RESTRICTIVE EMOTIONALITY, AFFECT REGULATION, AND PERCEIVED THREAT AS RISK FACTORS FOR AGGRESSION IN MEN

by

AMY COHN, M.S.

(Under the Direction of Amos Zeichner, Ph.D.)

ABSTRACT

The present study examined the relationships among Restrictive Emotionality (RE), negative affect arousal, and masculine-relevant threat as predictors of aggressive behavior in men. One hundred and twenty-eight undergraduate men participated in a competitive reaction-time task whereby they were given a choice to administer shocks to an ostensible opponent following a win-lose trial sequence. RE was measured with the Gender Role Stress Scale and negative affect arousal was measured by change scores on the Negative Affect and Anger/Hostility subscales of the Positive and Negative Affect Schedule, administered before and after an experimentally-induced threat. While results did not find that negative affect states influence men’s aggression, RE and the condition of threat significantly predicted direct physical aggression, singly, but not additively. Finally, analyses revealed that a predisposition toward emotion dysregulation fully mediated the relationship between RE and physical aggression. Effects of emotion dysregulation and RE on initiation and maintenance of aggressive behavior are discussed in the context of gender role socialization in men and treatment outcome.

INDEX WORDS: Restrictive emotionality, Negative affect, Aggression, Violence
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DEDICATION

This work is dedicated to all those individuals who persevere in the face adversity. Success is not defined by your accomplishments, but, rather, the process that takes you to the endpoint.
ACKNOWLEDGEMENTS

I would like to acknowledge all of those friends, family members, supervisors, and mentors who helped me reach this point in my life. Without their support and love, this project would not have succeeded.

First and foremost, I am extremely grateful for the friendship, mentoring, and guidance from my graduate mentor, Dr. Amos Zeichner. It was an honor to have had the opportunity to grow into my professional identity under the tutelage of such an amazing person. I would also like to thank my dissertation committee members, Drs. Joshua Miller and L. Stephen Miller for their encouragement and feedback concerning this project; Meredith Davis for the hours she spent in the laboratory helping me collect and manage data; and Colleen Sloan and Alana Seibert for listening to me gripe about the hardships of this project.

This project, and indeed, my entire graduate career, would not have come to fruition if it was not for the love of my family and friends. My parents, Robert and Sandy Cohn, have encouraged me to follow my heart and stood by all my career decisions. I am eternally grateful to my best friends Yfat Kessel and Kirsten Gabriel for providing endless amounts of love and for keeping me sane throughout this process. Lastly, words cannot express the appreciation I have for my fiancé, Brett Hagman, without whose unconditional love I probably would not have made it through graduate school. Brett has been my rock and cheerleader, my greatest champion, and occasional statistical consultant. The ending of this project marks the beginning our new life together, which I look forward to with great excitement.
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SPECIFIC AIMS

Specific Aim #1. To investigate the moderating effects of negative affect and masculine-relevant threat on the relationship between men’s Restrictive Emotionality and physical aggression.

Hypothesis 1. A positive relationship between Restrictive Emotionality and physical aggression was expected among participants who received masculine-relevant threat and experienced negative affect arousal (i.e., negative affect, anger). No such relationship was expected among participants in the other experimental groups.

Hypothesis 2. A positive relationship between Restrictive Emotionality and physical aggression was expected following a masculine-relevant threat, but not after a non-threatening event.

Hypothesis 3. A positive relationship between threat condition and physical aggression was expected.

Hypothesis 4: A positive relationship between Restrictive Emotionality and physical aggression was expected.

Specific Aim #2. To investigate the mediating effects of emotion dysregulation on the relationship between Restrictive Emotionality and physical aggression.

Hypothesis 5. A positive relationship between Restrictive Emotionality and emotion dysregulation was expected. Moreover, the relationship between Restrictive Emotionality and aggression was expected to decrease or become non-significant after controlling for the effects of emotion dysregulation.
CHAPTER 1
INTRODUCTION

Aggression is a deleterious behavior that will affect nearly everyone at some time in their life. In fact, rates of violence and murder have been on the rise. According to preliminary findings of the 2006 Uniform Crime Report, the nation’s estimated volume of violent crime rose 3.7% overall, between 2005 and 2006. Of particular note, 65.3% of homicides in 2005 were perpetrated by men, the majority of whom were between the ages of 20 and 24. Despite negative consequences often associated with aggression (e.g., imprisonment, parole, injury, death), few macro- or micro-level interventions have been successful at eradicating, or significantly decreasing violence in our nation. In light of social necessity to uncover the causes of aggressive behavior, it is important to focus on both intra-individual and socio-cultural factors that influence violent tendencies. Moreover, as national crime rates indicate that being a man increases the probability of committing an aggressive act nearly tenfold, it is of utmost importance to understand better those variables that increase this risk.

Among other domains, two specific areas of inquiry have facilitated our understanding of men’s motivation to aggress: gender role conflict, which is an experiential component of masculine identity, and affect regulation. Studies have demonstrated that men who rigidly adhere to traditional male gender role norms, defined as masculine gender role stress (MGRS), are at higher risk for perpetrating aggression in response to a masculine-relevant threatening event (Franchina, Eisler, & Moore, 2001; Jacupcak, Lisak, & Roemer, 2002; Moore & Stuart, 2004) than their low MGRS peers. A component of MGRS is the presence of Restrictive
Emotionality, defined in the literature as conflict concerning expressing emotions and feeling emotionally vulnerable. Preliminary evidence supports the contention that men are motivated to avoid or to terminate an experience of emotional vulnerability in response to an ego-threatening event through use of aggressive tactics (Jacupcak, Tull, & Roemer, 2005). As such, men have a tendency to suppress strong affective experiences, particularly those that arise in situations when masculinity is perceived as being threatened. These circumstances may prominently influence men’s motivation to aggress and are the primary variables under investigation in the present study.

While attention has focused on the influence of MGRS to men’s aggressive behavior, little research on the multiplicative effects of Restrictive Emotionality, negative affect, and masculine-relevant threat on aggressive behavior has been reported. The purpose of the present study was to investigate whether men who experience high levels of Restrictive Emotionality would evince greater levels of aggression in response to a threat, compared to men with low Restrictive Emotionality. Moreover, a secondary aim was to establish whether the association between Restrictive Emotionality and physical aggression operates as a function of one’s ability to regulate their emotions.

