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**Personal Group Discrimination Discrepancy:
The moderating effects of emotion and their expression.**

Ritu Gill

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of Master of Arts**

Department of Psychology

**Carleton University
Ottawa, Ontario**

September, 2001

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Acceptance of the thesis:

"Personal Group Discrimination Discrepancy:
Moderating Effects of Emotions and their Expression"

submitted by

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in Partial fulfillment of the requirements for
the degree of Master of Arts

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Abstract

When minority group members deny personal experiences of discrimination, yet acknowledge that members' of their group are discriminated against, a phenomenon known as personal/group discrimination discrepancy occurs (Crosby, 1984). The present study examined affective, cognitive, and behavioural responses of women (N=108) to a situation of discrimination. The extent to which women perceived lower levels of personal discrimination and acknowledged group discrimination was examined in terms of experimentally induced mood (sad, angry, neutral) and instructions for expressing their emotional reaction (suppression, expression, control) upon receiving negative feedback on a task. The negative feedback consisted of being placed in a low status group as a consequence of their gender, as opposed to ability. As expected, analyses of variance indicated that the emotion induced and emotional reaction influenced women's perceptions of discrimination. Specifically, women perceived lower levels of discrimination when induced to feel sad and suppress their emotion, relative to women induced to experience anger and express their emotion, who perceived higher levels of discrimination. Effects were also observed for perceptions of control and actions endorsed.

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Introduction

Imagine this: you are working in a prestigious accounting firm as a hardworking, respected female employee. A coveted position has opened up with you and a male colleague vying for it. While you and your competitor are identical in age and current position, you differ in other respects. For one, you have put in more years at the firm, and two, you have a higher level of education. The male employee receives the position. Despite feelings of anger, sadness, or frustration you do not express these feelings, you control them. While you think an injustice has been committed, you do not believe there is anything you can do about it. In fact, you tell yourself that although it seems an unfair decision, perhaps if you published more papers, or were friendlier with the employer, you would have received the position. This pattern of response is called the minimization of personal discrimination. When a minority group member, in this case a woman, fails to perceive herself as a victim of discrimination despite indicators to the contrary, she is considered to be minimizing or denying discrimination (Crosby, 1984). According to Crosby (1984) minority members who engage in this minimization not only prevent themselves from seeing the reality of the situation, but also reduce their chances of achieving professional advancement because the discriminatory status quo remains unchallenged.

In the present study, the role of affective processes in promoting a denial of personal discrimination were examined. More specifically, it was suggested that women's emotional reaction to discrimination, in terms of anger versus sadness, would make her more amenable to recognizing or denying that discrimination took place, respectively. Moreover, given that in North American society, women who wish to

convey their professional image may be under particular pressure to suppress reactions that may be consistent with a feminine stereotype, namely of being overly emotional (Sturges, 1993) the effects of suppressing versus expressing her emotional reaction on the denial of discrimination was also assessed.

Personal Group Discrimination Discrepancy

In 1978 Crosby conducted a survey in Boston on the grievances about life at home and at work. The study consisted of employed men, employed women, and housewives (Crosby, 1984). The employed women regarded their jobs positively and were as committed as the working men, despite earning significantly less money than the male employees. While the average salary for employed men was approximately \$28,000 per annum, the employed women earned approximately \$19,000 to \$20,000 per annum (Crosby, 1984). There are a number of factors that could account for this wage difference: women may have had less work experience, were less productive, changed jobs more frequently, or possessed other characteristics that made them less desirable as employees. However, in this study the working men and working women were equivalent on level of their jobs, age, marital status, education, training, job experience, and hours worked per week. Crosby (1984) therefore concluded that the wage gap was due to gender discrimination. The working women in this study indicated concerns about gender discrimination in America as a whole, suggesting that they perceived group discrimination. However, in terms of perceptions of personal discrimination, the women did not see themselves as personally affected (Crosby, 1984).

Even in the 1990s gender discrimination has been observed among women in various occupations, such as academia, (Heckert, White, Gulinson, Schnarre, Gannon, & Schneider, 1991; Johnsrud & Wunsch, 1991; Sandler, 1991;) and management (Powell & Butterfield, 1994; Stroh, Brett & Reilly, 1992). Despite evidence of gender discrimination, women continue to deny that they are discriminated against personally, while asserting that women are discriminated against as a group (Foster & Matheson, 1998, 1999; Ruggiero, Steele, Hwang & Marx, 2000; Taylor, Wright & Ruggiero, 1991; Taylor, Wright, Moghaddam & Lalonde, 1990). The denial of discrimination at a personal level but the concurrent recognition of it at a group level has been labelled the personal/group discrimination discrepancy (PGDD). Taylor et al. (1991) describe this experience as occurring when members of a group who have the potential to be targets of discrimination perceive a higher level of discrimination aimed toward their group as a whole, rather than at themselves as individual members of that group. PGDD is a robust phenomenon as it has been observed across many groups, including working women in America (Crosby, Cordova & Jaskar, 1993; Crosby, 1984; Moghaddam, Stolkin & Hutcheson, 1997; Ruggiero, Mitchell, Krieger, Marx & Lorenzo, 2000; Ruggiero, 1999; Taylor et al., 1991; Taylor et al, 1990), women in France and Canada (Foster & Matheson, 1998, 1999; Taylor, Wright & Porter, 1993) Francophones and Anglophones within Quebec (Guidmond & Dube-Simard, 1983), and South Asian and Haitian immigrant women (Taylor et al, 1990). This phenomenon has been of particular interest, as ordinarily there is a tendency for individuals to attribute success to internal factors and failure to external factors, reflecting a self-serving bias (Chacko & McElroy, 1983; Weiner, 1986). The type of attributions associated with success and failure provide a

means of maintaining or protecting levels of self-esteem by allowing individuals to take credit for their success and avoid self-blame for their failure (Schlenker, 1973). Thus, it is surprising that when given an opportunity to attribute failure to an external cause, namely discrimination, women have a tendency to attribute to something about themselves (an internal cause). Thus, since documenting this phenomenon, substantial research has been conducted to examine the cognitive and motivational bases to group members' minimization of personal discrimination while acknowledging group discrimination.

Explanations of PGDD

Essentially explanations of PGDD have been divided into two categories: cognitive and motivational. Cognitive explanations focus on different information processing techniques. For example, Taylor, Ruggiero, and Louis (1996) suggest the media's representation of group-based discrimination makes it more salient than individual-based discrimination. It is argued that the media's coverage of group-based discrimination has an impact on viewers in terms of the information that is presented and available. Given the media's propensity to highlight more serious, extreme, or otherwise unusual cases of discrimination, such repeated exposure to the serious instances experienced by other group members may result in individuals' perhaps more minor, everyday experiences of discrimination, being viewed as relatively innocuous. Moreover, the media exposes individuals to a substantially greater number of instances of group-based discrimination than they may experience personally. Thus, on average, the group is viewed as more discriminated against oneself. Alternatively, such perceptions may reflect an additive process, in that, when asked about group discrimination, an

individual may add the discriminatory experiences of other group members to his or her own. The total amount of discrimination would surpass that of the individual's personal experience with discrimination, producing higher ratings of group discrimination and lower ratings of personal discrimination (Ruggiero & Taylor, 1994; Taylor et al, 1990).

Crosby (1984) and Rutte, Diekmann, & Polzer (1994) suggested another cognitive bias that may explain the discrepancy. Promotions, salary increases, grants, and awards maintain criteria that are unclear and imprecise. However, because it is generally believed that such opportunities are given to those who are meritorious, when an individual woman fails to receive such opportunities, she may attribute her failure to her own characteristics, such as a lack of productivity or competence. In effect, given the ambiguities surrounding the factors that are combined to define relative merit, as an individual case, a woman is more liable to blame herself, rather than believe she is a target of gender discrimination. In contrast, when numerous women as a unit do not receive these opportunities it is easier to conclude they have been discriminated against. When there is a sufficient number of instances of visible discrimination against members of a group, and this aggregate information is available to group members, they are in a position to identify a clear pattern that suggests that their experience is due to their group membership. In this case, they are more likely to attribute their experience to discrimination rather than their individual characteristics. Twiss, Tabb, and Crosby (1989) examined participants' ability to perceive discrimination when presented in aggregate form versus as a single instance condition. It was observed that perception of discrimination was heavily dependent on the format of information. When presented on a

case by case basis, participants perceived less discrimination than when the same information was presented in aggregate form.

Another cognitive explanation of PGDD is the presence of attributional ambiguity. Crocker and Major (1987) observed that minority group members face attributional ambiguity when confronted with discrimination. When receiving such negative feedback, they were uncertain as to whether it was due to their own incompetence or if it was due to discrimination. Similarly, Ruggiero and Taylor (1995) examined the relation between attributional ambiguity and perceived discrimination. Women were informed that their performance on a test was to be evaluated by one of several judges. The experimenter confided to the women that 100%, 75%, 50%, 25%, or none of the judges discriminated against women. All of the women received a failing grade and negative feedback. Only women in the 100% condition attributed their failure to discrimination. When discrimination was ambiguous (the 75%, 50%, and 25% conditions) women attributed their failure to the poor quality of their answers rather than discrimination. These results suggest that in situations in which discrimination is ambiguous, minority group members are likely to minimize personal discrimination. Ruggiero and Taylor (1997) conducted the same study with Asians and Blacks in terms of racial discrimination, and observed similar results as for women, indicating that the effects of attributional ambiguity extend to other minority groups as well.

While cognitive explanations suggest that group members are not aware that they are the target of discrimination, motivational explanations allow for such recognition, but propose that group members are motivated to deny it. For example, Ruggiero and Taylor (1997) examined the role of self-esteem and perceived control in the denial of

discrimination. By carrying out the same procedure as Ruggiero and Taylor (1995), these researchers found that by minimizing discrimination, minority group members protected their levels of state self-esteem. The benefits of minimizing personal discrimination became clearer when the concurrent effects on perceived control were examined, in that the minimization of discrimination appeared to be related to group members' reports of maintaining control over personal events in their lives. Ruggiero and Taylor (1997) define perceived control as the 'belief that one can determine one's own internal states and behavior, influence one's environment, and/or bring about desired outcomes'. Thus, by denying discrimination, minority group members may be able to maintain the perception of control over personal outcomes in their lives. In effect, minority group members may have been hesitant to blame their performance on discrimination because they were placing control for their outcomes in the hands of others rather than in their own. Ruggiero and Taylor (1997) suggested that the psychological benefits of minimizing discrimination may outweigh the consequences of acknowledging such discrimination.

Another motivational explanation addresses the individual's reluctance to specify the exact source of discrimination, or pinpointing the 'villain'. For instance, a female employee may hesitate to point a finger toward her discriminating male employer in order to avoid, or out of fear of, the potential repercussions of her accusation. As a result, she may be motivated to minimize her experience of discrimination altogether as this allows her to avoid responsibility for pointing out the 'discriminator'.

The disadvantaged individual may also be motivated to deny personal discrimination in order to avoid the dissonance associated with not taking any specific

action to address the discrimination, which she may not do, again out of fear of the repercussions (Taylor et al, 1990). Knowing you have been a victim of discrimination but choose not to confront it may produce feelings of anger, sadness, or guilt. Therefore it may be preferable to deny or minimize the personal experience of discrimination to avoid the dissonance of not taking any action to counteract it.

Ultimately motivational explanations of PGDD suggest that group members are compelled to deny or minimize experiences of personal discrimination in order to ease emotional tension or turmoil accompanied by discriminatory experiences. Therefore motivational explanations suggest that the experience of discrimination is an emotionally distressful event, and denying its occurrence is a mechanism for controlling emotional reactions. However, Foster and Matheson (1998) have suggested that in fact, the emotional reaction may motivate responses to discrimination. They examined women's perceptions of, and affective responses to, personal discrimination and how they were related to taking collective action to enhance group status. It was observed that women who perceived little personal discrimination but were personally discontent were more likely to take collective action to address discrimination. In contrast, women who perceived high discrimination but did not feel highly discontent with their status were less likely to engage in collective action. Thus, the presence of negative emotions or discontent appears to encourage collective action.

While motivational explanations suggest that PGDD is adopted to reduce emotional tension, Foster and Matheson (1998) suggest that the affective reaction can sometimes result in a stronger response to discrimination. In this study affect was defined as discontent. However, it is possible that the reaction to discrimination may be

dependent on the qualitative nature of the emotion experienced. Relatively little research has been conducted to explore emotional or affective responses to discrimination, and how these responses in turn affect group members' cognitive and behavioural reactions. It was therefore the goal of the present research to explore the role of emotions in women's responses to a situation of discrimination.

