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An Experimental Evaluation of Stereotype Lift

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An Experimental Evaluation of Stereotype Lift

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....*iii*

ABSTRACT.....1

CHAPTER

I. INTRODUCTION.....2

Positive Impact of Discrimination.....2

Stereotype Threat.....2

Cognitive Load.....4

Self-Esteem.....5

Social Comparison Theory.....7

Stereotype Lift.....12

Cognitive Load.....12

Self-Esteem.....13

Social Comparison Theory.....13

Better-than-Average Effect.....16

II. PURPOSE.....17

III. EXPERIMENT.....18

Method.....20

Participants.....20

Materials.....20

Manipulation Check.....20

Generalized Self-Worth.....20

Self-Esteem.....20

Generalized Self-Efficacy.....20

Affect.....21

Procedure.....22

Analyses.....26

IV. RESULTS.....27

Manipulation Check.....27

Ravens Advanced Progressive Matrices..... 27

Self-Esteem.....28

Affect.....28

V. DISCUSSION.....29

Self-Esteem.....29

Affect.....30

The Future of Stereotype Lift Research.....32

VI. APPENDICES.....35

Appendix A: Self-Esteem Scale.....35

Appendix B: State-Trait Anxiety Questionnaire Form Y-1.....37

Appendix C: State-Trait Anxiety Questionnaire Form Y-2.....39

Appendix D: Mood Adjective Checklist.....41

Appendix E: Manipulation Check.....42

VII. WORKS CITED.....44

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ABSTRACT

Stereotypes have been shown to have a detrimental effect on those with whom negative stereotypes are associated. However, very little research exists on the positive effects experienced by those who benefit from such discrimination, a condition known as stereotype lift. This condition, termed stereotype lift is an upward effect on performance, experienced among members in a non-discriminated group. The cause of this occurrence could be due to an increase in self-esteem or mood experienced among members of the non-discriminated group. To this end, participants in this study served as a control group to be compared against an experimental group, wherein women, but not men, experienced discrimination prior to completing a cognitive task. Conversely, participants in the control group were informed prior to completing a cognitive task that men and women were expected to perform equally well and thus experienced no discrimination. Results indicated a trend toward significant cognitive performance scores consistent with stereotype-lift. Findings concerning self-esteem and mood were each non-significant. Implications are discussed.

An Experimental Evaluation of Stereotype Lift

Stereotypes are cognitive frameworks that exist for a number of social categories including gender. One set of stereotypes prescribing expectations for the behavior of men and women is in the area of academic performance. For instance, in the areas of mathematical and cognitive performance, males are typically viewed as outperforming females (Twenge, 1999). While such expectations may have a kernel of truth, the underachievement of females on such tasks may be due to the demands of stereotype threat. Essentially, stereotype threat can be defined as the lowered performance of negatively stereotyped group on a task due to the pressures placed upon them by these stereotypes. Less examined however, is the opposing phenomenon referred to as stereotype lift.

Stereotype lift is evidenced by an increase in performance due to an out-group that is negatively stereotyped (Walton & Cohen, 2002). In other words, the group that is not stereotyped will perform better as a result of another group being stereotyped against. It may occur when the threat is explicit, or when it is an unconscious association, due to widely held stereotypes (Walton & Cohen, 2002). These stereotypes can become manifested in the minds of the non-stereotyped group members, therefore causing a boost in performance (Walton & Cohen 2002). In an effort to identify possible psychological mechanisms that lead to stereotype threat, the present study will examine the role that self-esteem and self-efficacy play within the context of cognitive performance.

Stereotype Threat

The phenomenon of stereotype lift itself has not been studied to a great extent. Therefore, research in regards to this occurrence is derived mainly from research

centering on the opposing phenomenon, stereotype threat. Stereotype threat is "the threat of being negatively stereotyped and of perhaps confirming the stereotype" (Danso & Esses, pg. 158, 2001). Steele and Aronson (1995) explained stereotype threat as occurring due to the minority group's fear that their performance would confirm the stereotype associated with their group. This fear is made up of negative thoughts, which, in turn, affects the self-esteem and self-efficacy of the individuals.

Croizet, Després, Gauzins, Huguet, Leyens, and Méot (2004) found that stereotype threat materializes in intellectual situations in which the individuals sense that the stereotype may apply to them. During instances in which test instructions make intelligence differences known, those who are targets of the lower intelligence stereotype exhibit a decrease in performance as compared to instances in which the instructions mentioned no difference (Croizet et al., 2004). These stereotypes may also be linked automatically to specific groups without outright mention of differences in group performances. This could be due to strongly held biases in American culture that exist on a subconscious level (Walton & Cohen, 2002). This negatively affected performance has been documented in many minority groups including women, children from low socioeconomic families, elementary and middle school girls, as well as elderly people (Cadinu, Maas, Lombardo & Frigerio, 2006).

Stereotype threat is used as a basis by which to explain stereotype lift, so the causes of stereotype threat must be examined. First, thought processes, emotions and other mental aspects occurring at the individual level have been linked to stereotype threat, and may be used in terms of explaining stereotype lift. Aspects such as cognitive load, which may reduce the mental capacity available for completion of a task, self-

efficacy and self-esteem, are examined in this study. In addition to those individual variables used to explain stereotype threat, social comparison theory is used to explain this decrease in comparison at the group level. Examined first will be the effect of cognitive load upon the performance of the stereotyped group.

Cognitive Load

Stereotype threat may result when fears of the stereotype becoming a reality cause an increase in the individual's cognitive load (Steele, 1997). Increased mental load can cause performance levels to drop. This effect results in a decrease in performance due to the threat depleting the capacity of the working memory during the completion of the task (Croizet et al., 2004). For instance, the task may be very difficult, causing attentional resources to be depleted, or various worries may force the mental capacity to be shared between the task at hand, and the concerns outside of the task (Croizet et al., 2004). This increase in cognitive load can be compared to the difference between completing a simple task and a difficult one (Croizet et al., 2004). Manipulation caused by the experimenter may also result in immediate negative thoughts leading to a decrease in performance (Cadinu, Maass, Rosabianca, & Kiesner, 2005).