Self-Regulation of Behavior: Implications for Aggression

The influence of self-regulation on aggressive behavior has largely been overlooked among contemporary theories of aggression, until recently (Bettencourt, Tally, Benjamin, & Valentine, 2006). Synonymous with the term control, self-regulation is conceptualized as the management, manipulation, and modification of cognitive, affective, and behavioral states. It is often described as the process by which one is able to influence behavior in relation to the environment. The term self-regulation is also conceptualized as regulation by the self, not just of
the self: internal states or/and behavioral responses adapt to achieve a desired goal when individual needs are not met (Carver, 2004a; 2004b). Domains of self-regulation includes: cognitions, feelings, behavior, impulses, appetites or addictions, task performance, and attention. Behavior is viewed as the output in a feedback loop, wherein self-corrective adjustments occur, as needed, to achieve a desired or represented goal (Carver & Scheier, 1981; 2002). Thus, goals stimulate and direct an individual’s activities.

The self-regulation feedback loop is an organized system, consisting of four elements: an input function, a reference value, a comparator, and an output function. The loop begins with the input function (equivalent to perception) that brings information from a sensor into the system. The second source of information, a reference value, is derived from within the system, and is defined as an internalized value, standard, or goal. The comparator compares the input to the reference value, yielding either a detectable or negligible difference between the internalized value and the information from the environment. If the comparison generates “no difference,” then the outputs (behavior, affect, cognitions) remain the same as they were. If, however, the comparison generates a “discrepancy,” then the outputs change, resulting in a new behavior, emotion, and/or thought. This alteration in current state essentially moves the individual closer to the desired goal. Following from this, negative emotions are purported to convey greater discrepancy between desired goals and the current state, and behavior that follows arise as “a consequence of a feedback process that operates automatically…and in parallel to the behavior-guiding process” (Carver, 2004a, p. 16).

The classic work by Leon Festinger (1962) on cognitive dissonance illustrates the underpinnings of self-regulation theory as applied to human psychology, and, more specifically, the consequences of experiencing negative affect. Festinger described cognitive dissonance as a
distressing mental state in which individuals, “find themselves doing things that don’t fit with what they know, or having opinions that do not fit with other opinions they hold” (p. 95). Festinger considered the desire to avoid dissonance, or emotional distress, as a fundamental human drive, equal to the need for safety and food. Tension resulting from dissonance motivates individuals to change either their behavior or beliefs to avoid feeling undue distress. Aronson (1992) extended Festinger’s theory by stipulating that conditions under which a person would experience dissonance were likely due to self-esteem maintenance, rather than a logical inconsistency between actions and thoughts. Per Aronson (1992), “If dissonance exists, it is because the individual’s behavior is inconsistent with his self-concept” (p. 307). He posited that psychological inconsistency results from “the fear of looking foolish,” thus creating an “uncomfortable” internal state.

According to this view of self-regulation, hostile behavior and associated negative emotions can be viewed as adaptive by-products of the feedback loop for certain individuals under specific conditions (Hirsch, 2004). For example, a literature review conducted by Baumeister, Smart, and Boden (1996) concluded that a subset of individuals with an exaggerated and unstable sense of self-superiority were more likely to commit violent acts, possibly as a means to regain control of their environment. Moreover, in clinical samples of individuals with Bipolar, Borderline, or Narcissistic Personality Disorder (American Psychiatric Association, 1994), diagnoses of poor emotion regulation were associated to feelings of anger expressed during times of self-reported threat and vulnerability. As such, the output of anger directed toward another may function as a means to achieve “superiority” and, therefore, may help the individual manage experiences of negative affect (Westen, Muderrisoglu, Fowler, Shedler, & Koren, 1997).
Factors such as lack of self-regulatory efficacy and individual differences in proclivity to negative self-appraisals have also been linked to increased violence. A study conducted by Chows, Ram, Boker, Fujita, and Clore (2005) that estimated periodicity (i.e., frequency and intensity) in six emotional states (love, joy, sadness, fear, anger, and shame) over eight, seven-day cycles, found that anger occurred more often than all other emotional states within a one-week period. However, the authors did not find that inter-individual differences (i.e., gender, affect intensity, and neuroticism vs extraversion) predicted patterns of day-to-day emotional variability, anger included. However, Caprara, Regalia, and Bandura (2002) reported that failure to self-regulate, marked by individual differences in impulsivity and inability to consider consequences of behavior, was associated with increased aggression. Taken together, these findings suggest that the experience of negative moods is highly prevalent and self-regulatory efficacy may have some influence on this relationship between negative affect and aggression. However, the specific effects of individual differences on emotion variability remain inconclusive.

Bushman, Baumeister, and Phillips (2001) also proposed that anger expression may be due, in part, to processes of affect regulation. In their study, participants were given a bogus “mood-freezing” pill that would purportedly “make affect regulation efforts ineffective.” Half were instructed to read an article on catharsis theory of aggression and rate its scientific credibility, authority, persuasiveness, and level of interest, while the other half read a neutral article. Results indicated that individuals who were led to believe in the value of regulating emotions through anger behaved more aggressively by administering a loud noise to another person, compared to those who did not read the article. A second part of the study showed that individuals with a high tendency to express anger were also more likely to behave aggressively.
(i.e., deliver a loud noise to another individual) after reading about catharsis theory, presumably because they believed that aggression provides a mechanism to regulate emotions. These findings provide preliminary support for the importance of affect regulation mechanisms in human aggression.

Taken as a whole, self-regulation is an important factor in the ability to function at both a biological (e.g., adapting to the environment) and cultural (e.g., using one’s social role to achieve financial stability, wealth, interpersonal connection) level (Larsen & Prizmic, 2004). However, few empirical studies have yet to support the effects of self-regulatory mechanisms on aggressive behavior. Based on theories of self-regulation, the current study proposes that aggression in some men occurs when the desired goal of appearing masculine is incongruent with feedback received from an external source, thereby giving rise to negative affect which, in turn, leads to hostile reactions.