Sadness and Anger as Emotional Responses to Discrimination Against Women

The present study examined the potential role of sadness and anger on the denial of personal discrimination. In her grassroots analysis of the role of emotion in responding to racial and gender discrimination, Lorde (1984) suggested that women who experience anger are more likely to take action against their situation. Sadness and anger may be the emotional reactions that correspond to the attributions made by women for a negative event, such as discrimination. For instance, while they did not examine emotional reactions per se, Foster, Matheson and Poole (1994) manipulated the attributions that could be made for a situation of discrimination. Consistent with the attributions commonly found to co-occur with depressive affect (Peterson, Maier & Seligman, 1993), in one condition women were led to believe that their failure was due to internal, stable, and global factors. In contrast, in the comparison group, their failure was attributed to external (and stable and global) factors, which is in line with the externalization of emotion that is inherent to anger (Siegel, 1986; Weiner, 1986). Their results indicated that women provided with internal attributions were indeed more likely to self-blame for their failure and accept their situation, while women encouraged to attribute failure to external factors were more likely to blame society and to take action against their situation, such as asking for individual or group retesting. These findings suggest that

emotional reactions that reflect internal (sadness or depressive affect) versus external (anger) attributions for failure may result in different responses to discrimination.

Weiner (1985, 1986) describes a three-dimensional model of causal attributions considered relevant to emotion. An individual classifies the cause of an event along three dimensions: a) causal locus (whether the cause is internal or external to the individual) b) stability (whether it is short-lived or long lasting) and c) controllability (whether the cause is under voluntary control). Dimensional attributions have been related to particular emotions (Krantz & Rude, 1984; Weiner, Russell & Lerman, 1979). For example, anger has been associated with external locus and controllability. In the same vein, anger is typically associated with blaming others for the cause of event rather than oneself (Averill, 1982, 1983; Smith, Haynes, Lazarus & Pope, 1993).

While anger evokes attributions that are external, unstable, specific, and perhaps controllable, depressive affect is associated with internal, stable, and global factors for negative events that may not be perceived as controllable (Crittenden & Lamug, 1988; Kinderman & Bentall, 1997; Martin, Seligman, Abramson & Semmel, 1979; Sweeney, Anderson, & Bailey, 1986). According to Weiner (1979) the more internal one's attribution for lack of control is, the more the individual's self-esteem will be lowered, as is the case for those with sad or depressive affect. Weiner also observed that stable attributions for lack of control tend to produce depressive symptoms across time. Attributions also vary in their degree of generality. For instance, attributions that are global (apply to all situations) result in feelings of helplessness as opposed to attributions that are specific to situations and do not result in feelings of helplessness. Individuals with sad or depressive affect have been observed to make internal, stable, and global

attributions for failures, while engaging in external, unstable, and specific attributions for their successes (Abramson, Seligman & Teasdale, 1978; Miller & Norman, 1979, Seligman, Abramson, Semmel & von Baeyer, 1979).

Stereotypes and the Effects on Emotional Expression versus Suppression

Specific emotions are stereotypically associated with both men and women. For instance, sadness and happiness are typically associated with women while anger and pride are typically associated with men (Kelly & Hutson-Comeaux, 1999). Kelly and Hutson-Comeaux examined these gender-emotion stereotypes and observed that overreactions to happiness and sadness were more characteristic of women, whereas overreactions to anger were more characteristic of men. It has also been observed that women were more likely to react with sadness to negative emotional events and they also expected themselves to be more likely to react with crying and withdrawing when faced with a negative emotional event (Hess, Senecal, Kirouac, Herrera, Philippot & Kleck, 2000).

In relation to a professional context, women who are aware of such stereotypes may feel particularly compelled to suppress feelings of sadness in order to avoid the typical 'acting like a woman' stereotype. Spencer, Steele, and Quinn (1999) found that awareness of gender stereotypes can inhibit women's performance. This inhibiting effect of women's awareness of the stereotype is known as 'stereotype threat'. While stereotype threat has typically been examined in the context of intellectual performance, it generally refers to the extent to which group members' expectations that others will evaluate them using a framework that reflects negative stereotypes affects their own behaviour and performance (Aronson, Lustina, Good & Keough, 1999; Spencer et al., 1999). For

example, Spencer et al. (1999) had women complete a math test that was known to produce gender differences. Women's performance on this test was considerably poorer in comparison to when they were administered the same test but it was not described as assessing math skills that were sensitive to gender differences, suggesting that awareness of gender expectations depressed their performance. The women themselves did not have to believe that women were poorer at math; the critical factor was that they believed others held this expectation, which is what constitutes the stereotype threat.

A similar concern about the application of negative stereotypes may affect women's emotional reactions to discrimination. Women may feel compelled to control their emotional reactions to avoid being stereotyped. Thus, in a situation that evokes distress, such as the experience of discrimination, women may feel under particular pressure to suppress the display of emotional distress. If her distress led to crying, a behavioural reaction that women are stereotypically socialized to express, she would be concerned that her response would be dismissed as reflecting the stereotypically overly emotional woman.

In other instances, women are socialized to control particular emotional reactions or risk the application of the negative stereotypes of a particular subgroup of women (Averill, 1983). Averill (1983) asserts that while women are capable of feeling and expressing anger, they are strongly encouraged or even conditioned to suppress their anger by the patriarchal society. It has been argued that there is more social pressure on women than men to control their anger and the display of their anger (Hochschild, 1983; Stearns & Stearns, 1986). In situations where men do not hesitate to freely express their

anger, women control themselves from displaying their anger (Frodi, Macauley & Thorne, 1977).

In sum, while the expression of emotion may be more likely to result in women taking action to change their status in a situation of discrimination (Foster & Matheson, 1998; Lorde, 1984), there exist substantial pressures on women to suppress such emotions. If the discrimination elicits distress, she may not express her emotions out of a concern for appearing stereotypical; if it elicits anger, she may suppress emotions that are negatively regarded when expressed by women. In either case, it was of interest in the present study to examine the effects of emotional expression or suppression on subsequent cognitive processes in relation to the discriminatory situation.

Present Study

The focus of the present study was to examine the potential role of expressing or inhibiting emotions on the affective, cognitive and behavioural responses to an experience of personal discrimination. While past research has simply measured emotional responses to discrimination in terms of the general construct of 'discontent', in the present study, women were primed to experience either sadness or anger. A control group that was not emotionally primed was also included in order to evaluate the relative efficacy of the priming manipulation. Following this priming, women were exposed to a situation of discrimination.

However, immediately following the event, they were explicitly told to either express or suppress their reactions (or neither, in order to assess the effectiveness of the expressive or suppressive reactions). Gross, John, and Richards (2000) noted that the intensity of emotional experience was related to emotional expression. These findings

suggest that engaging in emotional expression and will heighten the experience of the emotion in response to an event. On the other hand, Gross and Levenson (1997) found that participants asked to 'inhibit their expressive facial behavior or to behave in such a way that a person watching [them] would not know [they] were feeling anything' reduced the subjective experience of the emotion. Suppression participants reported decreased emotional experience in self-reports of sad and amusement ratings. Thus, the present study adopted manipulations that similarly encouraged participants to express or suppress their emotions.

Lastly, women's self-reported reactions to the discrimination were then assessed, in terms of her esteem, attributions, cognitive perceptions and behavioural endorsements. It was expected that,

1. Consistent with past research, women exposed to a situation of personal discrimination should report higher levels of group as compared to personal discrimination. This perception was expected to be associated with greater perceptions that their failure was fair, and with greater perceptions of personal control.
2. There would be an effect for the emotion that was induced on self-esteem, perceptions and attributions, and behavioural responses to discrimination. Women who were induced to experience anger were expected to be more likely to acknowledge their experience with personal discrimination and to endorse actions to counter the source of discrimination. Women primed to experience sadness may be more likely to minimize their experience with personal discrimination and be more accepting of it. As a result, the women experiencing anger may report higher levels of

self-esteem (relative to those experiencing sadness), greater feelings of personal control, yet a greater tendency to attribute their failure to external factors.

3. An interaction between emotion induced and reaction was expected. Women who were induced to feel sad would be more likely to recognize their experience with personal discrimination when encouraged to express their emotions, but they would feel less control, self-esteem, and be less likely to take action to change the situation. When encouraged to suppress their emotions, such women may then be able to minimize personal discrimination, and may still not take action, but they may feel more in control of aspects of the situation and maintain self-esteem.

In contrast, women induced to feel anger were expected to be more likely to acknowledge personal discrimination when encouraged to express their emotions, as they would feel more able to acknowledge the role of external factors, and feel greater ability to change the situation through action. Their recognition of discrimination may be less affected by instruction to suppress, but their emotional reaction may be more negative, as well as resulting in reduced feelings of control."

Method

Participants

Participants consisted of 108 first year female students from a variety of academic disciplines, including psychology, sociology, economics, criminology, social work, and business. Participants' age varied from 18 to 44 ($M=24.86$, $SD=6.48$). The majority of the participants were Caucasian ($n=56$, 47%), 16% ($n=19$) were Chinese, 8% ($n=9$) Black, 5% ($n=6$) South Asian, 4% ($n=5$) North African, and the rest included Japanese, Native, and Mixed Origin. Participants were recruited to participate in a study on creative abilities through storytelling.

Design

The present study was a 3 (Emotional Induction: Sadness, Anger, Control) x3 (Emotional Reaction: Express, Suppress, Control) between groups design. The dependent variables include affective (emotions, self-esteem), cognitive (perceptions of personal and group discrimination, attributions for the event, perceived control), and behavioral (endorsement of actions to respond to the event) indicators.

Procedure

Participants were informed that the study examined creative abilities through storytelling (instructions are in Appendix A). While several participants were run at once, they were run in separate adjoining rooms to ensure independence of responses (particularly in the expressive conditions). Participants were given a brief overview of the study, and were then asked to complete an informed consent form (Appendix B) and a background questionnaire (Appendix C). Participants were asked to complete a creativity task for which they had to write a short story. The real purpose of this task was to induce

a particular mood, and to subsequently serve as a basis for discrimination against women (Foster, et. al., 1994). A female experimenter told participants that if their stories pass a predetermined creativity score they would be included in a high status group, and if their stories did not meet this criterion they would be categorized in a low status group. The purpose of creating high and low creativity groups was to motivate the participants to be in the desirable, high status group (high creativity), rather than the undesirable, low status group (low creativity).

The experimenter explained that, once assigned to their group, in the remainder of the study the role of the high status group was to improve the stories created by the less creative participants. Those in the low status group were required to complete a second creativity and writing task as well as a number of tedious tasks (ie. alphabetizing, sentence completion) and were told this is necessary in order for the experimenters to assess the relation between lack of creativity and poor language and writing skills. The creative task consisted of reading and imagining events of a story as though they were happening to them (see Appendix D). While the creative task was presented as the basis for determining their success in being assigned to the high status group or not, it also served to prime mood. Participants read a story (taken from Robins, 1988) describing an achievement failure situation in which a student has received a poor grade in an important course and visits the professor, who has agreed to take a second look at the paper. The professor discusses the many and varied problems with the paper, and concludes that he/she will not change the grade. Participants were asked to form a mental picture of the events and experience how they would feel if they were the protagonist in the story. After reading the story they were asked to write about the same event described in the

story with themselves as the protagonist using a list of twelve target words. To induce the mood manipulation, the listed words were varied (see Appendix E). To prime sadness, five of the words in the list reflected sad emotions (sad, hopeless, discouraged, helpless, despair), to induce anger these words were replaced with 5 of the words reflecting angry emotions (angry, hostile, infuriated, irritated, resentful). A control condition was also included in which the 5 emotional words were replaced by five adjectives with no affective content. Results of a pilot study revealed that an angry mood state and sad mood state were successfully induced employing this story and the two word lists (see Appendix F).

Participants were then exposed to the discriminatory event. After the female experimenter collected the stories, she informed the participants that she had to give the papers to the alleged male judges who would be evaluating their stories as non-biased observers. These male judges were allegedly Engineering students learning about psychology and methods of evaluation. The judges were male to reinforce the manipulation of gender-based discrimination (Foster, et. al., 1994). Before the female experimenter left to deliver the stories, all participants were asked to complete an emotion rating manipulation check (see Appendix G).

After the emotion rating scale had been collected, participants were asked to complete a secondary task in order to ensure the reality of the situation regarding time needed to grade the papers, and to maintain the mood manipulation. Participants in the sad condition were asked to write about something that occurred in their life, or to someone they knew, which made them feel very sad or depressed. Those in the anger condition were given the same instructions but to remember something that made them

feel angry. Those in the control condition were asked to remember and write about an event in their lives that inspired them to feel creative (ie. reading a novel, watching a play). After approximately 10 minutes, the female experimenter returned with the graded stories. As she sifted through the stories and handed them back to the participants, she mentioned under her breath (but audible to the participants) how these men never passed the women into the high status group.

