

Gender Role, Coping Styles, and Expectations in Coping Outcomes: Implications for
Depression

By

Katie L. Sharp

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Chairperson: Rick Ingram

Nancy Hamilton

Stephen Ilardi

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The Thesis Committee for Katie Lynn Sharp
certifies that this is the approved version of the following thesis:

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Chairperson: Rick Ingram

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Abstract

In order to investigate gender role differences in coping and expectancies within a diathesis-stress framework, 106 undergraduate students were assessed on their gender role orientation, coping styles, and negative mood regulation expectancies. They were then randomly assigned to either a control group, in which participants completed a counting task, or a mood manipulation group, in which participants underwent a negative mood induction. All participants were then assessed on the same coping and expectancy measures filled out previously. Results indicated that high-masculine individuals were more likely to engage in problem-focused coping and coping through emphasizing the positive. Results also indicated that coping styles appear to become more similar when individuals are faced with a negative mood stressor. Based on these findings, future research directions are proposed and implications for the depression literature are discussed.

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Gender Role, Coping Styles, and Expectations in Coping Outcomes: Implications for Depression

Over the course of one year, 14.8 million American adults, or 6.7 percent of the U.S. population age 18 and older, will become depressed (Kessler et al., 2003).

Moreover, women will develop unipolar depression at twice the rate of men, a finding that has been replicated in numerous studies (Heller, 1993; Nolen-Hoeksema, 1987, Nolen-Hoeksema & Girgus, 1994; Weissman, Leaf, Holzer, Meyers, & Tischler, 1984).

The precise mechanisms underlying the differential rates of depression between genders remain unclear. Numerous explanations have been proposed, however, no one theory has been sufficient in explaining this phenomenon. Insights have emerged in plethora of domains, but integrating various findings into a coherent paradigm is needed.

The purpose of this study is thus to examine the link between gender role and coping, specifically within a diatheses-stress framework. In doing so, this paper begins with a brief examination of coping as it pertains to problem-focused and emotion-focused coping. Next, the idea of gender role will be reviewed, and distinctions will be drawn between coping styles that are tied to different gender roles. Then, the construct of mood regulation expectancies will be examined with the idea that coping and coping outcomes are associated with individuals' beliefs that they can or cannot effectively regulate their emotions. Finally, these constructs will be examined within a diathesis-stress context such that the link between gender role and coping styles will emerge when individuals are faced with a negative mood experience.

Coping

When exploring the gender gap in depression, one promising area of investigation revolves around gender differences in coping, as coping behaviors play an important role in the outcome of individuals facing stressful situations (Endler & Parker, 1990). Coping includes both conscious and unconscious responses to stressful events. The construct of coping encompasses the behaviors that individuals engage in order to adapt to their circumstances including automatic and effortful responses (Compas, 1987; Silver & Wortman, 1980). Folkman and Lazarus (1980) further operationalized coping to encompass both problem-focused coping (coping efforts intended to act on the stressor) and emotion-focused coping (coping efforts intended to regulate emotional states associated with the stressor). Examples of problem-focused coping include problem-solving strategies that are aimed at actively changing the external situation, while examples of emotion-focused coping include efforts to adjust through emotional regulation such as avoiding the stressor or engaging in cognitive restructuring (Compas, 1987).

Although both problem-focused coping and emotion-focused coping can be adaptive and effective in various situations (Blanchard-Fields, Sulsky, & Robinson-Whelen, 1991), they have different implications in depression. For example, Clarke and Goosen (2009) demonstrated that automatic negative thoughts, emotion-focused coping, and depression are significantly correlated. In addition, through a hierarchical linear regression model, they showed that emotion-focused coping partially mediated the relationship between negative thoughts and depression. Furthermore, Bruder-

Mattson and Hovanitz (1990) studied the relationship between emotion-focused coping and attributional style and concluded that coping was a more effective predictor of depression than attributional style. Although emotion-focused coping is related to depression, problem-focused coping has been found to attenuate the emotional consequences of stress (Billings & Moos, 1981, 1982).

More recent research points to the potential benefits of emotion-focused coping when emotions are dealt with in an active, approach-oriented way. Stanton, Danoff-Burg, Cameron, and Ellis (1994) argue that many of the existing passive or emotion-focused scales are confounded with psychopathology. For instance, items that typically make up the emotion-focused scales of general coping inventories often contain words like *angry*, *blame*, *upset*, etc., which leads to large correlations with psychological distress. Thus, Stanton et al. (1994) argue that emotion-focused coping has adaptive potential when items that measure coping target the processes of identifying one's emotions, understanding them, and expressing them volitionally. In fact, several studies have supported the notion that positive outcomes are associated with the use of emotional approach coping (Smith et al., 2002). For example, it has been associated with increased hope and instrumentality and decreased neuroticism, trait anxiety, and depression among college women (Stanton et al., 2000). However, most of the research investigating psychological outcomes and emotional coping has not distinguished between emotional approach coping and less adaptive forms of emotional coping.

Interestingly, gender differences have been found in the level of endorsement of various types of coping. For example, women are more likely to use emotion-focused

coping or avoidance than are men (Billings & Moos, 1984; Endler & Parker, 1990; Stone & Neale, 1984). Men are more likely to engage in problem-focused coping than are women whereas women are also more likely than men to engage in ruminative responses (behaviors and thoughts that are focused on individuals' depressive symptoms and their causes and consequences; Nolen-Hoeksema, 1987, 1991). Although it is natural for individuals to initially ruminate about the causes of their depressive symptoms (Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Wood, Saltzberg, Neale, Stome, & Rachmiel, 1990), a subset of people continue to ruminate, which prevents them from engaging in active problem solving (Nolen-Hoeksema & Morrow, 1991). Given that women are more likely to ruminate and engage in many forms of emotion-focused coping than are men, these differential response patterns to stress could explain why, overall, women are more predisposed to developing depression.

Gender Role Orientation, Perceived Mastery, and Expectations

In order to determine why women more often engage in ineffective coping strategies, it is necessary to look at other individual variables. Carver, Scheier, and Weintraub (1989) noted that personality characteristics play a pertinent role in determining coping behavior. Of particular importance are gender role orientation (i.e., expectations about gender roles) and perceived mastery (i.e., the extent to which people feel like they are in control of their lives) along with expectations for effective mood regulation (Catanzaro & Mearns, 1990). Examining the personality variables that are associated with poorer coping strategies has led researchers to discover interesting findings regarding possible mediators of gender and depressive symptomatology.

First, the study of gender role has provided key insights into the development of gender differences in coping and depressive symptomatology. Nolen-Hoeksema (1987) suggests that the way individuals cope with stress originates from the way men and women develop gender-appropriate schemas as children and the way in which parents reinforce gender-typical behavior. For example, parents often hold different expectations for their sons and daughters in their level of encouragement of emotional expression (Eisenberg et al., 1998). Boys are especially discouraged from showing emotionality and other feminine characteristics (Maccoby & Jacklin, 1974), and they may even be disciplined for it (Eisenberg et al., 1998). For example, adult men are more likely than adult women to have self-reported being punished for expressing their emotional distress (Garside & Klimes-Dougan, 2002). Further support for the role of socialization in the gender gap comes from a study by Hart and Thompson (1996). They examined gender role characteristics, gender, and depressive symptomatology and found that gender-linked traits, more than actual gender, predicted depressive symptomatology.