Stereotype threat is also stronger in people who value doing well on the task (Walton & Cohen, 2002). Differences in mental load can result when people put more effort into the task. A higher mental load is the result of a person being motivated and attempting to solve a problem more quickly, therefore investing more effort in the task. This can be compared to completing a task in a less motivated, and therefore, less mentally taxing style.

In addition, Schmader and Johns (2003) also found evidence that when working

memory capacity was reduced, performance was also adversely affected among women completing a math task. Further, Cadinu et al. (2005) found that women in the stereotype threat condition reported more negative thoughts surrounding the task as well as their math abilities as compared to those in the control condition. The increase in negative thoughts was related to a decrease in performance. Further, the results of this study showed support for stereotype threat stemming from this thought-intrusion.

The thought-intrusion hypothesis is a predominant theory used to explain stereotype threat (Cadinu et al., 2005). Cadinu et al. (2005) speculate that intrusive thoughts occurring at the beginning of the task increase the chance of negative thinking, eventually resulting in an increasing cycle of negativity. Further speculations by Cadinu et al. (2005) suggest that the continuous increase in negative thoughts may mean that stereotype threat has even more power than what is suspected. One problem with the majority of the studies examining thought-intrusion is their reactive-thought measures, which use language pre-determined by the experimenter to explain the feelings of the subject. Problems may arise because the wording used may differ from the actual thoughts of the subjects under stereotype threat (2005).

Overall, the cognitive load of an individual can play a role in decreasing their performance. As this is used to explain stereotype threat, the thoughts held by the individual may be negative, due to negative biases held about their group. Some of these negative thoughts could result from reduced self-esteem.

Self-Esteem

At the individual level, yet another mechanism that may contribute to stereotype threat is the self-esteem of the participants. Self-esteem plays an important role in an

individual's reaction to positive as well as negative events (Swann, 1996). In general, subjects with high self-esteem tended to be more acceptable and believing of positive feedback as compared to those who were low in self-esteem (1996). While those high in self-esteem welcome positive feedback, those low in self-esteem desire to cover up their deficiencies, defending themselves in doing so (1996). Those low in self-esteem saw negative feedback as consistent with their self-image and positive feedback as self-enhancement (1996). In addition, the self-verification theory states that people desire to maintain a consistent view of themselves because this consistency allows for predictability within their lives (Swann, 1996).

In general, this may result in positive feedback being more desirable for those with high self-esteem as compared to those with low self-esteem because it threatens the views that those with low self-esteem hold about themselves (Wood Heimpel, Ross and Newby-Clark, 2005). This desire to protect themselves may stem from a desire to avoid high expectations that they will not be able to maintain (Wood et al., 2005). Further, those with high self-esteem tended to believe and respond to positive feedback more than those low in self-esteem (Wood et al., 2005).

This variation in people's beliefs of feedback may cause inconsistencies when testing individuals in studies such as this.

Those low in self-esteem are more apt to express concern for the future (Wood et al., 2005). Self protective measures as manifested by concerns in regard to future events may cause anxiety, or the reverse (Wood et al., 2005). Further, the self-relevant thoughts of those with high self-esteem appeared to be more positive than those in subjects with low self-esteem (Wood et al., 2005).

Wood Heimpel, Ross and Newby-Clark (2005) also questioned the extent to which it is assumed that self-esteem differences after failure do not exist or do not matter. However, self-esteem differences are much more evident in the areas of attribution and emotions after the occurrence of failure (Blaine & Crocker, 1993; Brown & Dutton, 1995), which leads one to believe that these differences are important.

Overall, self esteem is related to the way in which people interpret information. These differences can motivate people to improvement, or to staying at a level that they know they can maintain. These effects can be used to explain stereotype threat, and can likewise be examined in terms of stereotype lift. That is, lower self esteem, as may be found in the stereotyped group, may cause the participants to maintain their level of achievement, or to underachieve in order to obtain a level that is expected of their group.

Stereotype threat has also been examined as resulting from group dynamics between those who are negatively and positively stereotyped. One of the dynamics focused upon in explaining stereotype threat is the occurrence of social comparisons. Social comparison theory examines the role that comparisons to other groups play in an individual's performance in terms of upward as well as downward comparisons. When stereotype threat and lift are examined in the context of social comparison theory, they relate to the extent to which a person is obligated to uphold the status of their group, a possible explanation as to the improved performance of non-stereotyped groups.

Social Comparison Theory

The way in which people view themselves, or their self-esteem, can be affected by the way in which they view themselves as compared to other groups. Social comparison theory attempts to explain the effects of comparing upward as well as

downward, and the result that these comparisons will have on the performance of the individuals.

While some have argued that people who are low in self-esteem may make comparisons in order for self-enhancement, others have found that people with high self-esteem may use social comparisons in a self-serving manner (Jones, 1973; Shrauger, 1975; Crocker & Schwartz, 1985; Crocker, Thompson, McGraw, & Ingerman, 1987). Individuals that are high in self-esteem tend to make downward comparisons that result in positive, self-enhancing aspects as compared to those low in self-esteem. Overall, people high in self-esteem may use comparisons to enhance their own self-image, no matter the direction of the comparison, whereas people that are low in self-esteem tend to interpret either comparison in a negative way (Crocker & Schwartz, 1985; Crocker, Thompson, McGraw, & Ingerman, 1987). Individuals high in self-esteem may avoid negative comparisons, thereby maintaining the various aspects of their positive self-image (Buunk, Collins, Taylor, VanYperen, Dakof, 1990). In a study by Wood, Giordano-Beech, Taylor, Michela, and Gaus, (1994) subjects that were low in self-esteem tended to compare themselves with others that they believed to have performed better than on a task. Further, when these subjects were not told that they had performed better than others on a task, they did not compare to them. However, when they believed that their success over others would not change, they did compare to them.

Aspinwall and Taylor (1993) discussed why upward comparisons as well as downward comparisons are beneficial. In subjects exhibiting high self-esteem, upward comparisons resulted in increases in positive mood, in opposition to downward comparisons, which produced decreases in positive mood. On the other hand, when

participants had recently experienced disappointment of some form, upward comparisons let to a decrease in positive mood as well as frustration. Their study also revealed that in opposition to the previously stated findings, those with low self-esteem seemed to respond in a positive fashion to downward social comparisons. Perhaps, this could occur due to the efforts of those with low self-esteem to reduce the negative feelings that they are already experiencing (1993). These findings were in line with that of Will's (1981) downward social comparison theory. This theory states that self enhancement, as a result of downward social comparisons may be at its peak while under ego threat (Aspinwall & Taylor, 1993).