The General Aggression Model

Aggressive behavior can be understood through a variety of contemporary theories. Prominent, and most recent among these, is Anderson and Bushman’s (2002) General Aggression Model (GAM), which posits that cognitive, affective, and social-learning factors are antecedents of aggressive behavior. Accordingly, anger is viewed as a “syndromal” set of “feelings, cognitions, and physiological reactions linked associatively with an urge to injure some target” (Berkowitz & Harmon-Jones, 2004, p. 108). Thus, negative self-appraisals (cognitions), unpleasant internal states (affect), and physiological sensations create feelings of anger through both shared (situational) and unique (individual differences) determinants. As it is an “integrative approach” to understanding aggressive behavior (Anderson & Bushman, 2002, p. 1287), the GAM served as the theoretical basis to investigate the effects of Restrictive
Emotionality on physical aggression in the current study. Anderson and Bushman (2002) improve upon earlier models of aggression [Social Learning Theory (Bandura, 1978); Catharsis Theory (Dollard, Miller, Mowrer, & Sears, 1939); Cognitive Neoassociationistic Theory (Berkowitz, 1989)] by broadening previously held views, including pre-disposing person factors, and incorporating the interaction between individual difference variables and situational factors.

The GAM comprises three foci referred to as inputs, routes, and decision-making processes. Accordingly, inputs are personological (e.g., traits, sex, beliefs, attitudes, values, long-term goals) and situational variables (e.g., cues, provocation, frustration, intoxication, incentives) that affect an behavior through a “present internal state” (Anderson & Bushman, 2002, p. 38). Internal states (cognitions, affect, and arousal) are the routes through which input variables give rise to behavioral outcomes. Such routes include hostile thoughts and scripts, mood and emotion, motor responses, and arousal. The GAM specifies that routes are “highly interconnective,” in that they operate in concert. The outcome in the GAM, known as the appraisal and decision-making process, occurs after input variables exert their influence through various routes. The focus of the present study is at the primary (inputs) and secondary (routes) levels of the model. See Appendix B, Figure 1 for diagram.

Although only a few studies have been published on the validity of the GAM since its introduction (Anderson & Bushman, 2002), the theoretical principles that underlie the model have been widely researched and robust evidence of the importance of emotional, cognitive, and physiological components in energizing and strengthening the aggressive response has emerged (Anderson & Bushman, 2002; Tannenbaum & Zillman, 1975). Pertinent theories such as Huesmann’s (1988) conceptualization of antisocial behavior through information processing and Berkowitz’s (1990) Cognitive-Neoassociationistic model of aggression have strongly influenced
the conceptual development of the GAM. Both theories assume some level of physiological arousal and an aggressive label or cue as a condition necessary for aggression to occur.

Huesmann’s (1988) information-processing theory and Crick and Dodge’s (1990,1994) models of antisocial personality development have been integral in the development of the GAM as they postulate that negative affect states, such as anger and hostility, result from negative appraisal-provoking events. Huesmann (1988) stated that aggressive scripts, acquired through repeated observation, learning, and exposure, culminate in a network of scripts for social behavior that emphasize aggressive responding.

Several studies have provided support for the influence of a negative attributional-bias on increasing aggressive behavior. In a seminal study, Guerra, Huesmann, and Zelli (1993) compared normal and institutionalized adolescent boys on aggressive behavior, attributional style, and negative affect responses to hypothetical social situations. Results showed that, among delinquent boys, physically aggressive responses were more likely to be endorsed following a social failure than among non-delinquent boys. Moreover, negative affect responses and the endorsement of physical aggression following failure predicted greater actual aggression in delinquent, compared to normal boys. More recently, Bushman and Anderson (2002) examined hostile attribution bias in a laboratory setting, by examining whether violent video games produced a hostile reaction bias to potential conflicts. In this study, participants played either a violent or nonviolent video game, read an ambiguous story portraying interpersonal conflict, and were then asked to predict the main character’s thoughts, feelings, and reactions to the conflict. Results showed that those who played a violent video game described the main character as behaving more aggressively, thinking more negative thoughts, and feeling more anger compared to others who played a nonviolent video game. Results from these studies suggest that
information available in the environment is encoded and processed through schemata that are associated with hostile thoughts and feelings.

Berkowitz (1989, 1990) advanced theories of social-information processing in his Cognitive-Neoassociationistic model of aggression, by incorporating affect states and their associated cognitive networks and mental representations. This theory asserts that the elicitation of negative affect causes a ‘spreading activation’ to related cognitive, emotional, and behavioral ‘nodes’ in an associative network, which, in turn, increase the likelihood of an aggressive behavior. It is posited that, preceding the experience of negative affect, cognitive processes (e.g., appraisals, causal attributions) can alter the likelihood that the experience of anger and aggression will arise. Through this model, Berkowitz (1990) argued: “It is because of these associations that persons who feel bad for one reason or another…are likely to be angry, have hostile ideas and memories, and to be aggressively disposed” (p. 496). Thus, thoughts, emotions, and behavioral tendencies are linked together in memory, where anger-relevant concepts develop strong associations when they are similar in meaning and frequency and are activated simultaneously (Anderson & Bushman, 2002). While it was not a central aspect of his theory, Berkowitz did address the notion that a variety of other factors, such as genetics, learning, and environment influence the likelihood of whether one will aggress (and to what degree) or escape the unpleasant event.

Dispositional and Cognitive Dimensions of Aggression in Men: The Role of Masculine Gender Role Stress and Restrictive Emotionality

Taken together, results from previous research support the central theoretical principles of the GAM: that personality predisposition, cognition, and affect response all predict negative and violent behavior patterns. One such pertinent personality characteristic, masculine gender
role stress (MGRS), focuses on the thoughts and emotions associated with conformity to masculine identity. MGRS is conceptualized as a man’s subjective appraisal of meeting (or not meeting) society’s expectations linked to traditional male norms (Pleck, 1995) and, in recent literature, has been the focus of the cognitive and affective distress experienced by men who rigidly adhere to masculine role norms (Jakupak, Lisak & Roemer, 2002). These include a propensity to conceal emotional expression and the desire to appear powerful and dominant. As yet, many studies have demonstrated that MGRS is strongly linked to reports of psychological distress, aggression, violent behavior, and conduct problems in men (Franchina, Eisler, & Moore, 2001).

