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What about Androgyny? Sex and Gender-Role Orientation as Determinants of Rumination and Depression Rates

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BARRY UNIVERSITY

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Abstract

The purpose of the study was to explore the complex relationships between depression, rumination, gender, and gender roles. A total of 386 participants completed three self-report questionnaires assessing depression, rumination, and gender roles. It was found that depression and rumination are strongly associated. In addition, rumination rates were higher in women, supporting a gender-specific cognitive risk. Depression rates were equal for both genders. Rumination did not differ as a function of gender roles. The associations between gender roles and depression were complex, with femininity emerging as a protective factor, and androgynous individuals having lower depression rates than undifferentiated ones. Theoretical implications regarding the change of gender role constructs and their outcomes in current societal context are emphasized. Moreover, practical implications concerning women's increased risk for rumination and depression and its importance in clinical settings were discussed.

What About Androgyny?

Sex and Gender-Role Orientation as Determinants of Rumination and Depression Rates

Depression and Gender

One of the most reliable findings in the epidemiology of depression is that women are more likely to suffer from depression than are men. Estimates are that, in adulthood, twice as many women as men are depressed (e.g., Piccinelli & Wilkinson, 2000). Although the exact gender ratio is somewhat different from culture to culture, most nations have reported a gender ratio close to 2:1 (e.g., Kuehner, 2003). The World Health Organization has estimated that major depression is the leading cause of disease-related disability among women globally (Kessler, 2003). The female precedence to depression starts around puberty and is consistent in all ages thereafter (e.g., Compas, Ey, & Grant, 1993).

A number of both biologically-based and psychologically-based explanations for the emergence of greater rates of depression in women after puberty have been proposed: genetic factors, ovarian and adrenal hormonal changes at puberty, gender intensification and adherence to traditional gender roles, greater female exposure to negative life experiences of rape and child sexual abuse, female body dissatisfaction, greater cognitive vulnerability in women, female reliance on relationships, and greater ruminative coping (Hyde, Mezulis, & Abramson, 2008). In the present study, ruminative coping and gender roles are the factors that were examined.

Coping Styles and Depression

Coping styles and rumination. Individuals deal with different coping strategies when faced with negative events, stressors, or bad moods. They may use problem-focused coping strategies (i.e., thoughts or actions designed to deal actively with the stressor), emotion-focused coping strategies (i.e., thoughts or actions designed to deal with one's emotions associated with

the stressor), or avoidant coping strategies (i.e., thoughts or actions designed to avoid dealing with the stressor) (e.g., Lazarus & Folkman, 1984). These types of coping styles have been related to different adaptive outcomes, with problem-focused coping being associated with lower levels of depressive symptoms and emotion-focused coping being associated with maladaptive functioning and higher degrees of depressive symptoms (e.g., Compas, Malcarne, & Fondacaro, 1988; Terry, 1991).

Rumination is a form of emotion-focused coping style that includes focusing passively and repeatedly on one's symptoms of distress, and on the meanings, causes, and consequences of those symptoms, without taking action to correct the issues one identifies (Nolen-Hoeksema, 2002). Examples include sitting alone thinking about how tired and unmotivated one feels, worrying that one's moods will interfere with one's job, and passively reviewing all the things wrong in one's life that might be contributing to those moods. Rumination differs from more adaptive emotion-focused coping responses, such as reframing a situation and seeking social support, in that it entails individuals concentrating on their symptoms of distress and the problems associated with those symptoms, rather than doing something to change negative feelings. The tendency to engage in a self-focused, ruminative response style to a depressed mood appears to be stable across one's lifetime (Nolen-Hoeksema, Parker, & Larson, 1994).

Rumination and depression. Almost every individual occasionally experiences mild to moderate periods of depressive symptoms. Yet, for most people these episodes last only a few hours or days since they somehow bring themselves out of them before reaching the point where they would be considered clinically depressed and would seek professional help. For others, however, initially mild depressive symptoms often become more severe, until they cross the clinical threshold. Nolen-Hoeksema (1991) argued that a ruminative coping style can make the

mild dysphoria that most people experience occasionally in response to stressful events to grow into more serious and prolonged depression. Indeed, a series of experimental and naturalistic studies have shown that people with a passive, ruminative style of coping have longer and more severe periods of depressive symptoms.

Laboratory studies have shown that inducing distressed people to ruminate interferes with effective problem-solving and worsens their mood (Lyubomirsky & Nolen-Hoeksema, 1995). For example, when rumination was induced by having participants focus on their current feeling states, their possible causes, and their possible consequences, their depressed mood was maintained or increased in dysphoric participants, whereas a distraction induction led them to experience considerable relief from their depressed moods (Lyubomirsky & Nolen-Hoeksema, 1993; Morrow & Nolen-Hoeksema, 1990; Nolen-Hoeksema & Morrow, 1993). Moreover, dysphoric subjects induced to ruminate gave more pessimistic attributions for hypothetical events and for interpersonal problems than did dysphoric subjects who were first distracted from their mood or than did nondysphoric controls. On the other hand, dysphoric subjects made to distract were no more pessimistic in their attributions for events than were the nondysphoric controls (Lyubomirsky & Nolen-Hoeksema, 1993). Similarly, dysphoric subjects made to ruminate chose more depressive and distorted interpretations of hypothetical life events on the *Cognitive Biases Questionnaire* (Krantz & Hammen, 1979) than did dysphoric subjects who were first distracted or than did nondysphoric subjects. Again, dysphoric subjects who were first distracted did not differ from nondysphoric controls in the number of depressive distorted responses they selected (Lyubomirsky & Nolen- Hoeksema, 1993). Finally, dysphoric subjects made to ruminate subsequently generated inferior quality solutions to hypothetical interpersonal problems than did dysphoric subjects who were made to distract prior to engaging in problem

solving. In contrast, dysphoric subjects who were distracted before problem solving generated solutions that were as high in quality as those of nondepressed controls (Lyubomirsky & Nolen-Hoeksema, 1993).

Furthermore, naturalistic studies show that people who tend to ruminate when distressed are more likely to experience prolonged depressive symptoms and episodes of major depression, compared to people who do not tend to ruminate when distressed (Nolen-Hoeksema, 1998, 2000). For example, Nolen-Hoeksema, Morrow, and Fredrickson (1993) found that the more ruminative responses individuals engaged in, the longer their periods of depressed mood, even after they controlled for the initial severity of the mood. Nolen-Hoeksema, Parker, and Larson (1994) found that recently bereaved adults who were only mildly dysphoric shortly after the death of their loved one became increasingly more depressed and had longer periods of depressed mood if they had a ruminative coping style. Similar results were found in studies of people's dysphoric reactions to an earthquake (Nolen-Hoeksema & Morrow, 1991). Moreover, studies show that rumination not only affects the duration of the depressive symptoms but also their mere occurrence. For instance, Li, DiGiuseppe, and Froh (2006) found that greater degrees of ruminative coping in adolescents were related to high levels of depressive symptoms. Similarly, Wupperman and Neumann (2006) found that rumination predicted depression in a sample of young adults. The same pattern has also been demonstrated in children. Broderick and Korteland (2004) for example, assessed rumination and depression in a group of fourth through sixth graders once every year for three years and they found that rumination level predicted depression levels at each follow-up assessment. In contrast, failure to behaviorally or cognitively distract, predicted increases in depressive levels over the course of three years.

There are many mechanisms by which a ruminative, inactive response set for depression amplifies and prolongs an episode, whereas an active response set for depression dampens and shortens it. Primarily, rumination interferes with attention and concentration (Brockner & Hulton, 1978), and the initiation of instrumental behaviors. It inhibits active problem-solving, contributes to an exaggerated view of problem severity, and is associated with decreased levels of self-efficacy (Lyubomirsky & Nolen-Hoeksema, 1995). As a result, the number of failures increases and a sense of helplessness intensifies (Diener & Dweck, 1978; Kuhl, 1981). Kuhl's (1981) research illustrated that ruminative individuals, excessively ruminated about failures on cognitive tasks, and this interfered with their learning of subsequent tasks, leading them to poorer performance. Kuhl argues that rumination leads to difficulties that give birth to failures and to a sense of helplessness in controlling one's environment and thereby contributing to depression.

Another mechanism through which rumination feeds depression is through the well-established link between mood and memory. Rumination increases the salience and frequency of recall of negative memories which in turn amplify the current depressed mood and lead one to interpret current events in the light of memories of past failures and losses. The depressed mood is thus exacerbated and extended (Bower, 1981). In contrast, active coping styles break this vicious cycle by distracting oneself from the mood and negative cognitions, thereby dampening the depressive episode.

Moreover, ruminative response styles during depressive episodes may increase the likelihood that an individual will consider depressogenic explanations for current negative events and mood, thereby increasing expectations of helplessness and hopelessness (Diener & Dweck, 1981; Kuhl, 1981). Diener and Dweck (1981) illustrated this pattern by giving ruminating and nonruminating children solvable and unsolvable puzzles. They discovered that the ruminating

children invoked depressive explanations for their failures to solve the puzzles more than nonruminating children, which led to greater helplessness on future tasks.

Finally, rumination alienates sources of support in the depressed person's social environment. For instance, in a longitudinal study of individuals who lost a loved one, it was demonstrated that individuals with a ruminative response style, sought more social support, and believed that they would benefit more from it, but reported receiving less social support compared to those without a ruminative coping style (Nolen-Hoeksema & Davis, 1999).

Gender differences in coping styles and rumination. As discussed, both naturalistic and laboratory studies show that rumination is a form of emotion-focused coping style that involves many depression-related costs. There is evidence to suggest that men are more likely to use problem-focused coping, and that women are more likely to use emotion-focused coping. This is consistent with the idea that women tend to turn against themselves more than men and men are more likely than women to use denial (Brems & Johnson, 1989). After all, denial is a form of distraction.

Classic coping studies have tended to find that women were more likely to use emotion-focused coping techniques compared to men (e.g., Billings & Moos, 1984; Carver, Scheier, & Weintraub, 1989; Ptacek, Smith, & Zanas, 1992; Rosario, Shinn, Morch, & Huckabee, 1988). Recent studies also have found that women use more emotion-focused techniques such as crying, seeking help, and fasten their attention on the source and reasons for their depression when compared to men (Angst, Gamma, Gastpar, & Tylee, 2002; Anshel, Sutarso, & Jubenville, 2009; Butler & Nolen-Hoeksema, 1994; Li et al., 2006; Renk & Creasey, 2003). For example, Renk and Creasey (2003) found that female late adolescents were significantly more likely to endorse emotion-focused coping strategies than male late adolescents.

Research focusing on rumination in particular shows that women are more likely than men to engage in ruminative responses to negative events and to depressed mood. For instance, Nolen-Hoeksema (as cited in Nolen-Hoeksema, 1987) found that male college students were more likely than female students to say they coped with a depressed mood by avoiding thinking of reasons why they are depressed, by doing something physical such as playing sports, or by engaging in substance abuse. Conversely, the females students were more likely to respond to a depressed mood by talking to other people about their feelings, crying to relieve the tension, and trying to determine why they feel depressed. Evidently, men used more distractive strategies designed to relieve the depressed mood, while women used responses that tended to dwell on their bad mood. This tendency for females to ruminate more than males has been demonstrated repeatedly in samples of adolescents and adults (e.g. Butler & Nolen-Hoeksema, 1994; Conway, Giannopoulos, & Stiefenhofer, 1990; Morrow & Nolen-Hoeksema, 1990) and has also been observed among preadolescent children (Broderick, 1998).

