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PAYING THE PRICE FOR ANGER: DO WOMEN BEAR GREATER COSTS?

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ABSTRACT

Gender roles dictate the free expression of emotion for women and the general suppression of emotional expression for men. At the same time, expectations that women should be warm and caring dictate norms around expression of specific emotions, such that women are generally expected to display more positive, communal emotions (e.g., joy; compassion), whereas men are expected to display more negative, agentic emotions (e.g., anger). These competing expectations may make managing anger more challenging, in terms of affecting individual well-being, as trait tendencies of both expressing (anger-out) and suppressing anger (anger-in) may violate expectations of appropriate emotional behavior for women. We tested the hypothesis that that both anger-out and anger-in would be linked to depression for women, but not men, using data from the MIDUS study (N = 1048). Additionally, given that greater investment and attention to relationships might make these displays of anger even more consequential, we tested whether relational interdependent self-construal (RISC) moderates these effects. Multiple regression analyses revealed main effects of anger-out, anger-in, and RISC on depression. Gender did not moderate the effects of anger-in on depression, but did moderate the effects of anger-out, such that outward expression of anger was significantly and positively associated with depression for women, but not for men, indicating that women may bear greater consequences from expressing their anger than men. Gender also moderated the effect of RISC on depression, such that RISC was negatively associated with depression for men, but not women. No three-way interactions were found. Implications and future directions are discussed.

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Chapter 1

Introduction

“Don’t be afraid of your ambition, your dreams, or even your anger.” Hillary Clinton used these words to address Wellesley’s graduating class of 2017, shortly after her loss in the 2016 presidential election. Yet, in her book, “What Happened,” Hillary Clinton describes the pressure she experienced not to come across as angry during the course of her political career, as well as her own desire not to be consumed by her anger after she lost the race. This example captures the complexity and challenges associated with anger experience and expression among women, as well as the very real consequences it can have both *interpersonally* and *intrapersonally*.

When it comes to emotional expression, social norms and ‘display rules’ may dictate whether and what kinds of emotional expression are appropriate (Ekman & Friesen, 1971; Hochschild, 1983). Importantly, men and women are often expected to conform to different emotional display rules (Shields, 2005). In general, women are expected to express their emotions freely, while men are expected to exercise emotional restraint (Ekman & Friesen, 1969; Ganong & Coleman, 1985; King & Emmons, 1990; Simpson & Stroh, 2004). Research on gender differences in emotion has shown that women do indeed tend to be more

emotionally expressive, while men tend to suppress their emotions more (Kring & Gordon, 1998; Gross & John, 2003). However, such expressive differences are not evident for all emotions. A growing body of research has consistently demonstrated that not all emotions are invariably associated with the feminine gender-role stereotype; instead, stereotypes about individual emotions (e.g., anger, sadness) are gender-specific (Fischer, 2015). In particular, emotions such as happiness, sadness, and fear are believed to be more characteristic of women, whereas anger is believed to be more characteristic of men (e.g., Birnbaum, Nosanchuk, & Croll, 1980; Briton & Hall, 1995; Fabes & Martin, 1991; Grossman & Wood, 1993; Kelly & Hutson-Comeaux, 1999). In line with the aforementioned stereotypes, there is some evidence that gendered patterns of emotional displays occur, such that women are more likely to express positive, communal emotions (e.g., joy, compassion; Eder & Parker, 1987; Graham, Gentry, & Green, 1981), whereas men tend to display more anger (Brody, 1997, 1999; Crick, 1997; Hart, De Wolf, & Burts, 1993).

But what happens when women's emotional behavior fails to conform to the above stereotypes? Adherence to gendered display rules has an impact on how women's emotional behavior is perceived: since women are generally expected to express their emotions, they tend to be judged as inauthentic when they do not (Simpson & Stroh, 2004). At the same time, however, women's expressions of anger are often met with negative evaluations (Brescoll & Uhlmann, 2008; Salerno & Peter-Hagene, 2015). On the flip side, men's anger expressions have been shown to boost perceptions of their power and status (Brescoll & Uhlmann, 2008;

Ragens & Winkel, 2011).

As such, gendered expectations of appropriate emotional displays may make anger particularly challenging for women to navigate, which may have a negative impact on women's mental health. Women may be judged negatively for expressing anger, but may also experience negative consequences from suppressing anger. This dichotomy may create a "double-bind" for women when it comes to anger, where *either* expressing *or* refraining from expressing anger may lead to negative consequences for women, which could take a toll on their mental health over time. In the present study, we aim to test how women's anger expression patterns may impact mental health outcomes using a large, nationally representative sample of women of diverse ages and socioeconomic statuses using longitudinal data collected over an eighteen-year period.

Gender Differences in Emotional Expression

Much research has examined gender differences in emotion, and finds that in general, women are more emotionally expressive than men (Brody & Hall, 1993; Fischer, 1993; Kring, Smith, & Neale, 1994; LaFrance & Banaji, 1992; Manstead, 1992; Shields, 1991, 2000). Interestingly, although women may be more expressive of most emotions, men show equal or greater levels of physiological arousal in response to emotional stimuli. For example,

men tend to show greater blood pressure and cortisol responses to emotionally arousing stressors (e.g., Chaplin, Hong, Bergquist, & Sinha, 2008; Kirschbaum, Kudielka, Gaab, Schommer, & Hellhammer, 1999; but see Stroud, Salovey, & Epel, 2002). Additionally, research by Kring and Gordon (1998) found that, when emotions were measured in-the-moment in a laboratory paradigm, women and men did not differ in emotional experience, but showed differences in expressive behavior and physiology: women showed more intense facial expressions, whereas men showed greater physiological arousal. This may mean that men are emotionally aroused internally, but tend to keep emotions in, whereas women may freely express emotions, as proposed by Buck and others (Buck, 1977, 1984; Chaplin, 2015; Levenson, Carstensen, & Gottman, 1994). In line with this notion, research has shown that men tend to suppress their emotions more frequently than women (Gross & John, 2003), and suppression of emotional displays has been associated with greater physiological arousal (Gross & Levenson, 1993).

Beyond these general tendencies, however, research suggests that gendered patterns of emotional expression exist, such that women generally express more sadness, fear, shame, and guilt (i.e., “power-less” emotions), whereas men express more anger and pride (i.e., “powerful” or agentic emotions; Brody, 1999; Chaplin, Cole, & Zahn-Waxler, 2005; Fischer et al., 2004; Saarni, 1984). These differences have also been described as differences in expressing agentic vs. communal emotions (Kenworthy et al., 2014), and submissive vs. disharmonious emotions (Chaplin, Cole, & Zahn-Waxler, 2005). Regardless of terminology

used, gender differences in emotional expression are generally thought to be the result of gender-stereotypic socialization processes inherent in our social and cultural context (cf. Brody & Hall, 1993; Jansz, 2000; Shields, 2002).

Theoretically, this notion harkens back to Arlie Hochschild (1983) idea of ‘feeling rules’, and Ekman and Friesen’s (1969) concept of emotional ‘display rules’, which both suggest that culture and context dictate "overlearned habits about who can show what emotion . . . males should not cry; females, except in a maternal role, should not show anger" (Ekman, 1984, p. 320). Within this theoretical framework, gender stereotypical patterns of emotional expression can be thought to follow the distribution of men and women into different social roles (Eagly & Steffen, 1984). Thus, women may be more likely to express emotions that fit with a communal, caretaker role and a more relational or interdependent orientation (Batalha & Reynolds, 2013; Cross, Gore, & Morris, 2003; Guimond, Chartard, Martinot, Crisp, & Redersdorff, 2006; Markus & Kitayama, 1991), such as happiness for others, concern, sadness or anxiety (Fischer & Manstead, 2000). As such, the expression of communal emotions facilitates the fulfillment of women’s communal role in the family, since sharing and expressing one’s feelings can support family members’ emotional needs (Clark, Fitness, & Brissette, 2007). On the contrary, men’s provider role may demand restraint of emotional expression, or the expression of particular emotions, such as anger, that emphasize their role (Kelly & Hutson-Comeaux, 1999; Hutson-Comeaux & Kelly, 2002).

Gender roles are also divided along power lines, and as such, enacting gender roles may

promote or restrict the expression of particular emotions. Anger has been considered as a more powerful or agentic emotion, and is thought to support perceptions of dominance (Hess, Blairy, & Kleck, 2000), while guilt, sadness, shame, and happiness are thought of communal emotions that support perceptions of subordination and affiliation (Fischer & Manstead, 2000). In other words, gender roles align with specific emotions, and female roles in particular require the enactment of more emotions in general, and more powerless emotions. On the other hand, men's roles may require less emotional displays overall, with the exception of powerful or dominant emotions, such as anger. Accordingly, research has shown that anger is more typically associated with men, while happiness, sadness, and fear are more typically associated with women (Fischer, 1993; Kelly & Hutson-Comeaux, 1999; Plant, Hyde, Keltner, & Devine, 2000; Shields, 1987; Weber & Wiedig-Allison, 2007).