According to the gender schema theory (Bem, 1981), there is an internalized drive that pushes individuals to manage their behavior according to their gender as it is defined by cultural norms. Thus, *sex-typed* individuals more readily engage in gender-schematic processes that allow them to behave in a way that meets stereotypical gender expectations. These sex-typed individuals might develop gender-stereotypical coping methods; however, people who hold less traditional expectations for appropriate gender roles are not as likely to do so (Levo & Biggs, 1989; Long, 1989). Nezu and Nezu

(1987) examined this phenomenon by looking at how gender role orientation, gender, and coping all related to psychological distress. They found that psychological well-being and levels of distress were associated with masculinity, but unrelated to femininity or sex. High-masculine subjects relative to low-masculine subjects (regardless of sex) were also found to rate their problem-solving skills as more effective and engage in more active and problem-focused coping. However, the relationship between masculinity and levels of psychological distress disappeared when the variance due to coping skills was partialled out, suggesting that coping skills may mediate the relationship between gender role and psychological distress.

The extent that people believe that they are in control of their lives may also affect their coping. For example, one might use emotion-focused coping more often when stressful situations are seen as out of one's control (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984; Roth & Cohen, 1989). Similarly, there is evidence that those who believe that they will be able to do something to control a stressful situation may use active coping and planning strategies (Carver et al., 1989). Overall, people who have a higher sense of mastery are more likely to use problem-focused coping, but those who believe that they do not have a sense of mastery or control are more likely to turn to emotion-focused coping (DeLongis, O'Brien, & Parker, 1990).

Similarly, expectations play a pertinent role in coping outcomes. Response expectancies, according to *response expectancy theory*, are anticipations of one's own nonvolitional reactions to events, and they are generally self-confirming in that they tend to produce the expected responses (Kirsch, 1990; Kirsch, Mearns, & Catanzaro,

1990). A similar construct is referred to as *mood-regulation expectancy*, which is the general expectancy of how effective one can utilize coping responses in order to reduce dysphoria (Catanzaro & Mearns, 1990; Kirsch Mearns, & Catanzaro, 1990). People who have high levels of negative mood-regulation expectancies believe that they can effectively improve their negative mood, whereas those with low negative mood-regulation expectancies do not believe that they can effectively alter their mood.

Kirsch et al. (1990) examined the relationships among coping, depression, and somatic symptoms in relation to mood regulation expectancies in college-aged students. Their results provide support that mood regulation expectancies help determine coping behavior and directly impact negative mood. They found that expectancy was the best predictor of active coping and levels of dysphoria, and a large proportion of the relationship between expectancy and dysphoria was independent of coping behavior. In other words, the more participants believed in their own ability to change their mood state, the less depression they reported. This finding was especially noteworthy because there was no significant relationship between active coping and dysphoria when negative mood regulation expectancies were partialled out, suggesting that the ability to enhance one's mood lies in one's own belief that he or she will do so rather than the means through which this occurs (e.g., active coping). Thus, even if coping behaviors do not intrinsically alter one's mood, the belief that they do may actually have mood-enhancing effects (Kirsch, 1985).

This finding leaves the possibility that it is not coping behavior per se that leads to psychological distress and potentially depression. Rather the negative mood

regulation expectancies that some individuals hold may affect not only choice of coping behavior, but also the outcome of that behavior. In fact, according to cognitive diathesis-stress ideas about depression, negative cognitive reactivity emerges during stressful situations. For instance, Beck (1967) emphasized depressive cognitive structures (e.g., negatively-valenced schemas and self-referent information) as critical in the development of depression, but these schemas lay dormant until activated by relevant stimuli such as stress. Evidence for this latency can be seen in a lab by using a negative mood induction to activate the schemas (Scher, Ingram, & Segal, 2005). It is conceivable that in times of stress, the negative cognitive vulnerabilities that emerge in at-risk individuals include low negative mood regulation expectancies, and this perceived lack of control over enhancing one's mood contributes to poor coping outcomes. In support of this hypothesis, Burns, Shaw, and Croker (1987) found that compared to nondepressed women, women with depression endorsed lower expectancies that their coping with sadness would be effective.

The Current Study

The theory and research reviewed here suggests several ideas. First, gender role, irrespective of actual sex, appears to be associated with different coping strategies, with more a stereotypical masculine role being associated with problem-focused coping, and a more stereotypical feminine role being associated with emotion-focused coping. Second, coping behaviors may be influenced by the perceived ability to regulate emotion, such that lower negative mood regulation expectancies should lead to deficient coping outcomes. Third, these responses should be seen in the context of a

diathesis-stress framework in which coping styles and expectancies should become apparent. That is, negative schemas about coping and expectations for coping efficacy should become elucidated when they are activated by a negative mood-producing event.

In line with these ideas, the purpose of this study was to examine gender role, coping, and mood-regulation expectancies in relation to a negative mood. In particular, how a negative mood interacts with gender role to predict negative mood regulation expectancies and coping outcomes was explored. The current study was separated into three phases. The first part of the study was a recruitment phase in which interested participants filled out a prescreen online, and qualifying individuals were allowed to sign up through an online system. In the second phase, participants filled out questionnaires online assessing gender role, coping, rumination, and negative mood regulation expectancies. In the third phase of the study, participants came into the lab, and their baseline mood was assessed before undergoing a negative mood induction or control task. After the negative mood induction or control task, participants were again assessed on their current mood and level of depression. Participants then filled out coping, rumination, and negative mood regulation expectancy questionnaires.

I had several specific hypotheses regarding the relationships that would emerge:

1. Based on previous gender role literature, I predicted that participants (of both sexes) endorsing greater stereotypically masculine traits would display less ruminative responses, less passive/emotion-focused coping, and more active/problem-focused coping.

2. I predicted that high-masculine participants would endorse higher negative mood regulation expectancies than low-masculine males and females due to mood regulation expectancies' relationship to coping behaviors and depressed mood.
3. In accordance with the cognitive diathesis-stress model of depression, I predicted that a negative mood would interact with masculinity, such that negative mood regulation expectancies would be reduced for low-masculine, but not high-masculine individuals. In other words, the negative mood induction would activate depressogenic schemas related to reduced coping expectations preferentially for low masculine individuals.
4. Because little research has been conducted examining how self-reported coping strategies might differ based on current mood state, I also investigated this phenomenon within a diathesis-stress context. I predicted that for low-masculine individuals, passive/emotion-focused forms of coping would increase in the presence of a negative mood stressor.