Reduction of sensed discrepancy is readily applicable to our understanding of men’s gender role conformity and its relation to aggressive behavior for several reasons. First, numerous studies have shown that, not only does adherence to masculine gender role norms (i.e., masculine identity) increase aggressive behavior (Addis & Mahalik, 2003; Cohn & Zeichner, 2006; Jakupcak, Lisak & Roemer, 2002), but the degree to which men experience emotional distress as a result of rigid adherence to these norms (i.e., gender role stress) contributes to poor psychological functioning and destructive conflict resolution tactics (Moore & Stuart, 2004). Second, preliminary evidence has emerged that men who are high in MGRS are more likely to experience hostile thoughts, feelings of anger, and act in a violent manner when their masculinity is threatened (Moore & Stuart, 2004).

Ryan (2004) proposed that being high in masculine characteristics, such as having positive beliefs about aggression and endorsing violence to gain control over others, may increase anger. For example, an exaggerated sense of masculine identity (e.g., hypermasculinity) that comprises callous sexual beliefs, the belief that violence is manly, and the view that danger
and competition are exciting, has been found to strongly predict aggressive behavior in a laboratory setting. Using a behavioral measure of aggression, Parrott and Zeichner (2003) found that men high in hypermasculinity evinced greater levels of aggression as measured by electric shocks delivered to another man, compared to low hypermasculine participants. Additionally, in a meta-analytic review of personality predictors of aggressive behavior under provoking and neutral conditions, Bettencourt, Tally, Benjamin, and Valentine (2006) stated, “People who are particularly likely to engage in aggressive behavior have more elaborate and readily accessible aggression-related cognitions” (p. 753). Coupled with Berkowitz’s Cognitive-Neoassociationistic theory, it seems that men who hold the belief that violence is an appropriate means to gain power, may be more likely to aggress in situations when those anger-relevant cognitions and emotions are activated. Thus, the probability that a man will utilize violence to achieve a desired goal will likely increase as a function of readily available masculine-relevant schema and scripts, beliefs about the efficacy of aggression as a means to gain control, and dispositional characteristics known to increase hostile tendencies.

Scholars in the field of aggression have proposed that the association between MGRS and aggression is largely attributable to affect arousal, particularly negative affect (Jakupcak, Tull, & Roemer, 2005). For example, aggressive behavior in men has been postulated as representing a coping strategy to attenuate experiences of negative affect that arise from internal value conflicts to the masculine ideal. In support of this hypothesis, Franchina, Eisler, and Moore (2001) investigated changes in attributions and affect responses to vignettes of dating situations that depicted masculine-threatening situations with a female dating partner. Men who were low and high in MGRS listened to audio-taped vignettes in which female partners served to either threaten or not threaten the man’s sense of masculinity. Results indicated that men who listened
to threatening vignettes reported significantly greater negative attributions, negative affect responses, and endorsement of verbal aggression than men who heard the non-threatening vignettes. Moreover, men who endorsed higher levels of MGRS reported significantly greater negative affect responses, negative attributions, and verbal aggression toward threatening than non-threatening partner situations, compared to men low in MGRS. These results suggest that state (i.e., threat) versus trait characteristics interact to produce elevated levels of hostile attributions and negative emotions in men.

Moore and Stuart (2004) also examined the influence of negative affect in the association between MGRS and aggression. Specifically, they proposed that individuals who reported high levels of gender role stress would endorse strong feelings of negative affect in masculine-relevant threatening tasks, but not in non-threatening situations. Men were divided into low or high gender role stress groups, listened to audio-taped vignettes depicting masculine-relevant threatening and non-threatening situations and were then instructed to rate their affective responses to the vignettes. Several pertinent findings were revealed from analyses. First, men with high gender role stress reported greater levels of state anger and negative affect than their low gender role stress counterparts. Additionally, high gender role stress men reported increased negative attributions and verbal aggression in response to threatening situations compared to men with low gender role stress. It was found that men who experienced high levels of gender role strain were more likely to appraise intimate conflict situations as threatening, which resulted in elevated reports of negative affect, hostile intent, and verbal aggression.

Cosenzo, Franchina, Eisler, and Krebs (2004) hypothesized that men high in MGRS would be more likely to experience distressing emotions when confronted with a challenge to their masculinity. In this study, men were initially grouped into low and high conditions
according to their MGRS self-ratings. Participants were then randomly assigned to complete an arithmetic task wherein they received either masculine-relevant or masculine-irrelevant instructions. Heart rate (HR), blood pressure (measured at baseline and 1-min into the task), and number of items correctly answered on each set were the dependent variables. Results revealed that men with high gender role stress evinced a greater increase in systolic blood pressure (SBP) from baseline to 1-min in the masculine-relevant condition, compared to the irrelevant condition. Additionally, SBP was significantly higher for the masculine-relevant than irrelevant condition for high MGRS men at 1-min, but not at baseline. High MGRS men evinced significantly higher HR than men low in MGRS, regardless of task instruction. In general, all participants demonstrated greater HR in the masculine-relevant than irrelevant condition. Finally, men high in MGRS made significantly fewer correct responses in the masculine-relevant than irrelevant condition and, overall, made fewer correct responses than men low in MGRS. The authors concluded that men with high levels of gender role stress are more likely to experience cognitive distress after being challenged, compared to men low in MGRS, and that this distress is manifest through physiological arousal.

Researchers have begun to investigate a pertinent factor of MGRS, Restrictive Emotionliaty (RE), to understand better the relationship between affect and aggression in men’s daily lives. Preliminary evidence shows that this factor possess the strongest associations with psychological distress among other measures of MGRS, and is related to a variety of intra- and inter-personal problems (Levant, 2001; Mahalik, 2000; Thompkins & Rando, 2003). A recent study by Jakupcak, Tull, and Roemer (2005) examined the constructs of masculinity, shame, and fear of emotions as predictors of anger expression and overt hostility in men. Results of a hierarchical regression analysis revealed that RE in men accounted for a significant proportion
of the variance (i.e., 4%) in self-reported overt hostility and emerged as a significant predictor of outwardly expressed anger, after controlling for the effects of masculine identity. Additionally, men’s emotional restrictiveness emerged as the only significant negative predictor of anger control, indicating that greater tendencies toward emotional restriction related to lessened ability to manage one’s impulses toward anger. Overall, the findings from this study indicate that not only is RE an influential factor in the identity-aggression link for men, but that the effects of RE on overt hostility appear to be greater than those exerted by masculine identity alone.