Central to the study of emotional display rules is an emphasis on the importance of managing emotional expression in a way that fulfills norm expectations in order to facilitate successful social interactions (Saarni, 1999; Shields, 2005). However, such norms may not be straightforward or easy to execute, and in some instances, competing emotional standards may make it difficult or impossible to fulfill the requirements of correctness (Shields, 2005). In this regard, we propose anger as an emotion that may present a particular challenge for women, because it is a powerful, agentic emotion that is interpersonally negative in the sense that anger is most often directed at a social target (Kring, 2000). As such, the expression of anger in women violates stereotyped expectations of women being submissive, warm, caring,

and relationship-oriented. At the same time, if women suppress anger, they violate the general expectation that women should express emotions freely. Thus, it may be particularly difficult for women to fulfill the expectations of appropriate emotional displays when it comes to anger, since both expressing and suppressing anger violate at least one expectation of appropriate behavior for women.

Gender and Anger Expression

Anger is often seen as the prototypical male emotion, and research has shown that people expect men to experience more frequent and intense anger (e.g., Birnbaum, Nosanchuk, & Croll, 1980; Briton & Hall, 1995; Fabes & Martin, 1991; Grossman & Wood, 1993; Kelly & Hutson-Comeaux, 1999). These expectations, in turn, affect how the anger expressions of men and women are perceived. For example, individuals are faster at detecting anger in male than in female faces (Becker, Kenrick, Neuberg, Blackwell, & Smith, 2007; Ohman, Juth, & Lundqvist, 2009). In addition, when the emotional expression is ambivalent, for example reflecting a blend of anger and sadness, observers tend to see more anger in a male face and more sadness in a female face (Plant, Kling, & Smith, 2004; Hess, Adams, & Kleck, 2005).

Studies of emotion stereotypes have found that women are expected to experience and express less anger than men do. When participants were asked to judge the frequency with which

they believed males or females typically feel and express different emotions, men were thought to experience and express anger more than women (Birnbaum & Croll, 1984; Fabes & Martin, 1991). Furthermore, men's anger is often judged as more acceptable and appropriate than women's anger. For example, when evaluating identical vignettes in which either 'Karen' or 'Brian' became angry, participants viewed Brian's anger as more appropriate and controlled (Shields & Crowley, 1996). Even children report thinking that anger displays are more acceptable from boys than they are from girls (Birnbaum, 1983; Fuchs & Thelen, 1988).

Despite these stereotypes, most studies of subjective experience of anger show that women and men experience similar levels of anger (Averill, 1983; Bonnano & Keltner, 1997). In a meta-analysis on everyday occurrences of aggression that included subjective anger measures, no significant gender differences in subjective anger emerged (Archer 2004). Studies comparing men and women on trait anger (Deffenbacher et al. 1996; Kopper, 1991; Kopper & Epperson 1991, 1996) also have not found any gender difference in the likelihood to experience anger across a variety of situations. Moreover, most studies, whether diary studies (Barrett et al., 1998; Oatley, 1998), autobiographical studies (Baumeister, Stillwell, & Wotman, 1990; Fischer & Roseman 2007), or other types of studies in which self-reported intensity of anger was measured, do not reveal any gender differences (Allen & Haccoun, 1976; Averill, 1983; Harris, 1994; Kring & Gordon, 1998; Wagner, Buck, & Winterbotham, 1993).

When it comes to anger expression, studies have found that men report expressing anger more frequently (e.g., Fischer et al., 2004). Other studies suggest that gender differences in self-

reported anger expression are determined more accurately by adherence to gender roles rather than sex, per se (Kopper & Epperson, 1991). Specifically, Kopper and Epperson (1991) found that individuals who identified more strongly with male rather than female sex roles expressed more anger, but there were no sex differences in anger expression. However, it should also be noted that laboratory studies often fail to find sex differences in anger expression (Fisher, 1993; Hess, Adams, & Kleck, 2005), while some find that women are more expressive of anger, despite gender similarities in anger experience (e.g., Kring & Gordon, 1998).

Consequences of Anger Expression

Regardless of actual differences in the expression of anger, insofar as anger is seen as a more prototypically male emotion, anger expression in women may result in backlash effects as a result of stereotype violations (Rudman & Fairchild, 2004). Indeed, research has shown that women bear greater social costs for expressing anger. For example, Brescoll & Uhlmann (2008) found that women who expressed anger in a job interview were seen as less likable, less competent, less deserving of power, independence, and allotted lower salaries than their angry male counterparts. Additionally, while expressions of anger have been shown to increase social influence and perceptions of competence in men, the opposite is true for women—women who

expressed anger in a group deliberation were less influential, and this effect was mediated by lower perceived competence in women who expressed anger (Salerno & Peter-Hagene, 2015).

Less explored, however, are the intrapersonal costs that women may incur from expressing anger. While understanding how others perceive women's anger is certainly useful to inform the social consequences of anger expression, it is essential to understand how anger expression influences women's own mental health. There are several reasons why women may experience greater depression from anger expression. First, if women bear greater interpersonal costs from expressing anger, this may, in turn, affect women's mental health negatively due to social isolation or increased anger rumination. Second, since anger expression is seen as unfeminine and therefore undesirable (Shields, 2005), women may feel a greater sense of inner conflict when expressing anger. On the one hand, women are expected to express emotions freely; but since anger is an interpersonally negative emotion, women may feel more conflicted over anger expression. Further, since women may have a tendency to value relational harmony more than men, jeopardizing the same through outward anger expression may be particularly stressful for women. In fact, the extent to which expressing anger negatively affects women may be dependent on the extent to which they construe the self in a relational manner. Alternatively, women who are already more depressed may be more likely to express anger outwardly because anger and irritability are common symptoms of depression. To understand the relationship between anger expression and depression more accurately, we need longitudinal designs to capture the dynamics of these variables over time.

Consequences of Anger Suppression

Since women's anger is perceived more negatively and is associated with greater interpersonal costs, one possibility is that suppressing or not showing anger is the best way for women to manage anger displays. However, the negative effects of suppressing emotional displays are well documented. Suppression of emotion is associated with affective disorders and problem behaviors, particularly internalizing ones (Nolen-Hoeksema and Aldao, 2011). In addition, suppressing emotions has been related to negative physical health outcomes. For example, recent meta-analytic and longitudinal studies have linked emotion suppression to chronic disease and mortality (Chapman et al., 2013; Mund & Mitte, 2012). Anger suppression, in particular, has been related to conflict avoidance, guilt, irritability, decreased life satisfaction, rumination, and depressive symptoms (Kopper & Epperson, 1996; Bridewell & Chang, 1997; Gross & John, 2003; Martin & Dahlen, 2007; McRae et al., 2012; English et al., 2012). Those who suppress their angry feelings also have a stronger perception of inadequate social support (Palfai & Hart, 1997).

While the negative consequences of anger suppression may be evident for both men and women, we propose that these effects may be stronger for women. For example, the management of emotional displays in order to conform to display rules has been shown to relate to emotional exhaustion and burnout in work contexts (Kenworthy, Fay, Frame, & Petree, 2014). These effects have been particularly pronounced for women, since women have to contend with competing norms of overall expressivity, coupled with emotion-specific norms such as the

expectation for women to suppress their anger. In particular, the expressive suppression of negative emotions has been shown to relate to feelings of inauthenticity in women, but not men (Kenworthy et al., 2014). Furthermore, past research has shown that, because women are expected to express emotions freely, women who suppress their anger are viewed as “phony” and inauthentic, and may therefore be seen as less likable (Hopp et al., 2010; Simpson & Stroh, 2004). By contrast, since suppression is more normative among men, men who suppress their anger are not necessarily seen as less likable or less authentic. These divergent interpersonal consequences for anger suppression among men and women may lead to greater intrapersonal consequences for women. For these reasons, we expect that the effects of anger suppression on depression will be moderated by gender such that greater suppression of anger will be associated with greater depression, but the effects will be more pronounced in women than in men.

The Moderating Role of Relational Interdependent Self-Construal

Cross and Madson (1997) argued that gender differences in behavior observed in the West may be explained by differences in self-construal. They suggest that because women in Western cultural contexts are socialized to attend to relationships and to consider the needs and wishes of close others, they are more likely than men to develop a self-construal that is defined at least in part by relationships with others (termed the “relational-interdependent

self-construal” or RISC, by Cross, Bacon, & Morris, 2000). In this self-construal, close relationships are included in the self-space; when representations of the self are activated, representations of close others will be activated also. For persons with a highly relational self-construal, close relationships are essential for self-expression, self-enhancement, and self-verification. Therefore, these individuals will be motivated to develop, maintain, and enhance close, harmonious relationships (Cross et al., 2000; Cross, Morris, & Gore, 2002).

Women with a relational self-construal may see particularly detrimental effects of anger expression on well-being if their relationships suffer as a result of outward anger expression. Additionally, suppressing anger in close relationships may hinder intimacy, and for women who endorse a more relationally-interdependent self-construal, a lack of ability to express anger may be particularly distressing due to its detrimental effects on close relationships. Overall, women who construe the self in a more relational manner may feel worse about the anger expression/anger suppression conundrum, since either option—to express or suppress—may have greater interpersonal consequences for women; whereas neither may have strong interpersonal effects for men, and as such, relational self-construal may not matter as much for men. If anything, men have been shown to be more comfortable sharing emotions in close relationships with women (Caldwell & Peplau, 1982; Lewis, 1978; Komarovsky, 1974), so men with a relational self-construal may find it easier both to express anger and to feel comfortable doing so.

Thus, we propose that relational interdependence might be an additional moderator of

the relationship between anger expression/suppression and mental health, such that the negative consequences of anger expression and suppression will be strongest for women with a relational-interdependent self-construal. Conversely, relational self-construal may be more protective for men, since men may feel more comfortable expressing emotions to close partners than to strangers.