Coping styles as a risk for female depression. The evidence that females tend to ruminate more, and that rumination leads to an increase in depressive symptoms, in parallel with the universal finding that female depression is twice as common as male depression, has led many researchers to suggest that the gender difference in depression can be accounted for, at least in part, by gender differences in the tendency to ruminate (Nolen-Hoeksema, 2001; Nolen-Hoeksema & Girgus, 1994; Nolen-Hoeksema, Larson, & Grayson, 1999). Nolen-Hoeksema (2001), proposed that women's response tendencies toward depression are a cause of their greater tendency toward depression, whereas men's response tendencies essentially lessen their rates of depression. It is argued that men’s behavioral and active responses to their dysphoria dampen and shorten their depressive symptoms, whereas women’s more ruminative responses to their

depressive episodes amplify and prolong them. According to Nolen-Hoeksema (1987), men respond to negative feelings in a way that dampens dysphoria, in that men are more likely to engage in active behaviors that diminish the severity and duration of the depressive affect. Conversely, it is proposed that women ruminate over dysphoric events and thus amplify depressive emotions in a manner that contributes to increased frequency, severity, and duration of depressive episodes. Nolen-Hoeksema (1987) suggested that men and women may not even have differential vulnerability to depression. The sex differences in response tendencies for depressed moods and the effects of these differential responses on the severity and chronicity of depressed moods, could account for the observed sex differences in rates of depression. Indeed, research has shown that once rumination is controlled, sex differences in depression are no longer significant (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Rumination has been demonstrated to partially mediate the relationship between gender and depressive symptoms (Treynor, Gonzalez, & Nolen Hoeksema, 2003).

These findings are consistent with the often-cited axiom in the clinical literature that women respond to negative events with depression, and men respond to the same events with alcoholism. Whereas, it is well known that women are twice as likely as men to receive a diagnosis of depression, it is equally well known that men are about twice as likely as women to be diagnosed with alcoholism or some other substance abuse disorder (Williams & Spitzer, 1983). This has led to the suggestion that the male equivalent to depression is alcoholism (Winokur & Clayton, 1967). Proponents of this argument suggest that the rates of alcoholism make up for the scarcity of depression in men. This argument is boosted by evidence that in cultures in which alcohol consumption is prohibited, such as among the Amish, no sex differences in depression are found (Egeland & Hostetter, 1983). Some research (e.g. Cadoret &

Winokur, 1974; Winokur & Clayton, 1967) has sought to attribute this parallel to a genetic link between sex, depression, and alcoholism. Family history studies provide evidence to support this view (Cadoret & Winokur, 1974). However, an alternative explanation to the phenomenon is that men and women respond to stressors in different ways; women with rumination and men with distraction. In the same way that rumination leads to increased depressive symptoms, alcohol abuse can be considered to be a maladaptive distractive coping strategy. Hull (1981) has proposed a theory of alcohol consumption based on findings that alcohol interferes with the efficiency of self-referent information encoding processes. According to this model, individuals drink alcohol in an effort to reduce self-focused attention that is increased as a function of negative life events. If this is the case, then some of the variance in the male alcoholic-female depressive relationship may be accounted for by the following hypothesis: if stressful events are thought generally to provoke increased self-focused attention, women tend to amplify this self-focusing via rumination and are, therefore, at an increased risk for depression. Men, on the other hand, may attempt to deal with increased self-focused attention by turning to alcohol and are thus at increased risk for alcoholism. This suggests the interesting possibility that rumination and distraction may play a role in sex-typed disorders (Ingram, Cruet, Johnson, & Wisnicki, 1988).

Of course, all of these arguments are not to propose that a maladaptive coping style such as rumination is the sole cause of depression. Depression is a complex disorder with many genetic, hormonal, social, psychological, and cognitive factors contributing to its development. Rumination is proposed to be one of the risk factors associated with depression. Accordingly, a cognitive vulnerability model of depression would suggest that a negative cognitive style, such as rumination, when paired with stressors and negative life events, prospectively predicts depression (Hyde et al., 2008).

Gender Roles and Depression

Gender roles. Gender roles refer to social and behavioral norms which are regarded to be socially appropriate for individuals of a given gender in a specific cultural context, which can vary significantly among cultures and across time. In western culture, stereotypically, men are aggressive, competitive and instrumentally oriented while women are passive, cooperative and expressive. Early thinking assumed that this division was based on underlying innate differences in traits, characteristics and temperaments of men and women. Modern research has shown though that femininity and masculinity are not innate but are rather based upon social and cultural expectations held for each sex (Mead, 1935). That is, masculinity and femininity are based on the psychological and social aspects of being male or female, and they refer to the degree to which individuals adopt various traits traditionally associated with men and women. Spence and Helmreich (1978) have proposed that masculinity and femininity are two clusters of traits that correspond to the socially sanctioned and expected behavioral differences between men and women. These differences can be distilled essentially into instrumental (masculine), and expressive-communal (feminine) emotional trait clusters.

A notable figure in gender-role research is Sandra Bem who developed the gender schema theory to explain how individuals come to use gender as an organizing category in all aspects of their life (Bem, 1981). She created the *Bem Sex Role Inventory* (BSRI) (Bem, 1974) to measure how well individuals fit into their traditional gender role by characterizing their personality as masculine, feminine, androgynous, or undifferentiated (Bem, 1974). The BSRI is comprised of two independent dimensions: A masculine scale and a feminine scale. Each scale includes attributes that are positively valued by both sexes and are more normative for either males or females to endorse. The items were specifically selected so as to reflect the definitions

of sex appropriateness held by American society (Bem, 1974). Respondents indicate the degree to which a series of descriptions are true about them. Examples of descriptions for the masculine scale include “acts as a leader,” “makes decisions easily,” “independent” and “willing to take risks.” Examples of descriptions for the feminine dimension include being “affectionate,” “understanding,” and "sensitive to the needs of others." Whereas in the past masculinity and femininity were considered to be the ends of a single continuum, now it is well established that they represent two autonomous dimensions. The two scales are not strongly negatively related as would be expected if masculinity were the opposite of femininity; knowing one’s score on one scale does not predict his or her score on the other scale (Bem 1974; Spence & Helmreich, 1978). Instead, people can have all combinations of scores. A sex-typed masculine individual would score high on the masculine scale and low on the feminine scale. A sex-typed feminine individual would score high on the feminine scale and low on the masculine scale. An androgynous individual would have a balanced high score on both dimensions and an undifferentiated individual would score low on both.

According to Bem (1981), scores on the BSRI not only measure the different dimensions of masculinity and femininity, but they also measure an underlying construct known as gender schematization. Gender schematization is an internalized tendency to see the world in gendered terms. One who is gender schematic uses the meanings of male and female to classify stimuli. Those who score high on masculinity or high on femininity are gender-schematic because they tend to organize information along gender lines. These people process information and regulate their behavior based on social and cultural definitions of masculinity and femininity. Androgynous people are gender-aschematic and they are thus expected to be more flexible and adaptable to various situations than exclusively masculine or feminine individuals (Bem, 1975).

Indeed, there are findings to illustrate the adaptive function of androgyny. For instance, androgynous individuals were found to use more balanced coping strategies (Patterson & McCubbin, 1984) and were more flexible in their problem-solving strategies (Babladelis, 1978) than either masculine or feminine individuals.

Gender roles and depression. There is evidence from diverse sources that the personality characteristics linked to the feminine gender role are more depressogenic than those linked to the masculine gender role, and that adaptive functioning is inhibited by the female sex role. Research has consistently found the dimension of masculinity to be negatively related with depression and psychological adjustment in general (e.g., Allgood-Merten, Lewinsohn, & Hops, 1990; Bassoff & Glass, 1982; Taylor & Hall, 1982; Nezu & Nezu, 1986; Nezu, Nezu, & Peterson, 1986; Whitley, 1983). Bassoff and Glass (1972) conducted a metaanalysis of 26 studies that established a strong positive relationship between masculinity and mental health. Findings have been less clear regarding the relationship between the dimension of femininity and depression: whereas some studies have found them unrelated (e.g., Allgood-Merten et al., 1990), others have revealed a moderate positive relationship between them, (Marcotte, Alain, & Gosselin, 1999), and others have found femininity to be even more predictive of depression than masculinity, though in the opposite direction (Wichstrom, 1999).

Nevertheless, research illustrates that the relationship between gender roles and depression is more important than the relationship between gender and depression. For example, a study found that socialized masculinity negatively predicted depression even when biological sex was controlled (Wupperman & Neumann, 2006). Similarly, Elpern and Karp (1984) found that sex role was a stronger predictor of depression than gender. Higher femininity scores and lower masculinity scores were associated with greater depression for females, whereas higher

masculinity scores were associated with less depression for males. Likewise, Sanfilipo (1994) demonstrated that gender-role characteristics were strongly related to various depressive experiences and feelings of efficacy, whereas gender itself was only weakly associated to these variables. To measure depression, Sanfilipo differentiated between: a) anaclitic depression which involves feelings of helplessness, loss, weakness, abandonment, and being unloved; and b) introjective depression which entails feelings of guilt, self-criticism, failure, unworthiness, and inferiority. He found that greater masculinity was associated with lower levels of different depressive experiences and greater efficacy in both genders. Greater femininity was associated with lower levels of depressive symptoms and introjective depression and higher levels of efficacy, but in a relatively weaker and gender-specific manner. Moreover, greater femininity was associated with higher levels of anaclitic depression in both men and women. Based on these findings, the author suggested that femininity may have both positive and negative consequences with respect to different depressive experiences. In addition, lower levels of introjective depression were associated with greater femininity in women, but not in men. Androgynous individuals reported the lowest levels of introjective depression, but they were vulnerable to anaclitic depressive experiences. Masculinity was related inversely to the level of currently experienced depression in both men and women, and femininity, to a lesser degree, related negatively to depression level only in women. In agreement with other researchers, Sanfilipo suggested that psychological dimensions of being male or female may be more important than gender with respect to depressive experiences in normal young adults. The relationship between gender-role orientation and depression has also been established in middle-aged women. A study found that acceptance of the traditional feminine role is correlated with clinical depression in middle-aged women, leading the researchers to suggest that adherence to such a traditional role

led to a raised vulnerability to depression in women's middle years (Tinsley, Sullivan-Guest, & McGuire, 1984).

Many contend that these findings primarily reflect the positive and protective effect of instrumentality, a masculine trait reflecting a sense of mastery. According to that view, under high stress, both males and females who score high on the masculine sex role are more likely to cope by attempts at stress mastery, and therefore experience lower depressive symptomatology (Nezu et al., 1986). Support for this argument comes from studies that include androgynous individuals in their design. For example, Ingram et al. (1988) found that feminine sex-typed individuals of both sexes showed greater self-focused attention and a tendency to experience more depressive affect in a laboratory setting than masculine and androgynous individuals. Since feminine individuals had greater depressive levels than the masculine and the androgynous individuals, this implies that it is the absence of masculine traits rather than the presence of feminine traits that offers a vulnerability to depression.