Despite the above discussed findings, studies have not yet demonstrated robust predictive validity of RE in men’s perpetration of violence. Schwartz, Waldo, and Daniel (2005) examined the associations among gender role conflict, self-esteem, and intimate partner abuse in a sample of male batterers who entered group treatment for domestic violence. Results indicated that RE was significantly negatively correlated with self-reported physical abuse and the use of intimidation and threats. Moreover, in a hierarchical regression analysis, RE did not emerge as a significant predictor of aggression. The findings from this study are contradictory to Moore and Stuart’s (2004) findings that men with high gender role stress are more likely to report negative affect and hostility in situations perceived as threatening. In light of these findings, further examination of the causes and consequences of emotional restrictiveness in men is warranted.

A general pattern has emerged in the research literature on violent acts indicating that male-initiated aggression can best be understood as a complex interplay between socio-cultural (e.g., masculine identity), affective (e.g., gender role stress), cognitive, and situational variables (e.g., perceived threat). The link between MGRS and aggression can be understood through application of the GAM, in which situational determinants (i.e., threat to the masculinity), affect arousal, and cognitive scripts about “appropriate” masculine behavior predispose one toward
angry and hostile reactions (Anderson & Bushman, 2002). Several studies have shown that the
degree to which a man experiences anger and reacts violently is largely influenced by his level of
gender role conflict and his endorsement of negative emotions (Eisler, Franchina, Moore,
Honeycutt, & Rhatigan, 2000; Franchina, Eisler, & Moore, 2001). Despite strong associations of
RE with aggressive behavior and hostile attitudes, previous research has not investigated the
components of this construct in laboratory aggression or placed it within a broader model of
aggression, such as the GAM (Anderson & Bushman, 2002). This model provides a unified
framework to understand the intricate phenomena of aggression in men, and, likewise, indicates
the existence of underlying cognitive and emotional factors. As such, aggression in men may
result from the impact of RE, experiences of negative affect, and a perceived sense of threat
(Franchina, Eisler, & Moore, 2001).

Appendix B, Figure 2 provides a schematic depiction of men’s aggression as it relates to
the GAM. In this model, RE and masculine-relevant threat function as the input variables. They
are influenced by a social encounter. In the present study, this was a competitive reaction-time
task (see Method for additional information). The routes, defined by the presence of negative
affect, masculine-relevant cognitions (e.g., “I must appear masculine,” “I should not show my
emotions”), and attendant emotional arousal are affected by dispositional and situational
variables to produce the present internal state of anger. Once anger arises, the individual
appraises whether he is close to or far from a desired goal of “behaving in a masculine manner.”
If the discrepancy is large enough, feelings of anger may give arise to aggressive behavior, to
attenuate negative affect and to restore masculine self-perception.
Statement of Purpose and Hypotheses

Although past research provides initial support for the effects of masculine gender role stress on aggressive behavior (Cohn & Zeichner, 2006), few studies have examined the effects of negative affect and perceived threat as moderators in the relationship between men’s tendency to restrict their emotional experience and aggression. The purpose of the present study was to examine interactions among three predictors of male-initiated aggression: men’s emotional restrictiveness, negative affect arousal, and masculine-relevant threat. The following hypotheses were proposed.

*Hypothesis 1:* A three-way interaction was expected between men’s fear of emotions (measured as a continuous variable), masculine-relevant threat (measured as a dichotomous variable, Threat and No Threat), and negative affect response (measured as a continuous variable), with aggression as the dependent variable. Specifically, the greatest degree of aggressive responding was expected for men who endorse high levels of restrictive emotionality and high affect arousal following an experimentally induced threat.

*Hypothesis 2:* A positive relationship was expected between RE and physical aggression under conditions of masculine-relevant threat.

*Hypothesis 3:* A positive relationship between an experimentally-induced threat and physical aggression was expected.

*Hypothesis 4:* A positive relationship between RE and physical aggression was expected.

*Hypothesis 5:* Emotion dysregulation would mediate the relationship between RE and aggression, in that RE would no longer be significantly associated with physical aggression after controlling for the effects of emotion dysregulation.
CHAPTER 2

METHOD

Participants and Experimental Design

Participants were 128 male undergraduate students recruited from the University research participant pool in the Psychology Department to participate in a study advertised as “An Examination of the Relationship Between Personality Traits and Reaction Time.” Demographic data are presented in Appendix A, Table 1.

Participants were randomly assigned to one of two experimental conditions, representing Masculine-Relevant Threat or No Threat. In the Threat condition, the participant was given bogus feedback about his self-rated masculine identity, following completion of questionnaires. To this end, the participant was given a bogus graphical depiction of his response profile and was told the following by the experimenter: “Based on your responses to the questions you just completed, it appears, looking at this graph, you fall in the feminine identity range.” In the No Threat condition, the participant was given a bogus graphical depiction of this response profile, indicating a plotted line parallel to responses given by men and was told by the experimenter: “Based on your responses to the questions you just completed, it appears, looking at this graph, you fall in the masculine identity range.”

Materials

Gender Role Conflict Scale. The Gender Role Conflict Scale (GRCS; O’Neil, 1986) measures personal dimensions of gender role conflict in men stemming from their fear of femininity. The GRCS was used to assess the extent to which heterosexual men experience
gender role conflict. Respondents indicate their level of agreement with 37 items using a 6-point scale, with higher scores indicating greater gender role conflict. The GRCS is scored for four-factor analytically-derived subscales: 1) Success, Power, and Competition; 2) Restrictive Emotionality; 3) Restrictive Affectionate Behavior Between Men; and 4) Conflict Between Work and Family Relations. Concurrent validity has been demonstrated with positive correlations to attitudes about masculinity, fear of femininity, and hostile interpersonal behavior. In previous studies, alpha coefficients range from .84 to .88 for the subscales and .91 for the GRCS total (Mahalik et al., 2003), while the coefficients for the current sample ranged from .88 for the RE subscale and .94 for the total scale score.