Aspinwall and Taylor (1993) found that subjects that were higher in self esteem had a more positive outlook toward themselves, as well as toward the future in conditions of threat. Furthermore, subjects that were low-threat viewed themselves in a more positive light in comparison to those who were high-threat. Apsinwall and Taylor (1993) reported that subjects who were high-threat, as well as low self-esteem responded more favorably to downward comparisons than upward. When exposed to academic threat, subjects that were low in self-esteem experienced more positive life expectations when exposed to downward comparisons versus upward comparisons (Aspinwall & Taylor, 1993). Overall, in situations where threat exists, it appears that many individuals tend to make downward social comparisons (Wills, 1981).

Schunk (1987) found that performance level is tied to whom the participants chose to compare themselves against, and this link is the strongest when the person to whom the participant compares is similar to themselves. It was also found that the people listed as those who the participants compared themselves to remained relatively the same

throughout situations; further, the people listed tended to be as the same gender as the participant, and also slightly more successful than the participants on the task (Schunk 1987). This study hypothesizes that the males may have followed this trend in comparing themselves to the other, successful males. Moore, Strube, and Lacks, (1984) found that the comparison level had a greater impact on the individual when the participant assumed that they were likely to obtain the degree of success that their compared other did. This idea may describe stereotype lift in this experiment because the men were led to believe that they were likely to outperform the women.

Social comparison can be broken down into two aspects, comparison-level choice and comparative evaluation. Comparison-level choice deals with the level at which the person you compare yourself to performs. Comparative evaluation, on the other hand, refers to the evaluation that one gives oneself as compared to others (Blanton, Buunk, Gibbons & Kuyper, 1999). These aspects can be related to the study at hand as the genders were forced to compare to each other, and neither group had any previous knowledge of the actual characteristics of the people to which they were comparing. Blanton et al. (1999) found that comparison-level choices, as well as comparative evaluations could be used to predict how a student would perform academically. This finding relates to who students compare themselves to, as well as the extent to which they see themselves in a more positive light than the others in the situation (1999). Blanton et al. (1999) interpreted their study results as showing that students did not compare themselves to aspects of specific others after they compared to the group. The comparisons made in this study were predictive of academic performance. In our study, the males may not have made comparisons to specific others completing the task, but

rather to the known tendencies of the group.

Social comparison can consist of upward as well as downward comparisons. In general, it is believed that upward comparisons, which are made to those better than themselves, are negative in their effect and produce jealousy, anger etc. In addition, Nosanchuk & Erickson (1985) found that upward comparisons allow for one to evaluate themselves, but also result in negative feelings, as they remind the individual that they are inferior (Diener, 1984; Marsh & Parker, 1984; Morse & Gergen, 1970; Salovey & Rodin, 1984; Tesser, Milliar, & Moore, 1988; Testa & Major, 1988). On the other hand, downward comparisons, which are comparisons to those performing worse, are seen as producing positive outcomes result in a greater sense of well-being (Aspinwall & Taylor, 1993).

Buunk et al. (1990) found that both upward and downward comparisons can result in positive or negative effects. The occurrence of positive and negative aspects of comparisons can be described by the idea of cognitive filters that allow individuals to maintain their positive feelings and thoughts (Taylor & Brown, 1988). Some have suggested that people generally tend to compare themselves to those who are worse off than themselves when the situation is one that they cannot change; however, people may tend to compare upward when they find themselves in a malleable situation (Blanton, Buunk, Gibbons & Kuyper, 1999).

Taken together, social comparison theory explains how the effect of grouping people into positively or negatively stereotyped groups can affect how they compare to others in their group, as well as in other groups. These comparisons can be tied to the self-esteem that a person has, and affect them on an individual level, as well affecting

individuals on the group level, in terms of the extent to which they are concerned with the overall performance of their group. This has implications for stereotype threat because it may help to explain the extent to which a group stereotype may affect an individual.

Stereotype Lift

Stereotype lift, the increase in the performance of a non-stereotyped group that occurs, as a result of the negative stereotypes associated with another group, is generally accounted for in terms of the evidence surrounding stereotype threat (Walton & Cohen, 2002). As previously stated, evidence surrounding stereotype threat is related to two aspects: the effects that happen on an individual level (i.e., self esteem, self-efficacy), and those tied to the groups in which individuals belong (i.e. social comparison theory, better-than-average effect). Therefore, in further accounting for stereotype lift, one must consider the opposing effects that occur within the non-stereotyped groups.

Cognitive Load

Although cognitive load has been studied extensively in terms of stereotype threat, it may also play a role in explaining stereotype lift. The aspects of cognitive load such as negative thoughts, thought intrusion and increased cognitive load have negative affects for those groups that are stereotyped. However, it can be hypothesized that non-stereotyped groups may experience these effects in a unique and more positive way. Thus, cognitive load could be tied to the increase in performance known as stereotype lift.

Croizet et al. (2004) found that higher mental loads were associated with a non-significant increase in performance in the non-stereotyped groups that can be associated with stereotype lift. In addition, following success, Wood et al. (2005) found that those

high in self-esteem had more positive thoughts following success. This may result because success increases the number of positive thoughts; it does not decrease negative thoughts. Due to the expectations surrounding stereotype lift, it is anticipated that an increase in performance will be accompanied by a decrease in cognitive load, and/or an increase in positive thoughts in this group.

Self-Esteem

The previously discussed construct of cognitive load, interacts with the self-esteem of the individual. Wood et al. (2005) hypothesized that the ways in which subjects with low and high self-esteem react to success may cause those with high self-esteem to have an advantage over the former. As a result, those that are high in self-esteem may succeed more than those that exhibit low self-esteem (Wood et al., 2005). A possible explanation for this advantage leading to more success is revealed in the finding that in comparison to those with low self-esteem, those high in self-esteem had less anxiety and more positive thoughts (Wood et al., 2005).