Support for a link between gender roles and vulnerability to depression comes from the gender-intensification hypothesis. The gender-intensification hypothesis was proposed by Hill and Lynch (1983) and contends that beginning in adolescence, girls and boys face increased pressure to conform to culturally sanctioned gender roles. These pressures come from a variety of sources that convey messages about appropriate gender roles, such as parents, peers, teachers, and the media. Most early adolescents experience some anxiety in the transition from a childhood identity to one that is more adult-like, and as a consequence they are particularly prone in conforming to societal standards to relieve this transitional tension (Erikson, 1968). Therefore, in the face of these pressures, adolescents' attention on the significance of their gender roles is increased and as a result they become more differentiated in their gender-role identities, which

will supposedly be adaptive for their adult roles as women and men. As a result, girls identify stronger with the feminine stereotype of expressivity and boys with the masculine stereotype of instrumentality. The benefit of adopting highly conventional sex-typed dispositions is the stability inherent in such structured roles; the cost though involves the constraints imposed by rigid standards controlling emotional and behavioral expression.

Gender intensification has been used to explain an array of characteristics in which gender differences emerge or intensify during adolescence. Hence, it can perhaps explain the emergence of both gender differences in depressive symptoms which emerge in adolescence and the adoption of rumination strategies by women that occurs at that same time (Broderick & Korteland, 2004).

Support for the gender-intensification hypothesis for depression comes from a nationwide study of Norwegian adolescents (Wichstrom, 1999). The study showed that starting at age 12 years there was no gender difference in depressed mood whereas starting at age 14 years, girls were 0.5 standard deviations above boys in depressed mood, a difference that was stable throughout the adolescent period. Furthermore, the association between the depressed mood of female adolescents and their femininity was strongest at the time the gender difference in depressed mood had risen to its full magnitude, and femininity mediated the effect of gender on depressed mood. The analyses showed that the gender difference could be explained, in part, by increased developmental challenges for girls, which include pubertal and female body development, dissatisfaction with weight, and increased importance of feminine sex-role identification. However, depressed mood was not associated with masculinity. This finding contradicts the findings of other studies showing femininity being unrelated with depressed mood and masculinity being negatively correlated. The researcher argued that this weakens the

generally accepted status of masculinity as an explanation for the gender difference in depressed mood. He contended that in the Norwegian egalitarian society, girls and boys score almost equally high on masculinity, and masculinity is unassociated with depressed mood. It is possible, therefore, that the gender role–depression association is culture-specific.

Another study consistent with the gender-intensification theory found that older boys adopted more masculine qualities than younger boys and older girls adopted less masculine traits than younger girls (Marcotte et al., 1999). Moreover, in that study instrumentality was found to be greater in depressed individuals compared to nondepressed individuals. Hence, it appears that the higher level of depression in girls is associated with the decreasing instrumentality that occurs in them in puberty. However, and in contrast to Wichstom (1999), the researchers warned that masculinity seems to be more important than femininity in the gender-intensification theory of depression: although femininity moderately predicted depression, feminine qualities were not found to be more evident in older girls and less evident in older boys. Thus, according to Marcotte et al. (1999), masculinity, rather than femininity seems to be the dimension related most to depression.

A relationship between gender roles and depression has been evident in children as well. For example, Broderick and Korteland (2004) prospectively assessed depression levels in a sample of 9 to 12-year-old children and found that highly gender-typed children, both masculine and feminine, were more depressed than androgynous students. At that early age though, no gender differences were observed in terms of depression. The researchers suggest that stereotypical gender scripts, which set socially acceptable types of emotional expressivity and behavior, restrict the range of coping options for both male and female early adolescents and produce anxiety about departing from these norms.

Marcotte et al. (1999) provide support for a diathesis-stress model for the relationship between gender-role orientation and depression. Their findings showed that depressed adolescents of both genders had both lower levels of masculine sex-role orientation and reported experiencing more stressful events in their lives. Hence, lower levels of masculinity provided vulnerability for experiencing depressive symptoms, which manifested most profoundly in response to environmental stress. This finding is supported by another study that showed that the association between masculinity and lower rates of depressive symptoms was most pronounced among adolescents who had experienced moderate levels of stress in the previous year (Priess, Lindberg, & Hyde, 2009). What is interesting about Priess et al.'s (2006) results was that the relationship was stronger for exposure to moderate stress compared to high stress. They suggested that specific vulnerabilities such as gender roles exert the most impact when stress is moderate, as opposed to very low (where depression is unlikely for most individuals) or very high (when depression is much more likely for a range of individuals).

There are also those who maintain that the mechanisms via which femininity is related to depression are not that straightforward, as often assumed. Cheng (1999) for instance, explored the relationships among gender-role orientation, received social support, and depression in a longitudinal study in a sample of Hong Kong college students. Consistent with other research it was demonstrated that masculinity and androgyny were inversely related to depression. With regards to femininity however, a relationship was found with depression through its interaction with received social support. When the amount of received social support was increased, femininity was associated with a reduction in depression level over time. In contrast, when the amount of received social support was decreased, depression tended to increase with femininity over time. This finding is supported by research which maintains that against popular thinking

femininity may have some positive ramifications for adjustment. For instance, greater femininity has been associated with better interpersonal relatedness and satisfaction (Orlofsky & O'Heron, 1987; Payne, 1987), which may be related indirectly to lower depression (Sanfilipo, 1994).

Other studies suggested that the gender-role orientation effect on depression is gender-specific. For example, Dyson and Renk (2006) found that the masculinity and femininity of male participants were unrelated to depressive symptomatology, whereas the femininity of female participants was related negatively to their ratings of depressive symptomatology.

Nonetheless, research appears to be consistent in the finding that the adoption of masculine gender-role characteristics appears to offer a buffer against depression. In addition, there is evidence to suggest that clinicians' views of mental health correspond more closely to the male sex role. For example, Teri (1982) found that clients who were described in stereotypically feminine terms were rated by clinicians as having less adaptive functioning than clients described in stereotypically masculine terms. Similarly, Ciano-Boyce, Turner, and Turner (1988) reported that male clinicians' ratings of what a healthy man is like were not significantly different from ratings of what a healthy sex-undifferentiated adult is like, but those of a healthy woman were significantly different. Thus, it appears that expectations of women are divergent from clinicians' generalized notion of mental health.

Theoretical models for the relationship between gender roles and depression. Three theoretical models can be proposed with regard to the association between gender-role orientation and depression. The first model, the gender-congruency model, proposes that psychological well-being would be fostered by consistency between one's gender-role orientation and one's gender. According to this traditional, congruency model, women are better off adopting a feminine gender role (i.e., high on femininity and low on masculinity) and men

are better off adopting a masculine gender role (i.e., high on masculinity and low on femininity). Support for the congruency model has not been demonstrated in the literature (Taylor & Hall, 1982).

The second model, the androgyny model, is the one proposed by Bem (1975) which suggests that a balanced level of both feminine and masculine qualities (i.e., androgyny) is more adaptive for both genders. This model has been supported from some studies (e.g., Broderick & Korteland, 2004), and put into question by others (Taylor & Hall, 1982). It is important to note though, that most research looking at gender roles and depression has done so using a regression model, thus examining masculinity and femininity as two separate variables, making it impossible to test for androgyny. Thus, the androgyny model has been largely overlooked in the literature.

The third model, the masculinity model, is the one supported most by research. It proposes that masculinity is the gender-role variable mostly related to psychological well-being and, therefore, psychological adjustment is a function of whether one identifies with the masculine gender role regardless of gender. This model is strengthened by metaanalyses (Taylor & Hall, 1982; Whitley, 1984). In particular, Whitley's (1984) meta-analysis of 32 studies looking at the relationship between gender roles and psychological well-being had as an aim to identify which one of these three models better represents reality. The results of the metaanalysis best supported the masculinity model, with masculinity having a moderately strong relationship to both high adjustment and lack of depression and with femininity having only a small relationship to adjustment and no relationship to depression.

If the masculinity model is the one that better represents reality, it is clear that women find themselves in a bind. The very adoption of socially defined, gender-appropriate traits

contributes to psychological vulnerability. There is evidence that women have adopted unadaptive female traits and relinquished adaptive masculine traits in order to conform to society's definition of femininity (Broverman, Clarkson, & Rosenkrantz 1972; Rosenkrantz, Vogel, Bee, Broverman, & Broverman 1968). According to this view, depression could result either from identifying with a sex role that is not socially desirable, which could reduce self-esteem, or from a more extreme adoption of stereotypically feminine trails, which, since they apparently correspond with a depressive profile, may be less adaptive (Hurst & Genest, 1995).

All in all, it appears that studies have been inconsistent on the exact mechanisms through which gender roles influence the depression rates. Whereas most of the studies establish a negative relationship between masculinity and depression, findings have been mixed with regard to femininity and depression. In addition, although some studies demonstrate that the role of masculinity and femininity on depression is the same for both genders, others suggest that it is gender-specific. Moreover, the role of androgyny has not been sufficiently explored in this equation. Hence, although research unanimously agrees that gender-role orientation and depressive experiences are related, it is apparent that more research is needed to address these issues. The present research attempted to shed light on them.

Gender roles and coping styles. Gender roles are not only associated with depression but they are proposed to be related to the use of different coping styles as well. Nolen-Hoeksema (1987) suggested that being active and ignoring one's moods is part of the masculine stereotype, whereas being emotional and inactive is part of the feminine stereotype. From a very young age, children describe themselves and others in terms of sex-role stereotypes, even before their actual behavior conforms to the stereotype (e.g., Nadelman, 1974). Parents reinforce behaviors consistent with these stereotypes. For instance, parents seem particularly concerned that boys do

not show feminine or sissy behaviors (Maccoby & Jacklin, 1974). Thus, the active response style of men toward their depressed moods may result simply from conformity to the sanctions against emotionality in men. Rumination in women may not be encouraged directly; parents and teachers do not appear to reward girls for passivity and reflection—they instead do not reward them as much for activity as they do for boys (Dweck, Davidson, Nelson, & Enna, 1978). In addition, because women are told that they are naturally emotional, they may come to believe that depressed moods are unavoidable and cannot be easily dismissed when present. Such an attitude would decrease the probability of women taking simple actions to distract themselves from their moods.

Bem (1981) has expressed a similar idea by suggesting specific differences in the gender schemata of individuals. According to her view, different sex-typed individuals may have encoded different ways to respond to negative affect-producing situations. Feminine individuals for instance, are traditionally thought to respond to situations by actively experiencing or amplifying their emotions, whereas masculine individuals are more likely to repress or dampen similar emotions.

Therefore, since men tend to be more masculine and women tend to be more feminine, it is proposed that it is not the gender per se, but rather the gender-role orientation which produces gender differences in response styles. According to this model, men with a feminine gender-role orientation would be expected to endorse increased ruminative coping and women adopting a masculine gender-role would be less inclined to adopt such a coping style in response to stressors.