Method

Participants

The participants who completed all parts of the current study consisted of 106 undergraduate students (52.8% males) at the University of Kansas, who were enrolled in an introductory psychology class and fulfilling research requirements for the class. Individuals ranged from 18 to 23 years of age, with a mean age of approximately 19 ($M = 18.9$). Seventy-one participants were randomly assigned to the mood manipulation

group (53.5% males), and 35 individuals (51.4% males) were randomized to the control condition (See Table 1 for more information). More participants were randomized to the mood condition in order to ensure an adequate number of males and females endorsing low and high levels of stereotypically masculine traits respectively were included for analysis. The only exclusion criteria for the study was the possible presence of current episode of depression, as indicated by a BDI score of greater than 10.

| | Condition | Low-masculine | High-masculine | Total |
|-----------------------|----------------|---------------|----------------|--------|
| | Mood | 12, 18 | 26, 15 | 38, 33 |
| Males, Females | Control | 12, 9 | 6, 8 | 18, 17 |

Measures

Beck Depression Inventory-II (BDI-II). The BDI-II (Beck, 1996) is a 21-item questionnaire designed to assess the presence and severity of depression. Respondents are asked to rate the items based on how they have been feeling within the past two weeks for the range of four different responses per item on a scale from 0 to 3 with 3 being the most severe. An example of an item is (0) *I do not feel sad*, (1) *I feel sad*, (2) *I'm sad all the time, and I can't snap out of it*, (3) *I'm so sad and unhappy that I can't stand it*. A score between 0-13 indicates minimal depression, a score ranging from 14-19 indicates mild depression, a score between 20-28 indicates moderate depression, and a score ranging from 28-63 indicates severe depression. The BDI-II has a high internal

consistency with a reported alpha of .91 (Beck, Steer, Ball & Ranieri, 1996) and a high test-retest reliability, $r = .93$ (Beck, Steer, & Brown, 1996).

Short Form of the Bem Sex-Role Inventory (BSRI). The original BSRI (Bem, 1981) is a 60-item self-report instrument that asks people to rate how well each characteristic describes them on a 7-point Likert scale. Examples of masculine characteristics are *assertive, forceful, and aggressive*. Examples of feminine characteristics are *affectionate, tender, and sympathetic*. The original scale was designed to categorize individuals as *masculine, feminine, androgynous, or undifferentiated* based on their degree of identification with the 20 feminine and 20 masculine traits. An average score of 4.9 or higher on the masculinity scale and/or femininity scale qualifies an individual for endorsing the respective gender role. For example, if someone scores above a 4.9 on both the masculinity and femininity scales, then that individual would be considered *androgynous*. If someone were to score above a 4.9 on the femininity scale and below that on the masculinity scale, then he or she would be considered *feminine*. Likewise, if someone were to score above a 4.9 on the masculinity scale, but below that on the femininity scale, then that person would be *masculine*. If one were to score below a 4.9 on both scales, then he/she would be considered *undifferentiated*.

An abbreviated version of the BSRI was adapted from the original inventory, which contains 10 masculine and 10 feminine items selected based on their ability to increase the internal consistency of the masculine and feminine scales and their ability to increase the orthogonality between them (Bem, 1981). The short form is scored and interpreted in the same way as the original inventory and is still widely used as a

measure of gender-associated personality traits (Colley, Mulher, Maltby, & Wood, 2009).

Negative Mood Regulation Scale (NMRS). The NMRS is a 30-item scale used to measure generalized expectancies for negative mood regulation (Catanzaro & Mearns, 1987). Participants are asked to note the degree to which they believe the use of various coping strategies would alleviate their negative mood; using a 5-point Likert scale (*strongly disagree to strongly agree*) they are asked to complete a phrase such as, “When I’m upset, I believe that...” A high score resembles a belief that one can alleviate his or her negative mood state, while a low score resembles a belief that one cannot alleviate his or her negative mood state. The NMRS correlates negatively to depression and trait anxiety (Catanzaro & Mearns, 1990), and shows discriminate validity from social desirability, locus of control, negative affectivity, and depression. Further support for the validity of the NMRS is the finding that this scale was able to predict changes in depression following the breakup of a romantic relationship (Catanzaro & Mearns, 1990), and even when controlling for levels of depression, the NMRS adds to the prediction of changes in depression over time (Mearns, 1989).

Ways of Coping-Revised (WAYS-R). The WAYS-R is a 66-item questionnaire that measures the different coping styles people employ in dealing with stressful experiences (Folkman and Lazarus, 1985). Responses to items about various coping strategies (e.g., *counted my blessings, took it out on others, criticized or lectured myself*, etc.) are based on a four-point Likert scale (0 = *does not apply and/or not used*; 3 = *used a great deal*). For purposes of this project, the set of scales derived from Folkman and Lazarus (1985),

based on a college student sample, were used because these participant characteristics are representative of the population from which I sampled. From this study, five empirically constructed scales and three rationally constructed scales were used: problem focused coping, wishful thinking, distancing, seeking social support, emphasizing the positive, self-blame, tension reduction, and self-isolation. In the current study, passive/emotion-focused coping responses were defined by the endorsement of tension reduction, wishful thinking, distancing, self-blame, and/or self-isolation. Active/problem-focused coping responses were defined by problem-focused coping, seeking social support, and emphasizing the positive.

Response Styles Questionnaire (RSQ). The RSQ (Nolen-Hoeksema, 1991) is a self-report measure, which consists of 71 items about the types of responses people have when they are depressed, and consists of four rationally-derived subscales (rumination, distraction, problem-solving, and dangerous behavior). Using a four-point Likert Scale from A (almost never) to D (almost always), participants are asked to respond based on the degree to which they think or engage in each thought (e.g., think, *What am I doing to deserve this?*) or behavior (e.g., ask someone to help you overcome a problem). Some RSQ items from this original scale, however, are confounded with depressive content. Thus, after a priori elimination of items potentially confounded with depressed item content, Treynor, Gonzalez, & Nolen-Hoeksema (2003) identified two factors that were differentially related to depression within the rumination subscale. These include brooding (drawing one's attention to one's problems and their consequences) and reflective pondering (actively seeking an understanding and solution

to one's problems), the former of which is most predictive of depression and anxiety (Armey et al., 2009). The subscales of distraction, rumination, brooding, and reflective pondering will be of particular interest in this study. The RRS demonstrates strong internal validity, $r = .89$ (Nolen-Hoeksema & Morrow, 1991), and its reliability ranges from values between .39 and .61 (Armey et al., 2009).

Emotional Approach Coping Scale (EACS). The EACS (Stanton, Kirk, Cameron, & Danuff-Burg, 2000) is a 16-item questionnaire assessing two components of emotional approach coping—emotional processing and emotional expression. The subscale of emotional processing measures individuals' attempts at exploring and understanding their emotions. It is assessed with items such as, *I take the time to figure out what I'm really feeling* and *I delve into my feelings to get a thorough understanding of them*. The EACS subscale of emotional expression measures the volitional expression of one's emotions and assesses one's responses to items such as, *I take time to express my emotions* and *I let my feelings come out freely*. Higher scores on the EACS indicate greater use of EAC. Smith, Lumley, and Longo (2002) reported very high internal consistency for both emotional processing ($\alpha = .87$) and emotional expression ($\alpha = .92$).

Visual Analog Scale. The VAS is a quasi-dimensional ordinal scale (Feinstein, 1987) used in this study to measure degree of mood. There were two anchors on either end of a 5-inch horizontal line representing the extremes of mood from *very low* to *very high*. Participants were asked to physically place a mark on the line at the place that best represented their current mood state. Scores were derived from measuring the

distance between the lowest anchor and the participant's mark with a standard ruler. Lower scores denoted a worse mood.