Therefore, in examining the affects of positive stereotypes at the individual level, it is evident that an interaction of cognitive load and self-esteem may play a role in increasing the performance in the non-stereotyped group. In addition to these individual aspects, the effects of individuals grouping themselves and others, and the way in which this affects performance must be considered.

Social Comparison Theory

Social comparison theory describes the cognitive role that comparisons to "others" can play in completion of a task. When social comparisons are in favor of the non-stereotyped individuals, their self doubts and fears, as well as their anxiety is

lessened (Sarason, 1991). Further, it has been suggested that people utilize social comparisons to evaluate aspects of themselves as well as to maintain their self-esteem (Aspinwall & Taylor, 1993).

Festinger (1954) referred to a unidirectional drive upward, which has caused confusion as to whether people compare upward or downward in efforts to improve their own performance. While some assume that people can strive to increase their performance by aspiring to be like another who is "better" than themselves, others believe that this is more likely done by ego-enhancing downward comparisons to those less fortunate (Festinger, 1954).

Upward comparisons often lead to feelings of self-enhancement when the task or skill is one that can be acquired or improved upon, as the individual is able to work toward improvements (Buunk et al., 1990). Gibbons, Blanton, Gerrard, and Buunk (in press) found that the performance of the participants was improved when they compared themselves to others that scored "high" on the test, but not when they compared themselves to others who had scored "better."

In general, people compare upward in hopes of their own abilities improving, as well as being better than those of the comparison group (Festinger, 1954). Comparing upward can help to improve performance by motivating the person to increase their own performance (Blanton et al., 1999) especially as upward comparisons can serve as role models to whom the individuals can strive to be similar (Taylor & Lobel, 1989). Some may prefer to compare themselves to others who are similar to themselves (Taylor and Lobel, 1989). This study hypothesizes that men will compare themselves to successful men, therefore becoming motivated to improve their own performances.

Downward comparisons may be utilized by some in an effort to decrease negative feelings (Aspinwall & Taylor, 1993). People also may utilize downward comparisons to increase their levels of self-esteem (Taylor & Lobel, 1989). Additionally, downward comparisons allow for self-enhancement because they may boost self-esteem and positive emotions, while reducing anxiety (Amoroso & Walters, 1969; Crocker & Gallo, 1985; Gibbons, 1986; Hakmiller, 1966; Kiesler, 1966; Lemyre & Smith, 1985; Morse & Gergen, 1970).

The boost known as stereotype lift may result from downward social comparisons with the stereotyped group (Blanton, Buunk, Gibbons, & Kuyper, 1999; Fein & Spencer, 1997) which then cause increases in self-efficacy and the individuals feelings of worth (Bandura, 1986). Therefore, assuming that downward social comparisons drive stereotype lift, one can assume that a cognitive awareness of the stereotype would result, as well as increases in self-efficacy (Walton & Cohen, 2002).

In addition to the direction of the comparison, and the extent to which it allows a person to feel positively or negatively about themselves, comparisons can also be related to control.

A person that perceives themselves to have control of a situation will interpret upward as well as downward comparisons in a positive way. This may play a role in explaining stereotype lift, as the men are able to interpret either upward or downward comparisons in a positive way, as they see themselves in a position of control due to their gender (Buunk et al., 1990). Thus, as the particular group is allowed to feel in control of a situation, they may have higher self-esteem concerning their performance level leading to an increase in scores.

Better-Than-Average Effect

The better-than-average effect falls under the dimensions of social comparison theory, which itself is composed of three aspects. These aspects consist of: a desire for self-evaluation or protection, a target against whom the person makes comparisons, and the aspect being compared (Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995). The better-than-average effect is lessened as the aspect under social comparison becomes less ambiguous. Therefore, the better-than-average effect will be stronger in this study, as the ability of the other participants is ambiguous, and not easily determined. These aspects may lead individuals to have higher-self esteem as they strive to make positive comparisons to others. This comparison is more easily achieved as they are already allowed to view themselves as superior on the task due to their membership in the non-stereotyped group.

According to the better-than-average effect, people generally view themselves in an unrealistically positive light, as compared to others. This effect is a self-serving bias that causes people to see themselves as well as outcomes in their life as more positive than those of others (Alicke, et al., 1995). The better-than-average effect occurs through a combination of downward comparisons and obtaining information that supports these thoughts (Perloff & Fetzer, 1986). People generally experience the better-than-average effect for traits that can be thought of as uncontrollable, whereas they experience more bias toward traits that are controllable (Alicke, 1995; Allison, Messick & Goethals, 1989).

The better-than-average effect is also greatest when the comparison is made against an ambiguous other (Alicke et al., 1995). In his studies, Codol (1975) found that

others believe themselves to be more conforming to desirable social norms than others when the "others" are undifferentiated as compared to others who are specific people (as cited in Alicke et al., 1995).

Individuation refers to the recognition of oneself as a distinct individual, whereas deindividuation refers to the lack of acknowledgment of a person as distinct from others (Alicke et al., 1995). Alicke et al. (1995) makes the assumption that a comparison between a person and another who is individuated and specific, but for who no information is available, would result in a decrease in the better-than-average effect. Further, it is suggested that personal contact between people will also lessen this effect (1995).

The better-than-average effect is linked to the social comparison theory, which has been used to explain stereotype threat. The non-stereotyped group may be affected by this effect as they compare themselves to the non-stereotyped group. Further, this effect can be used to explain the positive aspects of downward social comparisons. Lastly, this effect is lessened when the comparison group becomes less ambiguous, thus leading toward the hypothesis that the better-than-average effect had power in this study due to the ambiguous "gender" groups. Therefore, the implications for stereotype lift are related to the ambiguity of the aspect under comparison: stereotype lift will manifest itself more strongly when the comparison aspects are less clearly defined.

Purpose

The study of stereotype threat is important, as its implications in our society are far reaching. These implications of stereotype lift center around the unfair advantages given to other groups as a result of the lack of stereotypes associated with them (Walton & Cohen, 2002). These advantages, while seeming small, are so strong in our society that they have become innate, and may exist on a multitude of tests. When these test scores are analyzed across groups, the strength of the stereotypes may become even more evident (2002). For instance, Walton and Cohen (2002) revealed the startling finding that on tests such as the SAT, a 50 point difference can result from stereotype lift, therefore allowing non-discriminated groups, such as white men, advantages in many areas of academia. Also, the effects of discrimination may occur even when no stereotype is made known. Walton and Cohen (2002) found that there was no difference when the stereotype was made known, and when it was allowed to be assumed, thus indicating the strength of the stereotype. These findings reveal that in a society that relies heavily on standardized testing in its academic realm the advantages afforded some due to stereotype threat are significant as well as unavoidable in some cases.