Indeed, research has supported a relationship between gender roles and the types of coping strategies that are used by individuals. In general, masculinity, whether displayed by

males or females, has been correlated positively with problem-focused coping and active behavioral coping strategies. Individuals with masculine characteristics have been documented to display fewer emotion-focused coping strategies and fewer avoidance coping reactions (Nezu & Nezu, 1987). In contrast, feminine individuals, whether males or females, have been reported to adopt higher levels of emotion-focused coping (Blanchard-Fields, Sulsky, & Robinson-Whelen, 1991). Similarly, Brems and Johnson (1989) argued in favor of an association between femininity and a "turning against oneself" coping style.

Some studies suggest that like with depression, gender-role orientation is a more important predictor of coping styles rather than gender. Renk and Creasey (2003) for example, found that late adolescents who were high in masculinity tended to use higher levels of problem-focused coping than those low in masculinity. In contrast, late adolescents who were high in femininity tended to use higher levels of emotion-focused coping than those who were low in femininity. With regards to gender, it was predictive of emotion-focused coping strategies, with female late adolescents endorsing greater use of emotion-focused coping strategies than male late adolescents. There were no gender differences with regards to problem-focused coping. Their findings suggest that gender identity was a better predictor of coping strategies than gender per se.

Moreover, Li et al. (2006) showed that problem-focused and distractive coping were positively correlated with masculinity in adolescents. However, no significant relationship was found between masculinity and emotion-focused coping. A limitation of their study is that they did not analyze for femininity or androgyny at all. Nonetheless, their model strengthens the argument that possessing a low level of masculine traits makes it more likely that you would use

less problem-focused and distractive coping styles, which might be adaptive in terms of depression.

Dyson and Renk (2006) examined the relationships among gender, coping styles, gender-role orientation, stress, and depression in a sample of college freshmen. They found that higher levels of masculinity and femininity were related to greater endorsement of problem-focused coping strategies. Higher levels of femininity, on the other hand, were related to greater endorsement of emotion-focused coping strategies. Although previous studies have documented similar relationships between femininity and emotion-focused coping strategies, other studies have not documented a relationship between femininity and problem-focused coping strategies (e.g., Blanchard-Fields et al., 1991).

In addition, Dyson and Renk's (2006) findings reveal a gender difference in the relationship between gender role and coping strategies. With regard to male participants, masculinity was related positively to the use of problem-focused and emotion-focused coping strategies, whereas femininity was related positively to emotion-focused and avoidant coping strategies. For female participants on the other hand, masculinity was related significantly to the levels of problem-focused coping strategies, whereas, the femininity of female participants was related significantly to the levels of problem-focused coping and emotion-focused coping strategies endorsed. Although the researchers did not analyze for androgyny, since they used a regression design, they did analyze for an interaction between masculinity and femininity that showed that individuals who endorse high levels of masculine and feminine characteristics would use all three types of coping strategies. Although there are important methodological concerns to this approach of studying androgyny (Lubinski, Tellegen, & Butcher, 1983), the

study provided an indication that androgyny is associated with the use of more balanced coping strategies.

There is also evidence to suggest a relationship between gender-role orientation and a ruminative coping style in particular. For example, Cox, Mezulis, and Hyde (2010) assessed rumination and gender-role identity in a longitudinal study that followed adolescents from age 11 to age 15 years. The authors hypothesized that girls may be more likely to ruminate because rumination represents a gender-stereotyped coping style that is associated with a more feminine gender-role identity, maternal encouragement of emotion expression, and passive coping responses to stress. Their findings showed that the gender difference in feminine gender-role identity at age 11 years mediated a significant portion of the association between sex and depressive rumination at age 15 years, even after controlling for initial levels of rumination and depression symptoms. Thus, girls with a more feminine gender-role identity were more likely than girls with a less feminine gender-role identity to become more ruminative in the transition to midadolescence. This finding is consistent with the gender-intensification hypothesis (Hill & Lynch, 1983), in that it suggests that depressive rumination increases in the transition to midadolescence as a result of gender socializing processes. The study's findings also revealed that mothers play a significant role in socializing a ruminative coping style among their daughters, in that mothers of daughters were more likely to encourage emotion expression and to make emotion-focused attributions, just like gender intensification theory would predict.

Similarly, Conway et al. (1990) found that higher femininity was associated with more rumination, whereas higher masculinity was associated with more distraction. Another study showed that socialized masculinity negatively predicted rumination even when biological sex was controlled (Wupperman & Neumann, 2006). This pattern has even been demonstrated in

children. Broderick and Korteland (2004) found that feminine-identified children were more likely to ruminate and less likely to distract than were masculine or androgynous children, indicating that rumination may be more closely linked to gender-role identity than to gender alone. The researchers proposed that because the feminine gender role is characterized by passivity and emotionality, a ruminative response style may ultimately become the favored way of dealing with negative affect among feminine-identified individuals, priming them for depression.

All in all, research literature seems to show that gender differences in rumination, just like those in depression represent not a pure effect of gender alone, but rather a byproduct of gender-role socialization. It would be interesting to examine the ways that gender and gender role interact in the selection of responses to depressed mood and stressors. This is one of the things that the present study attempted to explore.

Gender, Gender Roles, Rumination and Depression

In this section all of the variables discussed are presented under a unifying framework. Research proposes that low masculinity and more ruminative coping styles are two factors that put women into a greater risk for developing depressive symptoms (e.g., Nolen-Hoeksema & Girgus, 1994). As discussed, research exploring the links between these variables has established this claim. Wupperman and Neumann (2006) who examined the relations between biological sex, socialized masculinity, rumination, and depressive symptoms showed that controlling for masculinity and rumination, men were more likely to experience depressive symptoms than were women.

Another way to conceptualize the relationship between these variables is through a mediating model. It might be that gender predisposes women to be more feminine (and less

masculine) through the gender intensification processes occurring in response to societal pressures. The feminine gender role in turn, makes women vulnerable to a ruminative style in response to stressors, either due to increased feminine qualities or to decreased masculine ones. The ruminative response style then, puts them to risk for developing depressive symptoms. This mediation model offers a socio-psychological explanation for the female precedence in depression. This model is partially supported by some studies (Cox, et al., 2010; Li et al., 2006). Li et al. (2006) for example, found that problem-focused and distractive coping were found to mediate the negative relationship between masculinity and depression. However, they were not able to establish rumination as a mediation variable as well.

The Present Study

Ingram et al. (1988) proposed two theoretical interpretations for the link between the gender-role orientation that people adopt and their ruminative and depressive rates. The first, proposes that the traits inherent in the feminine sex role might prime those high in femininity to experience depression. According to that interpretation, women due to the increased likelihood of having a feminine sex role are more susceptible to depression because of increased rumination which predisposes them to encounter more frequent, intense, and prolonged dysphoric reactions to negative environmental events. This interpretation though entails the following erroneous assumption: That it is the feminine traits that predispose individuals to ruminate. Studies that look at androgynous individuals, that is, individuals who are high on both masculine and feminine traits, suggest that androgynous individuals are equally or even more adapted than masculine individuals in terms of rumination and depression (Broderick & Korteland, 2004; Cheng, 1999).

An alternative explanation is that the lack of a ruminative coping style may insulate masculine individuals from the experience of depression. According to this interpretation, the lack of depressive rumination occurs as a result of the presence of masculine traits, rather than the absence of feminine traits. Consequently women are not necessarily vulnerable to depression so much as men are insulated from it. Masculinity may serve as a buffer for stress rather than femininity serving as a vulnerability factor. Hence, rather than women being more vulnerable to depression, it may be that men are more invulnerable, because they are less willing or able to ruminate in response to situational factors (Ingram et al., 1988). This interpretation would therefore suggest that androgynous individuals will have equal vulnerability for rumination and depression to masculine individuals. Androgynous and masculine individuals are expected to have lower levels of depression and rumination than feminine individuals, reflecting a main effect of masculinity (Taylor & Hall, 1982). Therapeutically speaking, this interpretation is much more optimistic for women. For example, preventive cognitive behavioral therapy can focus on helping women to readjust their gender roles in order to be more balanced (i.e. androgynous), by developing adaptive "masculine" qualities such as assertiveness and instrumentality, without relinquishing positive feminine qualities.

In the present study, the effect of gender role and gender on both rumination and depression was examined. As aforementioned, most research focusing on the relationship between gender-role orientation and rumination and between gender-role orientation and depression has used a continuous approach analyzing for masculinity and femininity as two mutually exclusive traits. As a consequence, the function of individuals that are high on both traits has been relatively unclear. The present study used Bem's (1974) guidelines to categorize individuals into the four groups of masculine, feminine, androgynous, and undifferentiated

typologies. In so doing, two functions were served: 1) the adjustment of androgynous individuals in terms of depression and rumination were better explored and 2) such a design attempted to resolve the double interpretation dilemma posed above: Is it the presence of femininity or rather the absence of masculinity that puts individuals at risk? If it is the former, presence hypothesis, then both feminine and androgynous individuals are expected to have equally higher rumination and depression levels than masculine individuals. If it is the latter, absence hypothesis, then both masculine and androgynous individuals are expected to have equally lower depression and rumination levels than feminine individuals.

Another central aim of this study was to examine if androgynous men and women differ from each other in depression and rumination rates. It was suspected that an androgynous gender role is more adaptive for females than for males. The idea behind this hypothesis was that if masculinity is the protective variable against rumination and depression then both androgynous and masculine individuals are expected to be well-adjusted. Whereas this implies that it is better for females to adopt an androgynous gender role rather than a feminine one, for males the case is possibly different. Perhaps for men the optimal strategy would be to adopt a masculine gender role which is both a protective factor against rumination and depression and is less gender non-conforming than being androgynous. This is supported by studies that argue that it remains more acceptable, and perhaps even encouraged, for girls to take on masculine traits and behaviors such as assertiveness, independence, competitiveness, and leadership roles, than it is for boys to take on feminine traits such as gentleness, concern for interpersonal relationships, and emotional expressivity (Priess et al., 2009; Wichstrom, 1999). Indeed, numerous studies have found that parents and peers are more likely to denounce gender-role violations in boys than in girls (Kane, 2006; McCreary, 1994; Sirin, McCreary, & Mahalik, 2004).

As mentioned before, three theoretical models can be proposed with regard to the relationship between gender-role orientation and depression: a) the gender-congruency model, b) the androgyny model and c) the masculinity model. Since rumination has been found to be related to depression, the same models can be theoretically applied to rumination. The gender-congruency model suggests that a feminine sex role is more adaptive for women and a masculine sex role is more adaptive for men. This model has found no support from research. As discussed, there is a general agreement in the literature that there is something about the feminine gender role that makes it maladaptive (either that something is increased femininity or decreased masculinity). The androgyny model suggests that androgyny is more adaptive for both genders. The masculinity model proposes that masculinity is the gender-role variable mostly related to psychological well-being and therefore, psychological adjustment is a function of whether one identifies with the masculine gender role regardless of gender. The androgyny model would predict that androgynous individuals – both men and women – will be more adjusted than all other groups, including masculine individuals. The masculinity model would predict that masculine individuals will be the most adjusted in terms of depression and rumination regardless of gender. The masculinity model implies that androgynous individuals might be equally adjusted since they have raised levels of masculinity (Taylor & Hall, 1982).