The experimenter then informed each of the participants that they had been assigned to the low status group, and reminded them of what this involved. The emotional reaction manipulation was then invoked. Participants in the emotional suppression condition were told to inhibit their reactions for the remainder of the study. Specifically they were told: 'If you have any feelings during the remainder of the study, do not let those feelings show. Try to act in such a way that a person watching you would not know you were feeling anything. This is important as it assures that you maintain your composure and act in a professional manner regardless of what group you are placed in'. Participants in the expression condition were encouraged to freely express any thoughts, feelings, or questions that may arise during the course of the experiment. For example, if they were displeased or pleased with a particular aspect of the experiment, then they should feel free to openly express and share their views. They were told that 'this is important as it assures that you show a commitment to your professional status regardless of what group you are placed in.' Participants in the control condition were not provided with instructions with regard to how to deal with their emotions.

All participants were asked to complete a final questionnaire assessing perceptions of personal and group discrimination, state self-esteem, attributions for their failure, actions to respond, perceived control, group placement (Appendix H).

Participants were told that the questionnaires examined reading and writing abilities, along with personality differences between those in the high and low status groups.

Finally, to alleviate moods of sadness and anger, a second mood induction procedure was included to provide humor (Appendix I). Participants responded to a story, and then indicated the extent to which they found it amusing or entertaining (Appendix J). Upon completion, participants were asked to complete a suspicion questionnaire assessing the extent to which they perceived the experiment was based gender discrimination (Appendix K). Participants were told the questionnaire was an opportunity for them to provide feedback regarding the study. Participants were given an oral debriefing describing the true intent of the experiment (Appendix L).

Measures

Manipulation check for emotion induced. Participants completed an emotion rating scale as a measure of subjective emotional experience of anger, sad, and neutral moods. While the majority of items were taken from the Diener and Emmons mood scale (1985), additional items were included to ensure adequate assessment of anger, sadness, and neutral moods. The scale consisted of 19 adjectives that were rated on an 8-point scale, ranging from not at all (0) to extremely (7) according to how participants feel in response to the story they read.

To investigate the extent to which the mood manipulation elicited the targeted moods of sadness, anger, and neutrality, a principal components analysis with a varimax

rotation was performed on the 19 items of the emotion rating scale. An examination of the scree plot of eigenvalues against factors indicated that 4 factors should be retained. These first 4 factors accounted for 68.6% of the variance. Table 1 provides the rotated loadings on each factor.

Factor 1 appears to be a “Sad Mood” factor, including items such as hopeless, frustrated, worried, anxious, sad, confused, unhappy, depressed, helpless, and desolate. The second factor, the “Neutral Factor”, included items such as pleased, relaxed, calm, and happy. The third factor could be labelled an “Anger Factor”, as it contained items such as angry, hostile, and infuriated. Finally, the fourth factor loaded one item, indifference. Considering the lack of relevance of this item to the three induced moods and that it only contributed 6.36% to the cumulative variance, it was not used in any further analyses.

Table 1

Factor Loadings for Emotion Rating Scale (with Varimax Rotation)

Variable	Factor 1	Factor 2	Factor 3	Factor 4
Hopeless	.85	.00	.00	.00
Frustrated	.60	-.30	.39	-.22
Worried	.82	-.16	.17	-.17
Anxious	.71	.12	.25	-.11
Sad	.79	-.26	.00	.00
Confused	.52	-.12	.36	.00
Unhappy	.63	-.42	.19	.00
Depressed	.65	-.46	.00	.14
Helpless	.79	-.18	.20	.22
Desolate	.77	-.17	.14	.23
Pleased	.00	.85	-.12	-.14
Relaxed	-.20	.81	-.22	.12
Calm	-.14	.71	-.17	.18

Happy	-.21	.84	-.14	.00
Angry	.23	.00	.87	-.12
Hostile	.19	-.17	.84	.15
Infuriated	.12	-.13	.87	.00
Indifferent	.00	.11	.00	.92
Cronbach's α:	.91	.88	.87	

Scores for each of the three mood dimensions were calculated by taking the average ratings for the relevant items, such that higher scores reflecting greater endorsement of experiencing the particular mood.

Manipulation check for perceived discriminatory group placement. Participants rated 9 items reflecting how they felt about their group placement on 7-point bipolar rating scales (ie. good vs. bad, proud vs unproud, guilty vs not guilty, angry vs. not angry, comfortable vs uncomfortable, not deserved vs well deserved, glad vs upset, annoyed vs content). A total score was calculated by averaging responses (with relevant items reversed), such that higher scores reflected lower satisfaction (Cronbach's $\alpha = .80$ with one of the items deleted, namely, indifference).

Manipulation check for fairness group placement method. of To examine participants' perceptions about the fairness of the group placement procedures, all eight items of the questionnaire were combined to yield a total mean, representing one index, such that higher scores reflected greater perceptions of unfairness (Cronbach's $\alpha = .77$).

State self-esteem. The State Self-Esteem Scale (SSES) developed by Heatherton and Polivy (1991) is a measure of state or short-lived changes to self-esteem. The scale consists of 20 statements, such as "I feel confident about my abilities". Each item is scored on a 5-point scale ranging from 1(not at all) to 5 (extremely descriptive of me at

this moment). The SSES has three factors; performance, social, and appearance self-esteem. For the purpose of this study, only two factors were examined, namely performance (Cronbach's $\alpha = .55$) and social (Cronbach's $\alpha = .74$). For each subscale, responses to the relevant items were averaged such that higher scores reflected greater self-esteem. These two dimensions of self-esteem were moderately correlated ($r = .47$, $p < .01$).

Personal group discrimination discrepancy. This questionnaire assessed the extent to which women minimized personal discrimination relative to group discrimination. It was based on an 8-point rating scale, ranging from not at all (0) to very much (7). The two items on personal ('To what extent were you personally discriminated against because you are a women in the context of this experiment') and group (To what extent do you feel that women as a group were discriminated against in the context of this experiment') discrimination were embedded among six filler items (Taylor et al, 1991). These two dimensions of perceived discrimination were highly correlated ($r = .84$, $p < .01$).

Attributional ambiguity. Participants rated the extent to which five factors played a role in the determining their group placement, including her sex, luck, effort, and her score and her overall ability. These were rated using an 8-point rating scale ranging from not at all (0) to very much (7). As well, participants indicated what they believed to be the most important reason for being placed in the group they were placed in and then rated whether this reason reflected something due to others (0) versus to themselves (7), if the cause would be never be present when such decisions are made (0) versus always present (7), and if the cause was something that affected just this type of situation as presented in the study (0) versus influenced other areas of their life (7). These questions

reflected the extent to which participants attributed their group placement to internal-external, stable-unstable, or global-specific factors.

Perceived control. Two domains of perceived control were assessed, including performance control, that is, the extent to which participants felt competent about their performance, and social control, which was the extent to which participants perceived control over social aspects of the experiment (Ruggiero, et. al., 1997). Each dimension consisted of four items rated on an 8-point scale ranging from not at all (0) to very much or very likely (7). Perceptions of control on each of these subscales was computed by averaging responses across the relevant items, such that higher scores reflected greater perceptions of performance (Cronbach's $\alpha = .49$) and social (Cronbach's $\alpha = .77$, with item number 7 deleted) control. These dimensions were not significantly correlated ($r = .17$).

Action endorsements. Participants indicated the extent to which they would be willing to participate in any of a set of actions, if they had the opportunity to respond to their treatment in the present experiment, using a scale ranging from not at all likely to participate (0) to extremely likely to participate (7). A choice of five behaviors was offered based on the Wright, Taylor & Moghaddam (1990), including accepting the situation, requests for retests (normative actions), or confronting the male experimenter (non-normative). The latter two actions could be endorsed for the individual herself, or for the women as a group.

Results

In order to assess the effects of emotions and their expression on women's reactions and perceptions of discrimination, 3 (Emotion Induced: Sad, Angry, Neutral) x 3 (Emotional Reaction: Suppress, Express, Control) between groups univariate or multivariate analyses of variance (ANOVAs) were employed to assess the effects of these variables on affective reactions (self-esteem), cognitive perceptions (perceptions of discrimination, attributions, and control), and behavioural endorsements. Where effects were significant, multiple comparisons were performed with family-wise error being held to $p < .05$ by using Bonferroni's correction. Where there were specific a priori directional hypotheses, one-tail tests were adopted. Finally, correlations among outcome variables were examined.

Manipulation Checks

Emotion induced. To evaluate the extent to which the mood induction manipulation was successful, 3 separate one-way ANOVAs were conducted on each of the sad, angry, and neutral adjective dimensions. Significant differences were observed for the angry adjective dimension, $F(2,105) = 6.66$, $p < .01$, $\eta^2 = .113$. Follow-up Bonferroni comparisons indicated that women exposed to the angry word list expressed significantly greater anger than did those induced to experience sadness or not induced to experience any emotion (see means in Table 2). Thus, it appears that the induction of anger was clearly successful. However, despite pilot work, inducing differential levels of sadness was more difficult. There were no differences in the extent to which women induced to experience the different emotions reported feelings of sadness, $F(2,105) = 1.30$, ns , or the neutral feelings, $F < 1$. Nonetheless, follow-up comparisons indicate that

on average all three groups reported experiencing greater sadness than neutral affect, $F(1, 105) = 44.72, p < .01$, and, in contrast to the women induced to feel anger, both the sad and neutral conditions report greater sadness than anger, $F(1, 105) = 9.29, p < .01$.

Table 2

Means and Standard Deviations of Sad, Neutral, and Angry Adjective Dimensions by Emotion Induced.

Affective Dimensions	Emotion Induced	Mean	SD
Sad	Sad	4.47	1.40
	Angry	4.01	1.37
	Neutral	3.96	1.64
Neutral	Sad	2.67	1.21
	Angry	2.42	1.23
	Neutral	2.78	1.37
Angry	Sad	3.25	1.61
	Angry	4.29	1.85
	Neutral	2.81	1.81

Perceived discriminatory group placement. A one-sample t-test was performed on women's satisfaction with their group placement to evaluate whether they felt dissatisfied about being assigned to the low status group (ie. the group mean was different from the scale midpoint of 4). This test was not significant, $t(107) = -.58, ns$, indicating that women were not particularly satisfied nor unsatisfied with the outcome of their group placement ($M = 3.94, SD = 1.02$). Nonetheless, 48.1% of the sample did report average satisfaction scores of less than 4, suggesting that there were a substantial number of women who may have perceived the situation as unfair, and this variation may have

been dependent upon their willingness to perceive personal ($r=.30, p<.05$) and group ($r=.40, p<.05$) discrimination.

Fairness of group placement method. A one sample t-test evaluating whether women's perceptions of fairness differed on average from the scale midpoint of 4 was significant, $t(107)=-6.80, p<.001$, indicating that on the whole, they perceived the selection method as fair ($M=3.19, SD=1.24$). Once again, while this variable was intended as a manipulation check, it is possible that such perceptions were also associated with a willingness to perceive personal ($r = .39, p<.05$) and group ($r = .39, p<.05$) discrimination.

Affective Reactions

State self-esteem. To evaluate the extent to which participants' state self-esteem decreased as a function of their emotional reactions to the discrimination, a 2 (State Self-Esteem: Performance, Social) x 3 (Emotion Induced) x 3 (Emotional Reaction) mixed model ANOVA was conducted. A significant main effect of state self-esteem was revealed, $F(1,99)=10.61, p<.01, \eta^2=.097$, indicating higher scores on performance ($M=2.82, SD=.62$) than the social self-esteem ($M=2.58, SD=.83$). There were no further significant main effects nor interactions, indicating that, contrary to hypotheses, state self-esteem did not vary with respect to emotion induced or emotional reaction.

Cognitive Perceptions

Personal/group discrimination discrepancy. In order to evaluate whether emotions and their expression affected perceptions of personal versus group discrimination a 2 (Level of Discrimination: Personal, Group) x 3 (Emotion Induced) x 3 (Emotional Reaction) mixed model ANOVA was conducted on ratings of discrimination.

The main effect for level of perceived discrimination was significant, $F(1, 99)=10.2$, $p<.01$, $\eta^2=.093$, indicating that, consistent with past research and Hypothesis 1, women perceived higher levels of discrimination against women as a group ($M=2.76$, $SD=2.43$) than discrimination against themselves as individuals ($M=2.34$, $SD=2.40$).

A significant two-way interaction between emotion induced and emotional reaction was also observed, $F(4,99)=2.65$, $p<.05$, $\eta^2=.097$. Follow-up simple effects analyses examining the effect of emotional reaction at each level of emotion induced indicated no significant differences.

Nonetheless, based on apriori hypotheses, as seen in Table 3, follow-up one-tail comparisons indicated that women induced to feel sad were less likely to perceive discrimination when they were told to suppress their feelings, particularly in relation to controls. In contrast, as hypothesized, women who were induced to feel anger, and encouraged to express their feelings reported higher levels of discrimination, particularly in comparison to controls. Follow-up comparisons indicated that there were no differences in the perceptions of discrimination for women not induced to experience any emotion as a function of reaction instructions.

