	ERIC PAUL									

BIRTH DATE	DAY	MO	YE	U OF STUDENT NO.
2/3/10375	2	3	75	[REDACTED]

PROVINCE OR COUNTRY OF BIRTH	CANADIAN SOCIAL INSUR. NUMBER
ONTARIO	[REDACTED]

CURRENT MAILING ADDRESS		
NUMBER AND STREET	[REDACTED]	
CITY AND PROV	[REDACTED]	
COUNTRY	CANADA	
HOME PHONE NUMBER	OFFICE PH. NO.	POSTAL CODE
[REDACTED]	[REDACTED]	[REDACTED]

PERMANENT ADDRESS		
NUMBER AND STREET	[REDACTED]	
CITY AND PROV	[REDACTED]	
COUNTRY	[REDACTED]	
AREA CODE AND PHONE NO.	[REDACTED]	
STUDENT FAX ADDRESS	[REDACTED]	

TITLE (CIRCLE)	MR (0)	MISS (1)	MRS (2)	MS (3)	SEX / MARRIAGE STATUS (CIRCLE)	SINGLE (0)	MARRIED (2)	FEMALE (1)	MARRIED (3)	CITIZENSHIP	CANADA (NAME OF COUNTRY)	
PERMANENT RESIDENT (CIRCLE)	1	2	3	4	INTERNATIONAL APPLICANT'S (CIRCLE)	1	2	EMPLOYMENT AUTHORIZATION WORK PERMIT (2)	3	VISITOR'S VISA (4)	STATE PROPOSED OR ACTUAL DATE OF ENTRY INTO CANADA	YEAR MONTH
PRIMARY LANGUAGE (CIRCLE) REFERS TO THE MOTHER TONGUE	ENGLISH (1)	FRENCH (2)	OTHER (SPECIFY) (3)	DATE ON WHICH YOU WROTE OR PLAN TO WRITE TOEFL	YEAR MONTH	IF YOU ARE TO BE SPONSORED AS AN INTERNATIONAL STUDENT GIVE NAME OF SPONSORING AGENCY OR GOVERNMENT						

DEGREES NOW HELD OR TO BE AWARDED:					
DEGREE	HONORS OR GEN.	YEAR AWARDED	AVERAGE/DIVISION	MAJOR SUBJECT	UNIVERSITY
BACHELORS	HONOURS	1998	3.50 G.P.A.	SCIENCE	UNIVERSITY OF [REDACTED]

A: ACADEMIC AWARDS DEAN'S HONOUR ROLL NUMBER OF PUBLICATIONS (ATTACH LIST) _____

B: RESEARCH OR OTHER EXPERIENCE VOLUNTEER RESEARCH ASSISTANT FOR DR. BOB FROST

T: TEACHING EXPERIENCE NUMBER OF YEARS _____ TEACHERS CERT NO. _____

DEGREE SOUGHT	MAJOR DEPARTMENT	FIELD OF SPECIAL INTEREST
MASTERS	DENTISTRY/ENGINEERING	DENTISTRY/ENGINEERING

NAME OF PERSON UNDER WHOM YOU WISH TO WORK: Dr. Andrews IF YOU ARE EMPLOYED ACADEMICALLY WITH THIS UNIVERSITY GIVE POSITION _____

HAVE YOU PREVIOUSLY APPLIED OR ATTENDED THIS UNIVERSITY? YES NO PREVIOUS STUDENT NO. _____

EXPECTED REGISTRATION PERIOD: MAY (YEAR) JULY (YEAR) SEPTEMBER 1999 (YEAR) JANUARY (YEAR) EXPECTED STATUS: FULL TIME PART TIME

L: REFEREES WHOM YOU HAVE REQUESTED TO SEND LETTERS OF RECOMMENDATION:

NAME	POSITION	ADDRESS
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

I HEREBY CERTIFY THAT I HAVE READ AND UNDERSTOOD THE INSTRUCTIONS AND INFORMATION SHEET ATTACHED TO THIS APPLICATION FORM AND THAT ALL STATEMENTS MADE IN CONNECTION WITH THIS APPLICATION ARE TRUE AND COMPLETE.

BY SIGNING THIS APPLICATION YOU ARE ALSO THEREBY AGREEING TO THE RELEASE OF INFORMATION IN THIS APPLICATION AND OF THE SUPPORTING DOCUMENTATION BY THE UNIVERSITY OF [REDACTED] TO OTHER ACADEMIC INSTITUTIONS.