In the present study a synthesis of these two models was proposed. In accordance with the masculinity model, it was hypothesized that identification with the masculine sex role would act as a protective factor and would be less related to depression and rumination than identification with the feminine sex role. In accordance with the androgyny model, it was further hypothesized that for women an androgynous sex role would be even more protective than a masculine one, because it is more gender conforming. In contrast, for men the androgynous sex

role would be less protective than a masculine sex role because for them it is less gender conforming.

Therefore, the findings could take one of three directions. They could be in agreement with: a) the masculinity model, b) the androgyny model, or c) with the interactionist model proposed here. The interactionist hypothesis is consistent with Elpern and Karp (1984), who found that for women an interaction of masculinity and femininity was more adaptive in terms of depression than it was for men, whereas masculinity was adaptive for both. In addition, Dyson and Renk's (2006) findings that an interaction between masculinity and femininity showed a use of more balanced set of coping styles was used by individuals high in both gender roles. However, as mentioned before, there are important methodological problems in analyzing androgyny as an interaction between femininity and masculinity (Luninski et al., 1983; Taylor & Hall, 1982). In the present study, men and women were categorized as either masculine, feminine, androgynous and undifferentiated, using a categorical model, instead of treating masculinity and femininity as a pair of crossed independent variables.

Hypotheses

Hypothesis 1: There will be a positive relationship between rumination and depression.

Hypothesis 2: There will be a gender difference in depression: Women will demonstrate higher rates of depression than men.

Hypothesis 3: There will be a gender difference in rumination: Women will demonstrate higher rates of rumination than men.

Hypothesis 4: Depression rates will differ among gender-role categories. Masculine and androgynous individuals will have lower rates than feminine individuals on depression.

Hypothesis 5: Rumination rates will differ among gender-role categories. Masculine and androgynous individuals will have lower rates than feminine individuals on rumination.

Hypothesis 6: There will be a Gender × Gender-Role interaction for depression: Men's depression rates will be lower when their gender role is masculine and higher when it is feminine. Women's depression rates will be lower when their gender role is androgynous and higher when it is feminine.

Hypothesis 7: There will be a Gender × Gender-Role interaction for rumination: Men's rumination rates will be lower when their gender role is masculine and higher when it is feminine. Women's rumination rates will be lower when their gender role is androgynous and higher when it is feminine.

Method

Participants

A sample of 421 adult participants (116 males, 278 females, 27 unspecified) participated in the study. Of the sample, 36 participants were dropped from the analysis because of incomplete data. The remaining sample included 386 participants (112 males, 273 females, 1 unspecified). Ages ranged from 18 to 52 years (M = 22.37, SD = 4.47). The sample was especially racially and ethnically diverse: An important proportion of the participants (16.8%, N = 69) resided in countries other than the United States. The countries included Cyprus (N = 33), United Kingdom (N = 19), Australia (N = 7), United Arab Emirates (N = 2), Greece (N = 1), Spain (N = 1), Hungary (N = 1), Bermuda (N = 1), Canada (N = 1), Lebanon (N = 1), Bahamas (N = 1), and Portugal (N =1). Five individuals did not identify the country they reside in. Of the individuals residing in the United States, 66% resided in the Southeast, 19.7% resided in the Northeast, 8.6% resided in the Southwest, 3.2% resided in the West, and 2.5% resided in the

Midwest. With regards to race, 24.4% of the participants were Hispanics, 22.5% were African-Americans, 22.5% were Caucasians, 6.7% were Afro-Caribbeans, 1% were Asians, 22% identified themselves as of other ethnicities, and 0.8% did not specify ethnicity.

Within the sample, 79.8% were full-time students, 4.7% were part-time students, 14.8% were not students, and 0.8% did not specify. A percentage of 28.8% of the participants were full-time employed, 46.6% were unemployed, 23.1% were part-time employed, and 1.6% did not specify. With regards to sexual orientation, 87.8% of the participants identified as heterosexual, 2.3% as homosexuals, 4.1% as bisexuals, 1% as other sexual orientations, 4.1% preferred not to disclose, and 2% did not specify.

Procedure

The participants were anonymously recruited electronically via http://www.surveymonkey.com/. The study was advertised by flyers (See Appendix A) posted in the psychology department of a small private university in Southeastern United States, by emails from the secretary of the department and by providing the link to Survey Monkey on social networking sites. Participants read a cover letter before answering the questionnaires (Appendix B).

Materials

Rumination. The 22-item *Ruminative Responses Scale* (Nolen-Hoeksema, 1991) assessed if the participants often engage in ruminative responses when they feel sad, down, or depressed (See Appendix C). The participants were asked to indicate what they generally do rather than what they think they should do. For each item, respondents were asked to indicate how often they engage in ruminative responses when they feel sad or down, with responses ranging from 1 (*almost never*) to 4 (*almost always*). The measure takes approximately five

minutes to complete. The scale has been found to have high internal consistency (Cronabach's a>.98) over a two-year period (Nolen-Hoeksema & Davis, 1999). In addition, it has demonstrated acceptable convergent and predictive validity (Butler & Nolen- Hoeksema, 1994; Nolen-Hoeksema & Morrow, 1991), as well as discriminant validity with respect to such constructs as neuroticism and extraversion. In this study, the internal consistency for the scale was found to be very high (Cronbach's alpha = .94).

Depression. The *Center for Epidemiological Study Depression Scale* (CES-D; Radloff, 1977) was used to assess current depressive levels (See Appendix D). The measure includes 20 questions that cover affective, psychological, and somatic depressive symptoms. Respondents specified the frequency each symptom was experienced during the previous week, with responses ranging from 0 (*rarely or none of the time)* to 3 *(most or all of the time).*The CESD-D takes approximately five minutes to complete. Internal consistency was found high across a variety of populations (Cronbach's alpha is generally around .85 in community samples and .90 in psychiatric samples). Split-half reliability is also high, ranging from .77 to .92 (Roberts, 1980). The CES-D has shown high internal consistency reliability (alpha consistently >.80) and acceptable convergent and discriminant validity in a variety of populations, with satisfactory generalizeability across samples (Radloff, 1977; Scott & Melin, 1998). In this study the scale showed evidence of high internal consistency (Cronbach's alpha = .90).

Gender roles. The *Bem Sex Role Inventory* (BSRI) (Bem, 1974) was used to assess participants' perceptions of their own gender identity (See Appendix E). This instrument consists of 60 adjectives, 20 of which are masculine, 20 feminine, and 20 neutral, and participants indicated how well each adjective describes them, ranging from 1 *(never or almost never true)* to 7 *(always or almost always true).* The scale takes 10-15 minutes to complete. Participants' score

may fall in to one of four categories: If one is high in masculinity and low in femininity, then one is considered to be masculine; if one is low in masculinity and high in femininity, then one is feminine; a high score in masculinity and a high score in femininity is an androgynous score; and low scores in both masculinity and femininity results in an undifferentiated score. A second classification method exists which takes into account the respondent's gender. As in the first method, the second method generates scores for each participant on the masculinity and the femininity scale. Those who score high on the sex-congruent scale and low on the sex-incongruent scale are defined as sex typed. Accordingly, men who score high on the masculinity scale and low on the femininity scale, and women who score high on the femininity scale and low on the masculinity scale are classified as sex-typed individuals. Participants who demonstrate the reverse pattern are designated as cross sex-typed: Women who score high on the masculinity scale and low on the femininity scale, and men who score high on the femininity scale and low on the masculinity scale are classified as cross sex-typed individuals. As in the first categorization method, those who score high on both scales are designated as androgynous and those who score low on both scales are designated as undifferentiated. Previous research has demonstrated that the BSRI has satisfactory test–retest reliability (ranging from .90 to .93) (Bem, 1974). In this study, the instrument was found to be highly reliable both for the masculinity scale (Cronbach's alpha = .90), and the femininity scale (Cronbach's alpha = .89).

Demographic Questionnaire. A demographic questionnaire assessed the variable of gender, as well as other information such as age, ethnicity, geographical location (country and specific U.S. region if residing within the U.S.), employment status, student or non-student status, and sexual orientation (See Appendix F).

Results

As predicted by hypothesis 1, there was a significant positive relationship between rumination and depression rates, $r = .66$, $p < .001$. In addition, calculations of inter-correlations among all continuous variables revealed that depression had a negative relationship with masculinity, $r = -.16$, $p = .001$. Depression also had a negative relationship with femininity, $r = -.11$, $p = .029$. Rumination was not significantly correlated with femininity, $r = .10$, $p = .062$, or masculinity, $r = -.04$, $p = .470$. Masculinity and femininity were strongly correlated, $r = .54$, $p < .001$. Correlations of all the variables with age revealed that it had a significant association with femininity, $r = .12$, $p = .025$. In contrast, masculinity did not have a significant relationship with age, $r = .02$, $p = .676$. Depression did not have a significant relationship with age, $r = -.10$, $p = .065$. Similarly, rumination did not yield a significant correlation with age, $r = -.06$, $p = .263$. Inter-correlations, means, and standard deviations of all variables are summarized in Table 1.

Table 1

Means, Standard Deviations, Intercorrelations, and Coefficient Alphas for all Variables.

Variable	*M*	*SD*	1	2	3	4	5
1. Depression	0.82	0.52	(.90)	.66***	-.16**	-.11*	-.10
2. Rumination	1.99	0.59		(.94)	-.04	.10	-.06
3. Masculinity	4.55	0.92			(.90)	.54***	.02
4. Femininity	4.83	0.94				(.89)	.12*
5. Age[a]	22.37	4.47					-

Note. $N = 386$.
[a] $N = 377$.
*$p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis 2 was not supported. On average, women (M = 0.84, SD = 0.53) did not have higher depression scores than men (M = 0.78, SD = 0.50), $t(382) = 1.01$, $p = .315$. Hypothesis 3 was supported. On average, women (M = 2.02, SD = 0.62) had higher rumination scores than men (M = 1.90, SD = 0.50). This gender difference was significant, $t(383) = 2.02$, $p = .044$. Additional analyses showed that on average, women (M = 4.64, SD = 0.93) and men (M = 4.52, SD = 0.91) did not significantly differ on masculinity rates, $t(383) = 1.22$, $p = .224$. However, women (M = 4.64, SD = 0.93) had significantly higher femininity rates than men (M = 4.58, SD = 0.84), $t(383) = 3.49$, $p = .001$.

Using the original gender-role categorization method, hypothesis 4 was not supported. The means for the masculine, feminine, androgynous, and undifferentiated groups on depression were 0.78, 0.80, 0.75, and 0.94 respectively. These were not significantly different, F (3, 381) = 2.62, $p = .051$. However, when the participants' scores were recoded into sex typed, cross sex-typed, androgynous and undifferentiated, a significant difference among conditions on depression rates emerged, $F(3,384) = 3.12$, $p = .024$. Post-hoc analyses using Tukey's HSD revealed that depression rates were significantly higher in the undifferentiated group (M = 0.94, SD = 0.51) than in the androgynous group (M = 0.75, SD = 0.54).