The mechanisms that contribute to the occurrence of stereotype lift have been largely unexamined within the empirical literature. Rather, the roles of cognitive overload and self-esteem in stereotype lift have been indirectly supported due to their role in stereotype threat. Consequently, this study proposes a more direct examination of these psychological mechanisms and their role in the manifestation of stereotype lift.

Drawing in part from archival data, females and males were given false, negative feedback concerning the performance of females on a cognitive task. This feedback was

provided in order to experimentally create a discriminatory environment for females. The current study will build upon this rationale and include a control group, comprised of males and females who will not be informed that males outperform females on a particular cognitive task. Rather, all participants will be told that females and males perform equally well on the task. It is anticipated that such feedback will have the desired effect of reducing negative stereotypes and will serve to decrease discrimination. In this way, the performance of males in the experimental and control group may be compared in an effort to identify the existence of stereotype lift.

It is hypothesized that the performance level of the men in the discrimination situation will be boosted due to an increase in self-esteem. This increase in self-esteem will result from an increase in positive thoughts in terms of the participant's cognitive load. In addition, it is anticipated that the self-efficacy of male participants will be evident through their increased self-esteem as a result of social comparisons that allow the non-stereotyped participants to maintain positive thoughts about the task at hand. These positive thoughts can be attributed to an individuals desire to view themselves in a positive light, as discussed in the better-than-average effect. Overall, a combination of the internal effects of the stereotypes, coupled with comparisons made against the other group, may lead the non-stereotyped group to an increase in performance.

Method

Participants

Female and male participants from the University of North Dakota will be recruited for the study through a mass screening. Participants will be contacted and asked to participate in exchange for course credit.

Materials

Manipulation Check

In order to determine whether participants experienced discrimination of any type, participants responded to the question "Ethical guidelines require that we ask how fairly was your gender treated in the present experiment?" and "How much did this task discriminate against you personally, due to your gender?" on a scale ranging from 0 (*not at all*) to 10 (*extremely*) (Appendix E).

Generalized Self-Worth

Self-Esteem. The Self-Esteem Scale (SES; Rosenberg, 1965) is a 10-item variation measure that examines the extent to which a person's self-concept is either positive or negative (Appendix A). Respondents used a four-point Likert-type scale to indicate the degree to which they agree with statements such as "I am able to do things as well as most people" and "I feel I do not have much to be proud of" with higher scores on the measure indicating more positive self-esteem. The scale has been shown to have high reliability with test-retest correlations usually in the range of .82 to .88 and Cronbach's alpha for various samples in the range of .77 to .88 (Blascovich & Tomaka, 1993; Rosenberg, 1986). For the current study, Cronbach's alpha was .88.

Generalized Self-Efficacy. The Generalized Self-Efficacy Scale (Schwarzer,

1992) is a 10-item scale that measuring the willingness and determination of the participants to stick with and overcome challenge. Respondents used a four-point Likert-type scale to indicate the degree to which they agree with statements such as "I can usually handle whatever comes my way" and "I can always manage to solve difficult problems if I try hard enough" with higher scores on the measure indicative of greater self-efficacy. The scale is unidimensional.

Affect

The Mood Adjective Checklist (MAC; Nowlis, 1965) asked respondents to indicate how they "feel at this moment" using 13 adjectives (Appendix D). The research participants rated each item on an 11-point Likert-type scale ranging from 0 *not at all like this* to 10 *extremely like this*. The scores of the three adjectives were combined for a mean of anger (angry, frustrated, and resentful); five for a mean general negative affect (upset, tense, nervous, confused, and unsure). Prior studies show that these groupings have a high correlation (Cronbachs alpha = .84-.92; Foster et al., 1994).

Previous studies have shown that people may experience positive and negative feelings at the same time, but that this does not necessarily indicate an increase in one (e.g., negative), accompanied by a decrease in another (e.g., positive). Although these measures are correlated, they will be analyzed separately, and not as one overall measure of affect (Larsen, McGraw, & Cacioppo, 2001; Schimmack, 2001).

The extent to which participants rated themselves as having a positive mood at the moment were derived from the participants response on four items that assessed how calm, easy-going, relaxed, comfortable and content they felt. Higher scores are reflective of more positive moods.

Ratings of the degree to which participants were experiencing a negative mood will consist of their response on nine items that assess how resentful, nervous, confused, angry, tense, frustrated, upset and unsure they felt. Higher scores are indicative of a higher negative mood.

The STAI (State-Trait Anxiety Inventory) asked subjects to indicate how they "feel right now, that is, at this moment." Participants rated each item on a 4-point likert-scale ranging from 1 (not at all) to 4 (very much so). Although the scale includes 40 items, for the purposes of the present study only a subset of these items were used to reflect two general affect subscales: positive and negative.

Ratings of the extent to which participants rated themselves as having a positive mood consisted of participants mean response on six items (Chronbach's Alpha=0.93), assessing how "calm," "comfortable," "relaxed," "content," "calm, cool and collected," and "happy" they felt. Higher scores reflected higher positive mood.

Ratings of the extent to which participants rated themselves as having a negative mood, consisted of participants mean response to six items (Chronbach's Alpha=0.77), assessing how "tense," "upset," "nervous and restless," "feel like a failure," "inadequate and lacking self-confidence" they felt. Higher scores reflected a more negative mood.

Procedure

The data for the experimental group was previously collected as part of a larger

study under the guidance of Dr. Little.[1] As part of that study, pre-screening data on self-esteem and self-efficacy and mood was collected. Following pre-screening participants were invited to participate in a study examining achievement and given a brief overview of the tasks involved.