YOUR APPLICATION WILL BE REJECTED IF YOU HAVE NOT DISCLOSED YOUR COMPLETE ACADEMIC RECORD OR HAVE SUBMITTED FALSE INFORMATION IN SUPPORT OF YOUR APPLICATION TO THE FACULTY OF GRADUATE STUDIES. IN SUCH AN EVENT, FUTURE APPLICATIONS FROM YOU ALSO WILL NOT BE CONSIDERED.

DATE: FEBRUARY 2, 1999 SIGNATURE: Eric Johnson

Appendix E

Female Student's Personal Application Form

THE UNIVERSITY OF CANADA [REDACTED] FACULTY OF GRADUATE STUDIES APPLICATION FOR ADMISSION PHONE [REDACTED] FAX: [REDACTED]

PART A: TO BE COMPLETED BY THE STUDENT

FAMILY SURNAME JOHNSON		BIRTH DATE 2/31/375		U OF STUDENT NO [REDACTED]	
GIVEN NAMES LISA ANNE		PROVINCE OR COUNTRY OF BIRTH ONTARIO		CANADIAN SOCIAL INSUR NUMBER [REDACTED]	

CURRENT MAILING ADDRESS			PERMANENT ADDRESS		
NUMBER AND STREET	[REDACTED]		NUMBER AND STREET	[REDACTED]	
CITY AND PROV	[REDACTED]		CITY AND PROV	[REDACTED]	
COUNTRY	CANADA		COUNTRY	[REDACTED]	
TELEPHONE NUMBER	FACSIMILE NO	POSTAL CODE	AREA CODE AND PHONE NO	POSTAL CODE	
MAIL ADDRESS			STUDENT FAX ADDRESS		

TYPE (CIRCLE)	UR	VISA	MAS	MS	SEX: MARITAL STATUS (CIRCLE)	SINGLE	VALE	MARRIED	SINGLE	MARRIED	CITIZENSHIP	NAME OF COUNTRY
	0	1	2	3		0	1	2	3	4		CANADA
PERMANENT RESIDENT (CIRCLE)	5	6	7	8	DATE ON WHICH YOU WROTE OR PLAN TO WRITE TOEFL	YEAR	MONTH	IF YOU ARE TO BE SPONSORED AS AN INTERNATIONAL STUDENT GIVE NAME OF SPONSORING AGENCY OR GOVERNMENT				
	1	2	3	4								

DEGREES NOW HELD OR TO BE AWARDED					
DEGREE	HONS ON GEN	YEAR AWARDED	AVERAGE DIVISION	MAJOR SUBJECT	UNIVERSITY
BACHELORS	HONOURS	1998	3.50 G.P.A.	SCIENCE	UNIVERSITY OF [REDACTED]

ACADEMIC AWARDS: **DEAN'S HONOUR ROLL** NUMBER OF PUBLICATIONS (ATTACHED):

RESEARCH OR OTHER EXPERIENCE: **VOLUNTEER RESEARCH ASSISTANT FOR DR. BOB FROST**

TEACHER'S EXPERIENCE NUMBER OF YEARS: [REDACTED] TEACHERS CERT NO: [REDACTED]

DEGREE SOUGHT	MAJOR DEPARTMENT	FIELD OF SPECIAL INTEREST
MASTERS	DENTISTRY/ENGINEERING	DENTISTRY/ENGINEERING

NAME OF PERSON TO WHOM YOU WISH TO REFER: **Dr. Andrews** IF YOU ARE EMPLOYED ACADEMICALLY WITH THIS UNIVERSITY GIVE POSITION:

WILL YOU PREVIOUSLY APPLIED OR ATTENDED THIS UNIVERSITY? YES NO YEAR: [REDACTED] PREVIOUS STUDENT NO: [REDACTED]

ENTERED REGISTRATION PERIOD: MAY (YEAR), JULY (YEAR), SEPTEMBER 1999 (YEAR), JANUARY (YEAR) EXPECTED STATUS: FULL TIME PART TIME

LET REFERENCES WHOM YOU HAVE REQUESTED TO SEND LETTERS OF RECOMMENDATION

NAME: [REDACTED] POSITION: [REDACTED] ADDRESS: [REDACTED]

NAME: [REDACTED] POSITION: [REDACTED] ADDRESS: [REDACTED]

I HEREBY CERTIFY THAT I HAVE READ AND UNDERSTOOD THE INSTRUCTIONS AND INFORMATION SHEET ATTACHED TO THIS APPLICATION FORM AND THAT ALL STATEMENTS MADE IN CONNECTION WITH THIS APPLICATION ARE TRUE AND COMPLETE.