Hypothesis 5 was not supported. The means for the masculine, feminine, androgynous, and undifferentiated groups on rumination were 1.94, 2.06, 1.96, and 1.98 respectively. These were not significantly different, F (3, 382) = 0.76, $p = .52$. When using the alternative method of gender role categorization, differences between groups were again not significant, F (3,385) = 1.31, $p = 0.27$. The means for the sex typed, cross sex typed, androgynous, and undifferentiated groups on rumination were 2.07, 1.89, 1.96, and 1.97 respectively.

Hypothesis 6 was not supported. The interaction between gender and gender role on depression was not significant when using the first categorization method, $F(3, 376) = 0.90$, $p = .440$. The interaction was also not significant when using the second categorization method, $F(3, 376) = 0.46$, $p = .709$. Similarly, Hypothesis 7 was not supported. The interaction between gender and gender roles on rumination was not significant when using the first categorization method, $F(3, 376) = 0.75$, $p = .524$, and when using categorization method, $F(3, 377) = 0.14$, $p = .937$.

A multiple regression analysis was conducted to explore how well rumination, masculinity and femininity predict depression rates. The linear combination of all variables was significantly related to depression rates, $F(3, 387) = 110.35$, $p < .001$, $R^2 = .46$. However, not all three of the independent variables significantly predicted depression. Rumination ($\beta = .67$, $p < .001$) and femininity ($\beta = -.15$, $p = .001$) predicted depression but masculinity ($\beta = -.05$, $p = .288$) did not. The data suggest that rumination is the best predictor of depression (see Table 2).

Table 2

Regression Analysis Summary with Depression as Dependent Variable.

Predictor	*B*	*β*	R^2	*Adj.* R^2
Masculinity	-.03	-.05	.46	.46
Femininity	-.09	-.15*		
Rumination	.59	.67**		

Note. $N = 390$.
*$p < .01$ **$p < .001$.

A Pearson chi-squared test of independence was performed to assess whether the variables of gender and gender roles were independent from each other. The analysis showed that gender had a significant effect on the gender role category that participants fell into, $\chi^2(3) = 20.63$, $p < .001$. Out of the male participants, 33% fell in the undifferentiated category, 29.5% fell in the androgynous category, 23.2% fell in the masculine category, and 14.3% fell in the feminine category. Out of the female participants, 35.5% fell in the feminine category, 26.7% fell in the undifferentiated category, 26% fell in the androgynous category, and 11.7% fell in the masculine category. Pairwise comparisons showed that men were more likely than women to be masculine and women were more likely than men to be feminine. Men and women were equally likely to fall into the androgynous category. It also appears that men were slightly more likely to fall into the undifferentiated group than women were.

Discussion

Rumination and Depression

As expected and consistent with previous literature (e.g., Li et al., 2006) a very strong relationship between rumination and depression was established. Indeed, individuals who tended to engage in ruminative reactions when sad were more likely to have increased depressive symptoms. This supports the idea that rumination is a maladaptive emotion-focused coping mechanism.

Depression and Gender

Large epidemiological studies show that the prevalence of depression for women is almost twice than that for men (SAMHSA, 2008). However, in the present sample, a sex difference in depression rates failed to be replicated. Some researchers report that studies have been inconsistent in finding gender differences in depression rates in college samples (Amenson

& Lewinsohn, 1981; Nolen-Hoeksema, 1987, 1990). Wupperman and Newmann (2006) suggest that in college samples, sex accounts for a very small amount of variability in depression. The reason for this finding is unclear. Nolen-Hoeksema (1987) discussed that perhaps women with better mental health are more likely to go to college, whether men who go to college may be more representative of the mental health of men in general. Murakumi (2002) suggested the possibility that college environment promotes equal rates of depression in men and women, or that women who attend college are protected from depression in other ways. In general, it can be argued that college students, both men and women, have less stressors than the normal population, as they are in a more controlled environment.

Rumination and Gender

A gender difference in ruminative responses was replicated in the current sample. Women were more likely to ruminate over the possible causes and implications of their feelings of sadness than men. This finding is consistent with previous research (Butler & Nolen-Hoeksema, 1994; Conway et al., 1990; Morrow & Nolen-Hoeksema, 1990). Although in this study no current gender difference in depression was found, it is a well-established epidemiological fact that women are at increased risk of developing depression in their lifetimes. Perhaps their tendency to react to emotional distress by ruminating over their problems makes women more likely to develop depressive symptoms in the future.

Gender Roles and Depression

Categorical approach. Using the original categorization process, no difference in depression rates among the four gender-role groups (masculine, feminine, androgynous, and undifferentiated) was found. In contrast to predictions, no group fared better than the others. It is noteworthy that the difference between the four gender-role categories came very close to

statistical significance (p = .051). When looking at post-hoc comparisons, the groups whose depression rates were statistically different were those of the androgynous and the undifferentiated groups. The androgynous individuals had lower depression rates than the undifferentiated individuals, a finding that would be predicted from the androgyny model.

An alternative method of categorization was also used to classify individuals in different gender roles, whereby individuals were classified as sex typed, cross sex typed, androgynous, and undifferentiated. This method was also developed by Bem (1981) to incorporate the variable of gender. This classification system is useful when one wants to compare individuals' gender role as a function of gender. Since one of the goals of this study was to explore all proposed models for the relationship between gender roles and depression, an analysis using this classification method was warranted. When using this method, a difference in depression rates among gender-role groups emerged. Androgynous individuals had lower depression rates than undifferentiated individuals.

Interestingly, Bem (1974) did not distinguish between androgynous and undifferentiated individuals in the initial publication of the BSRI. Instead, all respondents who scored approximately equal on both scales were classified as androgynous. According to Bem (1977), the reason was that only 1% of her participants fell very low on the masculinity and the femininity scales of the BSRI and hence she assumed that, in a nonclinical population, there were very few individuals with undifferentiated gender roles. However, empirical examinations by Bem (1977) and other researchers (e.g., Spence, Helmreich, & Stapp, 1975) showed that those whose masculine and feminine scores were both below the observed median had a poorer sense of self-esteem than those whose masculinity and femininity scores were both above the median. Discovering differences between the two subgroups of androgyny was instrumental in Bem

acknowledging that the inclusion of the fourth undifferentiated group was necessary. Thus, the author developed the four-group classification system, though still arguing that the androgynous and undifferentiated groups are both theoretically alike in terms of gender; they are alike in not being sex typed.

Nevertheless, the theoretical characteristics of individuals belonging to the undifferentiated group were never fully described and discussed. A reason for such omission was perhaps that the creation of the undifferentiated category was not theory-guided but a result of a methodological critique. Furthermore, research finding differences between the undifferentiated group and the other gender role categories (e.g., Spence et al., 1975) generally found both the undifferentiated *and* the feminine group to have disadvantageous outcomes in comparison to the masculine and the androgynous individuals. Therefore, such findings were attributed to the lack of masculine qualities in individuals classified as feminine and androgynous and supported the claim that masculinity was the protective factor. For instance, higher depression in women with an undifferentiated gender role was also reported by Napholz (1994). In Napholz's study undifferentiated women had higher depression scores than both androgynous and masculine women. In contrast, in the present study feminine individuals did not have higher depression rates than any of the other comparison groups. Thus, it appears that in this study it was the lack of both feminine and masculine qualities that made these individuals more vulnerable to depression.

Moreover, the undifferentiated individuals were not a minority in this sample, but they actually exceeded one fourth of it. Still, the question remains: What are the characteristics of this group and what puts them at risk? Clearly, having an undifferentiated gender role means having neither characteristics valued for men and women. Individuals with an undifferentiated gender

role are low on both expressive qualities and instrumental qualities. They lack both assertive and communal skills. In this sample, both masculine and feminine qualities had buffering properties against depression independent from each other. Individuals who lack both qualities, appear to be at increased risk especially when compared with individuals who have both masculine and feminine characteristics.

Continuous approach. When a continuous approach was used to assess the influence of gender roles on depression, there was a small positive significant correlation between both masculinity and depression, and femininity and depression. When entered into a regression analysis, femininity positively predicted depression, whereas masculinity did not. This finding is unexpected in view of past literature. Research has consistently found feminine gender role characteristics to be either unrelated or predictive of depression. In the present study, however, femininity appeared as a protective factor for depression rather than a risk factor. In addition, in contrast to past literature, masculinity did not appear as a protective factor. Thus, the findings of the present study are contradictory with the idea of femininity as a risk factor and the idea of masculinity as a stronger predictor of depression than femininity.

There is a minority of studies that report some similar findings. Sanfilipo (1994) for example, found femininity to be positively associated with anaclitic depression and negatively associated with introjective depression, and depressive symptoms in general. However, the author also found depression to be lower in androgynous individuals than in feminine individuals, a finding very different than the results of the present study. Sanfilipo (1994) interpreted his conflicting findings by arguing that the factor of femininity can have both beneficial and detrimental effects on depressive symptomatology of young adults.

Consistent with other research, Cheng (1994) found that masculinity was a negative predictor of depression, and that androgynous and masculine individuals had lower depression rates than feminine and unspecified individuals. However, Cheng's results also showed that when feminine individuals received increased social support, their depression levels decreased over time. Thus, social support appeared to moderate and reverse the positive relationship between femininity and depression. Since social support was not measured in the present study, definite interpretations cannot be made. However, it should be noted that the cultural makeup of the present sample was highly heterogeneous, consisting of a large percentage of Hispanics, Afro-Caribbean, and individuals from other countries and different ethnicities. Thus, it is possible that individuals in this sample came from cultures that value more family support and social support in general compared to other more homogeneous samples consisting of mostly White Americans. This may lead to increased social support, which according to Cheng (1999), may transform femininity into a protective rather than a risk factor for depression. Moreover, findings from the present study may support the idea that the relationship between gender roles and depression might vary across cultures (Wichstrom, 1999).

Another possible explanation is that attitudes towards gender roles are changing in society. Femininity and expressivity might have been bigger risk factors in the past when they were more associated with passivity and submissiveness. The second wave of feminism which began during the early 1960s and lasted through the late 1990s advocated as a core idea that femininity is anti-feminist. Feminine qualities were considered as a major cause of women's oppression (Hollows, 2000). It may be that in the 2010s, femininity has begun to be re-conceptualized as a set of equally functional, and not inferior to, masculinity human qualities. Women may now begin to understand that they can be feminine without being oppressed and

undervalued. Qualities such as empathy, compassion, sensitivity, and warmth can be very functional for female psychology when the negative stereotyped connotation of being feminine is relinquished. Such change in the conceptualization of femininity may thus lead, through various psychosocial mechanisms, to a decreased propensity for vulnerability and an increased likelihood for adjustment.