Overview of the Present Study

Women and men are expected to conform to different emotional display rules. While men are expected to suppress emotions overall, women are expected to express more emotion overall, but those expectations are somewhat limited to the expression of warm, caring, and submissive emotions. These competing expectations may lead to a 'double-bind' for women when it comes to anger expression, where both expressing and suppressing anger may be associated with negative outcomes. While past research has examined the interpersonal effects of women's anger expression, to the best of our knowledge, no research has examined gender differences in intrapersonal outcomes associated with expressive styles of anger. To truly understand how anger expression impacts women's mental health, it is critical to study women across different life stages, ethnicities, and socioeconomic status in a longitudinal design that can begin to shed light on this issue. Thus, for the present study we

analysed data from the Midlife Development in the United States (MIDUS) study collected over an eighteen-year period in order to examine the longitudinal associations of anger expression patterns and depression over time.

We predicted that outward anger expression will be associated with lower well-being (Hypothesis 1), and that these effects will be moderated by gender, such that women will experience greater negative well-being consequences from outward anger expression, as compared to men (Hypothesis 2). Additionally, we predicted that while anger suppression will be associated with lower well-being for both women and men (Hypothesis 3), these effects will be stronger for women (Hypothesis 4). Lastly, we propose that relational self-construal (RISC) will act as an additional moderator, such that the negative well-being effects of anger expression and anger suppression will be strongest for women with a relational-interdependent self-construal (Hypothesis 5) .

Chapter 2

Method

Participants

Participants were members of the Midlife Development in the United States (MIDUS) study during waves one, two, and three (Brim et al. 2004; Ryff & Lachman, 2017; Ryff et al. 2017). The Midlife in the United States (MIDUS) survey began in 1995 and was obtained

through a national probability sample recruited through random digit dialing (RDD). The respondents completed both a telephone interview and a self-administered questionnaire. Using the same assessments, a follow-up survey was conducted in 2004 (MIDUS II; response rate 75%). MIDUS III was collected in 2013, and had similar response rates. The current analysis focuses primarily on a core subset of MIDUS II respondents who also completed waves one and three. The final sample ($N = 1,053$) consisted of 477 males and 576 females, ranging in age from 25 to 75 ($M = 47.32$, $SD = 11.5$).

Measures

The World Health Organization Composite International Diagnostic Interview Short-Form (CIDI-SF; Kessler et al., 1998)

Depressive symptoms were assessed during waves one and three using the WHO Composite International Diagnostic Interview Short-Form, which is based on the DSM-III criteria. As such, the CIDI-SF includes items that assess depressed affect (e.g., “feel down on yourself, no good, or worthless?”) and anhedonia (e.g., “lose interest in most things?”).

Depressive symptoms were scored continuously from 0 to 7 by taking the sum of the number of dichotomous yes/no answers to each of 7 items to create an average score ($M_{T1} = 0.81$, $SD_{T1} = 1.98$; $M_{T3} = 0.60$, $SD_{T3} = 1.73$).

Center for Epidemiologic Studies depression scale (CES-D; Radloff, 1977)

Depressive symptoms during wave two were measured with the Center for Epidemiologic Studies depression scale (Radloff, 1977). The CES-D has been shown to be a reliable measure for assessing the number, types, and duration of depressive symptoms across racial, gender, and age categories (Knight, Williams, McGee & Olaman, 1997; Radloff, 1977; Roberts, Vernon, & Rhoades, 1989). High internal consistency has been reported in prior research with Cronbach's alpha coefficients ranging from .85 to .90 across studies (Radloff, 1977). Reliability in the current sample was similarly high, $\alpha = .89$.

State-Trait Anger Expression Inventory (STAXI; Spielberger, 1996)

Anger expression and anger suppression were measured during wave two using the anger-out and anger-in subscales of the State-Trait Anger Expression Inventory, which refer to the extent to which "one can express feelings of anger" and "the tendency to suppress anger", respectively (STAXI; Spielberger, 1996). Responses to the eight items on each subscale were measured on a four-point scale, ranging from 1 (*almost never*) to 4 (*almost always*). The State-Trait Anger Expression Inventory is a well-known instrument and it has demonstrated high reliability and validity (Spielberger, 1996). Cronbach's alphas for the current sample were .82 for anger-in and .78 for anger-out.

Relational Interdependent Self-Construal (RISC; Cross et al., 2000)

Participants' self-construal was assessed using the 11-item Relational-Interdependent

Self-Conceptualization (RISC) scale (Cross et al., 2000). Sample items are as follows: “My close relationships are an important reflection of who I am” and “Overall my close relationships have very little to do with how I feel about myself” (reverse-scored). Items were rated on a 7-point scale (1 = strongly disagree, 7 = very much agree). Coefficient alphas usually range from .85 to .90; test-retest reliability over a 2- month period was .76 (Cross et al., 2000). Cronbach’s α was .84.

Chapter 3

Results

Descriptive Statistics

Descriptive statistics for all of the study variables, including means and standard deviations, are presented in Table 1 and correlations between variables are presented in Table 2. Not surprisingly, depression scores were moderately and significantly correlated across all time points (all r 's \sim .20, all p 's $<$.01). Means for depression were below cutoff scores for clinical depression at Time 1 and Time 3 ($M_{T1} = 0.81$, $SD_{T1} = 1.98$; $M_{T3} = 0.60$, $SD_{T3} = 1.73$). Significant gender differences in depression emerged at Time 1 and Time 3, but not at Time 2. Women reported higher depression than men at Time 1, $t(1051) = 3.46$, $p <$.01 and Time 3, $t(942) =$

2.41, $p < .05$, respectively. Means for both men and women ranged from 0.81 to 3.5 for both men and women indicating that as a group, neither men nor women met criteria for major depression at any time point (cut-off scores are 4 and above). Any outliers on depression at Time 2 (3 or more standard deviations above the mean) were removed ($N \sim 20$) before conducting further analyses.

Relationships between Sex, Anger-out, and Depression

Hierarchical multiple regressions were used to test the associations between Anger Out, sex, and their interaction on Depression. Before conducting regression analyses, all scale variables were mean-centered and interaction terms were created by multiplying the centered terms. Sex was coded dichotomously as female = 1, male = -1.

In order to test hypothesis 1 that the effect of anger-out on depression would differ by sex we conducted a hierarchical regression with sex entered in Step 1, anger-out entered in Step 2, and the Sex x anger-out interaction term entered in Step 3. As presented in Table 3, analyses revealed a significant interaction between Sex and anger-out on depression (overall $R^2 = .21$, $\Delta R^2 = .009$, $\beta = .09$, $p < .01$), in support of Hypothesis 1. Follow-up analyses revealed that these results held after controlling for depression at Time 1 (see Table 4), and that there was a significant interaction between Sex and anger-out in predicting depression scores at Time 3, when controlling for *both* Time 1 and Time 2 depression (see Table 5).

In order to understand the nature of the significant above interaction, we conducted separate regressions for men and women predicting depression from Anger Out. These regression analyses showed that the relationship between anger-out and depression was

statistically significant only for women, $\beta = .27$, $t(572) = 6.34$, $p < .001$, whereas this relationship was only marginally significant for men, $\beta = .08$, $t(474) = 1.89$, $p = .06$.

Relationships between Sex, Anger-in, and Depression

In order to test hypotheses 3 and 4 that anger-in would be associated with depression, and that the effect would differ by sex, we conducted a hierarchical regression with sex entered in Step 1, anger-in entered in Step 2, and the Sex x anger-in interaction term entered in Step 3. Results revealed that while anger-in was a significant predictor of depression (in support of Hypothesis 3; $\beta = .42$, $p < .001$) there was no significant interaction between Sex and anger-in on depression (see Table 6).

The Role of Relational Interdependent Self-Constraint

Next, we tested whether Relational Interdependent Self-Constraint (RISC) was an additional moderator of the relationships found in the previous analyses (Hypothesis 5). To do so, we tested three-way interactions between sex, relational interdependent self-construal (RISC), and anger expression styles (anger-in and anger-out) in two different models using hierarchical multiple regression analyses. In both models, sex was entered in Step 1, anger-in / anger-out were entered in Step 2, and the Sex x anger-in and anger-out interaction terms were entered in Step 3. We found a main effect of RISC on depression, such that being higher on RISC was related to lower depression, $\beta = .42$, $p < .001$. We also found a significant Sex by RISC interaction on Depression. In order to understand the nature of this interaction, we ran regression analyses separately for men and women. Results revealed that RISC is a significant

predictor of depression for men, $\beta = -0.22$, $t(474) = 4.91$, $p < .001$, but not women, $\beta = -.08$, $t(572) = 1.84$, $p = .07$, indicating that RISC was protective of depression only for men. No significant three-way interactions emerged in either model (see Tables 7 & 8).

Post-Hoc Analyses

In order to better understand the interaction between sex and RISC on depression, we were interested in understanding why relational self-construal might be negatively related to depression for men, but not for women. Prior research suggests that men feel more comfortable disclosing and expressing their emotions to women than to other men (Caldwell & Peplau, 1982; Barrett et al., 1998; Lewis, 1978; Komarovsky, 1974), and that individuals with a relational self-construal may be less likely to suppress their emotions overall (Cross & Madson, 1997). Taken together, these prior findings would suggest that one potential explanation for why men with a greater relational self-construal are less depressed is that men with a relational self-construal are less likely to suppress their emotions.