BY SIGNING THIS APPLICATION YOU ARE ALSO THEREBY AGREEING TO THE RELEASE OF INFORMATION IN THIS APPLICATION AND OF THE SUPPORTING DOCUMENTATION BY THE UNIVERSITY OF [REDACTED] TO OTHER ACADEMIC INSTITUTIONS.

YOUR APPLICATION WILL BE REJECTED IF YOU HAVE NOT DISCLOSED YOUR COMPLETE ACADEMIC RECORD OR HAVE SUBMITTED FALSE INFORMATION IN SUPPORT OF YOUR APPLICATION TO THE FACULTY OF GRADUATE STUDIES. IN SUCH AN EVENT, FUTURE APPLICATIONS FROM YOU ALSO WILL NOT BE CONSIDERED.

DATE: **FEBRUARY 1, 1999** SIGNATURE: **Lisa Johnson**

Appendix F

Dependent Measures for All Experimental Groups

The items below are personality traits with endpoints marking the extremes. For each scale, please circle the number that best describes where the student whose application you viewed falls on each of the dimensions.

hardworking	1	2	3	4	5	6	7	8	9	lazy
likable	1	2	3	4	5	6	7	8	9	unlikable
unpleasant	1	2	3	4	5	6	7	8	9	pleasant
strong	1	2	3	4	5	6	7	8	9	weak
disagreeable	1	2	3	4	5	6	7	8	9	agreeable
gives up easily	1	2	3	4	5	6	7	8	9	persistent
helpful	1	2	3	4	5	6	7	8	9	not helpful
timid	1	2	3	4	5	6	7	8	9	forceful
cooperative	1	2	3	4	5	6	7	8	9	uncooperative
energetic	1	2	3	4	5	6	7	8	9	sluggish
tough	1	2	3	4	5	6	7	8	9	soft
trustworthy	1	2	3	4	5	6	7	8	9	untrustworthy
bright	1	2	3	4	5	6	7	8	9	dull
inefficient	1	2	3	4	5	6	7	8	9	efficient
respectful	1	2	3	4	5	6	7	8	9	disrespectful
competent	1	2	3	4	5	6	7	8	9	incompetent
intelligent	1	2	3	4	5	6	7	8	9	unintelligent
qualified	1	2	3	4	5	6	7	8	9	unqualified
effective	1	2	3	4	5	6	7	8	9	ineffective
decisive	1	2	3	4	5	6	7	8	9	indecisive

For each question, please circle the number that best reflects your opinions of the student whose application you viewed on each of the scales.

1. How competently do you expect this student to perform in this graduate program?

1	2	3	4	5	6	7	8	9
not at all competently				very competently				

2. How effective do you think this student will be at doing the schoolwork?

1	2	3	4	5	6	7	8	9
not at all effective				very effective				

3. How likely do you think this student will receive high grades in this graduate program?

1	2	3	4	5	6	7	8	9
not at all likely				very likely				

4. If this student finishes this graduate program, how quickly do you think it will happen?

1	2	3	4	5	6	7	8	9
not at all quickly				very quickly				

For each of the following questions, please circle the number that best describes your opinions of the application decision process of the student whose application you viewed.

1. To what extent do you think the application process had been.....

1	2	3	4	5	6	7	8	9
not at all fair				very fair				

8. To what extent do you think this student was accepted into the program because of affirmative action policies?

1 2 3 4 5 6 7 8 9

not at all

completely

Please answer each of the following questions by filling in the blank or circling the appropriate number.

1. Estimate the percentage of males and females you think are currently enrolled in the particular graduate program the student whose application you viewed was accepted in. (Please make sure the percentages add up to 100%).

Males _____ Females _____

2. Evaluate the particular graduate program of the student whose application you viewed on the following seven dimensions.

boring	1	2	3	4	5	6	7	8	9	interesting
easy	1	2	3	4	5	6	7	8	9	difficult
relaxed	1	2	3	4	5	6	7	8	9	stressed
challenging	1	2	3	4	5	6	7	8	9	unchallenging
demanding	1	2	3	4	5	6	7	8	9	undemanding
strenuous	1	2	3	4	5	6	7	8	9	careful
complicated	1	2	3	4	5	6	7	8	9	uncomplicated

3. Indicate the sex of the student whose application you viewed.

Male ____ Female ____

4. Does the university you reviewed have an affirmative action policy?

Yes ____ No ____ Don't know ____

5. Please write a brief explanation of what you believe is an affirmative action policy. _____

6. Please indicate your:

Gender _____

Age _____

First Language _____

Ethnic Background _____

Appendix G

Debriefing Sheet for All Participants

Thank-you for participating, your input is greatly appreciated in helping the researchers address the aims of this research. At this time there are a few additional things I would like to explain to you. At the beginning of the study I indicated that this study was examining university application and selection procedures. The reason I could not tell you at the beginning exactly what I am interested in is that I did not want my expectations to influence your responses. The real purpose of this experiment was to investigate how affirmative action effects people's perceptions of women accepted into male dominated academic programs.