Interestingly, increased femininity did not bear negative outcomes for men either. This again may reflect a change in contemporary society and in the way young people view feminine trait clusters. Emotional expressivity and gentleness were undesirable traits for men 30 years ago. Perhaps now, they are equally desirable for men as instrumental traits and have some positive ramifications for adjustment in men as well. It remains for future research to explore and revise the constructs of masculinity, femininity, and androgyny in the present societal context as well as the outcomes associated with them.

Overall, it appears that in the present sample, the adherence to different gender roles was associated with different depression outcomes. In contrast, biological sex had no association with depression. There was some evidence to suggest that masculinity is associated with lower depression, and more evidence to suggest that femininity is a buffer against depression. Furthermore, individuals with undifferentiated gender roles appeared to be more depressed than androgynous individuals. It also seems that the role of femininity and masculinity on depression did not follow a gender-specific route. The adoption of different gender roles did not produce different depression outcomes for men and women.

Gender Roles and Rumination

Gender roles were not associated with rumination when using either of the two categorical or the continuous analysis. In contrast to past literature (Conway et al., 1990;

Wupperman & Neumann, 2006), femininity was not associated with an increased tendency to ruminate and masculinity was not associated with a decreased tendency to do so. These findings are also inconsistent with research supporting that gender roles are more important predictors of rumination than gender (Broderick and Korteland, 2004; Cox et al., 2010). In this study biological sex had an effect on the tendency to ruminate but socialized sex roles did not. The absence of an interaction of gender and gender roles on rumination suggests that women are more likely than men to ruminate regardless of the gender role they identify with.

However, it is perhaps important to note that the relationship between femininity and rumination did approach statistical significance ($p = .062$) in the predicted direction. Moreover, this study did not assess alternative coping styles such as distraction which were found to be associated with masculinity (Conway et al., 1990). Future studies should explore further the relationship between gender roles and rumination to shed light on these contradictory findings.

Gender, Gender Roles, Rumination and Depression

If socialized femininity is not what makes women more vulnerable to rumination, then what is? For one, the gender differences in the tendency to ruminate may have a biological underpinning. For example, research in affective neuroscience shows that people who are prone to depression have an overactive amygdala which makes them biased toward paying too much attention to negative stimuli, and hence foster rumination (Davidson, 2003). Is it possible that women's amygdalas are more likely to be overactive than men's? There is also evidence to suggest that genetic variations play a role in the tendency to ruminate (Beevers, Wells, & McGeary, 2009). Perhaps the relationship of gender and genetic vulnerabilities to rumination merits more exploration. Finally, it is possible that female hormonal activity contributes to an increased tendency to ruminate via various neurochemical processes.

Nolen-Hoeksema (2003) provides many alternative environmental and psychological factors that could account for women's increased vulnerability to rumination. To begin with, it can be argued that women face a multitude of environmental strains that provide additional risk to the development of ruminative thinking. For instance, women are more likely than men to experience trauma such as sexual abuse. Moreover, according to research women are much more likely to live in poverty which leads to a myriad of other life stressors such as inadequate housing, dangerous neighborhoods, exposure to crime and violence, increased exposure to illness, and financial uncertainties (Belle & Doucet, 2003). Furthermore, although women's status in society has improved considerably, the gender gap in salaries and social status is still a reality. Such chronic strains may contribute to women's increased tendency to ruminate.

Moreover, modern women are often overwhelmed by their dual roles. For example, it is common now for married women to work full-time jobs and share financial responsibilities in the household. Still, they are likely to carry more than half of their share in housework and child-rearing. These dual roles are often overburdening for women who may feel that their time and energy are insufficient for their myriad responsibilities. These dual roles are part of women's lives regardless of the gender role they choose to adopt. A feminine woman may be more motherly, a masculine woman may value more her work and career, and an androgynous woman may do both. Nonetheless, all of these typed of women are likely to experience work-family conflicts and overburdening responsibilities related to their multiple roles.

It is not only outside forces that may keep women stuck in ruminating. Nolen-Hoeksema (2003) talks about the relational nature of women which might make them more prone to ruminate. Women are much more likely than men to define themselves in terms of their interpersonal relationships. They are more likely to know people at a deep emotional level and to

be more attuned to the emotions of others. Although this provides richness to women's lives and a source of social support, it also has its cost: it can give women more reasons to ruminate. For example, Helgeson (1994) argued that being "other-oriented" can lead to increased distress because of an increased response to other people's stressors. In other words, women run the risk of crossing the line between emotional connection and emotional over-involvement. The latter can lead women to experience distress and engage in rumination in response to inevitable changes and problems in their interpersonal relationships. The self-concepts of women are often defined by the quality of the relationships with others (Nolen-Hoeksema, 2003). Although incorporating relational satisfaction into one's self-concept is certainly not necessarily negative, it can become maladaptive when one's self-esteem is dependent to the inevitable fluctuations in his or her relationships with others. Moreover, the strong relational nature of women can lead them to downplay their needs and wants in order to make their loved ones happier.

Not only are women more other-oriented but they also have a better developed emotional awareness. Women are better able to articulate and express emotion, as well as identify others' affective states (Barrett, Lane, Sechrest, & Schwartz, 2000). This is arguably part of gender socialization. Women learn from an early age to pay more attention to their emotions than men (Maccoby & Jacklin, 1974). The downside is that women are also more prone to perceive their emotions as uncontrollable, which makes them more likely to ruminate (Nolen-Hoeksema & Jackson, 2001).

Finally, women are more likely to ruminate together. Social support can be a very functional emotion-focused coping strategy if utilized correctly. However, women often emote together without encouraging each other to active management of their emotions and effective problem solving. This is based on the false belief that this is how women are supposed to support

each other. Nolen-Hoeksema (2003) names this type of encounter “overthinking parties”, which make women feel understood and validated, but do nothing to tackle the stressors or problems initiating those negative feelings. As a result, such joint ruminations often leave women feeling even more overwhelmed and depressed. In fact, there is recent evidence to suggest that co-ruminating in female friendships increases the secretion of the stress hormone, cortisol, (Byrd-Craven, Geary, Rose, & Ponzi, 2008) which can exacerbate adverse to negative life events or feelings of sadness.

Overall, several factors may contribute to increased female vulnerability for rumination and their unique contributions are yet unclear. Nonetheless, what can undoubtedly be concluded from the present and past research, is that women are more likely to engage in ruminative thoughts which are highly associated with and have been shown to maintain depression.

The practical implications of these findings are numerous. For clinicians, they may be developing gender-specific approaches to tackle the cognitive and behavioral manifestations of rumination when dealing with female clients. Gender-tailored CBT treatments may be the preferred treatment for depressed women. Women could be encouraged to problem solve rather than solely expressing their feelings. Psychoeducational approaches could be incorporated in therapy, aimed at increasing the understanding that rumination not only does not provide constructive solutions to problems but it also augments negative feelings.

Perhaps more importantly, awareness about the devastating effects of rumination and learning how to break from its cycle needs to occur at a prevention level. For instance, parents need to learn to nurture their daughters’ active problem solving skills rather than solely encourage emotional expression. The same applies to teachers, counselors, family members, friends, and romantic partners. Shifting from overthinking about feelings, problems, and

everyday worries into gaining some perspective about the realistic outlook on how unimportant some of such ruminations are and modifying negativity to an attitude of positivity and constructiveness is something that may benefit everybody, not only clinical populations. Such shift may also prevent some people from falling to the ravaging effects major depression.

Theoretical Models for the Relationship Among Gender Roles, Depression and Rumination

The findings of this study do not support the gender-congruency model for the relationship between gender roles and depression or the relationship between gender roles and rumination. There was no evidence to support that individuals who adopted sex-incongruent gender roles, had higher depression or rumination levels than individuals who adopted sex-congruent gender roles.

The androgyny model, according to which androgynous individuals of both gender are healthier was only partially supported by the findings of the present study. Androgynous individuals did not fare better than masculine and feminine individuals on measures of depression and rumination. They also did not fare better when compared to sex-typed and cross sex-typed individuals. Moreover, androgynous individuals did not appear to ruminate more than undifferentiated individuals. However, androgynous individuals did appear to have lower depressive rates than undifferentiated individuals.

The masculinity model, which has been largely supported by research, was also not supported by present findings. Masculinity, although negatively associated with depression, did not predict lower depressive levels more than femininity did. In contrast and against all predictions, it was femininity that emerged as a protective factor for depression in the present sample. This is an encouraging finding for women. Adopting gender-congruent feminine characteristics does not appear to increase their vulnerability in developing depression.

The proposed interactionist model, according to which an androgynous gender role would be more adaptive for females than for males, was not supported by results. Androgynous women did not have different depression or rumination rates than androgynous men. Therefore, the assumptions upon this prediction was based were not substantiated. The first assumption was that masculinity is the protective variable against rumination and depression. Our findings showed that on the contrary, femininity was more protective than masculinity, at least with regard to depression. The second assumption, was that males might not benefit from having increased gender-incongruent feminine characteristics, when compared to having purely masculine and supposedly more adaptive characteristics. Since femininity did not place additional risk for depression, this assumption was also flawed. Adopting feminine qualities therefore, did not appear to harm either gender. Therefore being masculine, feminine, or androgynous, sex-typed or cross sex-typed did not make a difference with regards to depression and rumination. This study's results did indicate however, that the adoption of neither feminine nor masculine gender-role characteristics (i.e., having an undifferentiated gender role) was associated with increased depression symptomatology.

One of this study's purposes was to use a categorical analysis for gender roles in order to have a more clear answer to which variable (masculinity, femininity, or both) plays a role in predicting depression. The results of the present study in the context of past research are inconclusive. The categorical design of the study showed that being masculine, feminine, or androgynous had no difference with regards to both rumination and depression. When analyzing using the continuous approach both masculinity and femininity were not found to have negative outcomes. In fact, in contrast to past research it was found that femininity was predictive of lower depression rates. Thus, future research remains to replicate such findings and illuminate

further the role of the two variables, as well as the contribution of the androgyny construct in mental health outcomes.

Limitations

There have been many criticisms about the use of *Bem Sex Role Inventory*, both on methodological and theoretical grounds. Methodologically speaking, two concerns voiced by researchers are related with the present study. Firstly, the categorical classification of individuals has been the subject of criticism. In particular, critics have argued that the classification is based on cut-off scores which forces individuals that respond differently on one or two items to fall into different categories. Spence and Heimreich (1978) warned that this technique results in data subject to statistical distortion. They emphasized that findings obtained using this method, should be interpreted with caution when research questions deal with between-group comparisons. Secondly, the construct validity of the scale has also been put to question. Some researchers have proclaimed that the perceptions of masculinity and femininity are not reflected by the items on the BSRI (Hoffman & Borders, 2001). Some studies indeed found that the *masculine* and *feminine* items on the BSRI were the only ones perceived as masculine and feminine qualities respectively (Ballard-Reisch & Elton, 1992; Hoffman & Borders, 2001). One explanation for this is that people in the 21st century perceive the constructs of masculinity and femininity differently from the gender-stereotypical way that the 1970s college undergraduates who served as judges in the test's development process viewed them.