We tested a moderated mediation model (Model 7 in the SPSS PROCESS macro; see Hayes, 2015) to see whether suppression mediates the association between RISC and depression, and if this mediation is moderated by sex. To measure emotional suppression, we used two suppression items from the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) that were available as part of a self-control scale collected at MIDUS II (Time 2). The items were “I keep my emotions to myself” and “When I am feeling negative emotions, I make sure not to express them”. The average of these two items was computed to create a single suppression score. Using the procedure developed by Preacher and Hayes (2008), we bootstrapped the indirect effects of RISC on depression through suppression. RISC was the independent variable,

depression was the dependent variable, suppression was the mediator, and sex was the moderator. Results revealed that suppression mediated the association between RISC and depression, and this effect was moderated by sex, such that the indirect effect was significant for men, (point estimate = .01, 95% CI -.0305 to -.0033), but not for women (point estimate = .00, 95% CI -.0099 to .0086). The index of moderated mediation was significant (point estimate = .02, 95% CI .0007 to .0335), indicating that the full criteria for moderated mediation was met (Hayes, 2015). See Figure 1 for results.

Next, to see whether these effects were unique to anger suppression, we ran a second moderated mediation with anger-in as the mediator. First, to test whether the overall indirect effect through anger-in was significantly different from zero, we constructed 95% confidence intervals (bias corrected and accelerated; BCa) using 1,000 bootstrap samples. The total indirect effect through anger suppression was significant, with a point estimate of -.04 and a 95% BCa bootstrap confidence interval of -.0679 to -.0135. As shown in Figure 2, the directions of the a and b paths are consistent with the interpretation that greater RISC leads to less suppression of anger, which in turn leads to lower depression (point estimate = -.04, 95% confidence interval [CI] -.0679 to -.0135). Next, we tested a moderated mediation model to see whether the above mediation is moderated by sex (Fig. 3). Examination of the indirect effects revealed the indirect effects of anger-in on the relationship between RISC and depression were conditional upon sex, such that a significant mediation was found for men, (point estimate = -.06, 95% CI -.1049 to -.0196), but not for women (point estimate = -.03, 95% CI -.0597 to .0116). However, the overall model failed to reach significance, as indicated by the index of moderated mediation (point estimate = .04, 95% CI = -.0170 to .0941).

Chapter 4

Discussion

In this study, we used a longitudinal approach to examine gender differences in negative intrapersonal effects associated with different patterns of anger expression, and the moderating role of relational-interdependent self-construal (RISC). Results of multiple regression analyses revealed main effects of anger-out, anger-in, and RISC on depression. Importantly, gender moderated the effects of anger-out on depression such that anger-out was related to greater depression for women, but not men. Results held controlling for prior depression, and anger-out was predictive of depression longitudinally. Gender also moderated the relationship between RISC and depression: RISC was related to lower depression for men, but not women. Follow-up moderated mediation analyses revealed that the effect of RISC on lower depression for men was mediated by lower overall suppression of negative emotions in men high on RISC.

Consequences of anger expression

Given that outward displays of anger have been associated with negative interpersonal consequences for women (e.g., Brescoll & Uhlmann, 2008), it follows that anger expression may be associated with negative intrapersonal consequences as well, in the form of mental health outcomes. Although the MIDUS study was not designed with such hypotheses in mind, there are

elements in the design that allowed us to begin to explore this question. In particular, the present paradigm enabled us to make use of longitudinal data to examine the relationship between anger expression and depressive symptoms in men and women.

Results revealed that anger-out was related to depressive symptoms, and that this relationship is evident for women, but is only marginally significant for men. Thus, women may bear greater intrapersonal costs for expressing anger outwardly. While this study cannot speak to mechanisms, there are several possibilities to consider for future research. For instance, greater depression in relation to outward anger expression could result directly from the negative interpersonal evaluations women receive from others for expressing anger. Women tend to feel more responsible than men for the emotional tone of their relationships, and for maintaining positive relationships with others at all costs (Fritz & Helgeson, 1998). Past research has shown that these tendencies lead to greater rumination (Nolen-Hoeksema & Jackson, 2001). Feeling responsible for the emotional tone of relationships may lead women to be particularly attuned to negative reactions from others, as they may attend to every nuance of their relationships. This, in turn, may make women more vigilant toward others' emotional states as barometers of how their relationships are going, contributing to rumination and subsequent depressive feelings when things do not go well.

Alternatively, depressed women may simply express their anger outwardly more often than women who are not depressed, and more than depressed men. The cultural norm hypothesis

of depression (Chentsova-Dutton et al., 2007) posits that the symptoms of depression (i.e., impaired concentration, low energy, and anhedonia) may impair individuals' abilities to attend to and enact cultural norms and ideals regarding emotion and emotional expression. There is some evidence to support this hypothesis. For example, Chentsova-Dutton and colleagues (2007) found that depressed European Americans showed dampened positive emotional compared to control European Americans, whereas depressed Asian Americans showed similar positive emotional reactivity compared to control Asian Americans. In other words, depressed individuals from both European American and Asian American backgrounds were unable to adhere to their respective cultural norms around positive emotional expression. Thus, it is possible that women who are more depressed have difficulty adhering to gendered norms around anger expression. While inferences about causality cannot be made from these data, our results showed that the association between anger-out and depression held when controlling for prior depression, which may suggest that anger-out is uniquely related to depressive symptoms, rather than arising from depressive symptoms.

Consequences of anger suppression

The results of this study revealed that while anger suppression was related to depression, contrary to our predictions, the effect was not moderated by sex. One possible reason that we did not find any moderation effects is that sex differences in outcomes associated with anger

suppression may be dependent on the social context in which anger suppression occurs. Research on gender differences in expression—particularly expression and suppression of anger—has been shown to vary across different social contexts (Kring, 2000). In this case, we are relying on trait-based measures that emphasize cross-situational consistency and therefore may fail to capture variation across social context. However, it is possible that stronger negative effects of anger suppression for women would only emerge in a social interaction context. One way to test this in the future would be in a dyadic interaction paradigm in the laboratory.

On the other hand, there is a wealth of research literature that suggests that suppression of any emotion—particularly strong, negative emotions—has detrimental consequences for mental and physical health (Chapman et al., 2013; Gross & John, 2003; Mund & Mitte, 2012). Given that emotional suppression has been so consistently linked with depression and other negative health outcomes, it is possible that our lack of moderation results reflect a ceiling effect. In other words, if the effects of anger suppression are so strongly linked with depression, there may not be enough variability to detect any significant differences with regard to sex.

The role of relational interdependent self-construal

Past research has shown that women receive negative feedback from interaction partners for both expressing and suppressing anger (e.g., Brescoll & Uhlmann, 2008; Simpson & Stroh, 2004). Since relational self-construal is more typical of women than men (Cross, Bacon,

& Morris, 1997), and those with a greater relational self-construal place greater importance on the quality of close relationships, we had hypothesized that relational self-construal might be an additional moderator of the effects of anger expression (anger-out) and suppression (anger-in) on depressive symptoms. We found that relational interdependent self-construal (RISC) predicted lower depression men, but not men. Additionally, this effect was mediated by lower overall suppression of emotions in men. While we found an overall indirect effect of anger suppression, this was not moderated by gender, suggesting that these effects are not specific to anger suppression, but rather, suppression of emotion more generally.

Prior research suggests that men feel more comfortable expressing their emotions to female interaction partners (Barrett, Lane, Sechrest, & Schwartz, 2000), and that individuals with a relational self-construal may be less likely to suppress their emotions overall (Cross & Madson, 1997). Our results would seem to suggest that men may be able to derive more benefit from a relational self-construal due to the freedom of emotional expression that such a relational orientation may afford. Whereas for women relational self-construal may be more related to rumination due to the emotional labor and caregiver burden that more typically falls to women in close relationships (Nolen-Hoeksema & Jackson, 2001). At the same time, it should be noted that our effects were small, and thus should be interpreted with caution.

Limitations and future directions

Several limitations of this study deserve mention. First, the study relied on self-report measures of emotional experience, rather than emotional behavior. While self-reports accurately capture emotional experience, it will be important to measure behavioral and physiological indices of anger in future research to understand whether findings generalize to channels of emotional expression and physiological indices of anger. Second, due to the limitations of the archival dataset used, the measures of depression were not consistent across each of the three time-points, and trait anger expression and suppression variables were only available at one time-point. It would be useful in future research to be able to assess anger expression and suppression at each time point so that prior anger expression and suppression can be controlled for, as well as to have similar indices of depressive symptoms at each time point to ensure that the same symptoms are assessed at each time point. Lastly, the observed effect sizes were small, indicating that there are likely other variables that also contribute to depression in women over time.

These limitations notwithstanding, this study allowed us to test our hypotheses with a high level of statistical power, using psychometrically strong measures, and made use of a sample that included more diverse and representative participants than typical college undergraduate samples. Additionally, the MIDUS enabled us to test our predictions longitudinally over an eighteen-year time span, adding important predictive validity to our

findings.

Conclusion

Much research has explored gender differences in emotional expression, and some research has examined how gendered norms of emotional expression influence how women and men are perceived. Less studied, however, is how adherence to gendered expectations vis-à-vis emotional 'display rules' impacts women's and men's individual mental health. Such research is important to understand the additional burdens that women may bear when it comes to expressing stereotype-incongruent emotions, such as anger.