Positive and Negative Affect Schedule. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is designed to assess experiences of positive and negative affect as well as anger and hostility. The PANAS was used in the current study to examine men’s emotional responses to a masculine-relevant threat. The PANAS consists of 20 mood descriptors comprising a 10-item Positive Affect (PA), a 10-item Negative Affect (NA) scale, and a 6-item Anger-Hostility (AH) scale. The PA scale contains the following terms: active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. The NA scale contains the following terms: afraid, ashamed, distressed, irritable, guilty, hostile, jittery, nervous, scared, and upset. The AH scale consists of the following items: angry, irritable, hostile, scornful, disgusted, and loathing. Respondents rate the extent to which they are experiencing each item on a 5-point scale. Alpha reliability coefficients range from .36 to .90 for the PA scale, .84 to .87 for the NA scale, and PA-NA inter-correlations ranging from -.23 to -.12 (Watson, Clarke, & Tellegen, 1988). The NA scale correlates strongly with neuroticism and the PA subscale correlates strongly with measures of extraversion (Watson & Tellegen, 1999). In the
present sample, alpha coefficients for the baseline measures were .83 for PA, .78 for NA, and .76 for AH, while post-manipulation reliabilities ranged from .85, .82, and .76, respectively.

*Difficulties with Emotional Regulation Scale.* The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36-item measure that was used in the current study to assess individuals’ typical levels of emotion dysregulation across subscales: *Nonacceptance* of negative emotions, inability to engage in *Goal-Directed* behavior when experiencing negative emotions, difficulties controlling *Impulsive* behaviors when experiencing negative emotions, limited access to emotion regulation *Strategies* perceived as effective, lack of emotional *Awareness*, and lack of emotional *Clarity*. The DERS demonstrates high internal consistency (\(\alpha = .93\)) and is strongly correlated with an experimental measure of emotion regulation among patients with borderline personality disorder (\(r = .63\); see Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2006). Items were recoded so that higher scores in every case indicated greater emotion dysregulation, and a sum was calculated. Internal consistency in the present sample was good (\(\alpha = .91\)).

*Buss Aggression Questionnaire.* The Buss Aggression Questionnaire (BAQ; Buss & Perry, 1992) is a 29-item scale that assess self-reported dispositional aggression on four different dimensions: *Physical Aggression, Verbal Aggression, Anger,* and *Hostility*. The BAQ was used in the current study as a measure of dispositional aggression. Respondents rate each item on a 5-point scale. In the validation study, Buss and Perry (1992) reported high internal consistency for *Physical Aggression* at .85, *Verbal Aggression* at .72, *Anger* at .83, and *Hostility* at .77. Alpha coefficient for the total score was high at .89. Test-retest reliabilities were .80 for *Physical Aggression*, .76 for *Verbal Aggression*, and .72 for both *Anger* and *Hostility*. Construct validity was demonstrated by positive correlations between measures of assertiveness and *Anger* (\(r =\))
.40), emotionality and Hostility ($r = .52$), competitiveness and Physical Aggression ($r = .36$), and impulsiveness and Verbal Aggression ($r = .31$). In the present sample, alpha coefficients were .80 for Physical Aggression, .70 for Verbal Aggression, .74 for Anger, and .75 for Hostility.

**The Revised Conflict Tactics Scale.** The revised conflict tactics scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) is a 78-item self-report questionnaire that was designed to measure a spectrum of events that may occur during disagreements between intimate partners. In the present study, the CTS2 was used as a measure of concurrent and external validity of aggressive behavior. The CTS2 includes five subscales that assess positive conflict resolution strategies (negotiation), abusive behaviors (psychological aggression, physical aggression, sexual coercion) and outcomes associated with physical forms of abuse (injury). The number of items per subscale is as follows: Negotiation (6), Psychological Aggression (8), Physical Aggression (12), Sexual Coercion (7), and Injury (6). Each item pair assesses one behavior and asks respondents to report on their own behavior and that of their partner (e.g., Item 33: “Have you choked your partner?” and Item 34: “Has your partner choked you?”). Participants are asked to indicate how many times the event occurred over the prior year by marking a raw response value; values and their corresponding frequency labels are as follows: (1) 1 time; (2) 2 times; (3) 3–5 times; (4) 6–10 times; (5) 11–20 times; (6) more than 20 times; (0) never; and (7) not this year, but has happened in the past. Straus et al. (1996) suggested a method for computing frequency scores for the CTS2 scales based on the frequency labels or their midpoint (midpoint substitution scoring method).

**Response Choice Aggression Paradigm (RCAP).** This aggression paradigm (Zeichner et al., 1999; Zeichner, Parrott, and Frey, 2003) was used to measure direct physical aggression under laboratory conditions, wherein participants are allowed to retaliate or to refrain from responding
to provocation by an opponent. The option to refrain from aggression is a necessary improvement over other paradigms that do not include a non-aggressive alternative. In this paradigm, participants are placed in a competitive reaction time task where electrical shocks are received from and administered to a fictitious opponent following “win” or “lose” trials. The aggression console is a white metal box mounted with electrical switches and light emitting diodes (LEDs). Ten shock push buttons labeled “1” through “10” are arranged horizontally on the console. Shocks are generated by a Precision Regulated Animal Shocker (Coulbourn Instruments, Allentown, Pa). A reaction time switch is located at the center of the console.

The task is presented as a reaction time (RT) competition, in which the participant competes against a fictitious opponent who is ostensibly seated in an adjacent chamber. The participant is told that after a yellow "press" light illuminates on the console, he is to depress and hold the RT key. Shortly after the RT key is depressed, a green "release" light illuminates, at which time the participant is to release the RT key as quickly as he can. After a 3-sec result-determination period, a green "win" light or a red "lose" light illuminates, informing the participant about the outcome of that trial. The participant is told that he has the choice to deliver shocks to his opponent following trials that are "won" or "lost" and is at liberty to do so as often as he desires throughout the task. The participant is told that 10 shock intensities are available for administration to the opponent as “punishment.” Likewise, the participant is informed that the opponent can make similar choices. The participant is also told that he may refrain from administering shocks during the 24 trials of the experiment. Shocks administered to the participant are accompanied by visual feedback via LEDs paralleling the level of each given shock.
Aggressive behavior is measured using seven indices: *Mean Shock Intensity* (MSI; mean shock intensity for trials in which the participant administers a shock); *Mean Shock Duration* (MSD; mean shock-time duration for trials which the participant administers shock); *Proportion of Highest Shock* (P10; number of times the participant uses the highest shock available relative to trials in which a shock is administered); *Flashpoint* (FP; number of trials that expire before the participant administers the first shock); *Flashpoint Intensity* (FPI; intensity of the first shock administered); *Flashpoint Duration* (FPD; shock duration of the first shock administered); and *Shock Frequency* (SF; the proportion of trials in which the participant administers shocks).