Procedure

Eligible participants completed the study in two parts after the initial screening process. A limit in the allowed number of screening items precluded participants from filling out the entire BSRI short form during screening and therefore, individuals' level of endorsement of masculinity was extrapolated from the 6 items that explained the greatest proportion of variance for masculinity on the BSRI. Male individuals scoring low on the masculinity scale were invited to participate in the study via a provided school email address.

Those that qualified and chose to sign up for the experiment completed the first part of the study online. They completed the WAYS-R, the EACS, the RSQ, the BSRI short form, and the NMRS. After filling out all questionnaires, participants who chose to sign up for the second part of the study were allowed to do so no sooner than one day after completing the first part. All participants who came into the lab were given a BDI-II after signing their consent form. Those who scored higher than a 10 were disqualified but given credit for their participation.

In the second part of the study, all participants completed the VAS to assess current mood. Experimental participants were then given a negative mood induction, which consisted of reflecting on a negative event in their life while listening to solemn music for a period of seven minutes (e.g., Ingram, Bernet, & McLaughlin, 1994; Ingram & Ritter, 2000). Control participants participated in a 7-minute task requiring them to

count the number of tones presented to them. Immediately following the mood induction or control task, participants filled out a series of questionnaires in order to assess how their mood might have impacted their self-reported negative mood regulation expectancies, coping, and rumination. More specifically, participants first filled out the Visual Analog Scale in order to assess mood after the mood induction or control task. They then completed the NMRS, WAYS-R (with EACS embedded), and RSQ respectively. Between each questionnaire, mood was reassessed with the VAS in order to determine how negative affect after the mood induction may have attenuated over time.

Before leaving the lab, all participants were fully verbally debriefed about the purposes of the study. Those in the experimental group (those that were exposed to the negative mood induction) underwent a short, 2-minute positive mood induction, which involved reflecting on a particularly happy moment in their lives. All participants were given a handout with some background information and purposes of the study for them to refer to in the future. The form included contact information of the researcher, the IRB, and local counseling resources.

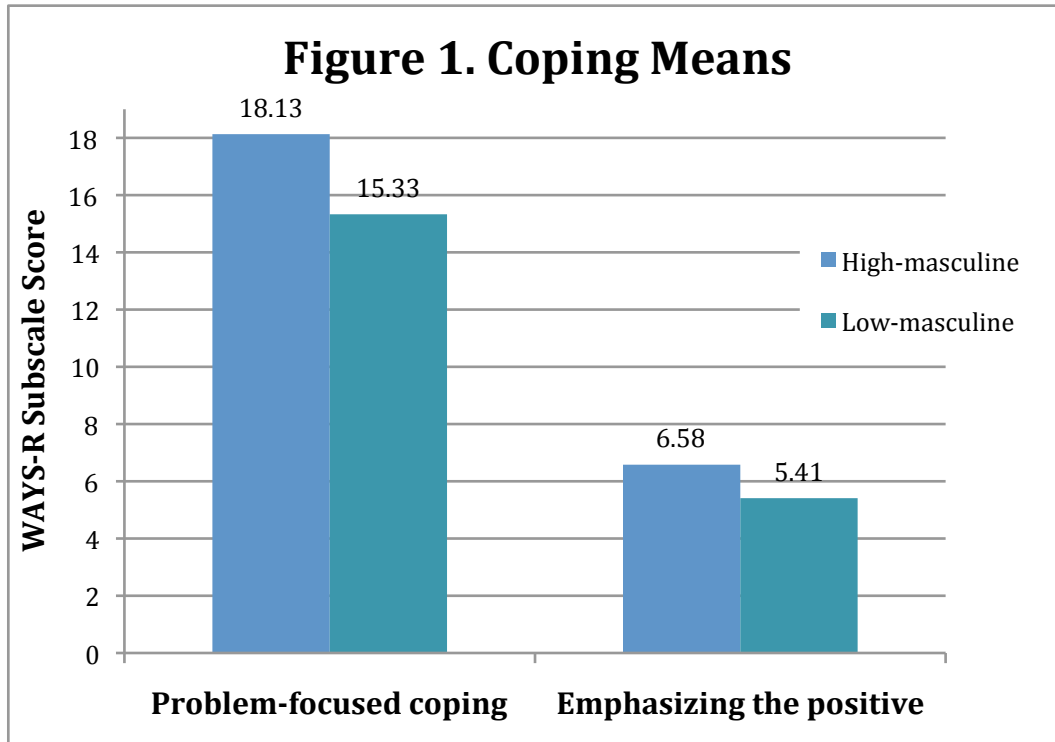
Results

Pre-Manipulation Analyses

Biological sex versus gender role. A chi-square was performed on the variables of biological sex and gender role to determine if there were significant differences in the number of males and females endorsing high and low stereotypically masculine traits. No significant differences emerged in the number of males and females in each gender

role category, $\chi^2(1) = 1.31$.

WAYS-R. Three 2x2x2 (Masculinity x Sex x Mood) univariate Analyses of Variance (ANOVAs) were examined for the subscales representing active/problem-focused coping on the WAYS-R (i.e., problem-focused coping, seeking social support, & emphasizing the positive). The alpha level was set for .017 using the Bonferroni correction method in order to reduce the likelihood of committing a Type I error. The individual ANOVAs revealed significant main effects of masculinity for both problem-focused coping, $F(1, 98) = 7.39$, $p = .008$, and emphasizing the positive, $F(1,98) = 8.13$, $p = .005$. As can be seen in Figure 1, follow-up t tests revealed that high-masculine males and females were significantly more likely to endorse both problem-focused coping, $t(104) = -2.58$, $p = .010$, and emphasizing the positive, $t(104) = 2.32$, $p = .022$. Five three-way, 2x2x2 (Masculinity x Sex x Mood) ANOVAs were then conducted for the passive/emotion-focused subscales of the WAYS-R (i.e., self-blame, self-isolation, wishful thinking, tension reduction, and distancing), and again the alpha level was set for .010 using the Bonferroni correction method. No significant main effects or interactions emerged among groups.



EACS. Two three-way, 2x2x2 (Masculinity x Sex x Mood) ANOVAs were conducted for the subscales of the EACS (i.e., emotional processing & emotional expression). The alpha level was set at .025 using the Bonferroni correction method, and no significant main effects or interactions emerged among groups.

RSQ. Four three-way, 2x2x2 (Masculinity x Sex x Mood) ANOVAs were conducted for the subscales of the RSQ (i.e., brooding, reflection, distraction, & rumination). The alpha level was set at .013 using the Bonferroni correction method in order to reduce the likelihood of committing a Type I error. No significant main effects or interactions emerged among groups on any of the subscales.