In the present study, we have begun to address the question of whether women bear greater intrapersonal costs for expressing anger outwardly, as indicated by higher depressive symptoms. Our data reveal that outward anger expression was related to depression for women, but not for men, suggesting that this could in fact be the case. This work contributes a novel investigation into the intrapersonal costs of expressing anger for women and represents an important first step in developing a more nuanced understanding of the consequences of anger expression in men and women.

References

- Allen, J. G., & Haccoun, D. M. (1976). Sex differences in emotionality: A multidimensional approach. *Human Relations, 29*(8), 711-722. doi:10.1177/001872677602900801
- Archer, J. (2004). Sex differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology, 8*(4), 291-322. doi:10.1037/1089-2680.8.4.291
- Averill, J. R. (1983). Studies on anger and aggression: Implications for theories of emotion. *American Psychologist, 38*(11), 1145-1160. doi:10.1037//0003-066x.38.11.1145
- Barrett, L. F., Robin, L., Pietromonaco, P. R., & Eyssell, K. M. (1998). Are women the “more emotional” sex? Evidence from emotional experiences in social context. *Cognition & Emotion, 12*(4), 555-578. doi:10.1080/026999398379565
- Batalha, L., & Reynolds, K. J. (2013). Gender and personality: Beyond gender stereotypes to social identity and the dynamics of social change. in M. K., Ryan, & N. R. Branscombe (Eds.), *The Sage handbook of gender and psychology* (pp.165-182). London, UK: Sage.
- Baumeister, R. F., Stillwell, A., & Wotman, S. R. (1990). Victim and perpetrator accounts of interpersonal conflict: Autobiographical narratives about anger. *Journal of Personality and Social Psychology, 59*(5), 994-1005. doi:10.1037/0022-3514.59.5.994
- Becker, D. V., Kenrick, D. T., Neuberg, S. L., Blackwell, K. C., & Smith, D. M. (2007). The confounded nature of angry men and happy women. *Journal of Personality and Social Psychology, 92*(2), 179-190. doi:10.1037/0022-3514.92.2.179
- Birnbaum, D., Nosanchuk, T., & Croll, W. (1980). Children's stereotypes about sex differences in emotionality. *Sex Roles, 6*(3). doi:10.1007/bf00287363

- Birnbaum, D. W. (1983). Preschoolers' stereotypes about sex differences in emotionality: A reaffirmation. *The Journal of Genetic Psychology, 143*(1), 139-140.
doi:10.1080/00221325.1983.10533542
- Bonanno, G. A., & Keltner, D. (1997). Facial expressions of emotion and the course of conjugal bereavement. *Journal of Abnormal Psychology, 106*(1), 126-137. doi:10.1037//0021-843x.106.1.126
- Brescoll, V. L., & Uhlmann, E. L. (2008). Can an angry woman get ahead? Status conferral, gender, and expression of emotion in the workplace. *Psychological Science, 19*(3), 268-275. doi:10.1111/j.1467-9280.2008.02079.x
- Bridewell, W. B., & Chang, E. C. (1997). Distinguishing between anxiety, depression, and hostility: Relations to anger-in, anger-out, and anger control. *Personality and Individual Differences, 22*(4), 587-590. doi:10.1016/s0191-8869(96)00224-3
- Briton, N. J., & Hall, J. A. (1995). Beliefs about female and male nonverbal communication. *Sex Roles, 32*(1-2), 79-90. doi:10.1007/bf01544758
- Brody, L. R. (1997). Gender and emotion: Beyond stereotypes. *Journal of Social Issues, 53*(2), 369-393. doi:10.1111/0022-4537.00022
- Brody, L. R. (1999). *Gender, emotion and the family*. Cambridge, MA: Harvard University Press.
- Brody, L. R., & Hall, J. A. (1993). Gender and emotion. In M. Lewis & J.M. Haviland (Eds.), *Handbook of emotions* (pp. 447–460). New York, NY: Guilford Press.
- Buck, R. (1977). Nonverbal communication of affect in preschool children: Relationships with personality and skin conductance. *Journal of Personality and Social Psychology, 35*(4), 225-236. doi:10.1037/0022-3514.35.4.225

- Buck R. *The communication of emotion*. The Guilford Press; New York, NY: 1984.
- Caldwell, M., & Peplau, L. (1982). Sex differences in same-sex friendship. *Sex Roles*, 8(7).
doi:10.1007/bf00287568
- Chaplin, T. M. (2015). Gender and emotion expression: A developmental contextual perspective. *Emotion Review*, 7(1), 14-21. doi:10.1177/1754073914544408
- Chaplin, T. M., Cole, P. M., & Zahn-Waxler, C. (2005). parental socialization of emotion expression: gender differences and relations to child adjustment. *Emotion*, 5(1), 80-88.
doi:10.1037/1528-3542.5.1.80
- Chaplin, T. M., Hong, K., Bergquist, K., & Sinha, R. (2008). Gender differences in response to emotional stress: an assessment across subjective, behavioral, and physiological domains and relations to alcohol craving. *Alcoholism: Clinical and Experimental Research*, 32(7), 1242-1250. doi:10.1111/j.1530-0277.2008.00679.x
- Chentsova-Dutton, Y. E., Chu, J. P., Tsai, J. L., Rottenberg, J., Gross, J. J., & Gotlib, I. H. (2007). Depression and emotional reactivity: Variation among Asian Americans of East Asian descent and European Americans. *Journal of Abnormal Psychology*, 116(4), 776-785. doi:10.1037/0021-843x.116.4.776
- Clark, M. S., Fitnessand, J., & Brissette, I. (2007). Understanding people's perceptions of relationships is crucial to understanding their emotional lives. *Blackwell Handbook of Social Psychology: Interpersonal Processes*, 250-278. doi:10.1002/9780470998557.ch10
- Crick, N. R. (1997). Engagement in gender normative versus nonnormative forms of aggression: Links to social-psychological adjustment. *Developmental Psychology*, 33(4), 610-617.
doi:10.1037/0012-1649.33.4.610

- Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin*, *122*(1), 5-37. doi:10.1037//0033-2909.122.1.5
- Cross, S. E., Gore, J. S., & Morris, M. L. (2003). The relational-interdependent self-construal, self-concept consistency, and well-being. *Journal of Personality and Social Psychology*, *85*(5), 933-944. doi:10.1037/0022-3514.85.5.933
- Cross, S. E., Hardin, E. E., & Gercek-Swing, B. (2011). The what, how, why, and where of self-construal. *Personality and Social Psychology Review*, *15*(2), 142-179.
doi:10.1177/1088868310373752
- Deffenbacher, J. L., Oetting, E. R., Thwaites, G. A., Lynch, R. S., Baker, D. A., Stark, R. S., . . . Eiswerth-Cox, L. (1996). State-trait anger theory and the utility of the trait anger scale. *Journal of Counseling Psychology*, *43*(2), 131-148. doi:10.1037/0022-0167.43.2.131
- Eagly, A. H., & Steffen, V. J. (1984). Gender stereotypes stem from the distribution of women and men into social roles. *Journal of Personality and Social Psychology*, *46*(4), 735-754.
doi:10.1037/0022-3514.46.4.735
- Eder, D., & Parker, S. (1987). The cultural production and reproduction of gender: The effect of extracurricular activities on peer-group culture. *Sociology of Education*, *60*(3), 200.
doi:10.2307/2112276
- Ekman, P., & Friesen, W. V. (1969). The repertoire of nonverbal behavior: Categories, origins, usage, and coding. *Semiotica*, *1*(1). doi:10.1515/semi.1969.1.1.49
- Ekman, P. (1984). Expression and the nature of emotion. In Scherer, K., Ekman, P. (Eds.), *Approaches to emotion* (pp. 319–343). Hillsdale, NJ: Erlbaum.

- English, T., John, O. P., Srivastava, S., & Gross, J. J. (2012). Emotion regulation and peer-rated social functioning: A 4-year longitudinal study. *Journal of Research in Personality*, 46(6), 780-784. doi:10.1016/j.jrp.2012.09.006
- Fabes, R. A., & Martin, C. L. (1991). Gender and age stereotypes of emotionality. *Personality and Social Psychology Bulletin*, 17(5), 532-540. doi:10.1177/0146167291175008
- Fischer, A., & LaFrance, M. (2015). What drives the smile and the tear: why women are more emotionally expressive than men. *Emotion Review*, 7(1), 22-29. doi:10.1177/1754073914544406
- Fischer, A. H., & Roseman, I. J. (2007). Beat them or ban them: The characteristics and social functions of anger and contempt. *Journal of Personality and Social Psychology*, 93(1), 103-115. doi:10.1037/0022-3514.93.1.103
- Fischer, A. H. (1993). Sex differences in emotionality: Fact or stereotype? *Feminism & Psychology*, 3(3), 303-318. doi:10.1177/0959353593033002
- Fischer, A. H., & Evers, C. (2013). The social basis of emotion in men and women. In M.K. Ryan & N.R. Branscombe (Eds), *The Sage Handbook of Gender and Psychology*. London: Sage.
- Fischer, A. H., & Manstead, A. S. (2000). The relation between gender and emotion in different cultures. In A. H. Fischer (Ed.), *Gender and emotion: Social psychological perspectives* (pp. 3–24). Cambridge, England: Cambridge University Press.
- Fischer, A. H., Mosquera, P. M., Vianen, A. E., & Manstead, A. S. (2004). Gender and culture differences in emotion. *Emotion*, 4(1), 87-94. doi:10.1037/1528-3542.4.1.87
- Friedman, H. S., Riggio, R. E., & Segall, D. O. (1980). Personality and the enactment of emotion. *Journal of Nonverbal Behavior*, 5(1), 35-48. doi:10.1007/bf00987053