*Deception Aids.* First, a bogus instrument, the *Identity Self-report Measure* (ISRM) was specifically designed and labeled to aid in the deception used in the experiment. The ISRM was used to measure one’s rating of their masculine identity on a 7-point scale, with “0” being “feminine” and “7” being “masculine.” Second, a fictitious graphical depiction of the participant’s profile was created to provide an ostensibly objective assessment of the personality profile. The use of an ostensible assessment instrument was intended to remove potential effects of experimenter-generated evaluation, which, otherwise, may be dismissed as subjective in nature. In doing so, the aim was to provide participants with bogus “objective fact-based feedback” about their masculine sense of selves.

*Procedure*

After providing informed consent, the participant was be seated at a table facing the aggression console in a sound attenuated chamber. Following a general explanation of the procedure, the participant was asked to complete a packet of questionnaires, including a demographic form, GRCS, PANAS, BAQ, CTS2, DERS, and the ISRM. The participant was told that these questionnaires would serve as the basis to evaluate the influence of various
personality domains on performance ability, such as his reaction time skill. After completing the questionnaires, the participant was told that his profile, and that of his opponent, would be scored by the experimenter’s “research assistant,” and during this time, an explanation of the reaction time task was given to the participant. Participants were told that they would compete in a reaction time task against an “opponent” seated in another chamber. During the task, each participant would have the opportunity to punish his opponent following each reaction time trial by administering a shock to the opponent and that the latter would be able to administer shocks likewise.

After 10 minutes elapsed, the participant received either threatening or non-threatening feedback from the experimenter, reflecting a bogus profile from the battery of questionnaires. In the Threat condition, the participant was told: “Based on your responses to the questions you just completed, it appears, looking at this graph, you fall in the feminine identity range.” The participant in the No-Threat condition was told: “Based on your responses to the questions you just completed, it appears, looking at this graph, you fall in the masculine identity range.” Following this manipulation, the participant was then instructed to complete the PANAS for the second time. Use of the PANAS at this point served as a manipulation check and measurement of affective change following the threat manipulation.

Following the manipulation, an assessment of the participant’s pain thresholds was conducted. First, to ostensibly assess the “opponent’s” pain thresholds, the experimenter played a pre-recorded version of the fictitious “opponent” over the intercom, in which the opponent announces his reactions to shocks administered to his fingers. Next, the pain thresholds were determined in an identical manner for each individual (confederate and participant). This was accomplished via the administration of short duration shocks (.50-sec) in an incremental
stepwise intensity method (8 microamp increments) from the lowest available shock setting, which was imperceptible, until the shocks reached a reportedly "painful" level. The competition consisted of 24 successive RT trials on which participants received shocks set between 45% and 100% of their subjective "painful shock" level. All shocks were administered to participants on trials that they "lost" (half of the trials). Win-lose sequences were presented in a predetermined randomized fashion and incorporated into the computer program that executes the task. Although the sequence was presented in a randomized fashion, all participants received the same sequence of trials.

Effectiveness of the deception was assessed following the completion of the reaction time task. Each participant completed the Opponent Evaluation Scale (OES), a questionnaire designed to assess the participant’s beliefs about the opponent, his reaction time skill, and self-rating. Participants who expressed doubt about either the existence of the opponent or the veracity of the bogus response profile were excluded from analyses. At the conclusion of the manipulation check, all participants were thoroughly debriefed, thanked, and given credit.
CHAPTER 3
RESULTS

Data Reduction

The following variables were in the data analysis.

Aggression. Aggression data were derived from the following RCAP indices: Mean Shock Intensity (MSI), which comprises the average shock intensity selection for trials in which the participant administers a shock; Mean Shock Duration (MSD), which comprises the average shock hold-time (i.e., button press) for trials in which the participant administers a shock; Proportion of Highest-Shock (P10), which reflects the proportion of the number of times the highest available shock (i.e., a “10”) was delivered relative to the number of all other selected shocks; Flashpoint Intensity (FPI), which reflects the intensity of the first shock selected by the participant; Flashpoint Duration (FPD), which reflects the shock hold-time of the first shock selected by the participants; and Shock Frequency (SF), which is the proportion of shocks delivered throughout the competition relative to the number of trials where no shocks were delivered.

Restrictive Emotionality. This variable was determined by scores on the Restrictive Emotionality (RE) subscale, which was derived from 10 items on the GRCS. Examples of these items include: “I have difficulty telling others I care about them,” “Strong emotions are difficult for me to understand,” “Expressing feelings makes me feel open to attack by other people,” “I have difficulty expressing my emotional needs to my partner,” “Talking about my feelings during sexual relations is difficult for me,” “I have difficulty expressing my tender feelings,”
“Telling others of my strong feelings is not part of my sexual behavior;” “I often have trouble finding words that describe how I am feeling;” “I do not like to show my emotions to other people;” “Telling my partner my feelings about him/her during sex is difficult for me.”

*Emotion Dysregulation:* This variable was determined by the total score on the DERS, where higher scores indicate a greater tendency toward emotion dysregulation.

*Dispositional Aggression.* This variable was determined by the scores on the *Physical Aggression* subscale of the BAQ.

*Self-reported Aggression.* This variable was determined by scores on the *Physical Assault, Negotiation, Psychological Aggression* (Minor and Severe), *Sexual Coercion* (Minor and Severe), and *Injury* (Minor and Severe) subscales of the CTS2.