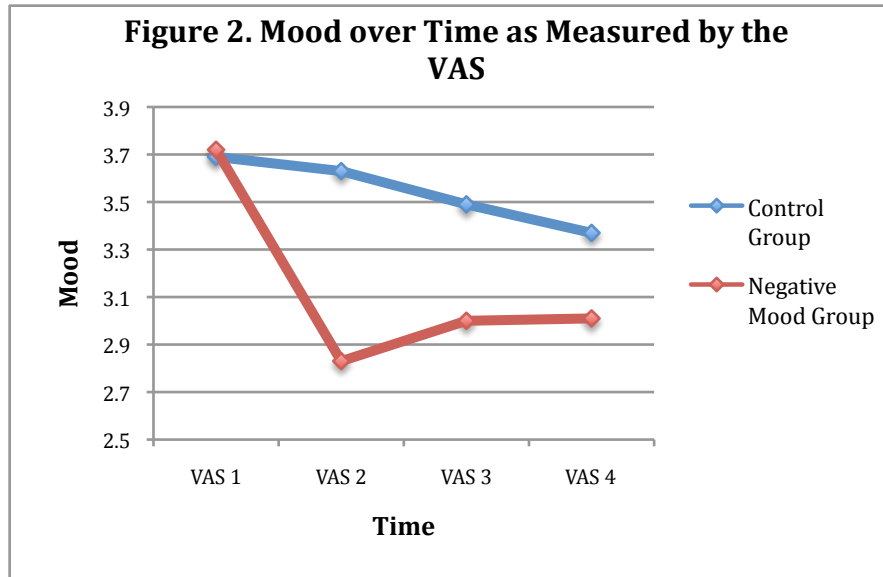
NMRS. A three-way, 2x2x2 (Masculinity x Sex x Mood) ANOVA was conducted for NMRS scores among groups and revealed a significant two-way (gender role x Mood) interaction, $F(1, 98) = 6.28, p = .014$. Follow-up t tests revealed that high-masculine

individuals endorsed significantly higher negative mood regulation expectancies for the control, $t(35) = 3.30, p = .002$, but not the negative mood group.

Mood. Two three-way, $2 \times 2 \times 2$ (Masculinity x Sex x Mood) ANOVAs were performed to check for pre-existing mood differences among groups for the BDI and the first administration of the VAS. No significant differences in initial mood among groups were detected.

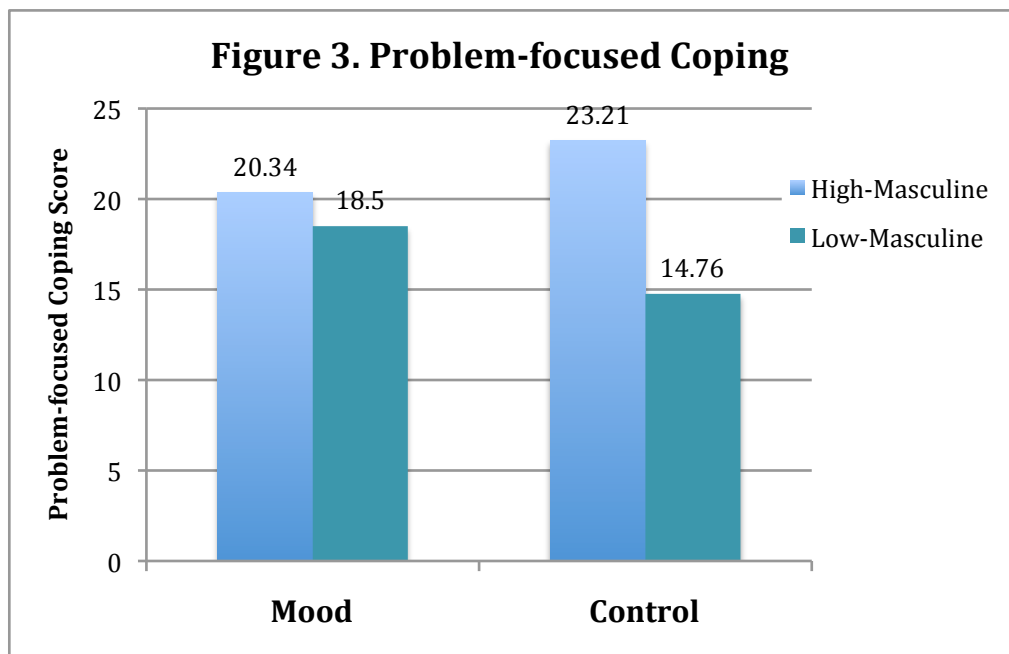
Post-Mood Induction Analyses

Mood. A $2 \times 2 \times 2 \times 3$ (Masculinity x Sex x Mood x Time) MANOVA was conducted for the VAS at all three time points following the mood induction and revealed a significant Mood x Time interaction, $F(3, 98) = 9.74, p < .001$. Follow-up independent samples t tests revealed significant differences between mood groups on the second, $t(104) = 3.75, p < .001$ and third administrations of the VAS, $t(104) = 2.67, p = .009$, but not the fourth, although differences approached significance at this time point, $t(104) = 1.85, p = .069$. Thus, as illustrated in Figure 2, the control group's mood tended to decrease slightly over the course of the study while the mood group's affect dropped significantly post-mood induction, and then improved slightly at the third and fourth measurement.



WAYS-R. Three 2x2x2 (Masculinity x Sex x Mood) Analyses of Covariance (ANCOVAs) were performed for the four subscales of the WAYS-R representing active/problem-focused coping. The corresponding initial subscale score taken from the online portion of the study was used as the covariate in each analysis, and the alpha level was set for .017 using the Bonferroni correction method in order to reduce the likelihood of committing a Type I error. A three-way, 2x2x2 (Masculinity x Sex x Mood) ANCOVA with initial problem-focused coping scores as the covariate revealed a significant two-way (Mood x Masculinity) interaction for problem-focused coping, $F(1,96) = 13.55, p < .001$. Because there was a significant two-way interaction, main effects were examined using t tests, revealing that high-masculine individuals were more likely to use problem-focused coping than low-masculine individuals in the control, $t(33) = 4.50, p < .001$, but not the negative mood group. Thus, as illustrated in Figure 3, when individuals were experiencing a negative mood-producing event, self-reported use of problem-focused coping were similar for high-masculine and low-