Participants entered the lab in groups of 5-20. Students were then given a brief overview of the tasks that they would be asked to complete, and informed that the researchers were studying test-taking anxiety, which is a cover story designed to conceal the true purpose of the study. They were then asked to complete a Stait-Trait anxiety pre-test (Appendix B & C). Following this, the researchers further described the task at hand, which consisted of a 36-item nonverbal test of general cognitive ability in which participants were required to select the missing element of a 3x3 matrix of abstract symbols from a list of 8 distracters. Prior to this task, participants were told "I should warn you that this task and the way it is scored could be considered to be discriminatory against women. It seems that women do not do well on this task, and it is very rare that women are allowed into the video group, whereas men almost always get in. We can talk about this after the experiment if you like, but we do have time limitations for this experiment, so we should continue" (Foster, 2001, pg. 199).

This statement served the purpose of creating an intergroup situation (Foster 2001; Foster, Matheson, Pool, 1994; Wright, Taylor, & Moghaddam, 1990). The

[1] The purpose of this study was to examine the role of optimism, coping, and attribution styles among women who expected discrimination. Men were only included in an effort to increase perceptions of discrimination among females.

methodology used by Dr. Little was originally conducted by Foster and Dion (2003, 2004). The method experimentally induces the experience of discrimination against female participants by the researcher's mention of men doing historically well on the task, whereas women were usually not successful. In Dr. Little's study, the researcher informed participants that those who were successful would be given an opportunity to participate in a desired activity, as well as to earn a large fiscal award. On the other hand, those who were not successful would be asked to complete a series of mundane tasks with the opportunity for a small fiscal award.

The goal of this situation was to create two groups: one that was elite, and one that was subordinate. The elite, or dominant group, would be one that the participants would hope to join because of the success and social value given to the position. One the other hand, the subordinate group would be seen as one that is unsuccessful and low in social prestige. For this study, the suggestion that men are part of the elite group, by virtue of their gender, will be concentrated upon. This design has been piloted and demonstrated to be effective in creating differential groups as well as the creation of the perception of discrimination by participants (Foster, 1999; Foster, et. al, 1994; Matheson, Warren, Foster & Painter, 2000; Wright, et. al, 1990).

This experimental manipulation of discrimination is advantageous due to its ability to provide an objective event of discrimination for all involved. Instead of the participants drawing on their recollections and self-report, the methodology enables the researcher to create a controlled environment in which each participant is exposed to the same degree of discrimination. Although the subjective experience of discrimination, as well as the stress the participants may experience will most likely vary, they will be asked

to indicate the extent to which they feel they have been discriminated against due to their gender, as well as the extent to which they feel their gender has been discriminated against. Due to these factors, the study design of Foster and Dion (2003, 2004) provides the experimentally controlled context of discrimination necessary to test the hypothesis.

Following the false-feedback concerning women's underperformance on the matrix task, participants were then given forty minutes to complete the Ravens Progressive Matrices task. After which, the researcher exited the room, informing the participants that their tests will be scored. Upon the return of the researcher in Dr. Little's condition, the names of the men were read, and they were informed that they had "passed" the task. They were then lead to another room while the women remained behind. Each group was then asked to complete a survey that contained a manipulation check for discrimination and measures of coping strategies, generalized self worth, and attributions. Following this survey, the participants were then debriefed on the experiment and given the final consent form.

The methodology for the proposed thesis project will follow protocol for the study conducted by Dr. Little that forms the basis of the archival data that will be used for this study.

For the current study, students in various psychology classes will be given the option to participate in a mass screening for this study. In this phase of the study, students will complete a mass screening questionnaire that will assess self-esteem and self-efficacy. The students will then be telephoned and invited to participate in the second part of the study.

For purposes of the proposed study, a control group will be added in order to

investigate the potential occurrence of stereotype lift. Participants for the study will be recruited via sign up sheets in the Corwin-Larimore entryway, with the goal of approximately 40 male and female participants[2]. The participants will follow the procedure used by Dr. Little in completing their tasks. The only difference will be in the initial description of the cognitive task. Specifically, prior to completing the cognitive task, participants will be informed that "Men and women traditionally do equally well on this task." This statement will serve the purpose of creating a condition void of discrimination.

Following completion of the cognitive task, the researchers will again leave the room to "score" the tests. In the current study however, participants will be informed that everyone passed the test. Participants will then be asked to respond to a variety of measures, including measures of self-esteem and generalized self-worth while remaining in the same room. The information produced by this thesis project will expand upon the research in the field of stereotype lift, a field in which there is very little previous research.

Analyses

A series of individual T-tests will be conducted comparing the men in the experimental and control group on their performance on the Raven's Progressive Matrices test, as well as the self-esteem, self-efficacy, mood and anxiety scales.

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[2] The women will be included to create a realistic situation that will be comparable to the experimental condition.

Results

Manipulation Check

Individual t-tests revealed that men in the experimental condition perceived that their gender was treated less fairly (M=8.57, SD=1.15), $t(40)=2.14$, $p<.05$ in comparison to men in the control group (M=9.67, SD=1.15). Surprisingly, men in the experimental condition (M=2.25, SD=2.14) and control condition (M=1.43, SD=1.96) failed to differ in their ratings of how much the task discriminated against them based on their gender $t(40)=-1.28$, ns. Overall, tested against the midpoint of the scale, men in both groups rated their experience of discrimination low, (M=1.83, SD=2.07), $t(40)=-11.34$, $p<.001$.

Not surprisingly, an individual t-test revealed that men in the experimental condition were less likely to believe that women were treated fairly (M=6.43, SD=3.03) than men in the control condition (M=9.71, SD=1.10), $t(40)=4.68$, $p<.001$. An individual t-test further revealed that men in the experimental condition were more likely to recognize that the women in their group were discriminated against (M=4.57, SD=3.09) than men in the control group, (M=1.28, SD=1.30), $t(40)=-4.48$, $p<.001$.

Ravens Advanced Progressive Matrices

An independent t-test was conducted on the Ravens Advanced Progressive Matrices scores, comparing the scores of the men who were in the experimental condition to those in the control condition. A trend towards significance, $t(40)=-1.88$, $p=.067$ was indicated, such that the men in the experimental condition (M=24.86, SD=4.54) performed better on the Ravens Advanced Progressive Matrices test than did men in the control condition (M=21.71, SD=6.16).