- Fritz, H. L., & Helgeson, V. S. (1998). Distinctions of unmitigated communion from communion: Self-neglect and overinvolvement with others. *Journal of Personality and Social Psychology, 75*(1), 121-140. doi:10.1037//0022-3514.75.1.121
- Fuchs, D., & Thelen, M. H. (1988). Children's expected interpersonal consequences of communicating their affective state and reported likelihood of expression. *Child Development, 59*(5), 1314. doi:10.2307/1130494
- Ganong, L. H., & Coleman, M. (1985). Sex, sex roles, and emotional expressiveness. *The Journal of Genetic Psychology, 146*(3), 405-411. doi:10.1080/00221325.1985.9914469
- Graham, J. W., Gentry, K. W., & Green, J. (1981). The self-presentational nature of emotional expression. *Personality and Social Psychology Bulletin, 7*(3), 467-474.
doi:10.1177/014616728173016
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348-362. doi:10.1037/0022-3514.85.2.348
- Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology, 64*(6), 970-986.
doi:10.1037//0022-3514.64.6.970
- Grossman, M., & Wood, W. (1993). Sex differences in intensity of emotional experience: A social role interpretation. *Journal of Personality and Social Psychology, 65*(5), 1010-1022. doi:10.1037/0022-3514.65.5.1010
- Guimond, S., Chatard, A., Martinot, D., Crisp, R. J., & Redersdorff, S. (2006). Social comparison, self-stereotyping, and gender differences in self-construals. *Journal of Personality and Social Psychology, 90*(2), 221-242. doi:10.1037/0022-3514.90.2.221

- Harris, M. B. (1994). Gender of subject and target as mediators of aggression. *Journal of Applied Social Psychology, 24*(5), 453-471. doi:10.1111/j.1559-1816.1994.tb00593.x
- Hart, C. H., Dewolf, D. M., & Burts, D. C. (1992). Linkages among preschoolers' playground behavior, outcome expectations, and parental disciplinary strategies. *Early Education & Development, 3*(4), 265-283. doi:10.1207/s15566935eed0304_1
- Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research, 50*(1), 1-22. doi:10.1080/00273171.2014.962683
- Hess, U., Adams, R., & Kleck, R. (2005). Who may frown and who should smile? Dominance, affiliation, and the display of happiness and anger. *Cognition & Emotion, 19*(4), 515-536. doi:10.1080/02699930441000364
- Hess, U., Blairy, S., & Kleck, R. E. (2000). The influence of facial emotion displays, gender, and ethnicity on judgments of dominance and affiliation. *Journal of Nonverbal Behavior, 24*, 265-283.
- Öhman, A., Juth, P., & Lundqvist, D. (2009). Finding the face in a crowd: Relationships between distractor redundancy, target emotion, and target gender. *Cognition & Emotion, 24*(7), 1216-1228
- Hopp, H., Rohrmann, S., Zapf, D., & Hodapp, V. (2010). Psychophysiological effects of emotional dissonance in a face-to-face service interaction. *Anxiety, Stress & Coping, 23*(4), 399-414. doi:10.1080/10615800903254091
- Hutson-Comeaux, S. L., & Kelly, J. R. (2002). Gender stereotypes of emotional reactions: How we judge an emotion as valid. *Sex Roles, 47*, 1-10.

- Jansz, J. (2000). Masculine identity and restrictive emotionality. In A.H. Fischer (Ed.), *Gender and emotion. Social psychological perspectives* (pp. 166-186). Cambridge: Cambridge University Press.
- Juth, P., Lundqvist, D., & Ohman, A. (2010). Finding the face in a crowd: Relationships between distractor redundancy, target emotion, and target gender. *Cognition & Emotion, 24*(7), 1216-1228. doi:10.1080/02699930903166882
- Kelly, J. R., & Hutson-Comeaux, S. L. (1999). Gender-emotion stereotypes are context specific. *Sex Roles, 40*, 107–120.
- Kenworthy, J., Fay, C., Frame, M., & Petree, R. (2014). A meta-analytic review of the relationship between emotional dissonance and emotional exhaustion. *Journal of Applied Social Psychology, 44*(2), 94-105. doi:10.1111/jasp.12211
- King, L. A., & Emmons, R. A. (1990). Conflict over emotional expression: Psychological and physical correlates. *Journal of Personality and Social Psychology, 58*(5), 864-877. doi:10.1037/0022-3514.58.5.864
- Kirschbaum, C., Kudielka, B. M., Gaab, J., Schommer, N. C., & Hellhammer, D. H. (1999). Impact of gender, menstrual cycle phase, and oral contraceptives on the activity of the hypothalamus-pituitary-adrenal axis. *Psychosomatic Medicine, 61*(2), 154-162. doi:10.1097/00006842-199903000-00006
- Knight, R. G., Williams, S., Mcgee, R., & Olaman, S. (1997). Psychometric properties of the Centre for Epidemiologic Studies Depression Scale (CES-D) in a sample of women in middle life. *Behaviour Research and Therapy, 35*(4), 373-380. doi:10.1016/s0005-7967(96)00107-6

- Komarovsky, M. (1974). Patterns of self-disclosure of male undergraduates. *Journal of Marriage and the Family*, 36(4), 677. doi:10.2307/350349
- Kopper, B. A., & Epperson, D. L. (1991). Women and anger: Sex and sex-role comparisons in the expression of anger. *Psychology of Women Quarterly*, 15(1), 7-14.
doi:10.1111/j.1471-6402.1991.tb00474.x
- Kopper, B. A., & Epperson, D. L. (1996). The experience and expression of anger: Relationships with gender, gender role socialization, depression, and mental health functioning. *Journal of Counseling Psychology*, 43(2), 158-165. doi:10.1037/0022-0167.43.2.158
- Kopper, B. A. (1991). Role of gender, sex role identity, and Type A behavior in anger expression and mental health functioning. *Journal of Counseling Psychology*, 40(2), 232-237.
doi:10.1037//0022-0167.40.2.232
- Kring, A. M., & Gordon, A. H. (1998). Sex differences in emotion: Expression, experience, and physiology. *Journal of Personality and Social Psychology*, 74(3), 686-703.
doi:10.1037//0022-3514.74.3.686
- Kring, A. M. (2000). Gender and anger. In A. H. Fischer (Ed.), *Studies in emotion and social interaction. Second series. Gender and emotion: Social psychological perspectives* (pp. 211-231).
- Kring, A. M., Smith, D. A., & Neale, J. M. (1994). Individual differences in dispositional expressiveness: Development and validation of the Emotional Expressivity Scale. *Journal of Personality and Social Psychology*, 66(5), 934-949. doi:10.1037/0022-3514.66.5.934

- LaFrance, M., & Banaji, M. (1992). Toward a reconsideration of the gender-emotion relationship. In M. Clark (Ed.), *Review of personality and social psychology* (Vol. 14, pp. 178–201). Beverly Hills, CA: Sage.
- Levenson, R. W., Carstensen, L. L., & Gottman, J. M. (1994). Influence of age and gender on affect, physiology, and their interrelations: A study of long-term marriages. *Journal of Personality and Social Psychology*, *67*(1), 56-68. doi:10.1037/0022-3514.67.1.56
- Levenson, R. W., Ekman, P., & Friesen, W. V. (1990). Voluntary facial action generates emotion-specific autonomic nervous system activity. *Psychophysiology*, *27*(4), 363-384. doi:10.1111/j.1469-8986.1990.tb02330.x
- Lewis, R. A. (1978). Emotional intimacy among men. *The Gender Gap in Psychotherapy*, 181-193. doi:10.1007/978-1-4684-4754-5_13
- Manstead, A. S. R. (1992). Gender differences in emotion. In M. A. Gale & M. W. Eysenck (Eds.), *Handbook of individual differences: Biological perspectives* (pp. 355–389). Chichester, England: Wiley.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*(2), 224-253. doi:10.1037//0033-295x.98.2.224
- Martin, R. C., & Dahlen, E. R. (2007). The angry cognitions scale: A new inventory for assessing cognitions in anger. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, *25*(3), 155-173. doi:10.1007/s10942-006-0033-2
- Mcrae, K., Gross, J. J., Weber, J., Robertson, E. R., Sokol-Hessner, P., Ray, R. D., . . . Ochsner, K. N. (2012). The development of emotion regulation: An fMRI study of cognitive reappraisal in children, adolescents and young adults. *Social Cognitive and Affective Neuroscience*, *7*(1), 11-22. doi:10.1093/scan/nsr093