Table 3

Means and Standard Deviations of Emotion Induced by Emotional Reaction for Levels of Perceived Discrimination

Emotion Induced	Emotional Reaction	Mean	SD
Personal Discrimination: Sad	Suppression	1.41	2.35
	Expression	2.25	2.26
	Control	3.00	1.86

Angry	Suppression	2.17	2.72
	Expression	3.58	2.91
	Control	1.50	1.78
Control	Suppression	3.25	2.77
	Expression	2.08	2.27
	Control	1.83	2.25
Group Discrimination:			
Sad	Suppression	1.50	2.20
	Expression	3.00	2.30
	Control	3.50	2.07
Angry	Suppression	2.42	2.71
	Expression	4.00	2.76
	Control	2.08	2.07
Control	Suppression	3.75	2.70
	Expression	2.33	2.15
	Control	2.33	2.39

Attributional Ambiguity. To assess the extent to which participants felt various factors played a role in the determination of their group placement, a 3 (Emotion induced) x 3 (Emotional reaction) MANOVA was performed on the five factors. The multivariate main effect of emotional reaction was significant, $Pillais=.30$, $F(10, 192)=3.35$, $p<.001$, $\eta^2=.149$. The univariate effects indicated that this main effect was significant for attributing the outcome to their creative ability ($F(2,99)=6.02$, $p<.05$, $\eta^2=.108$). Follow-up comparisons indicated that, as seen in Table 4, women given no instruction regarding their emotions were more likely to attribute placement to the low status group to their creative ability than women instructed to suppress or express their emotional reaction.

Table 4

Means and Standard Deviations of Attributional Ambiguity for each level of Emotional Reaction

Attribution	Emotional Reaction	Mean	SD
Score on Task	Suppression	4.41	2.08
	Expression	4.27	1.76
	Control	3.38	2.00
Creative Ability	Suppression	2.61 ^a	2.00
	Expression	2.52 ^a	1.94
	Control	3.94 ^b	2.01
Gender	Suppression	2.13	2.33
	Expression	2.41	2.35
	Control	2.02	2.00
Luck	Suppression	1.38	1.82
	Expression	2.02	2.24
	Control	1.69	1.41
Effort	Suppression	3.44	1.87
	Expression	3.08	1.79
	Control	2.91	1.69

Note. Where superscripts differ, there was a significant difference among the groups.

A 3 (Emotion induced) x 3 (Emotional reaction) MANOVA was performed on internal, global, and stable attributions. The multivariate interaction of emotion induced and emotional reaction was significant, $\text{Pillais}=.23$; $F(12, 297)=2.02$, $p<.05$, $\eta^2=.076$. The univariate effects indicated that the interaction was significant for internal attributions ($F(4,99)=2.76$, $p<.05$, $\eta^2=.100$) and for stable attributions ($F(4,99)=2.99$, $p<.05$, $\eta^2=.108$).

Analysis of univariate simple effects indicate a significant effect of emotional reaction on stable attributions for women induced to experience anger ($F(2,33)=5.11$, $p<.05$). Follow-up comparisons indicated that among women induced to experience anger, those not given any instruction to express or suppress their emotions reported perceiving the situation to be more stable than women encouraged to suppress (see Table 5). There were no significant effects for emotional reaction among women induced to experience sadness or no emotion on attributions of stability.

While emotional reaction did not affect the attributions to internal factors among women induced to experience sadness or anger, perceptions of internality approached significance in the emotionally neutral condition ($p=0.063$). As seen in Table 5, follow-up comparisons indicated that women instructed to express themselves made greater internal attributions than those encouraged to suppress their emotions or who were not provided with instructions.

Table 5

Means and Standard Deviations of Attributions for Emotional Reaction by Emotional Induction

Attribution	Emotion Induction	Emotional Reaction	Mean	SD
Internal	Sad	Suppression	4.75	2.30
		Expression	4.41	2.07
		Control	5.67	1.72
	Anger	Suppression	4.75	1.91
		Expression	4.08	2.40
		Control	5.75	1.29
	Control	Suppression ^b	4.83	1.40
		Expression ^a	6.00	1.21
		Control ^b	4.33	2.31
Stable	Sad	Suppression	4.75	1.22

Global	Anger	Expression	4.92	1.38
		Control	3.75	1.66
		Suppression ^a	3.00	1.60
	Control	Expression ^{a,b}	4.25	1.48
		Control ^b	4.83	1.19
		Suppression	4.75	1.29
	Sad	Expression	4.83	1.85
		Control	4.42	1.73
		Suppression	4.17	2.12
	Anger	Expression	4.33	1.37
		Control	3.58	1.83
		Suppression	2.83	2.12
	Control	Expression	3.42	1.56
		Control	3.67	1.83
		Suppression	4.00	2.00
		Expression	3.75	1.76
		Control	3.17	1.75

Note. Higher scores represent higher internal, stable, global attributions

Perceived Control. To examine the extent to which participants felt they maintained control over performance and social aspects of the experiment, a 2 (Level of Perceived Control: Performance, Social) x 3 (Emotion Induced) x 3 (Emotional Reaction) mixed model ANOVA was performed. A significant main effect for perceived control was observed ($F(1,99)=72.78$, $p<.001$, $\eta^2=.424$) indicating that participants reported greater control over their performance ($M=4.21$, $SD=1.17$) than social aspects of the study ($M=2.67$, $SD=1.86$).

A significant 2-way interaction between perceived control and emotion induced was found, $F(2,99)=4.67$, $p<.05$, $\eta^2=.086$, but this was further qualified by a significant 3-way interaction with emotional reaction, $F(4,99)=3.40$, $p<.05$, $\eta^2=.121$. Analysis of simple interaction effects at each level of control indicated that this interaction only

significantly affected perceptions of control over the social aspects of the study, $F(2,99)=2.66, p<.05$. Simple simple effects of emotional reaction indicated significant effects among women induced to feel sadness, $F(2,99)=2.15, p<.05$, and anger, $F(2,99)=2.81, p<.05$. As seen in Table 6, follow-up comparisons indicated that women induced to feel either sadness or anger reported lower levels of control over social aspects of the study when told to suppress their emotions in comparison to when they were told to express their emotions. This pattern was expected among women induced to feel anger, but was contrary to expectations among those induced to feel sadness.

Table 6

Means and Standard Deviations of Social and Performance Perceived Control by Emotional Reaction

Emotion Induced	Emotional Reaction	<u>M</u>	<u>SD</u>
Social Perceived Control:			
Sad	Suppression ^a	2.13	1.50
	Expression ^b	3.63	1.43
	Control ^{a,b}	3.41	1.51
Anger	Suppression ^a	2.30	2.45
	Expression ^b	3.86	1.36
	Control ^{a,b}	2.33	1.76
Control	Suppression	2.33	2.29
	Expression	1.44	1.77
	Control	2.55	1.41
Performance Perceived Control:			
Sad	Suppression	3.83	0.86
	Expression	4.37	1.00
	Control	3.54	1.09
Anger	Suppression	4.33	1.61
	Expression	4.37	0.91

	Control	4.45	1.30
Control	Suppression	4.18	1.38
	Expression	4.47	0.83
	Control	4.02	1.30

Note. Higher scores represent greater perceived control

Behavioral Responses

A 5 (Action: Acceptance, Individual Normative, Individual Non-Normative, Collective Normative, Collective Non-Normative) x 3 (Emotion induced) x 3 (Emotional reaction) mixed model ANOVA was performed on participants' endorsements of each action. A significant main effect for action was observed, $F(4, 396)=40.96$, $p<.001$, $\eta^2=.293$. As seen in Figure 1, participants most highly endorsed general acceptance of their group assignment. They did not, on the whole, show high endorsement of any of the responses to object to their group membership. This is consistent with past research.

This effect was, however, moderated by a significant 3-way interaction, $F(16, 396)=2.07$, $p<.05$, $\eta^2=.077$. Simple effects analyses of the interaction between action and emotional reactions was assessed within each of the emotions induced. This interaction was significant when women were induced to feel sadness, $F(8,132) = 2.30$, $p<.05$, and anger, $F(8,132) = 2.17$, $p<.05$. As seen in Figure 2, among those induced to feel sadness, the simple simple effects of emotional reaction for each action indicate that emotional expression resulted in a lower likelihood that women would simply accept their group assignment. Indeed, in this condition, women did not differ in the extent to which they endorsed any of the actions, while those who suppressed their sadness or were not given reaction instructions were significantly more likely to accept their situation. In contrast, among women induced to feel anger, either emotional expression or

suppression further resulted in greater endorsement of individual normative actions, but only expression resulted in the greater endorsement of either individual or collective non-normative action.

Figure 1
Means and Standard Errors for 5 Levels of Action

Note: Acceptance sig differs from other grps

Figure 2
Means and Standard Deviations for Action by Emotional Reaction for Sad Mood

Figure 2
Means and Standard Error of Action by Emotional Reaction for Anger Mood

Figure 2
Means and Standard Error of Action by Emotional Reaction for Neutral Mood

Pearson correlations among outcome variables.

Zero-order correlations among outcome variables are shown in Table 7. Contrary to expectations, self-esteem was unrelated to any of the cognitive or behavioral responses. However, greater perceptions of group discrimination were associated with perceived control, and both perceptions of personal and group discrimination were associated with a lower endorsement of accepting their status, and greater endorsement of individual non-normative and collective actions.

Significant high correlations were observed between group placement into the low status group and the method by which women were assigned to the low status group, perceptions of both personal and group discrimination, performance and social perceived control, and non-normative and normative actions, while lower associations were observed with acceptance into the low status group. A similar pattern of associations were observed for perceptions of method by which women were assigned to the low status group.

High associations were found for attributions made into the low status group due to score on the creativity task, creative ability, and effort exerted for completion of the task with internal attributions, while lower associations were observed between gender and internal attributions.

Table 7
Pearson Correlations Among Outcome Variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Manipulation checks																					
1. Group placement	--	.43**	-.04	-.09	.30**	.40**	.06	-.28**	.17	-.01	-.07	-.12	-.23*	.14	.23*	.23*	-.30**	.32**	.36**	.23*	.23*
2. Fairness of method		--	.14	.01	.39**	.39*	-.22	-.44**	.38**	.05	-.25**	-.35**	-.08	.01	-.01	-.02	.34**	.14	.27**	.32**	.27*
State self-esteem																					
3. Performance			--	.47**	.13	.07	-.01	-.18	-.16	.16	-.04	-.22*	-.20*	-.02	-.16	-.19	.03	.01	.08	.06	.01
4. Social				--	-.07	-.09	.13	.02	-.02	-.13	-.08	-.04	-.04	-.04	-.02	-.11	.07	-.06	-.16	-.09	-.12
Perceived discrimination																					
5. Personal					--	.84**	-.06	.16	.70**	.04	-.07	-.14	-.08	-.03	.19	.16	-.28**	??	.36**	.58**	.45**
6. Group						--	-.05	-.20*	.70**	.14	-.07	-.18	-.08	-.02	.23*	.29**	-.23*	.22*	.39**	.50**	.41**
Attribution ambiguity																					
7. Score							--	.27**	.70**	.14	-.07	-.18	-.08	-.02	.23*	.29*	-.10	.22*	.08	-.14	-.11
8. Ability								--	-.88	-.05	.31**	.42**	.25*	.07	-.10	-.04	.33**	.27**	-.28**	-.35**	-.24**
9. Gender									--	.01	-.05	-.35**	-.03	.04	.12	.01	-.25**	.32**	.34**	.63**	.45**
10. Luck										--	.08	-.05	.15	.04	.03	.13	.07	.04	.08	.13	.23*
11. Effort											--	.32**	.01	.12	-.09	.07	.09	.02	-.11	-.06	-.14
Attributions																					
12. Internal												--	.27**	.26**	.10	.01	.21*	-.19	-.19*	-.25**	-.27**
13. Stable													--	.42**	.02	-.02	.15	-.16	-.12	-.11	-.06
14. Global														--	.06	.11	.08	.08	.07	.04	.05
Perceived control																					
15. Performance															--	.18	.01	.31**	.12	.17	.03
16. Social																--	.11	.21*	.23	.14	.32**
Actions																					
17. Acceptance																	--	-.26**	.46**	-.42**	-.50**
18. Ind. Normative																		--	.55**	.46**	.34**
19. Ind. Non-Normative																			--	.48**	.61**

20. Coll. Normative
21. Coll. Non-Normative

-- .67*
-- --

Note. *p<.05, **p<.01

Discussion

The primary goal of this study was to assess the moderating effects of emotions and their expression on the minimization of personal discrimination and the associated affective, cognitive, and behavioral factors. While previous research has suggested that emotional reactions are an integral aspect of responses to discrimination, in particular, that denying that one's self has been personally discriminated against reflects a motivated response, it was the goal of the present thesis to evaluate the causal role of emotions and their expression by manipulating these factors.

Personal/group discrimination discrepancy. According to the personal/group discrimination discrepancy (Crosby, 1984), women minimize discrimination at a personal level but recognize it at a group level. It was therefore expected that women would minimize personal discrimination, yet acknowledge group discrimination in the context of this study. This expectation was supported. As hypothesized, and consistent with past research, (Moghaddam, et al., 1997; Taylor, et al., 1991; Taylor, et al., 1991; Taylor, et al., 1990) women perceived higher levels of discrimination against women as a group relative to themselves as individuals.