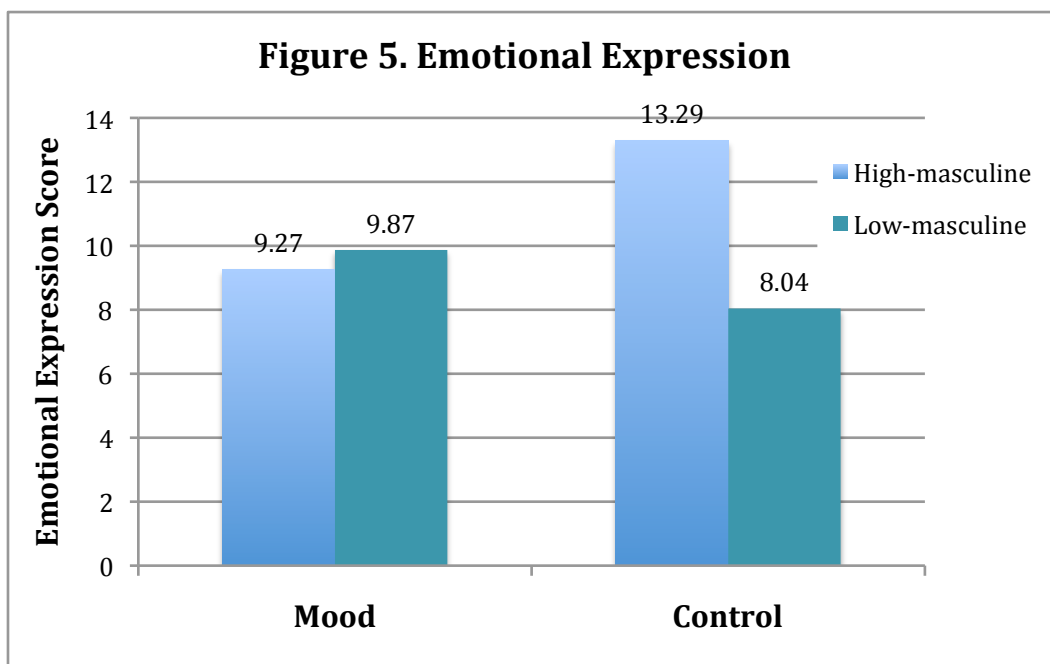
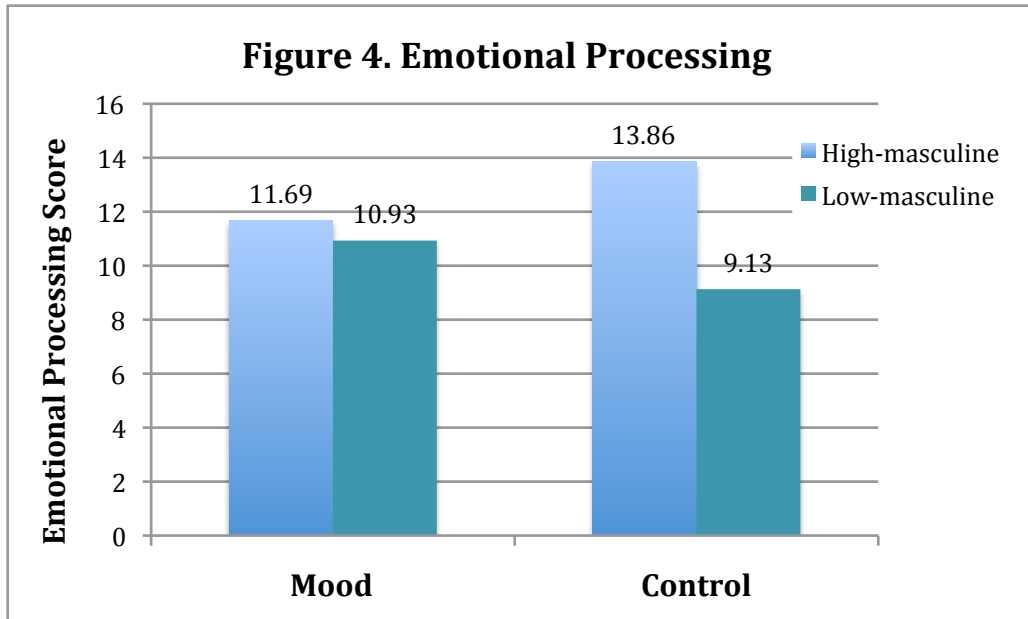
masculine individuals. The ANCOVAs for the remaining two active/problem-focused coping subscales did not reveal significant main effects or interactions. Five additional ANCOVAs were also conducted for the five subscales of the WAYS-R representing passive/emotion-focused coping using the alpha level of .010 derived from the Bonferonni correction method. No significant main effects or interactions emerged among groups.



EACS. Two ANCOVAs were performed for the two subscales of the EACS, and the alpha level was set at .025 using the Bonferroni correction method. The corresponding initial subscale score taken from the online portion of the study was used as the covariate in each analysis. A three-way, 2x2x2 (Masculinity x Sex x Mood) ANCOVA with initial emotional processing scores as the covariate revealed a significant two-way (Mood x Masculinity) interaction, $F(1,96) = 5.38, p = .022$. Because there was a

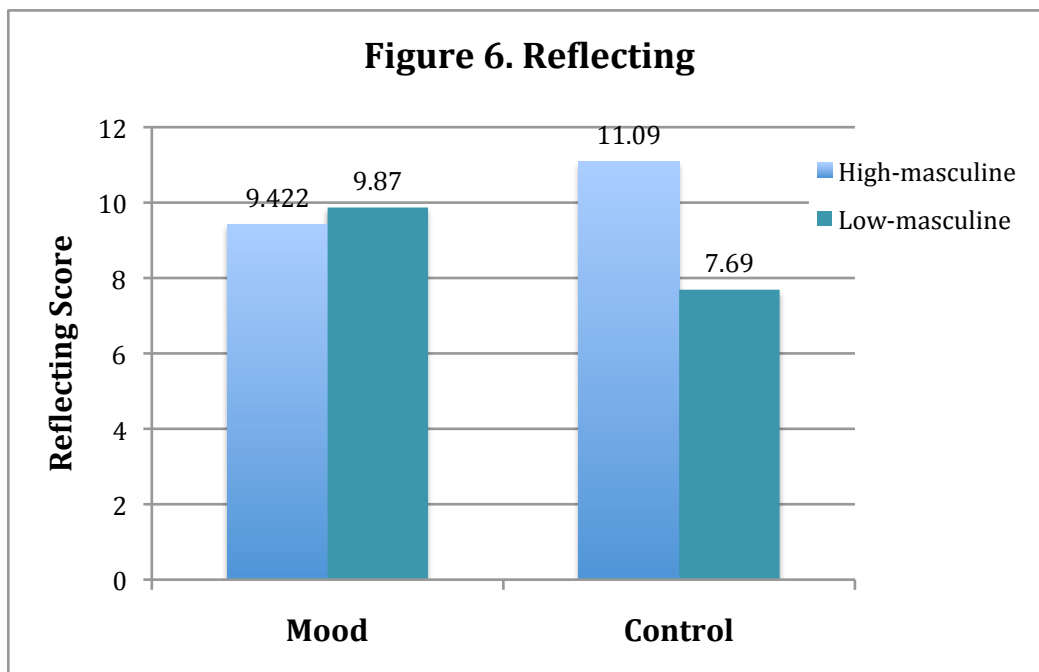
significant two-way interaction, main effects were examined using *t* tests, revealing that high-masculine individuals were more likely to use emotional processing than low-masculine individuals in the control, $t(33) = 3.07, p = .004$, but not the negative mood group. Thus, as illustrated in Figure 4, in the presence of a negative mood-producing event, self-reported use of emotional processing became similar for high- and low-masculine individuals.

A three-way, 2x2x2 (Masculinity x Sex x Mood) ANCOVA with initial emotional expression scores as the covariate also revealed a significant two-way (Mood x Masculinity) interaction, $F(1,96) = 8.68, p = .004$. Follow-up *t* tests revealed that high-masculine individuals were more likely to use emotional expression than low-masculine individuals in the control, $t(33) = 2.81, p = .002$, but not the negative mood group. In other words, as demonstrated in Figure 5, high-masculine and low-masculine individuals reported a similar degree of coping through emotional expression in the presence of a negative mood-producing event, but high-masculine individuals were more likely than low-masculine individuals to report emotional expression in its absence.