- Mund, M., & Mitte, K. (2012). The costs of repression: A meta-analysis on the relation between repressive coping and somatic diseases. *Health Psychology, 31*(5), 640-649.
doi:10.1037/a0026257
- Nolen-Hoeksema, S., & Aldao, A. (2011). Gender and age differences in emotion regulation strategies and their relationship to depressive symptoms. *Personality and Individual Differences, 51*(6), 704-708. doi:10.1016/j.paid.2011.06.012
- Nolen-Hoeksema, S., & Jackson, B. (2001). Mediators of the gender difference in rumination. *Psychology of Women Quarterly, 25*(1), 37-47. doi:10.1111/1471-6402.00005
- Oatley, K. (1998) *State of the art: Emotion*. *The Psychologist, 11*, 286–288
- Palfai, T. P., & Hart, K. E. (1997). Anger coping styles and perceived social support. *The Journal of Social Psychology, 137*(4), 405-411. doi:10.1080/00224549709595455
- Park, J., Kitayama, S., Markus, H. R., Coe, C. L., Miyamoto, Y., Karasawa, M., . . . Ryff, C. D. (2013). Social status and anger expression: The cultural moderation hypothesis. *Emotion, 13*(6), 1122-1131. doi:10.1037/a0034273
- Plant, E. A., Hyde, J. S., Keltner, D., & Devine, P. G. (2000). The gender stereotyping of emotions. *Psychology of Women Quarterly, 24*(1), 81-92. doi:10.1111/j.1471-6402.2000.tb01024.x
- Plant, E. A., Kling, K. C., & Smith, G. L. (2004). The influence of gender and social role on the interpretation of facial expressions. *Sex Roles, 51*(3/4), 187-196.
doi:10.1023/b:sers.0000037762.10349.13
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891. doi:10.3758/brm.40.3.879

- Radloff, L. S. (1977). The CES-D Scale. *Applied Psychological Measurement, 1*(3), 385-401.
doi:10.1177/014662167700100306
- Ragins, B. R., & Winkel, D. E. (2011). Gender, emotion and power in work relationships. *Human Resource Management Review, 21*(4), 377-393. doi:10.1016/j.hrmr.2011.05.001
- Roberts, R. E., Vernon, S. W., & Rhoades, H. M. (1989). Effects of language and ethnic status on reliability and validity of the Center for Epidemiologic Studies-Depression Scale with psychiatric patients. *The Journal of Nervous and Mental Disease, 177*(10), 581-592.
doi:10.1097/00005053-198910000-00001
- Rudman, L. A., & Fairchild, K. (2004). Reactions to counter-stereotypic behavior: The role of backlash in cultural stereotype maintenance. *Journal of Personality and Social Psychology, 87*(2), 157-176. doi:10.1037/0022-3514.87.2.157
- Saarni, C. (1984). An observational study of children's attempts to monitor their expressive behavior. *Child Development, 55*(4), 1504. doi:10.2307/1130020
- Saarni, C. (1999). *The development of emotional competence*. New York: Guilford Press.
- Salerno, J. M., & Peter-Hagene, L. C. (2015). One angry woman: Anger expression increases influence for men, but decreases influence for women, during group deliberation. *Law and Human Behavior, 39*(6), 581-592. doi:10.1037/lhb0000147
- Schwartz, G. E., Brown, S., & Ahern, G. L. (1980). Facial muscle patterning and subjective experience during affective imagery: Sex differences. *Psychophysiology, 17*(1), 75-82.
doi:10.1111/j.1469-8986.1980.tb02463.x
- Shields, S. A. (1987). Women, men, and the dilemma of emotion. In P. Shaver & C. Hendrick (Eds.), *Review of personality and social psychology* (Vol. 7, pp. 229-250). Thousand Oaks, CA: Sage.

- Shields, S. A. (1991). Gender and the psychology of emotion: A selective research review. In K. T. Strongman(Ed.), *International review of studies on emotion* (pp.227–247). New York: Wiley.
- Shields, S. A. (2000). Thinking about gender, thinking about theory: Gender and emotional experience. In A. H.Fischer (Ed.), *Gender and emotion: Social psychological perspectives* (pp. 3–24). Cambridge, England: Cambridge University Press.
- Shields, S. A. (2002). *Speaking from the heart: Gender and the social meaning of emotion*. Cambridge, UK: Cambridge University Press.
- Shields, S. A. (2005). The politics of emotion in everyday life: "Appropriate" emotion and claims on identity. *Review of General Psychology*, 9(1), 3-15. doi:10.1037/1089-2680.9.1.3
- Shields, S. A. & Crowley, J. C. (1996). Appropriating questionnaires and rating scales for a feminist psychology: A multi-method approach to gender and emotion. In S. Wilkinson (Ed.), *Feminist social psychologies* (pp. 218-232). Philadelphia, PA: Open University Press.
- Simpson, P. A., & Stroh, L. K. (2004). Gender differences: Emotional expression and feelings of personal inauthenticity. *Journal of Applied Psychology*, 89(4), 715-721. doi:10.1037/0021-9010.89.4.715
- Stroud, L. R., Salovey, P., & Epel, E. S. (2002). Sex differences in stress responses: Social rejection versus achievement stress. *Biological Psychiatry*, 52(4), 318-327. doi:10.1016/s0006-3223(02)01333-1

Wagner, H. L., Buck, R., & Winterbotham, M. (1993). Communication of specific emotions:

Gender differences in sending accuracy and communication measures. *Journal of*

Nonverbal Behavior, 17(1), 29-53. doi:10.1007/bf00987007

Weber, H., & Wiedig-Allison, M. (2007). Sex differences in anger-related behaviour: Comparing

expectancies to actual behaviour. *Cognition & Emotion*, 21(8), 1669-1698.

doi:10.1080/02699930701202111

Zuckerman, M., Lipets, M. S., Koivumaki, J. H., & Rosenthal, R. (1975). Encoding and

decoding nonverbal cues of emotion. *Journal of Personality and Social Psychology*,

32(6), 1068-1076. doi:10.1037//0022-3514.32.6.1068

Appendix

Tables and Figures of All Statistical Tests

Table 1

Results of t-tests and Descriptive Statistics for all Study Variables by Sex (N males = 477; N females = 576)

Outcome	Group		t	df
	Male	Female		
Anger-out	12.79 (3.14)	12.79 (3.13)	-0.02	1051
Anger-in	14.77 (4.04)	14.47 (4.09)	1.17	1050
RISC	5.06 (0.88)	5.02 (0.99)	0.76	1049
Depression T1 (CIDI)	0.58 (1.71)	1.00 (2.15)	-3.46**	1051
Depression T2 (CESD)	7.73 (7.31)	8.25 (8.05)	-1.08	1048
Depression T3 (CIDI)	0.45 (1.49)	0.72 (1.89)	-2.41*	942

* $p < .05$.** $p < .01$.

Table 2
Intercorrelations, Means, and Standard Deviations among Predictor and Outcome Variables across Time Points

	M (SD)	1	2	3	4	5	6	7
1. Sex	--	--						
2. Anger-out	12.79 (3.13)	0.001	--					
3. Anger-in	14.60 (4.07)	-0.036	.197**	--				
4. RISC	5.04 (0.94)	-0.023	-0.019	-.092**	--			
5. Depression T1 (CIDI)	0.81 (1.98)	.106**	0.052	.082**	-0.044	--		
6. Depression T2 (CESD)	8.02 (7.72)	0.033	.183**	.422**	-.135**	.220**	--	
7. Depression T3 (CIDI)	0.6 (1.73)	.078*	.155**	.209**	-0.043	.290**	.371**	--

* p < .05. ** p < .01.

Table 3
*Summary of Hierarchical Regression Analysis for Variables Predicting
 Concurrent Depression (Time 2; N = 1048)*

Variable	Model 1		
	<i>B</i>	<i>SE(B)</i>	β
Sex	0.25	0.23	0.03
Anger-out	0.43	0.07	0.17***
Sex x Anger-out	0.23	0.07	0.09**
R^2			0.04
F for change in R^2			9.38**

Note: depression and anger-out were centered at their means.

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 4
*Summary of Hierarchical Regression Analysis for Variables Predicting
 Depression at Time 2, controlling for Time 1 Depression (N = 1048)*

Variable	Model 2		
	<i>B</i>	<i>SE(B)</i>	β
Depression T1 (CIDI)	0.82	0.12	0.21***
Sex	0.09	0.23	0.01
Anger-out	0.41	0.07	0.16***
Sex x Anger-out	0.22	0.07	0.09**
R^2			0.09
F for change in R^2			9.26**

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 5
*Summary of Hierarchical Regression Analysis for Variables
 Predicting Depression at T3 controlling for T1 and T2 Depression (N = 941)*

Variable	Model 3		
	<i>B</i>	<i>SE(B)</i>	β
Depression T1 (CIDI)	0.19	0.03	0.22***
Depression T2 (CESD)	0.07	0.01	0.31***
Sex	0.07	0.05	0.04
Anger-out	0.05	0.02	0.09**
Sex x Anger-out	0.03	0.02	0.06*
R^2			.198*
F for change in R^2			4.04*

Note: All variables were centered at their means.

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 6

Summary of Hierarchical Regression Analysis for Sex, Anger-in, and their interaction predicting Depression at T2 (N = 1048)

Variable	Model 4		
	<i>B</i>	<i>SE(B)</i>	β
Sex	0.37	0.22	0.05
Anger-in	0.80	0.05	0.42***
Sex x Anger In	0.03	0.05	0.02
R^2			0.18
<i>F</i> for change in R^2			0.31

Note: Depression and anger-in were centered at their means.

* $p < .05$. ** $p < .01$. *** $p < .001$

Table 7

Summary of Hierarchical Regression Analysis Predicting Depression at T2 (N = 1048)

Variable	Model 5		
	<i>B</i>	<i>SE(B)</i>	β
Sex	0.22	0.23	0.03
RISC	-1.18	0.25	-0.14***
Anger-out	0.43	0.07	0.18***
Sex x RISC	0.64	0.25	0.08**
Sex x Anger-out	0.22	0.07	0.09**
Sex x RISC x Anger-out	0.05	0.07	0.02
R^2			0.07
<i>F</i> for change in R^2			5.30**

Note: All variables were centered at their means.