Consistent with apriori hypotheses, perceptions of discrimination were moderated by emotions and emotional reactions. It was observed that women induced to feel suppress sadness perceived lower levels of discrimination, while women induced to feel angry and encouraged to express their emotion, perceived higher levels of discrimination. Interestingly, for women not induced to experience any emotion, there were no differences in perceptions of discrimination as a function of expression. These findings are insightful as they suggest that both the qualitative dimensions of emotions and emotional reactions were critical in determining perceptions of discrimination. Apparently, the suppression of sadness prevents or motivates women from

recognizing a situation in which she is discriminated against. This is consistent with expectations, in that it was suggested that women who experienced sadness as a response to discrimination would feel less able to externalize the cause and hence respond to the discrimination. Thus, suppression of the emotion would ensue, resulting in a minimization of the extent to which they were experiencing discrimination. In contrast, it was expected that the expression of anger would allow or motivate women to recognize discrimination, because such a response would be empowering (Lorde, 1984). Interestingly, the effect of emotions and emotional reactions were observed for perceptions of both personal and group discrimination, suggesting that women made no distinction between personal and group discrimination when emotion was induced and they were encouraged to monitor their emotions. Potentially, the effects of emotion and emotional reaction may extend to perceptions discrimination as a whole, rather than to individual perceptions of personal or group discrimination. This finding is inconsistent with past research, however it is critical to note that past research had not examined the effects of emotions and emotional reactions on PGDD.

Nonetheless, in the present study the effects of inducing emotions and emotional reactions may have been powerful enough to extend to perceptions of discrimination overall. While women continued to acknowledge that group discrimination was more prevalent, the explicit focus on an emotional reaction may have increased the extent to which they recognized the relevance of the group to their own experiences. Unfortunately, this perception was not assessed. Alternatively, women's responses may have reflected demand characteristics. By focusing on particular emotions and their reactions, women may have inferred that they were expected to attribute their situation, or not, to the manipulation of discrimination. However,

before reaching such conclusions, further investigation of the effects of emotions and emotional reactions on perceptions of discrimination must be examined.

Attributional ambiguity. As noted earlier, differences in responses as a function of the qualitative nature of the emotion induced were expected as function of the extent to which they coincided with a different pattern of attributions. This hypothesis was not supported. However, attributions made for failure were found to differ according to emotional reaction. Women given no instruction regarding the suppression/expression of their emotion attributed their failure to gain access to the high status group to their creative ability (internal factors) compared to women instructed to suppress/express their emotion. This finding is in contrast to past research (Kinderman & Bentall, 1997; Smith et al., 1993; Sweeney, Anderson & Bailey, 1986) which has indicated that anger is associated with blaming others for failure, and sadness or depression with blaming oneself. While the reason for this finding is not entirely clear, it is possible that by having women focus on an emotional reaction to the situation, they were cued to recognize that having an emotional reaction was legitimate because the cause for their failure was not due to themselves. Perhaps, as Wegner, Shneider, Carter, and White (1987) suggest, the suppression of emotion can result in intrusive effects similar to expressing the emotion, and in this case, women's focus on the emotional aspects of the discriminatory situation appears to have resulted in greater recognition that it was not due to their own characteristics.

However, this latter interpretation was not supported by the more general attribution measures, or at least is limited to the context in which women were not induced to experience any particular emotion. Further, the effects of the manipulation of mood and its expression did not affect attributions to global versus factors specific to the situation either. While there was no reason to expect a direct effect of mood on perceptions of global vs. specific causes, to the extent

that mood affected perceptions of the situation as discriminatory, it might have been expected that the same pattern of results would co-occur with attributions. This was true, but the pattern similarity was confined to perceptions of stability, in that women who were induced to feel anger perceived the situation as less stable when suppressing their emotions, and more stable when expressing or not given instructions. This would suggest that when able to express their anger, women may have been more likely to recognize aspects of the discriminatory situation, in that this was something they were likely to encounter again in future.

Nonetheless, the pattern of findings with respect to attributions for the cause of their failure were inconsistent across measures, and not entirely as anticipated. This might be due to the fact that women perceived the selection method into high/low status groups as generally fair. Consequently, women would have no basis for attributing their failure to discrimination. Indeed, the pattern of correlations suggested that the fairer women perceived the situation to be, the more they attributed their performance to ability and internal factors, and the less they attributed it to their sex, or to discrimination. Thus, once women have denied the presence of discrimination, it may be difficult to assess after the fact the attributions that may have motivated this response in the first place.

State self-esteem. Overall, women rated performance state self-esteem higher than social state self-esteem, indicating that women felt confident regarding their performance abilities, whereas they felt less secure with social aspects. It is possible that the negative feedback from the creativity task altered women's social state self-esteem, whereas their performance state self-esteem remained intact, suggesting that perhaps there is a direct relation between negative feedback and women's perceptions of themselves in terms of how others view them. For instance, while performance state self-esteem reflects women's perceptions of themselves in

terms of their abilities, social state self-esteem reflects women's perceptions of how others view them. Considering that women rated social state self-esteem lower suggests that they are largely concerned with how others view them, while concurrently feeling secure with how they view themselves, or at least secure enough that failure in an experimental situation did not undermine their esteem. Indeed, consistent with this possibility, the correlations between performance self-esteem and attributions indicated that women expressed higher performance self-esteem, the more they attributed the cause for their failure to external and unstable causes. Had this failure been encountered in a situation more relevant to their day-to-day lives and goals, it may have had a greater impact.

Alternatively, this finding may be due to women not feeling that their performance on the creativity task was targeted, but rather their failure was due to discrimination. This would be consistent with past research (Major & Crocker, 1997), suggesting that when members of minority groups can attribute their performance to the personal prejudices of others, they are able to buffer their self-esteem against the negative impacts of failure. Nonetheless they might experience lower social self-esteem in recognition that they were a target of discrimination. However, contrary to this explanation, women rated their score on the creativity task as most relevant in being selected to the low status group, whereas they rated gender and luck as the lowest, suggesting that perhaps discrimination/gender had nothing to do with lower levels of social state self-esteem. Similarly social self-esteem was unrelated to attributions of their failure to sex, or their perceptions of personal or group discrimination. To untangle the effects of attributions and self-esteem, it may be of interest to isolate the effects of discrimination; for instance, one group of women may experience the discrimination while the

other group does not, and evaluate differences in ratings of self-esteem and attributions.

Again, further exploration of these variables must be examined to further understand their effects.

State self-esteem was also independent of emotion induced and emotional reaction, providing no support for the hypothesis that emotion induced and emotional reaction would result in varying levels of state self-esteem. Differences may not have been observed due to, in part, the mood induction. For women induced to experience sadness and anger, no differences in state self-esteem were observed. This may be due to state self-esteem being independent from mood. For instance, Heatherton and Polivy (1991) demonstrated that state self-esteem is psychometrically separate from mood. They found that measures of state self-esteem were highly correlated with each other, while mood scales showed stronger associations with each other than with state self-esteem, suggesting that mood is independent of state self-esteem. The present study observed similar findings; there were no differences between the angry and sad mood inductions on performance and social state self-esteem.

Perceived control. On the whole, women reported feelings of greater control over performance relative to social aspects of the situation. In relation to PGDD, Ruggiero and Taylor (1997) observed that by minimizing discrimination, minority group members were able to maintain perceptions of performance and social perceived control. In the present study, while perceptions of performance control were maintained, social control was affected. Nonetheless, counter intuitively, both aspects of control were associated with greater perceptions of group discrimination. It is possible that women may have been able to maintain performance control because they could attribute their failure to discrimination and not to their own performance.

However, it is difficult to conclude this with some degree of certainty as women attributed their selection to the low status group largely to their score on the creativity task, rather than gender.

With respect to social control, there was an effect for emotion induced and emotional reaction. As with perceptions of discrimination, it was observed that women induced to feel sad reported lower levels of control over social aspects when encouraged to suppress their emotions, whereas women induced to feel anger perceived the most control when encouraged to express. This is consistent with expectations that women's motivated acknowledgement of discrimination would be a function of the extent to which they felt that they were able to do something about it. Thus, women experiencing sadness and suppressing their emotions would feel least empowered, whereas, women who expressed anger perceived greater feelings of social control, indicating that they have felt greater ability to respond to their situation.

Behavioral responses. Overall, it was observed that women highly endorsed acceptance of their assignment to the low status group, as opposed to endorsing any type of action that would object to their group membership. This finding is consistent with past research (Foster et al, 1994) indicating that women who made internal attributions and engaged in self-blame for their failure were more likely to accept their situation. Indeed, the pattern of correlations indicated that the more women saw their failure as fair and due to internal factors, the more likely they were to endorse acceptance. This could also be explained by the possibility that the women did not perceive the likelihood of women gaining access to the high status group as completely closed (and hence their failure was in part due to their own shortcomings). This is consistent with Ruggiero et al's (1997) findings that only when women were explicitly told that no women at all were able to succeed did they attribute their situation to discrimination.

Similarly, Wright et al (1990) found that only when access to the high status group was completely closed were participants willing to endorse actions other than acceptance.

Actions endorsed by women are further understood by examining the effects of emotions induced and emotional reactions. Interestingly, women induced to feel sad and express their emotion were less likely to endorse acceptance of group assignment, and more likely to endorse individual actions, both normative and non-normative. This is not consistent with the hypothesis that women feeling sad and encouraged to express themselves would be inclined to accept their situation. It may be possible that in the 'real world' depression stems from the belief that women cannot do anything, whereas in the present context women had an option to respond to their treatment in the study. In a non-experimental situation, such options may not be as readily available.

Interestingly, women induced to feel anger resulted in greater endorsement of individual normative action, regardless of expression or suppression of anger. However, expression of anger resulted in greater endorsement of individual and collective non-normative actions. This finding is consistent with past research (Lorde, 1984) and the hypothesis that women induced to experience anger would be inclined to take action to improve their situation. Thus, the notion that women who were able to express anger toward their discrimination felt more empowered to take action, and hence control the situation thereby facilitating the ability to acknowledge discrimination. This interpretation is also supported by the pattern of correlations among these variables.

Apparently, both emotions induced and emotional reactions are an integral part of determining how women react given the opportunity to respond to their status. These findings suggest that emotional reaction plays a powerful role in women pursuing various actions, and are

consistent with past research suggesting that the expression of emotion leads to an increased awareness of emotion, whereas suppression results in reduced subjective experience of emotion (Gross, et al., 2000; Gross & Levenson, 1997).

Results of this study may have been limited due to a number of factors. Namely, the sample consisted of university women, and therefore may not be as widely applicable to working women. There may be differences in reactions to discrimination between university students and working women perhaps reflecting maturity or experience. For example, Beaton and Tougas (1997) have found that the more women experienced discrimination, the more likely they were to acknowledge that women are discriminated against and to support actions to counter the discrimination. Thus, the role of emotions among such a group is of interest.

One prominent limitation of the present research was the use of a simulated experimental context. Discrimination resulting in entrance into a low status group in an experimental context is not comparable to not receiving a job promotion as a result of discrimination. The latter involves serious consequences, whereas in the present study the negative consequences of women being placed in the low status group were minimal, and certainly did not extend beyond the experimental situation. Once again, this may have minimized the extent to which women felt motivated to respond or minimize their experiences. Finally, it is possible that the sex of the experimenter influenced women's responses. It is possible that participants may have felt less discriminated against when a female researcher conveyed the failure feedback, and/or they used the experimenter's lack of response to the situation as a cue that it may not be that serious. Possibly, if a man was the one who conveyed the message of the male judges never passing women, a different reaction would have been observed.

Nonetheless, the results of this study do provide support for past research in the denial of personal discrimination and the acceptance of group discrimination, and more importantly, suggests effects of emotions induced and emotional reactions on perceptions of discrimination. Potentially, understanding the dynamics of emotions and their expression upon discrimination may increase awareness among women, and possibly other minority groups, in terms of perceiving situations of discrimination and addressing it. Knowledge of the effects of emotions and emotional reactions in situations of discrimination may provide a further understanding of why and how women respond to discrimination.