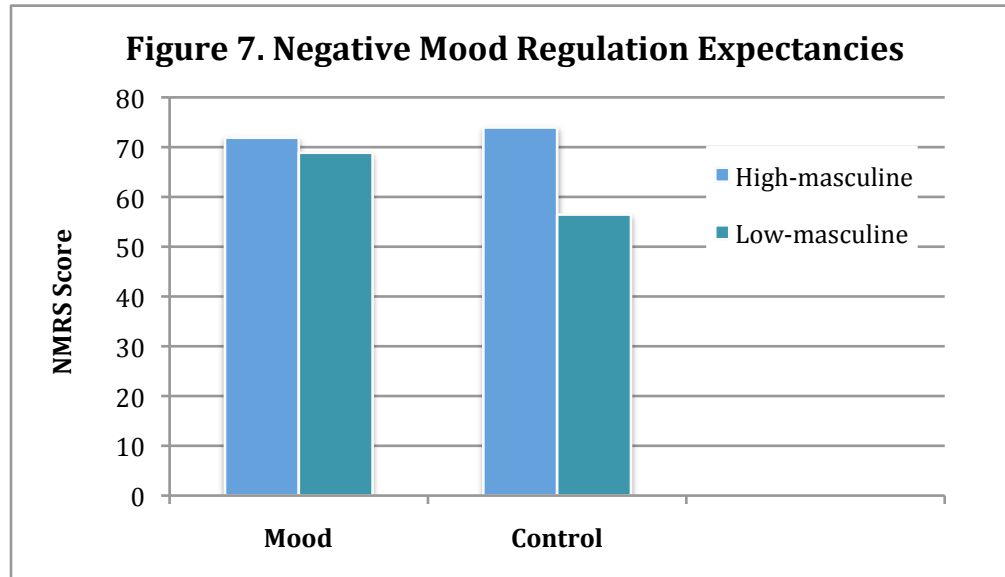


RSQ. Four three-way, 2x2x2 (Masculinity x Sex x Mood) ANCOVAs were performed for the four subscales of the RSQ, and the alpha level was set for .013 using the Bonferroni correction method in order to reduce the likelihood of committing a Type I error. The corresponding initial subscale score taken from the online portion of the study was used as the covariate in each analysis. A three-way, 2x2x2 (Masculinity x

Sex x Mood) ANCOVA with initial reflecting scores as the covariate revealed a significant Mood x Masculinity interaction for reflecting, $F(1,96) = 11.98, p = .001$. Simple main effects were examined using t tests, revealing that high-masculine individuals were more likely to use reflecting than low-masculine individuals in the control, $t(33) = 2.61, p = .014$, but not the negative mood group (See Figure 6). No other ANCOVA's revealed significant main effects or interactions among groups.



NMRS. A three-way, 2x2x2 (Masculinity x Sex x Mood) ANCOVA with initial negative mood regulation expectancies as the covariate revealed a significant 2x2 (Masculinity x Mood) interaction, $F(1,96) = 7.08, p = .009$. Because there was a significant two-way interaction, follow-up t tests were performed. As you can see from Figure 7, high-masculine individuals endorsed higher negative mood-regulation expectancies than low-masculine individuals, and these differences reached significance in the control, $t(33) = 3.85, p = .001$, but not the negative mood group.



Discussion

In this study, several hypotheses were investigated. My first hypothesis was that males and females who endorsed greater stereotypically masculine traits would display more active/problem-focused coping, less passive/emotion-focused coping, and fewer ruminative responses. My second hypothesis was that high-masculine individuals would endorse greater negative mood regulation expectancies than low-masculine individuals, as measured by the NMRS. My third hypothesis specified how the presence of a negative mood might affect expectancies based on masculinity. More specifically, I predicted that a negative mood would interact with levels of masculinity, such that negative mood regulation expectancies would be reduced for low-masculine, but not high-masculine individuals. Finally, another aim of the current study was to investigate coping and masculinity within a diathesis-stress framework, and I predicted that emotion-focused coping would increase for low-masculine individuals in the presence of a negative mood event.

Hypothesis 1: Gender Role's Effect on Coping

My first hypothesis was that males and females who endorsed greater stereotypically masculine traits would display more active/problem-focused coping, less passive/emotion-focused coping, and fewer ruminative responses. This prediction was partially supported. First, the prediction that high-masculine individuals would endorse more active/problem-focused strategies of the WAYS-R (i.e., problem-focused coping, seeking social support, and emphasizing the positive) and EACS (emotional processing & emotional expression) was explored. Although emphasizing the positive and seeking social support have previously been conceptualized as emotion-focused styles of coping, they often have the effect of intrinsically leading a person to engage in (or to resume) active/problem-focused coping actions (Carver, et al., 1989). This is especially true if they are used to manage emotions that would otherwise impede problem-focused activity (Lazarus & Folkman, 1984a, 1984b). In fact, Folkman and Lazarus (1985) found these coping styles to be strongly correlated with problem-focused coping. Thus, for purposes of this study, these styles of coping were grouped together. The EACS subscales of emotional processing and emotional expression were also considered active/problem-focused methods because of their positive association with instrumentality and negative association with depression (Stanton et al., 2000).

Results indicated that, as predicted, high-masculine males and females were more likely to endorse problem-focused coping and coping through emphasizing the positive. However, contrary to hypotheses, no differences emerged between high-masculine and low-masculine individuals in self-reported levels of emotional expression,

emotional processing, or seeking social support. In regards to seeking social support, the possibility still exists that high- and low-masculine individuals differ by the *means* through which social support is sought. For instance, the use of social support can be done primarily for both instrumental reasons (e.g., asking a friend for a ride to work when your car is in the shop) and emotional reasons (e.g., co-rumination; Ptacek, Smith, & Zanas, 1992). These two mechanisms were not measured separately in this study.

Second, the prediction that high-masculine individuals would endorse less passive/emotion-focused coping methods (self-blame, self-isolation, tension reduction, distancing, and wishful thinking) and fewer ruminative response styles (distancing, rumination, reflecting, and brooding) than low-masculine individuals was explored. This hypothesis was not supported in that no differences between groups emerged. Interestingly, no sex differences were noted either, which have previously been found in other studies (e.g., Billings & Moos, 1984; Endler & Parker, 1990; Nolen-Hoeksema et al., 1993; Stone & Neale, 1984).

It could be that certain styles of coping are unrelated to stereotypically masculine traits. Alternatively, the lack of differences between groups could reflect social changes in gender role stereotypes over time. For example, according to Felsten (1998), coping strategies between sexes may be becoming more similar, and these changes seem to parallel social changes in gender roles and social constraints (Emslie, Fuhrer, Hunt, Macintyre, Shipley, & Stansfeld, 2002). In fact, several studies have found that when coping styles are measured in homogenous samples of university students, sex differences in coping attenuate or disappear (Felsten, 1998; Lengua & Stormshak,

2000; Sigmon, Stanton, & Snyder, 1995; Stern, Norman, & Komm, 1993). In addition, previous studies that have documented gender differences in rumination in response to a depressed mood or stressful events have noted that these differences are generally small (e.g., Mezulis, Abramson, & Hyde, 2002). Given that the present sample consisted of undergraduate college students, typical coping differences previously found between sexes and gender roles may have been attenuated.