All participants were given a graduate application package to review and then asked to complete the brief questionnaire. Half of the participants reviewed an application of a student who was accepted into an Engineering program, while the other half reviewed an application of a student who was accepted into a Dentistry program. The Engineering program represented an academic program that is strongly male sex-typed (such that there is an approximate split of 75% males and 25% females enrolled in the program), while the Dentistry program represented an academic program that is slightly male sex-typed (with an approximate split of 60% males and 40% females enrolled in the program). The applicant was either presented as a male (Eric Johnson) or a female (Lisa Johnson). It is important to know that the actual student and university described in the application are not real, but were simply created for this experiment. For those who reviewed a female applicant's package, half of the participants reviewed a female's application who was accepted into a graduate school through a university that is committed to an affirmative action policy (the affirmative action statement

located on the bottom of the university letter), while the other half reviewed a female's application who was accepted into a graduate school without affirmative action (no statement was given). After reviewing the various applications, all participants completed the same questionnaire.

In particular, this study investigated how women accepted under affirmative action into male sex-typed graduate programs are perceived with regards to competency, adjectival characterizations (interpersonal, activity, and potency attributes), and expectations of progress within the program. Furthermore, this study examined participant's perceptions of the fairness and the role of qualifications in the decision process. It is hypothesized that the female applicant accepted into the strongly male sex-typed program (Engineering) under a university with an affirmative action policy, will be perceived the most negatively on dependent measures because of both gender stereotyping and discounting processes. Kelley's (1971) discounting principle reasons that the affirmative action label may cause people to assume the female was accepted into the program on the basis of their minority membership (gender) while discounting the role of qualifications. Such discounting of the applicant's qualifications may result in negative perceptions of the female's competency to handle herself in the program.

Please do not discuss this experiment with other students who may participate in the future. A summary of the major findings will be posted outside room P259 at the end of the study in early April. If you have any questions about this research, please contact Tara Boyaniwsky or Dr. Morry at 474-6982. Thank-you for your participation.

Table 1

Pilot study mean ratings of difficulty for engineering and dentistry

	Engineering	Dentistry
boring-interesting	5.45	5.36
easy-difficult	8.09	8.05
relaxed-stressed	7.36	7.41
challenging-unchallenging	2.50	2.95
demanding-undemanding	2.54	3.00
strenuous-easeful	2.81	3.14
complicated-uncomplicated	2.45	3.00

Note. Ratings based on seven 9-point semantic differential scales, where higher numbers reflect the second adjective in the pair. All t s < 2.11, all p s > .12, except for challenging-unchallenging ($p > .05$).

Table 2

Correlations of dependent measures

	Perceived Competence	Interpersonal	Potency	Activity	Projected Program Progress	Perceived Fairness	Role of Qualifications
Perceived Competence		.585	.424	.597	.482	.288	.442
Interpersonal Characteristics			.511	.623	.296	.261	.295
Potency				.522	.210	.196	.240
Activity					.384	.274	.336
Projected Program Progress						.283	.523
Perceived Fairness							.312
Role of Qualifications							1.0

Note: All ps < .05.

Table 3

Mean ratings in each experimental condition

Condition	Perceived Competence	Interpersonal	Potency	Activity	Projected Program Progress	Perceived Fairness	Role Qualifications
<u>Engineering</u>							
Male	7.59	6.90	5.63	7.14	7.08	6.08	6.46
Female	7.64	6.83	5.86	7.51	7.24	6.74	6.31
Affirmative Action Female	7.56	6.75	5.91	7.15	7.00	7.00	6.22
<u>Dentistry</u>							
Male	7.58	6.53	5.79	7.16	7.25	6.10	6.40
Female	7.64	6.66	5.80	7.20	7.30	6.33	6.22
Affirmative Action Female	7.37	6.65	5.79	7.21	6.90	6.35	5.93

Note: The higher the mean, the more favorable the rating.