References

- Abramson, L.Y., Seligman, M.E.P., & Teasdale, J. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.
- Aronson, J., Lustina, M.J., Good, C., & Keough, K. (1999). When white men can't do Math: Necessary and sufficient factors in stereotype threat. Journal of Experimental Social Psychology, 35, 29-46.
- Averill, J.R. (1982). Anger and aggression: An essay on emotion. New York: Springer-Verlag.
- Averill, J. (1983). Studies on anger and aggression: Implications for theories of emotion. American Psychologist, 38, 1145-1160.
- Beaton, A., & Tougas, F. (1997). The representation of women in management: The more the merrier? Personality and Social Psychology Bulletin, 23, 773-782.
- Chacko, T., & McElroy, J. (1983). The cognitive component in Locke's theory of goal setting: Evidence for a causal attribution interpretation. Academy of Management Journal, 26, 104-118.
- Crittenden, K.S., & Lamug, C.B. (1988). Causal attribution and depression: A friendly refinement based on Phillipine data. Journal of Cross-Cultural Psychology, 19, 216-231.
- Crocker, J., & Major, B. (1987). Social stigma and self-esteem: The self protective properties of stigma. Psychological Review, 96, 608-630.
- Crosby, F. (1984). The denial of personal discrimination. American Behavioral Psychologist, 27, 371-386.
- Crosby, F., Cordova, D., & Jaskar, K. (1993). On the failure to see oneself as disadvantaged: Cognitive and emotional components. In M.A. Hogg & D. Abrams

(Eds.) Group motivation: Social Psychological Perspectives, (pp 87-104). England:

Harvester Wheatsheaf.

Diener, E., & Emmons, R. (1985). The independence of positive and negative affect. Journal of Personality and Social Psychology, 47, 1105-1117.

Foster, M.D., & Matheson, K. (1999). Perceiving and responding to the personal/group discrimination discrepancy. Personality and Social Psychology Bulletin, 25, 1319-1329.

Foster, M.D., & Matheson, K. (1998). Perceiving and feeling personal discrimination: Motivation or inhibition for collective action? Group Processes and Intergroup Relations, 1, 165-174.

Foster, M.D., Matheson, K., & Poole, M. (1994). Responding to sexual discrimination: The effects of societal and self-blame. The Journal of Social Psychology, 134, 743-754.

Frodi, A., Macauley J., & Thorne, P. (1977). Are women always less aggressive than men? A review of the experimental literature. Psychological Bulletin, 84, 634-660.

Guidmond, S., & Dube-Simard, L. (1983). Relative deprivation theory and the Quebec Nationalist movement: The cognitive-emotion distinction and the personal/group deprivation issue. Journal of Personality and Social Psychology, 44, 526-535.

Gross, J., John, O., & Richard, J. (2000). The dissociation of emotion expression from emotion experience: A personality perspective. Personality and Social Psychology Bulletin, 26, 712-726.

Gross, J., & Levenson, R. (1997). Hiding feelings: The acute effects of inhibiting

negative and positive emotion. Journal of Abnormal Psychology, 106, 95-103.

Heatherton, T., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. Journal of Personality and Social Psychology, 60, 895-910.

Heckert, M., White, K., Guilinson, A., Schnarre, R., Gannon, L., & Schneider, S. (1991). Differential treatment in academia: Do female faculty report being treated differently by students than male faculty. Psychological Reports, 85, 263-268.

Hess, U., Senechal, S., Kirouac, G., Herrera, P., Philloppot, P., & Kleck, R. (2000). Emotional expressivity in men and women: Stereotypes and self-perceptions. Cognition and Emotion, 14, 609-642.

Johnsrud, L.K., & Wunsch, M. (1991). Junior and senior faculty women: Commonalities and differences in perceptions of academic life. Psychological Reports, 69, 879-886.

Kelly, J.R., & Hutson-Comeaux, S.L. (1999). Gender-emotion stereotypes are context specific. Sex Roles, 40, 107-120.

Kinderman, P., & Bentall, R.P. (1997). Causal attributions in paranoia and depression: Internal, personal, and situational attributions for negative events. Journal of Abnormal Psychology, 106, 341-345.

Krantz, S., & Rude, S. (1984). Depressive attributions: Selection of different causes or assignments of dimensional meaning? Journal of Personality and Social Psychology, 47, 192-203.

Miller, I.W., III, & Norman, W.H. (1979). Learned helplessness in humans: A review and attribution-theory model. Psychological Bulletin, 86, 93-118.

Lorde, A. (1984). Essays and speeches from sister outsider. New York: Norton.

Moghaddam, F.M., Stolkin, A.J., & Hutcheson, L.S. (1997). A generalized personal/group discrepancy: Testing the domain specificity of a perceived higher effect of events on one's group than on oneself. Personality and Social Psychology Bulletin, 23, 743-750.

Peterson, C., Maier, S., & Seligman, M. (1993). Learned Helplessness: A theory for the age of personal control. New York: Oxford University Press.

Powell, G., & Butterfield, D. (1994). Investigating the 'glass ceiling' phenomenon: An empirical study of actual promotions to top management. Academy of Management, 37, 68-86.

Robins, C. (1988). Development of experimental mood induction procedures for testing person event interaction models of depression. Journal of Clinical Psychology, 44, 938-963.

Ruggiero, K.M., Taylor, D.M. (1994). The personal/group discrimination discrepancy: Women talk about their experiences. Journal of Applied Social Psychology, 24, 1806-1826.

Ruggiero, K.M., & Taylor, D.M. (1995). Coping with discrimination: How disadvantaged group members perceive the discrimination that confronts them. Journal of Personality and Social Psychology, 68, 826-838.

Ruggiero, K.M., & Taylor, D.M. (1997). Why minority group members perceive or do not perceive the discrimination that confronts them: The role of self-esteem and perceived control. Journal of Personality and Social Psychology, 72, 373-398.

Ruggiero, K.M. (1999). Extending Allport's analysis of targets. Journal of Social Issues, 55, 519-536.

Ruggiero, K.M., Mitchell, J.P., Krieger, N., Marx, D., & Lorenzo, M.L. (2000). Now you see it, now you don't: Explicit versus implicit measures of the personal/group discrimination discrepancy. Psychological Science, 11, 511-514.

Ruggiero, K.M., Steele, J., Hwang, A., & Marx, D. (2000). 'Why did I get a 'D'? The effects of social comparisons on women's attributions to discrimination. Personality and Social Psychology Bulletin, 26, 1271-1283.

Rutte, C.G., Diekmann, K., & Polzer, J.T. (1994). Organization of information and the detection of gender discrimination. Psychological Science, 5, 226-231.

Sandler, B. (1991). Women faculty at work in the classroom. Communication Education, 40, 6-15.

Schlenker, B. (1973). Self-image maintenance and enhancement: Attitude change following counterattitudinal advocacy. In Proceedings of the 81st Annual Convention of the American Psychological Association, Montreal.

Seligman, M., Abramson, L., Semmel, A., & von Baeyer (1979). Depressive attributional style. Journal of Abnormal Psychology, 88, 242-247.

Siegel, J.M. (1986). The multidimensional anger inventory. Journal of Personality And Social Psychology, 51, 191-200.

Smith, C.A., Haynes, K.N., Lazarus, R.S., & Pope, L.K. (1993). In the search of the 'hot' cognitions: Attributions, appraisals, and their relation to emotion. Journal of Personality and Social Psychology, 65, 916-929.

Spencer, S., Steele, C., & Quinn, D. (1999). Stereotype threat and women's math

Performance. Journal of Experimental and Social Psychology, 35, 4-28

Stearns, C., & Stearns, P. (1986). Anger: The struggle for emotional control in America's History. Chicago, IL: University of Chicago Press.

Stroh, L., Brett, J., & Reilly, A. (1992). All the right stuff: A comparison of female and male manager's career progression. Journal of Applied Psychology, 77, 251-260.

Sturges, M. (1993). Beyond the feminine stereotype: A more holistic self concept for women and men through the discovery of female mythology. Advanced Development, 5, 59-71.

Sweeney, P.D., Anderson, K., & Bailey, S. (1986). Attributional style in depression: A meta-analytic review. Journal of Personality and Social Psychology, 50, 974-991.

Taylor, D.M., Wright, S.C., Moghaddam, F.M., & Lalonde, R.N. (1990). The personal/group discrimination discrepancy: Perceiving my group, but not myself to be a target of discrimination. Personality and Social Psychology Bulletin, 16, 254-262.

Taylor, D.M., Wright, S.C., & Ruggiero, K.M. (1991). The personal/group discrimination discrepancy: Responses to experimentally induced personal and group discrimination. Journal of Social Psychology, 131, 847-858.

Taylor, D.M., Wright, S.C., & Porter, L. (1993). Dimensions of perceived discrimination: The personal/group discrimination discrepancy. In M.P. Zanna and J.M. Olson (Eds.) The psychology of prejudice: The Ontario Symposium, 7, (pp. 233-255). Hillsdale, NJ: Erlbaum.

Taylor, D.M., Ruggiero, K.M., & Louis, W.R. (1996). Personal/group discrimination discrepancy: Towards a two-factor explanation. Canadian Journal of Behavioral Sciences, 28, 193-202.

Twiss, C., Tabb, S., & Crosby, F. (1991). Affirmative action and aggregate data: The importance of patterns in the perception of discrimination. Oxford University Press.

Wegner, D.M., Schneider, D.J., Carter, S.R., & White, T.L. (1987). Paradoxical effects of thought suppression. Journal of Personality and Social Psychology, 53, 5-13.

Weiner, B. (1979). A theory of motivation for some classroom experiences. Journal of Educational Psychology, 71, 3-25.

Weiner, B., Russell, D., & Lerman, D. (1979). The cognition-emotion process in achievement-related contexts. Journal of Personality and Social Psychology, 37, 1211-1220.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. Psychological Review, 92, 548-573.

Weiner, B. (1986). An Attributional Theory of Motivation and Emotion, New York: Springer-Verlag.

Wright, S.C., Taylor, D.M., & Moghaddam, F.M. (1990). Responding to membership in a disadvantaged group from acceptance to collective protest. Journal of Personality and Social Psychology, 58, 994-1003.

Appendix A: Verbal Instructions

Hello, my name is _____ and I am a graduate student working on a project concerned with creative abilities as they're expressed in writing and storytelling. We're attempting to determine what characteristics might be associated with people who are highly creative. Creative ability is essential to succeed in today's job market in which information is available quickly and easily and so people need to find creative ways to organize information and ideas to understand it. We've found that employers are interested in identifying the characteristics associated with these highly creative individuals so that they can hire the best people. We're also looking at creativity in terms of how it differs across academic background, for instance, psychology vs computer science vs english vs engineering etc.

The study will take approximately 1 hour. Before we begin I will ask you to complete these 2 items: an informed consent form, which states what the study is about, that we have your permission to use the results in research publications, you have the right to withdraw etc. If you excuse me for a moment, I have to explain this to other students participating in the rooms next door.

Experimenter leaves and returns a few minutes later. Items are collected.

Now you will be asked to read a short story. While reading this story I would like for you to pretend that you are the student in the story; in other words, whatever the student is thinking/feeling, you are also thinking/feeling. After reading the story, we'll ask you to write/respond to the short story using 12 words we give you as though you are the student in the story. We will want you to be as creative in your response and your ability to work with the 12 words as you can. After completing this task, your story will be scored by one of five male students from engineering that we currently have working in this lab, as we're collaborating on some parts of this research, as you will find out later on in the study. Based on the score given by this engineering student you'll be placed in the high creativity group if you achieve a passing grade, or if your score is low, we'll be putting you in the low creativity group. Those who qualify for the high creativity group are viewed as possessing superior, more advanced creative abilities. You will have to obtain a minimum cut-off mark of 80% on the creativity task, in order to be considered for as a highly creative individual. If you fail to meet this score then you will be placed in the low status creativity group. Those who make it to the high creativity group will work with the engineering student to try to improve the stories written by those in the low creativity group. However, those in the low creativity group will be working with myself and I will ask them to complete a basic skills task which includes sentence completion and alphabetizing. The purpose of the low creativity group completing these tasks is to allow us to assess the relation between poor language and writing skills and lack of creativity. Clearly though their work isn't as important here or in real life, those in the high creativity group will qualify for the \$50 lottery, while those who are in the low creativity group are only eligible for the \$5 lottery. status group will improve the stories created by the low status group, and will qualify for a \$50 lottery, and those in the low creativity group will qualify for a \$5 lottery. Those in the low status group will complete a secondary creativity task which includes sentence completion and alphabetizing. The purpose of the low status group completing these tasks is to allow Mr. Paul to assess the relation between low creativity and poor language and writing skills.

Participants are given time to complete the task.

Now that you have completed the story, I will ask you to complete this rating scale. Please complete it according to how you feel in response to reading the story. While you are completing this form I'll collect the other stories from the participants and hand them to one of the judges to grade.

Before female experimenter exits the room, in front of the participant she writes the name of the participant on the front of the story. After a few minutes female experimenter returns and collects rating scale.

Now we're moving on to the second creativity task. This part of the creativity task will be used for those in the high creative group. (For those in the sad condition): Take a few minutes to think of something that happened in your life, or you have known to happen to someone else that made you feel very sad or depressed. Once you remember what made you feel this way, take a few minutes to write about it on this blank piece of paper. (For those in the anger condition): Take a few minutes to think of something that happened in your life, or you have known to happen to someone else that made you feel very angry. Once you remember what made you feel this way, take a few minutes to write about it on this blank piece of paper. (For those in the control condition): Take a few minutes to think of something that happened in your life, or you have known to happen to someone else that inspired a creative moment within you; it could be reading a short story, watching a movie or play. Once you remember what made you feel this way, take a few minutes to write about it on this blank piece of paper.