Hypothesis 2: Negative Mood Regulation Expectancies and Gender Role

My second hypothesis was that high-masculine participants would endorse higher negative mood regulation expectancies as measured by the NMRS than low-masculine males and females. This hypothesis was partially supported. High-masculine individuals in the control, but not the negative mood group, endorsed higher negative mood regulation expectancies than low-masculine individuals. It is unclear whether the discrepancy in findings between conditions was an artifact of randomization or may reflect a true difference between high- and low-masculine individuals on levels of negative mood regulation expectancies.

In a previous study with college students, Irving et al. (1990) suggested that coping strategies were only effective to the extent that they were believed in, such that when negative mood regulation expectancies were statistically controlled, active coping was positively associated with dysphoria. Thus, one's beliefs about coping after a stressor were important in predicting subsequent affect. If high-masculine individuals possess stronger beliefs about their ability to successfully cope with a negative mood, as

the current findings partially support, this may help explain why these individuals are less prone to depression (Hart & Thompson, 1996).

Hypothesis 3: Negative Mood Regulation Expectancies and Gender Role within a Diathesis-stress Framework

My third hypothesis specified how the presence of a negative mood might affect expectancies based on masculinity. Specifically, I predicted that a negative mood would interact with levels of masculinity, such that negative mood regulation expectancies, as measured by the NMRS, would be reduced for low-masculine, but not high-masculine individuals. Results did not support this hypothesis. After controlling for initial negative mood regulation expectancy scores, high-masculine individuals endorsed greater negative mood regulation expectancies than low-masculine individuals in the control, but not the negative mood group. Thus, when facing a negative mood stressor, high- and low-masculine individuals appeared to endorse similar negative mood regulation expectancies. However, in the absence of such stressor, high-masculine individuals endorsed greater negative mood regulation expectancies than low-masculine individuals. Thus, it could be that low-masculine individuals underestimate their ability to cope with a negative mood in general, but when faced with an actual stressor, their own internal coping resources become more salient.

Hypothesis 4: Coping Styles and Gender Role within a Diathesis-stress Framework

Because little research has been conducted examining how self-reported coping strategies might differ based on current mood state, I also investigated this phenomenon within a diathesis-stress context. Specifically, I predicted that for low-

masculine individuals, passive/emotion-focused forms of coping would increase in the presence of a negative mood stressor. This hypothesis was not supported. Interestingly, I found that when high-masculine and low-masculine individuals were faced with a negative mood-producing event, self-reported coping styles appeared to become more similar. In particular, levels of problem-focused coping, emotional processing, emotional expression, and reflecting were significantly higher in high-masculine individuals than low-masculine individuals in the control, but not the negative mood condition. One possibility for this finding is that high-masculine individuals are more likely to overestimate their tendency to use healthy coping styles than are low-masculine individuals, while low-masculine individuals are more likely to underestimate their use of healthy coping styles in the absence of a stressor. However, typical coping responses may become more salient when individuals are faced with an actual stressor.

Although research has consistently shown positive outcomes associated with problem-focused coping (e.g., Folkman & Lazarus, 1980), emotional processing and emotional expression (e.g., Stanton et al., 2000), research has been mixed in regards to outcomes related to the use of reflecting. However, some studies support the notion that engaging in reflecting is associated with positive outcomes. For example, Treynor, Gonzalez, and Nolen-Hoeksema (2003) found that while brooding predicted increases in depression over a time period of one year, reflective pondering predicted decreases in depression. Thus, results in the current study would support the notion that high-masculine individuals are more likely to endorse coping styles associated with positive outcomes in the absence of a stressor.

Limitations and Future Directions

This study had some limitations worth noting. First, only the masculine gender role was examined in relation to coping and mood. Although Nezu and Nezu (1987) found that coping differences and levels of distress were related to masculinity and unrelated to femininity or sex, important information about the feminine gender role may have been missed within the current study. Given that little research has explored gender role in relation to negative mood regulation expectancies, this might be a fruitful avenue of exploration.

Another limitation in this study was the fact that no currently depressed individuals were studied or those with a known history of depression. Those with a known vulnerability to depression would have been a population of particular interest given that their depressive cognitive structures may have been more salient in the negative mood condition than those without such known vulnerabilities (Scher, Ingram, & Segal, 2005). These individuals could have potentially provided a clearer picture of the relationships among gender role, expectations about coping, and self-reported coping styles within a diathesis-stress framework.

Little research has examined the effect of mood and gender role on self-reported coping styles and expectancies, and subsequently, avenues for subsequent research may have been elucidated. Notably, future research could clarify the effect of mood on coping styles and elucidate the relationship between masculinity and negative mood regulation expectancies. In particular, researchers could determine if coping styles between high- and low-masculine individuals consistently become more similar when

individuals are faced with a stressor. This information would have important implications for treatments of affective disorders or preventative interventions. For example, if coping differences between high- and low-masculine individuals disappear in the face of a stressor, then gender role may be unrelated to coping within the diathesis-stress framework. Thus, other vulnerabilities could be explored and targeted as possible pathways to depression.

Future research could also examine coping variables in populations other than homogenous samples of college students since previous studies have found that sex differences in coping attenuate or disappear when measured in these individuals (Felsten, 1998; Lengua & Stormshak, 2000; Sigmon, Stanton, & Snyder, 1995; Stern, Norman, & Komm, 1993). It is possible that high- and low-masculine individuals who hold stronger gender role beliefs demonstrate more marked differences in coping and coping outcomes. Thus, treatment implications may differ based on population characteristics.

Conclusions

This study was important in that it was the first to my knowledge to explore coping, expectancies, and gender role within a diathesis-stress framework. While certain coping styles have previously been found to be associated with gender role and hold implications for the development of depression (e.g., Folkman & Lazarus, 1980; Nezu & Nezu, 1987), the current study found that within a diathesis-stress framework, coping differences between high- and low-masculine individuals disappear. That is, when high- and low-masculine individuals are faced with a negative mood-producing event,

differences in coping and expectancies disappear. Given the theoretical importance of the diathesis-stress model of depression as well as the constructs of gender role, coping, and expectancies within the depression literature, the current findings warrant further investigation

Fully exploring the etiological mechanisms responsible for the development of depression and the gender gap more specifically will be one key in understanding depression and working to reduce its impact. Additionally, the need for this type of research is apparent by the perpetually rising rates of depression (Weissman, Bland, Joyce, Newman, Wells, & Wittchen, 1993). Targeting the precise mechanisms responsible for the current gender gap and creating a coherent paradigm for understanding the development of depression will be key in reducing the economic and psychosocial costs associated with this illness. Yet, before this is possible, many research questions have yet to be answered.

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