The methodological criticisms about the BSRI lead to theoretical implications for gender-schema theory as well. Perhaps, the cultural definitions of masculinity and femininity as a framework for one's organization of information about self and others are less relevant than before. As argued by Hoffman and Borders (2001), the relevance of a gender role classification

system is questioned since it is outdated. Perhaps in the present day and age, men and women are more flexible in adopting a variety of personality characteristics which in themselves might be adaptive or maladaptive, but without attaching gender stereotypes on to them. Accordingly, it may not be longer relevant to establish associations between the concepts of masculinity, femininity, and androgyny with psychological health.

This study may also suffer from mono-method bias. The independent variables as well as the dependent variables were measured by the same method, i.e., self-reports. This can lead to bias introduced by the method. Self-reports often share a common respondent bias. Therefore, if constructs are assessed using the same method, the correlations between them may be a result of the common respondent bias rather than true associations between the constructs (Heppner, Kivlighan, & Wampold, 2008). Ideally, the constructs of depression, rumination, and gender roles would be assessed by multiple types of measures. However, this would require a much more complex design and difficulties in using other methods than self-reports to address such private psychological constructs as rumination and gender roles.

Lastly, caution should be given when generalizing these results. The sample comprised of a large majority of young individuals (approximately 80% of the participants ranged from 18 to 25 years of age and 12% ranged from 25 to 35). Thus, the results should be limited to generalization to similar age groups. Attitudes and perceptions about gender roles in particular, are likely to have different connotations and outcomes for older cohorts. It would be of interest for future research to investigate gender roles in a larger variety of age groups in order to assess such differences.

Conclusions

This study replicated previous findings that rumination is strongly associated with depression. Moreover, consistent with past research women were more likely to ruminate than men. It is possible therefore, that rumination represents a cognitive risk for developing depression, particularly for women. These findings do not support the notion that rumination is a byproduct of gender-role socialization processes.

The results of this research contradict the claim that masculinity is best for both sexes, since low masculinity did not put individuals into increased risk for depression. Moreover, femininity was a protective factor for depression, opposing research supporting the maladaptive properties of feminine gender role identification. Androgynous individuals were no more adapted than masculine and feminine individuals, but they had lower depression rates than individuals with an undifferentiated gender role.

The relevance of gender role constructs in association with mental health outcomes is equivocal. When gender-schema theory became popular in the early 1980s, ideas of femininity and masculinity were fitting to the social climate of promoting gender equality and change. As a result, theories proposing that characteristics mostly valued for men were more adaptive and that women were therefore put at a disadvantage became popular in social and clinical psychology. Likewise, the contention that androgyny epitomized psychological flexibility and health, was possibly a reaction to the stereotypical gender conceptualizations of the time. In the 2010s, however, such notions might no longer apply. What is adaptive and functional depends on the historical societal context. In this case, societal beliefs and practices regarding gender and gender roles have changed significantly since the publication of Bem's 1981 theory. Although gender stereotypes undoubtedly still exist, individuals may no longer perceive themselves and other

people with gender lenses and, thus, gender role identification may no longer relate to mental health in the way it used to.

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Appendix A

PARTICIPANTS NEEDED

to participate in an anonymous* **online research study** about **mood and coping styles**. Your participation will yield **extra credit** in psychology classes

Duration: 20 minutes

Requirements: You must be at least 18 years old.

You will be asked to answer some demographic questions as well as three questionnaires asking about your personality characteristics, feelings and behaviors

For questions or concerns contact:

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* When you participate your IP address will automatically be part of the data collected. In order to assure your confidentiality IP addresses will be destroyed.

To participate go to:

www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3 www.surveymonkey.com/s/L2TCNM3

Appendix B

Barry University
Cover Letter

Dear Research Participant:

Your participation in a research project is requested. The title of the study is "Personality characteristics as determinants of mood and coping styles". The research is being conducted by Angeliki Argyriou, a student in the Psychology Department at Barry University, under the supervision of Dr. Guillermo Wated, and it is seeking information that will be useful in the field of Clinical Psychology. The aims of the research are to examine personality characteristics, coping styles, and mood. In accordance with these aims, the following procedure will be used: Three questionnaires called the Center for Epidemiologic Studies Depression Scale, Bem Sex-Role Inventory and Ruminative Response Scales follow this letter. I anticipate the number of participants to be 300.

If you decide to participate in this research, you will be asked to do the following: Answer the questions on the three questionnaires mentioned above, and some demographic questions. The questionnaires are estimated to take no more than 20 minutes to complete.

Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the study, there will be no adverse effects. If you are a student there will be no effect on your grades.

The risks of involvement in this study are minimal. Although unlikely, it is possible that you experience some emotional discomfort by answering the questions. If you do please call 1-800-784-2438. The following procedures will be used to minimize the risks: You can skip any questions you do not want to answer. There are no direct benefits to you for participating in this study; however, your participation will contribute to research in the area of Clinical Psychology. If you are a student you may be able to receive extra credit for your participation. Print a copy of this cover letter as proof of your participation.

As a research participant, information you provide is anonymous, that is, no names or other identifiers will be collected. SurveyMonkey.com allows researchers to suppress the delivery of IP addresses during the downloading of data, and in this study no IP address will be delivered to the researcher. However, SurveyMonkey.com does collect IP addresses for its own purposes. If you have concerns about this you should review the privacy policy of SurveyMonkey.com before you begin. The raw data obtained will be kept in Dr. Guillermo Wated's office for a minimum of two years.

By completing and submitting this electronic survey you are acknowledging that you are at least 18-years-old and that you voluntarily agree to participate in the study.

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Angeliki Argyriou, by phone at 305-494-7745 or by email at angeliki.argyriou@mymail.barry.edu. You may also contact my faculty sponsor, Dr. Guillermo Wated, by phone at (305) 494-7745 or by email at GWated@mail.barry.edu, or the Institutional Review Board point of contact, Barbara Cook, by phone at (305) 899-3020 or by email at bcook@mail.barry.edu.

Thank you for your participation.

Sincerely,
Angeliki Argyriou

Appendix C

Rumination Scale

People think and do many different things when they feel depressed. Please read each of the items below and indicate whether you almost never, sometimes, often, or almost always think or do each one when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1. think about how alone you feel
   Almost Never Sometimes Often Almost Always

2. think "I won't be able to do my job if I don't snap out of this"
   Almost Never Sometimes Often Almost Always

3. think about your feelings of fatigue and achiness
   Almost Never Sometimes Often Almost Always

4. think about how hard it is to concentrate
   Almost Never Sometimes Often Almost Always

5. think "What am I doing to deserve this?"
   Almost Never Sometimes Often Almost Always

6. think about how passive and unmotivated you feel.
   Almost Never Sometimes Often Almost Always

7. analyze recent events to try to understand why you are depressed
   Almost Never Sometimes Often Almost Always

8. think about how you don't seem to feel anything anymore
   Almost Never Sometimes Often Almost Always

9. think "Why can't I get going?"
   Almost Never Sometimes Often Almost Always

10. think "Why do I always react this way?"
    Almost Never Sometimes Often Almost Always

11. go away by yourself and think about why you feel this way
    Almost Never Sometimes Often Almost Always

12. write down what you are thinking about and analyze it
    Almost Never Sometimes Often Almost Always

13. think about a recent situation, wishing it had gone better
    Almost Never Sometimes Often Almost Always

14. think “I won’t be able to concentrate if I keep feeling this way.”
Almost Never Sometimes Often Almost Always

15. think “Why do I have problems other people don’t have?”
Almost Never Sometimes Often Almost Always

16. think “Why can’t I handle things better?”
Almost Never Sometimes Often Almost Always

17. think about how sad you feel.
Almost Never Sometimes Often Almost Always

18. think about all your shortcomings, failings, faults, mistakes
Almost Never Sometimes Often Almost Always

19. think about how you don’t feel up to doing anything
Almost Never Sometimes Often Almost Always

20. analyze your personality to try to understand why you are depressed
Almost Never Sometimes Often Almost Always

21.go someplace alone to think about your feelings
Almost Never Sometimes Often Almost Always

21. think about how angry you are with yourself
Almost Never Sometimes Often Almost Always

Appendix D

Center for Epidemiologic Studies Depression Scale (CES-D)

Below is a list of the ways you might have felt or behaved. Please indicate how often you have felt this way during the past week.

During the past week:

1. I was bothered by things that don't usually bother me.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount the time (3-4 days)	Most or all of the time (5-7 days)

2. I did not feel like eating; my appetite was poor.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

3. I felt that I could not shake off the blues even with the help of my family or friends.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

4. I felt that I was just as good as other people.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

5. I had trouble keeping my mind on what I was doing.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

6. I felt depressed.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

7. I felt everything I did was an effort.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

8. I felt hopeful about the future.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

9. I thought my life had been a failure.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

10. I felt fearful.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

11. My sleep was restless.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

12. I was happy.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

13. I talked less than usual.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

14. I felt lonely.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

15. People were unfriendly.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

16. I enjoyed life.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

17. I had crying spells.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

18. I felt sad.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

19. I felt that people disliked me.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

20. I could not get “going”.

Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount	Most or all of the time (5-7 days)

Appendix E

Bem Sex Role Inventory

Below you will find listed a number of personal characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate how true of you each of these characteristics is. Please do not leave any characteristic unmarked.

1	**2**	**3**	**4**	**5**	**6**	**7**
Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true

1. Defend my own beliefs
2. Affectionate
3. Conscientious
4. Independent
5. Sympathetic
6. Moody
7. Assertive
8. Sensitive to needs of others
9. Reliable
10. Strong personality
11. Understanding
12. Jealous
13. Forceful
14. Compassionate
15. Truthful
16. Have leadership abilities
17. Eager to soothe hurt feelings
18. Secretive
19. Willing to take risks
20. Warm
21. Adaptable
22. Dominant
23. Tender
24. Conceited
25. Willing to take a stand
26. Love children
27. Tactful
28. Aggressive
29. Gentle
30. Conventional
31. Self-reliant
32. Yielding
33. Helpful
34. Athletic
35. Cheerful
36. Unsystematic
37. Analytical
38. Shy
39. Inefficient
40. Make decisions easily
41. Flatterable
42. Theatrical
43. Self-sufficient
44. Loyal
45. Happy
46. Individualistic
47. Soft-spoken
48. Unpredictable
49. Masculine
50. Gullible
51. Solemn
52. Competitive
53. Childlike
54. Likable
55. Ambitious
56. Do not use harsh language
57. Sincere
58. Act as a leader
59. Feminine
60. Friendly

Appendix F

Demographic Questionnaire

Gender:
- o Male
- o Female

Ethnicity:
- o African American
- o Afro-Caribbean
- o Asian
- o Caucasian
- o Hispanic
- o Other

Age (in years): _____

Employment Status:
- o Employed
- o Unemployed
- o Part time employed

Are you currently a student?
- o Yes (Full-time)
- o Yes (Part-time)
- o No

What country are you currently living in? (Please type) _____

If you currently reside in the United States, which geographic region fits you best? (If you reside outside the United States please skip this question)
- o Northeast
- o Southeast
- o Midwest
- o Southwest
- o West

Please choose which best describes you from the following:
- o Heterosexual
- o Homosexual
- o Bisexual
- o Transgender
- o Other
- o Prefer not to say