Self-Esteem

A mixed analysis of variance was conducted on self-esteem (pre- vs. post-measure) as the within subject variable and condition (experimental vs. control) as the between subject variable. Results failed to yield main effects for self-esteem. $F(1,40)=3.34$, ns, and condition $F<1$. Further, the interaction between self-esteem and condition failed to yield significance, $F(1,40)=1.58$, ns. Thus, the self-esteem of subjects in the experimental condition (pre: M=2.20, SD=0.36; post: M=2.33, SD=0.37) and control condition (pre: M=2.17, SD=0.46; post: M=2.20, SD=0.49) failed to differ.

Affect

Individual mixed analyses of variance were conducted for each of the positive and negative affect scales with pre-post affect scale as the within subject variable, and condition (experimental vs. control) as the between subject variable.

For positive affect, neither the main effect for pre-post affect scale, $F<1$, nor condition, $F<1$, attained significance. Irrespective of condition, men in the experimental group (pre: M=3.26, SD=0.63; post: M=3.17, SD=0.59) failed to differ from the control group (pre: M=3.21, SD=0.73; post: M=3.36, SD=0.54) on their ratings of positive affect.

For negative affect, neither the main effect for pre-post affect scale, $F<1$, nor condition, $F<1$, attained significance. Regardless of condition, men in the experimental group (pre: M=1.54, SD=0.47; post: M=1.38, SD=0.58) failed to differ from the control group (pre: M=1.53, SD=0.52; post: M=1.60, SD=0.70) on their ratings of negative affect.

Discussion

Stereotype-lift has previously been examined in a limited fashion, as the focus of most research has been upon the groups negatively affected by stereotypes. The effect of stereotype-lift has been evidenced in the increased performance on the part of those who are benefited by discrimination against others. The goal of the current study was to investigate the newly evolving phenomenon of stereotype-lift.

To this end, the present study examined stereotype lift by comparing men who were exposed to the discrimination of another group in comparison to men who were not. More specifically, men and women in the experimental condition were informed historically, that women performed worse than men on a cognitive task (Ravens Advanced Progressive Matrices). In the control condition, men and women were informed that no gender differences have been found to exist on the RAPM, with men and women performing equally well. Overall, results revealed a trend towards significance, such that men in the experimental condition tended to perform better than women on the Ravens Advanced Progressive Matrices (RAPM) test. This is consistent with stereotype lift where one would anticipate such an increase in performance. Although this result failed to yield significance it is likely due to the small number of subjects that resulted in low power. Nonetheless, the trend was in the anticipated direction, and as such, is worthy of future research.

Self-Esteem

The trend toward stereotype lift evidenced in the differential performance on the RAPM test by men in the experimental group may have been due to an increase in self-esteem. Thus, one would anticipate an increase in self-esteem on the post- measure

among men in the experimental group. However, self-esteem did not differ between the conditions on pre- and post- measures. Rather, self-esteem remained consistent for both groups. Further, self-esteem did not differ across pre- and post measures. These results are not consistent with the findings of previous research in this area. Prior research suggests that those low in self-esteem may perform worse due to their efforts to maintain the current expectations that they hold of themselves, thus avoiding those expectations that they may fail to maintain (Wood Heimpel, Ross and Newby-Clark, 2005). On the other hand, it has been found that those with high self-esteem may respond more positively to positive feedback, thus allowing them to strive for higher expectations than their low self-esteem counterparts (Wood, et al. 2005). Thus, it was anticipated that the men whose self-esteem increased (experimental group) would strive for higher expectations, therefore benefiting from the discrimination of women as opposed to those men in the control group.

Affect

The trend toward significance, as evidenced in the differential performance on the RAPM test by men in the experimental group may have occurred due to an increase in positive affect. However, affect also did not differ within the conditions on pre-and post-measures, and also remained consistent for both groups. It could be inferred that men who were informed that they outperformed women would have an increase in positive emotions, whereas those who were told they had performed equally with the group would have no fluctuation within their affect. Therefore, it was anticipated that men who benefited from the discrimination of women (experimental group) would report higher levels of affect, than men in the control group.

The lack of significant findings for both self-esteem and affect may have occurred because the manipulation in the experimental condition was not strong enough. However, examination of the results pertaining to the manipulation check revealed that the experimental group did see women as being treated unfairly and discriminated against in comparison to women in the control group. Further, men in the experimental and control groups did not view themselves as discriminated against. However, men in the experimental group did perceive themselves as being treated unfairly in comparison to men in the control group. It may be the case that men define "fair treatment" and "discrimination" in different ways. One possibility is that men define "unfair" not as unjust, but as "differently." These men may have been aware of the discrimination taking place, thus noting that they were not treated in a similar fashion to the women. This may have had a negative effect on their mood (experimental group), as it had been raised via the manipulation, but feelings of unfair treatment may have in fact lowered their ratings of affect. Further research examining this is warranted.

Another possibility surrounding the male interpretation of the manipulation as it relates to their rating on self-esteem as well as affect could stem from an awareness of their performance. If the men were aware of their possible poor or mediocre performance, they may have sensed the manipulation in the study, thus not feeling any better about their condition. In other words, the men were aware of their poor performance, and thus did not "buy" into the idea that they had done well. In fact, they may have become concerned as to how their score actually compared with the scores of the other males in the group. This may then result in a failure to boost self-esteem and affect, and would then resonate in the results of the study, as was the case.

Further, another problem may have arisen due to the "rewards" provided for optimal performance. Men in the experimental condition may not have felt driven to succeed and thus failed to put forth full effort. This lack of effort may have been reflected in the reported self-esteem and affect of the individuals, as they truly did not feel as though they had performed exceptionally well. As such, one would not anticipate differences in self-esteem nor affect between the two groups of men.

At the same time however, it may be the case that self-esteem and affect do not play an important role in stereotype lift. Indeed, research on stereotype lift by Walton and Cohen (2002) shows indications of said effect resulting from negative stereotypes held about groups rather than positive beliefs that the privileged group holds. Surprisingly then, the current findings may be in line with these findings by Walton and Cohen (2002) as the self-esteem and affect of the experimental group remained consistent. The trend towards significance evidenced on the RAPM task may have thus been the result of the negative stereotypes endorsed by men in the experimental group and not increases in self-esteem or affect. Future research should evaluate the extent to which privileged groups endorse negative stereotypes and the relationships between these attitudes and test performance. This research may further include a scale measuring attitudes toward women prior to and following the cognitive task.