After a few minutes female experimenter exits the room and returns with the graded stories. As she is shifting through the stories to find the story the participant had written and hands it back to the participant, she mumbles to herself: 'These guys never pass any of the women'. The story is handed back to the participant with a 'LOW' in red lettering marked on the front of the paper.

So this means that you are in the low creativity group and will qualify for the \$5 lottery. We still have some questionnaires that we need you to complete to see how well we can differentiate between high and low creative people, after that we'll be moving on to the rote learning tasks. But first I'd like you to complete this questionnaire about what group you're placed in.

The female experimenter then addresses those in the suppression condition and gives them the following instructions:

Despite your group assignment, it is important to your performance in the rest of this study that you try to be logical and reasonable, and not emotional. If you have any feelings during the remainder of the study, do not let those feelings show. Try to act in such a way that a person watching you would not know you were feeling anything. This is important as it assures that you maintain your composure and act in a professional manner regardless of what group you were placed in.

Those in the expression condition:

Despite your group assignment, it is important to your performance in the rest of this study that you make sure that you try to express your emotions and feelings as much as possible. As we continue on in the experiment, I would like for you to feel free to express any thoughts, feelings, questions, or concerns you have. Feel free to openly express your views and share them in any of the questions we ask you, and in your responses to the task that we'll be asking you to. This is important as it assures that your responses reflect a sense of commitment and professional concern regardless of what group you were placed in.

Those in control condition given no instructions.

Before you begin the low status task, you will need to complete these questionnaires.

While the participant is completing these questionnaires, the female experimenter and Mr. Paul see another participant in a separate room, they exchange the same dialogue, and the female experimenter instructs the participant that she has been placed in the low creativity group, gives the suppression/expression/control instructions and administers the questionnaires.

After the questionnaire packages have been finished and collected, participants will be debriefed and informed of the true nature of the experiment. They will be given experimental credit and contact numbers. Participants will then be given the positive task to ensure that they leave the experiment in a neutral/happy mood.

Now I will ask you to read this short monologue by Dennis Miller and then respond to it.

Appendix B: Statement of Informed Consent

The purpose of an informed consent form is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you will have the opportunity to determine whether or not you wish to participate in the study.

Research Title: Examining Creative Abilities Through Storytelling

Research Personnel: The following people are involved in this research project and may be contacted at any time. Ritu Gill (Principal investigator, 520-2600 ext.2683), Dr. Kim Matheson (Faculty Investigator and Chair, Department of Psychology, 520-2648). Should you have any ethical concerns then please contact Dr. Senechal (Chair, Department of Psychology Ethics Committee, 520-2600 ext.1155).

Purpose and Task Requirements: The purpose of this study is to examine the relation between high and low creativity abilities and story writing. You will be asked to complete a creativity task, consisting of reading and writing a short story. You will also be asked to complete several questionnaires. The study will take approximately 1 hour.

Potential Risk/Discomfort: There are no potential physical or psychological risks, or potential for embarrassment in this study. There may be some stress associated with personal expectations of performance.

Anonymity/Confidentiality: The data collected in this study will remain confidential. All data will be coded such that your name is not associated with the data. In addition the coded data are made available only to researchers associated with this project.

Right to withdraw: Your participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever.

Signatures: I have read the above description of the study concerning creativity abilities and story writing. The data in this study will be used in research publications or for teaching purposes. My signature indicates I agree to participate in the study, and this in no way constitutes a waiver of my rights.

Participant's Name: _____

Participant's Signature: _____

Researcher's Name: _____

Researcher's Signature: _____

Date:

Appendix C: Background Information

Please take a few moments to complete some background information about yourself. This kind of information can help to explain certain differences that may be found in creative abilities.

Sex: _____

Age: _____

University Major (ie. Psychology, Sociology, Biology, etc.): _____

What is your citizenship status?

_____ Canadian citizen

_____ Landed immigrant Since what year? _____ Country of origin _____

_____ Student visa Since what year? _____ Country of origin _____

What is your first language? _____

What is your religion, if any? _____

Please indicate which of the following group you feel you belong to.

___ Caucasian

___ Black

___ Chinese

___ Filipino

___ Japanese

___ Korean

___ South Asian/East Indian (including Indian from India; Bangladeshi, Pakistani, East Indian from Guyana, Trinidad, East Africa, etc)

___ Southeast Asia (including Burmese; Cambodian; Croatian, Thai, Vietnamese, etc)

___ Non-White West Asian

___ North African or Arab (including Egyptian; Libyan; Lebanese; Iranian, etc)

___ Non-White Latin Canadian (including indigenous persons from Central or South America)

___ Person of Mixed Origin (with one parent in one of the visible minority groups listed above)
Specify _____

Appendix D: Story

Please read and imagine the events of the following story with yourself acting as the protagonist (ie. the student). To do this, try to imagine yourself in the shoes of the student. Pay attention to your reactions and how you would feel as the events occur. Take your time to get as involved as you can. You have ten minutes to read and imagine the events of the story.

You have been at the university for only a short time and you have found it a difficult transition in some ways. In particular, you have found that it is much more difficult academically than high school was. You have always been a good student and it is very important to you to continue to do well. Aside from what it means for your future after graduation, good grades are important for you to feel good about yourself.

This semester, although you have been working hard, you find the material for some of your classes difficult to understand and remember. In one course that was very important to your future plans, your final grade was much lower than you expected considering the amount of work you put in. You asked the professor who graded the final paper to take another look at it and have set an appointment with him to discuss it.

Imagine now that you have arrived for the appointment and are now in the professor's office. This is what he has to say: "Well I took another look at your paper as you asked me to and it's not really a bad paper, but there are definitely some holes in it. Places where you forgot something or didn't mention something important, or you mention something and just do not develop it at all. I don't have time to go into all the problems with you now, but I spent a lot of time re-examining your paper and I've made plenty of comments in the margins so you can see where the problems are. In general, I wonder whether you really understood the question properly. A lot of what you wrote here leads me to think that you misinterpreted it, and as a result went off in left field a few times. Also, your style here is very abstract and wordy. You need to learn to be more concrete and to the point. Now, I'm really sorry that you're disappointed with the grade. I would've gladly helped you with any problems if you had come to me earlier in the semester, but it's too late now. There's really nothing I can do to help you at this point. Your paper looks pretty much the same to me on the second reading, and if you want to stay and try to show me that I've overlooked something or misinterpreted something, but I don't anticipate changing the grade at all. If you really have to have a better grade you'll just have to take the course again".

You leave the professor's office feeling that he had done all he reasonably could and wondering if perhaps you didn't have the ability to perform at the required level. As you know, you did work hard on the paper. You are particularly concerned because you had intended to take several other courses in that area. Now you wonder if you should or could. You can't stop thinking about your situation at school, the hard work you put in, the poor grade, the professor won't change his opinion, and what this means for your future plans.

Appendix E: Neutral Word List

Now that you have read the story and had a chance to imagine yourself in the student's shoes, we would like to know how you feel about what occurred and your reactions. To do so, we would like you to rewrite the story. When you rewrite the story, we want you to be as imaginative as possible and to convey as accurately as possible how you are feeling in the scenario. We also want you to include the following 12 words. It is important to our ability to assess your creativity that you use all 12 words in your story. They may be used in any order.

1. grade point average
2. student
3. classmates
4. career
5. essay
6. grade
7. course
8. professor
9. future
10. classroom
11. office
12. university

Sad Word List

Now that you have read the story and had a chance to imagine yourself in the student's shoes, we would like to know how you feel about what occurred and your reactions. To do so, we would like you to rewrite the story. When you rewrite the story, we want you to be as imaginative as possible and to convey as accurately as possible how you are feeling in the scenario. We also want you to include the following 12 words. It is important to our ability to assess your creativity that you use all 12 words in your story. They may be used in any order.

1. sad
2. student
3. classmates
4. career
5. hopeless
6. grade
7. discouraged
8. professor
9. helpless
10. classroom
11. despair
12. university

Angry Word List

Now that you have read the story and had a chance to imagine yourself in the student's shoes, we would like to know how you feel about what occurred and your reactions. To do so, we would like you to rewrite the story. When you rewrite the story, we want you to be as imaginative as possible and to convey as accurately as possible how you are feeling in the scenario. We also want you to include the following 12 words. It is important to our ability to assess your creativity that you use all 12 words in your story. They may be used in any order.

1. angry
2. student
3. classmates
4. career
5. resentful
6. grade
7. irritated
8. professor
9. infuriated
10. classroom
11. hostile
12. university

**Appendix F: Pilot Study: Emotion Rating Scale for Sad and Angry Word Lists
Means, Standard Deviations, Eta Square**

Word List	Mean Sad	Stand. Dev.	Mean Angry	Stand Dev	Eta Square
Hopeless	5	2.44	3.2	.83	.232
Frustrated	6	1.22	5.4	2.3	.032
Worried	5.2	2.04	4.6	2.88	.018
Anxious	5	2.12	4	2.44	.056
Sad	5	2.44	3.2	1.3	.208
Pleased	2.6	2.6	1.2	.44	.149
Angry	4.8	3.03	5.4	2.07	.016
Alert	4	1.41	4.4	2.7	.011
Confused	3.6	2.07	4.4	2.3	.040
Relaxed	1.8	1.09	1.8	1.78	.000
Hostile	3.2	1.9	5.2	1.09	.338
Unhappy	5.2	2.38	4	1.87	.089
Indifferent	2.2	1.3	1.8	1.3	.029
Depressed	5	2.34	2.8	1.3	.296
Calm	2.2	1.09	2.2	1.09	.022
Infuriated	3.2	2.68	4.4	1.81	.079
Happy	2.2	2.16	2.2	2.16	.000
Helpless	3.6	2.6	2.6	1.14	.072
Desolate	3.8	2.68	2.6	1.14	.096

These are results from a pilot study conducted in November, 2000. The purpose of this pilot study was to determine the extent to which the story and angry and sad word lists were successful in inducing an angry and sad mood. These results are from the second stage of the pilot study. The first stage of the pilot study consisted of first year psychology students (N=20) who were asked to read one of two short stories, a) regarding a teaching assistant's hostile attitude toward a student, or b) about a student who talks to a professor regarding a poor grade. The participants were asked to respond to the story using either a list of words including sad emotions (sad, gloomy, discouraged, desolate, distressed) or angry emotions (angry, resentful, irritated, upset, hostile). Results of this pilot study indicated that a sad mood was successfully induced using the professor story and sad word list. However, an angry mood was not successfully induced, as indicated by low effect sizes, and higher scores for sad adjectives.

The second pilot study only used the professor story and the same sad word list, but revised angry word list. For the angry word list stronger words were used to induce an angry mood. So instead of using the word 'upset', 'infuriated' was used. Thus, the angry words included were able to successfully induce an angry mood. First year psychology students (n =4), students from the Social Diversity Lab at Carleton University (n = 1), and graduate students from

the graduate residence at Carleton University ($n=5$) were asked to imagine that the events of the story were happening to them, and to then respond to the story using an angry word list, or a sad word list. They then completed an emotion rating scale to determine if the targeted moods were induced. Since n was very small in this pilot study ($n=5$ per group), instead of using level of significance to analyze results, eta squared was used as an estimate of effect size, with values being greater than .05. We observed that six adjectives reflected high ratings following the sad word list as opposed to the angry word list, namely, hopeless, sad, unhappy, depressed, helpless, and desolate. In contrast, we observed that three adjectives were higher following the angry as opposed to sad word list, including angry, hostile, and infuriated. These findings were consistent with expectations, and so we continued to use the word lists employed in this second phase.

Appendix G: Emotion Rating Scale

This questionnaire consists of adjectives that may describe the way you presently feel, as you imagined yourself in the story. Using the scale below each item, please indicate how much each adjective describes how you currently feel by circling the number that most closely corresponds to your feelings.

	Not at all						Extremely
Hopeless	1	2	3	4	5	6	7
Frustrated	1	2	3	4	5	6	7
Worried	1	2	3	4	5	6	7
Anxious	1	2	3	4	5	6	7
Sad	1	2	3	4	5	6	7
Pleased	1	2	3	4	5	6	7
Angry	1	2	3	4	5	6	7
Alert	1	2	3	4	5	6	7
Confused	1	2	3	4	5	6	7
Relaxed	1	2	3	4	5	6	7
Hostile	1	2	3	4	5	6	7
Unhappy	1	2	3	4	5	6	7
Indifferent	1	2	3	4	5	6	7
Depressed	1	2	3	4	5	6	7
Calm	1	2	3	4	5	6	7
Infuriated	1	2	3	4	5	6	7
Happy	1	2	3	4	5	6	7
Helpless	1	2	3	4	5	6	7
Desolate	1	2	3	4	5	6	7

Appendix H: Questionnaires
Personal Group Discrimination Questionnaire

Using the scale below please answer each of the following questions honestly.