* $p < .05$. ** $p < .01$. *** $p < .001$

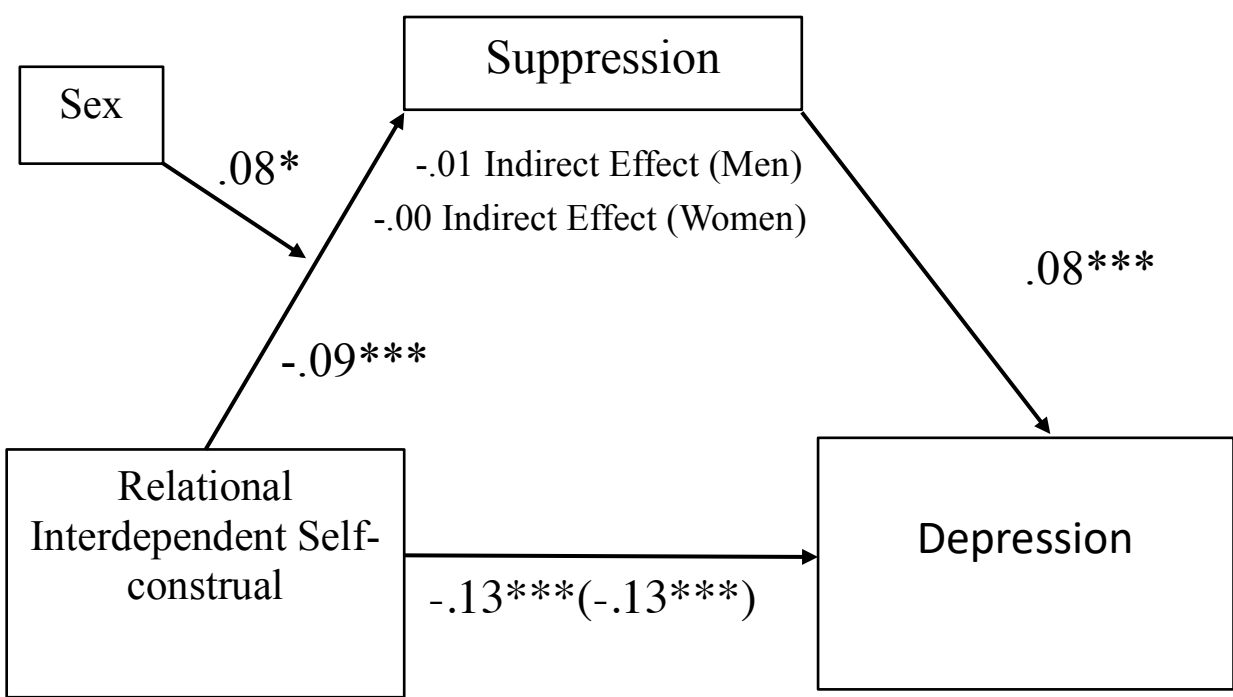
Table 8

Summary of Hierarchical Regression Analysis Predicting Depression at T2 (N = 1048)

Variable	Model 6		
	<i>B</i>	<i>SE(B)</i>	β
Sex	0.35	0.22	0.04
RISC	-0.89	0.23	-0.11***
Anger-in	0.78	0.05	0.41***
Sex x RISC	0.46	0.23	0.06*
Sex x Anger-in	0.05	0.05	0.03
Sex x RISC x Anger-in	0.05	0.05	0.03
R^2			0.18
F for change in R^2			1.79

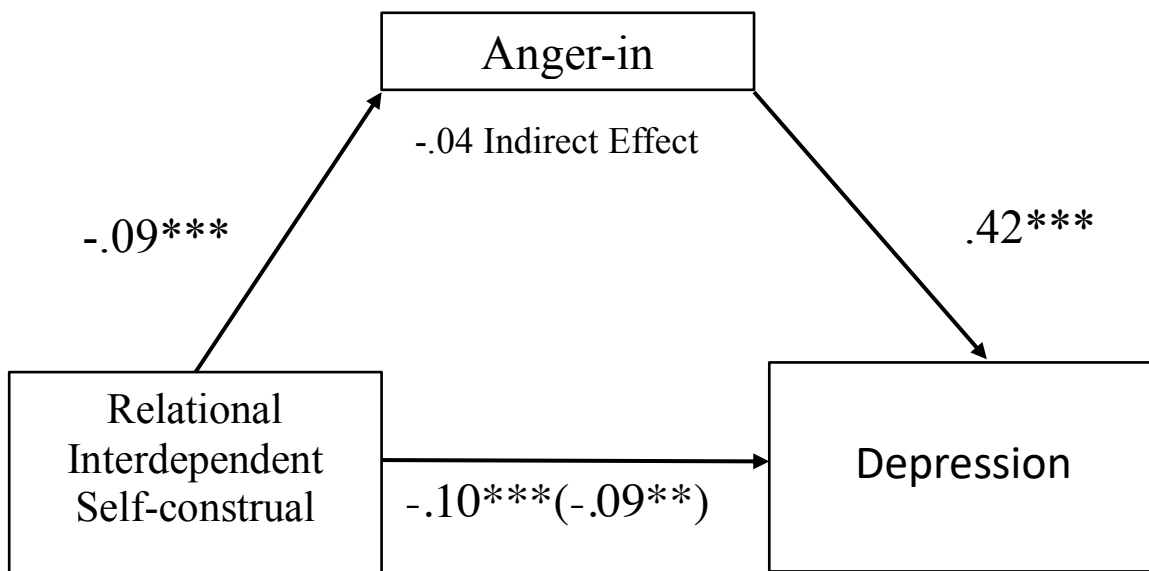
Note: All variables were centered at their means.

* $p < .05$. ** $p < .01$. *** $p < .001$



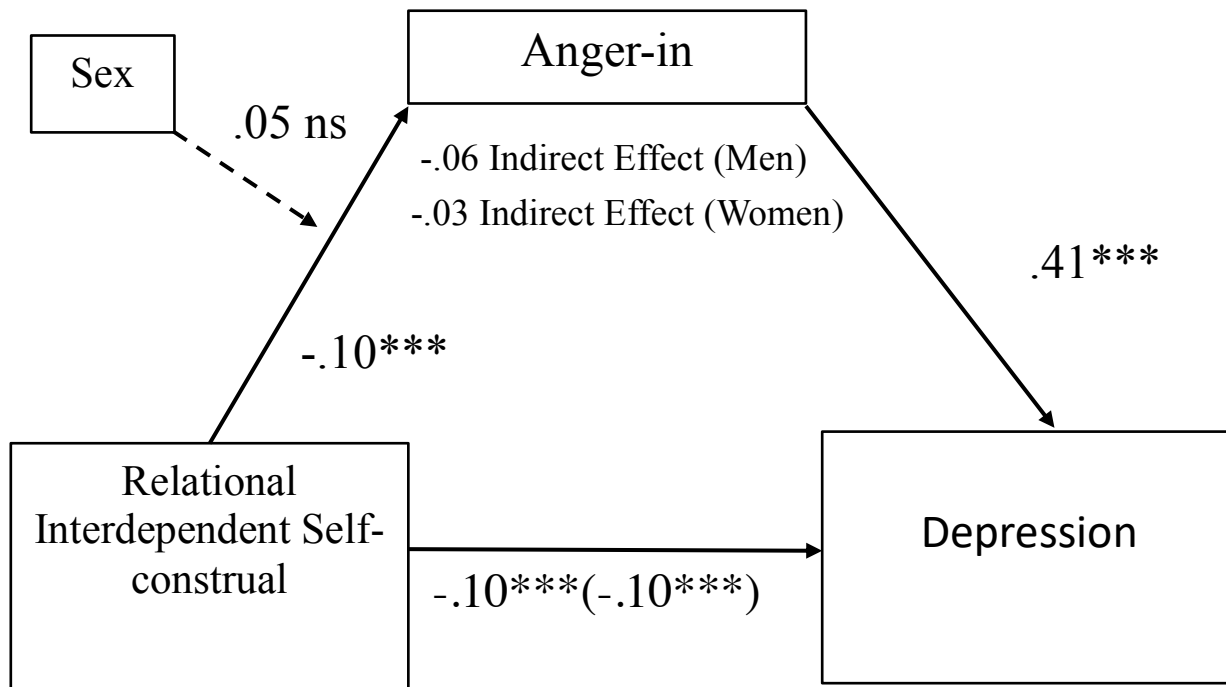
Index of Moderated Mediation: .01
Bootstrapped Confidence Interval: .0007 to .0335.

Figure 1: Moderated mediation model 1. Moderated mediation of the link between RISC and depression, through Suppression, with sex as the moderator. Indirect effects based on 1,000 bootstrapped samples. Total sample, N = 1050.



Bootstrapped Confidence Interval: $-.0679$ to $-.0135$

Figure 2: Mediation model for anger-in. Mediation of the link between RISC and Depression, through Anger In. Indirect effects based on 1,000 bootstrapped samples. Total sample, $N = 1050$.



Index of Moderated Mediation: $.04$
 Bootstrapped Confidence Interval: $-.0170$ to $.0941$.

Figure 3: Moderated mediation model 2. Moderated mediation of the link between RISC and depression, through anger-in, with sex as the moderator. Indirect effects based on 1,000 bootstrapped samples. Total sample, $N = 1050$.