The Future of Stereotype-Lift Research

Overall research in the area of stereotype-lift has been minimal, if not absent in many areas. Many studies have been carried out in order to study stereotype-threat, the phenomenon opposing stereotype-lift. These studies have neglected the effect of stereotypes upon the group that is not being discriminated against. Therefore, the major

avenue by which future research will progress is expansion of data examining stereotype lift.

While this particular study utilized archival data, additional studies, done solely for the purpose of stereotype-lift research would provide a valuable expansion upon the current study. In addition to providing additional data, these studies may contain a greater number of participants, by which to increase the power of the study. Finally, a study focusing solely on stereotype-lift will have the benefit of eliminating unnecessary measures while including some that may be more relevant. These more relevant measures may include anxiety, a measure of one's tendency toward group cohesion, as well as a measure of cognitive load prior to, and following the cognitive task.

In addition, many theories exist as to the reasons behind stereotype-lift. Social dominance theory and the "better-than-average" effect theory are two of these theories. Measures that will enable the researcher to examine the extent to which a participant feels an allegiance to their group, as well as the participants understanding of their group's perception, can be included in this study by means to understand the validity of these theories.

Another path by which to expand upon the current study is through increased demographics. This includes age, racial and socio-economic groups. The demographics of the current study were primarily traditional college-aged participants. Through the inclusion of different age groups, research may be able to tap into perceptions pertaining to academic stereotypes that have shifted through generations. In addition, differing racial and socio-economic groups may experience discrimination to varying extents, and may be more or less affected by stereotypes.

While this study has focused upon the impact of stereotype-lift in a general test of academic achievement, further studies may also focus upon male/female stereotypes in more specific academic situations. Therefore, another avenue that may be taken by future research is the examination of men and women's performance in academic areas possessing strong gender stereotypes. This may include the increased performance of men in the areas of engineering, math, and science. On the other hand, future research should also examine the positive effects of stereotype lift among women when men are stereotyped against. For instance, studies could be designed to examine women's increased performance in the area of nursing, teaching, or English when males are stereotyped against.

Appendix A

Self-Esteem Scale

1. I feel that I am a person of worth, at least on an equal plane with others.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

2. I feel that I have a number of good qualities.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

3. All in all, I am inclined to feel that I am a failure.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

4. I am able to do things as well as most people.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

5. I feel I do not have much to be proud of.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

6. I take a positive attitude toward myself.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

7. On the whole, I am satisfied with myself.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

8. I wish I could have more respect for myself.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

9. I certainly feel useless at times.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

10. At times, I think that I am no good at all.

3	2	1	0
Strongly Agree	Agree	Disagree	Strongly Disagree

Appendix B

SELF-EVALUATION QUESTIONNAIRE: STAI Form Y-1

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate **how you feel *right* now, that is, at *this moment.*** There are no right or wrong answers. Do not psend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not At All	Somewhat	Moderately So	Very Much So
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4

18. I feel confused.....	1	2	3	4
19. I feel steady.....	1	2	3	4
20. I feel pleasant.....	1	2	3	4

Appendix C

SELF-EVALUATION QUESTIONNAIRE: STAI Form Y-2

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate **how you feel *right* now, that is, at *this moment.*** There are no right or wrong answers. Do not psend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not At All	Somewhat	Moderately So	Very Much So
21. I feel pleasant.....	1	2	3	4
22. I feel nervous and restless.....	1	2	3	4
23. I feel satisfied with myself.....	1	2	3	4
24. I wish I could be as happy as others seem to be.....	1	2	3	4
25. I feel like a failure.....	1	2	3	4
26. I feel rested.....	1	2	3	4
27. I am "calm, cool, and collected".....	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them.....	1	2	3	4
29. I worry too much over something that really doesn't matter	1	2	3	4
30. I am happy.....	1	2	3	4
31. I have disturbing thoughts.....	1	2	3	4
32. I lack self-confidence.....	1	2	3	4
33. I feel secure.....	1	2	3	4
34. I make decisions easily.....	1	2	3	4
35. I feel inadequate.....	1	2	3	4
36. I am content.....	1	2	3	4

37. Some unimportant thought runs through my mind and bothers me..... 1 2 3 4

38. I take disappointments so keenly that I can't put them out of my mind..... 1 2 3 4

39. I am a steady person..... 1 2 3 4

40. I get in a state of tension or turmoil as I think over my recent concerns and interests..... 1 2 3 4

Appendix D

Mood Adjective Checklist

For the following questions, please indicate how you feel at this moment.

	Not at all like this						Extremely like this
1. Calm	1	2	3	4	5	6	7
2. Resentful	1	2	3	4	5	6	7
3. Nervous	1	2	3	4	5	6	7
4. Confused	1	2	3	4	5	6	7
5. Easy-going	1	2	3	4	5	6	7
6. Relaxed	1	2	3	4	5	6	7
7. Angry	1	2	3	4	5	6	7
8. Comfortable	1	2	3	4	5	6	7
9. Tense	1	2	3	4	5	6	7
10. Content	1	2	3	4	5	6	7
11. Frustrated	1	2	3	4	5	6	7
12. Upset	1	2	3	4	5	6	7
13. Unsure	1	2	3	4	5	6	7

Appendix E

Manipulation Check:

Please provide the following information:

1. Ethical guidelines require that we ask how fairly was your gender treated in the present experiment?

   1 2 3 4 5 6 7 8 9 10

   Not fairly at all — Very fairly

2. How much did this task discriminate against you personally, due to your gender?

   1 2 3 4 5 6 7 8 9 10

   Not at all — Very much

3. How fairly was the opposite gender treated in the present experiment?

   1 2 3 4 5 6 7 8 9 10

   Not fairly at all — Very fairly

4. How much did this task discriminate against those in your group of the opposite gender, due to their gender?

   1 2 3 4 5 6 7 8 9 10

   Not at all — Very much

Age:_____ Year in School: Fr. So. Jr. Sr.

Gender: Male Female

Ethnicity:

White Native American Hispanic/Latino

African American Asian Other

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