1. To what extent do you feel that the creativity task in this study accurately reflects your creative abilities

Not at all 0 1 2 3 4 5 6 7 Very Much

2. To what extent do you feel that a different story would have encouraged you to feel more creative?

Not at all 0 1 2 3 4 5 6 7 Very Much

3. To what extent do you feel that in this study creative abilities should have been evaluated using a method other than story writing?

Not at all 0 1 2 3 4 5 6 7 Very Much

4. To what extent were you personally discriminated against because you are a woman in the context of this experiment?

Not at all 0 1 2 3 4 5 6 7 Very Much

5. To what extent do you feel writing the story using the word list restricted your creativity?

Not at all 0 1 2 3 4 5 6 7 Very Much

6. To what extent do you feel given more time to create a story would have improved the creative quality of your story?

Not at all 0 1 2 3 4 5 6 7 Very Much

7. To what extent do you feel that the topic of the story restricted your creative flow?

Not at all 0 1 2 3 4 5 6 7 Very Much

8. To what extent do you feel that women as a group were discriminated against in the context of this experiment?

Not at all 0 1 2 3 4 5 6 7 Very Much

State Self-Esteem Scale Self Perceptions

This questionnaire is designed to measure what you feel about yourself at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. To do so, please use the following rating scale:

	0	1	2	3	4
	Not at all true of me	A little bit true of me	Somewhat true of me	Very much true of me	Extremely true of me
1. I feel confident about my abilities.	0	1	2	3	4
2. I am worried about whether I am regarded as a success or failure.	0	1	2	3	4
3. I feel satisfied with the way my body looks right now.	0	1	2	3	4
4. I feel frustrated or rattled about my own competence.	0	1	2	3	4
5. I feel that I have trouble understanding things that I read.	0	1	2	3	4
6. I feel that others respect and admire me.	0	1	2	3	4
7. I am dissatisfied with my weight.	0	1	2	3	4
8. I feel self-conscious.	0	1	2	3	4
9. I feel as smart as others.	0	1	2	3	4
10. I feel displeased with myself.	0	1	2	3	4
11. I feel good about myself.	0	1	2	3	4
12. I am pleased with my appearance.	0	1	2	3	4
13. I am worried about what other people think of me.	0	1	2	3	4
14. I feel confident that I understand things.	0	1	2	3	4
15. I feel inferior to others.	0	1	2	3	4
16. I feel unattractive.	0	1	2	3	4

Attributional Ambiguity Questionnaire

How relevant do you believe each of the five following factors were in your being selected into the group you're in?

1 Your score on the creativity task

Not at all

Very much

0 1 2 3 4 5 6 7

2 Your creative ability

Not at all

Very much

0 1 2 3 4 5 6 7

3 Your sex

Not at all

Very much

0 1 2 3 4 5 6 7

4 Luck

Not at all

Very much

0 1 2 3 4 5 6 7

5 Effort

Not at all

Very much

0 1 2 3 4 5 6 7

Please rate your perceptions about the method in which high and low status group members were chosen using the following dimensions:

Very Fair 0	1	2	3	4	5	6	Very Unfair 7
Discriminated against women 0	1	2	3	4	5	6	Did not discriminate against women 7
Necessary 0	1	2	3	4	5	6	Unnecessary 7
Appropriate 0	1	2	3	4	5	6	Inappropriate 7
Uncalled for 0	1	2	3	4	5	6	Called for 7
Discriminated against me 0	1	2	3	4	5	6	Did not discriminate against me 7
Biased 0	1	2	3	4	5	6	Unbiased 7
Discriminated against men 0	1	2	3	4	5	6	Did not discriminate against men 7

1. Please write down the most important reason you think you were selected for the group you've been placed in this study.

2. Does this reason reflect something about you or something about other people or circumstances? (circle one number).

Totally due to others	1	2	3	4	5	6	7	Totally due to me
--------------------------	---	---	---	---	---	---	---	----------------------

3. In the future, when such decisions are made about you, do you think that this cause will be present again?

Never Present	1	2	3	4	5	6	7	Always Present
------------------	---	---	---	---	---	---	---	-------------------

Is this cause something that affects just this type of situation, or does it also influence other areas of your life?

Just this Situations	1	2	3	4	5	6	7	All Situations
-------------------------	---	---	---	---	---	---	---	----------------

Perceived Control Questionnaire

Please answer the following questions honestly.

1. How good do you think you are at creative tasks like this one?

0	1	2	3	4	5	6	7
Not at all							Very Much

2. How much do you think you would improve on this creative task with practice?

0	1	2	3	4	5	6	7
Not at all							Very Likely

3. How likely is it that you would be placed in the high creativity group if you did this creativity task again and had the same primary experimenter read your story?

0	1	2	3	4	5	6	7
Not Likely							Very Likely

4. How likely is it that you would be placed in the high creativity group if you did this creativity task again and had a different experimenter read your story?

0	1	2	3	4	5	6	7
Not Likely							Very Likely

5. Would it be better to meet the primary experimenter before he reads your story?

0	1	2	3	4	5	6	7
Not at all							Very Much

6. Would it be better to meet the primary experimenter before he reads your story so that you can have some input into which group you should be placed in?

0	1	2	3	4	5	6	7
Not at all							Very Much

7. If you met with the primary experimenter, how do you think you would get along?

0	1	2	3	4	5	6	7
Not very well							Very Well

8. Do you think that by meeting the primary experimenter in person you could get him to judge you solely on the quality of your work?

0	1	2	3	4	5	6	7
Not at all							Very Likely

Action Survey

Please indicate the extent to which you would participate in the following actions if you had the opportunity to respond to your group assignment in the present study.

- 1. Accept the situation, that is, your assignment to either group, as is.**

0	1	2	3	4	5	6	7
Not at all							Very Much

- 2. Request an individual retest of your creativity score.**

0	1	2	3	4	5	6	7
Not at all							Very Much

- 3. Confront the experimenter and demand an explanation of your particular group assignment.**

0	1	2	3	4	5	6	7
Not at all							Very Much

- 4. Ask that all of the women be retested for their creativity.**

0	1	2	3	4	5	6	7
Not at all							Very Much

- 5. Get together with other women to confront the experimenter, demanding an explanation for your group assignment.**

0	1	2	3	4	5	6	7
Not at all							Very Much

Group Placement Questionnaire

How do you feel about the group you've been assigned to?

Good							Bad
1	2	3	4	5	6		7
Something to be proud of						Something not to be proud of	
1	2	3	4	5	6		7
Guilty						Not guilty	
1	2	3	4	5	6		7
Angry						Not angry	
1	2	3	4	5	6		7
Comfortable						Uncomfortable	
1	2	3	4	5	6		7
Not deserved						Well deserved	
1	2	3	4	5	6		7
Glad						Upset	
1	2	3	4	5	6		7
Annoyed						Content	
1	2	3	4	5	6		7
Not indifferent						Indifferent	
1	2	3	4	5	6		7

Appendix I: Observations by Dennis Miller(Comedian)

Please read the following script by Dennis Miller. Do not take any of the jokes seriously, they are just simple observations made by Dennis Miller and are not meant to offend anyone.

College Life Now I don't want to get off on a rant here, but is there any four-ten year period of your life more glorious than college?

Ah, college. What other institution charges you ninety grand to prepare you for a \$20, 000 a year job?

And by the way, I don't think you should have to pay back college loans unless you get a job in your field. Put some pressure on the school. If I can't pay my bills, I'm not paying yours.

When I went to college, I lived on campus, and the guys I hung out with made the characters in *Revenge of the Nerds* look like the Rat Pack in 1962. I remember finally breaking down and trying to wash a pair of socks by shaking them around in a rinsed-out Skippy peanut butter jar full of hot water and a squeeze of Colgate Tartar Control toothpaste.

Now, my sophomore year, I had three completely different roommates: Sidney was a grade-grubber, Tom was a ladies' man, and then there was Carver. Carver was a total stoner. He smoked more bud on an average day than Ziggy Marley's entire band the night before they had to go through customs. Carver showed me that the real fun to be derived from a Frisbee was not in throwing it or catching it, but in staring at it for hours on end and marvelling at 'how damn round it is man!'.

The one thing I did learn right off the bat is, never have a roommate who's really good-looking unless you like sleeping out in the hall using a bag of Cheetos as a pillow. Fortunately, my junior year roommate Wayne and I got along really well. We each had a signal to use to let the other know we had a girl over, so don't come in. His sign was, he'd leave a belt hanging on the door knob. My sign was, Hell would freeze over. So it worked out well for both of us.

Anyway, what is the obsession with degrees? Liberal arts? That's not a degree, that's a wall hanging. Philosophy majors? The last guy to get a job out of his philosophy degree was your philosophy professor.

Bottom line: College is a way station, the last convenience store before the desert of responsibility. It's a place for people to study and move on to a fulfilling life long career. And not that there's anything wrong with kids who decide that college isn't for them. Look at Bill Gates. He dropped out of Harvard and then went on to become the richest man in the universe.

**But can you imagine how much richer he would be right now if he just had his degree?
Of course, that's just my opinion, I could be wrong.**

Appendix J: Response to Monologue

Now that you have read the story, please write about the extent to which you found it amusing or entertaining. Your write up may be as long as you would like.

Appendix K: Suspicion Questionnaire

We would like to make sure that you understood the nature of this study. To do so, we'd like you to complete the following questions. Point form responses are fine.

- 1. In your opinion, what was this study about?**

- 2. What do you think we hope to find?**

- 3. Is there anything about the conduct of this study that did not make sense to you (ie. questions we asked that seemed 'out of place'?)**

Appendix L: Letter of Debriefing

Study:

Personal Group Discrimination Discrepancy: Role of Affective, Cognitive, and Behavioral Factors

Background and Purpose of Study:

In this study we were examining a phenomenon known as the personal group discrimination discrepancy, which asserts that members of a minority group deny personal experiences of discrimination, yet acknowledge that discrimination against their group exists. In this study we are interested in examining the effects of women's emotional reactions to situations of discrimination and on their perceptions and responses to the discrimination. In particular, we believe that if women are sad or depressed they will be more likely to be accepting of the discrimination and be more likely to attribute it to factors about themselves, and to feel helpless to change the situation. In contrast, if women's emotional response is anger, they may be less likely to attribute the discrimination to something about themselves, and to feel more empowered to take action to counter the source of discrimination. In order to assess the expectations, we want to prime women's emotional state prior to encountering the discriminatory situation.

Deception was involved in this study in that it suggests that we are concerned about creativity when it is not. In some studies, if we tell people what the purpose of the experiment is and what we predict about how they will react under certain conditions, then they might deliberately do whatever it is they think we want them to do. If that happened, their reactions would not be a good indication of how they might react in a situation in everyday life, where they didn't think they were being studied. What would be influencing them is what they thought the purpose of our study was rather than the specific conditions that we are trying to investigate. It is also possible that the opposite might occur and that people may think that if we predicted that they would do a certain thing, they might purposely not do that to show us we can't figure them out. That would also make the results invalid, because again what people would be responding to is what they thought we were looking for rather than responding naturally as they would in everyday situation. The purpose of reading and writing a short story was to induce an angry, sad, or neutral mood. Once this mood was primed, we then asked participants to complete an emotion rating scale to ensure that the desired mood was elicited. Following this, we then posed a situation of discrimination in which the male experimenter did not accept women in the high status group simply because they were women. We then asked some participants to suppress their behavior in order to examine the potential effects of inhibition of behavior and expression on the denial of discrimination. We also encouraged some participants to freely express their views regarding the study in order to assess the effects of expression on the denial of discrimination. We also used a group that received no instruction. We then administered several questionnaires to evaluate affective, cognitive, and behavioral effects on the denial of personal discrimination. We asked participants to complete one questionnaire which assessed the extent to which women in this study minimized personal discrimination relative to group discrimination. Another questionnaire evaluated the extent to which participants believed 5 factors played a role in determining what group she was placed in, including her sex,

luck, effort, and personal competence. Short-lived changes in self-esteem was also measured to determine the extent to which self-esteem altered according to what group participants were placed in. Another questionnaire assessed the participants perception of control; in other words the extent to which women felt competent about their performance (in the creativity task of creating a story) and the extent to which participants perceived personal control over social aspects of the experiment. Finally, an 'action' survey was given to determine if participants would be willing to participate in any set of actions if they had the opportunity to respond to the treatment in the present study. We also asked participants to read the Dennis Miller monologue to ensure that no one left the study feeling upset.

Questions and Comments:

If you have any questions about this research, or are interested in the results of this study, please feel free to contact Ritu Gill, the principal investigator (520-2600 ext. 2683) or Dr. Kim Matheson, the research supervisor (520-2600 ext. 2648). If you have any concerns about the ethics of this study, please refer them to Dr. Monique Senechal, Chair of the Ethics Committee (520-2600 ext. 1155). Should you have any other concerns about this study please refer them to Dr. Kim Matheson, Chair of the Psychology Department (520-2600 ext. 2648).