*Affect Response.* Participants’ change in affect before and after the threat manipulation in the paradigm was assessed by subtracting the composite score of the PANAS subscales obtained after the task from scores obtained at the outset of the study. The rationale for computing a difference score was to decrease individual variability by effectively removing the starting range of each participant’s score from the equation. Affect response was assessed by the following two measures: *Negative Affect* (NA), which was derived from 10 items on the PANAS (disinterested, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid); and *Anger/Hostility* (AH), which was derived from six items on the PANAS (scornful, hostile, angry, irritable, loathing, disgusted). The two different variables denoting affective response are referred to as NA and AH in the analyses. A log + 1 transformation was applied to each of the Affect Response scores as these distributions were skewed. The following analyses are reflective of transformed scores.
Preliminary Analyses

Manipulation Check. To verify success of whether participants believed they were competing against another individuals, participants were asked prior to debriefing to rate their impression of their opponent, whether the opponent was reasonable during the task, and whether they felt that the task was a good test of reaction time. All participants indicated that the task was a good measure of their reaction time. Typical responses regarding participants’ opponents included the following: “I was generally faster than my opponent” and “The task was a good measure of my reaction time.”

The deception related to the shock paradigm and bogus feedback was successful for 111 (86%) of the 128 participants. Of those who were not deceived, six individuals reported that they did not believe in the veracity of the threat feedback. The remaining individuals reported that they did not believe they were competing against another individual during the reaction-time task. To evaluate potential differences between those who were not successfully deceived and those included in the final experimental sample, separate one-way ANOVA’s were performed on pertinent demographic (e.g., age, years of education) and experimental variables (e.g., restrictive emotionality, affective changes) revealed no significant differences. A Multivariate Analysis of Variance (MANOVA) revealed no significant differences between those who were or were not deceived on the seven RCAP indices. A Pearson Chi-square test of significance revealed no differences between those who were deceived and were not deceived on racial status and income level. All below mentioned analyses include only those participants who were deceived.

Shockers and Non-Shockers. Eighteen men (17%) chose not to administer any shocks during the competition and 88 men shocked their opponent on at least one trial. Analysis of Variance (ANOVA) tests revealed a trend toward a significance for Shockers on RE \( F(1, 106) = 2.89, \ p = \)
in that individuals who shocked endorsed greater levels of RE (28.95, SD = 9.1) than their non-aggressive counterparts (M = 25.12, SD = 6.19). A second trend was revealed on DERS total [F(1, 102) = 3.80, p = .05] in that Shockers evinced higher levels of emotion dysregulation (M = 73.60, SD = 16) compared to those who refrained from shocking (M = 65.67, SD = 11.5) . Finally, a 2 x 2 contingency analysis revealed that shockers were equally likely to have been threatened and not threatened, [Pearson χ² (1, N = 105) = .12, p = .17, Φ = .13], representing 88% and 78%, respectively. See Appendix A, Table 2 for distribution of cases across groups.

Demographic Characteristics. To ensure comparability in demographic representation across the seven RCAP indices, Multivariate Analysis of Variance (MANOVA) tests were performed and revealed no significant differences among level of income and racial status across. Pearson Product-moment correlation coefficients indicated that neither years of education nor age were significantly correlated with any of the RCAP indices.

Experimental Group Characteristics: Random assignment to the experimental groups was expected to ensure that the individuals did not different with respect to dispositional characteristics (restrictive emotionality, physical aggression) in the Threat and No Threat groups. To confirm that such equivalence in the sample occurred, one-way ANOVA tests were performed with RE, emotion dysregulation, and baseline affect (negative affect and anger/hostility) as the dependent variables. No significant differences were found between the groups on these variables.

Dispositional and Self-Reported Aggression. To investigate concurrent and external validity among dispositional aggression, self-reported physical aggression, and laboratory aggression, Pearson product-moment correlations were performed among the Physical Aggression subscale of BAQ, the CTS2 subscale scores, and the RCAP indices.
Given that the research hypotheses stated the direction of the relationship among these variables, a one-tailed test of significance was used for these correlations. Examining correlations among CTS2 ratings and RCAP aggression, analyses revealed a negative correlation between *Negotiation* and Flashpoint Intensity ($r = -.23, p = .01$), indicating that individuals who had engaged in verbal negotiation strategies in the past year evinced lower intensities for their first shock. There was also a positive correlation between *Minor Injury* and Flashpoint Duration ($r = .22, p = .01$), indicating that the duration of the first shock was longer for individuals who had perpetrated a minor injury to another person in the last year. Additionally, BAQ *Physical Aggression* was significantly correlated with Mean Shock Intensity ($r = .23, p = .01$), Proportion Highest Shock ($r = .21, p = .02$), and Shock Frequency ($r = .25, = .01$), indicating that higher levels of trait aggressivity were associated with higher average shock intensities, a greater proportion of number “10” shocks that were administered (relative to other shock levels), and higher shock frequencies. The data from these analyses suggest that the RCAP is a valid measure of aggressive behavior that occurs in naturalistic settings, as it correlates with external measures of aggression assessed by the CTS2 and personality-based measures of aggression as assessed by the BAQ.

*Affect Response and Emotion Dysregulation.* Separate Pearson product-moment correlations were computed for each experimental group to assess associations among RE, affect response, emotion dysregulation, and physical aggression. As the directions of the relationships were hypothesized a priori, one-tailed tests of significance were used.

Analyses revealed that, in the Threat group, RE was significantly correlated with higher scores on the DERS ($r = .49, p = .02$), a lower Flashpoint ($r = -.24, p = .03$), and higher Shock Frequency ($r = .24, p = .03$), while DERS scores were significantly associated with greater Mean
Shock Intensity and Shock Frequency ($r = .28, p = .03; r = .24, p = .04$, respectively), as well as lower Flashpoint ($r = -.27, p = .03$). For individuals in the No Threat condition, RE was significantly associated with DERS scores ($r = .40, p = .01$) and Flashpoint Intensity ($r = .29, p = .02$), while DERS scores were significantly correlated with Mean Shock Intensity ($r = .24, p = .04$), Flashpoint Intensity ($r = .21, p = .03$). Lastly, AH was significantly and positively correlated with Flashpoint ($r = .29, p = .03$), indicating that individuals waited longer to shock when experiencing increased anger arousal under threatening circumstances.

To determine whether correlation coefficients were significantly different between each experimental group, $Z$ tests employing Fisher transformations of the correlation coefficients were performed (Rosenthal & Rosnow, 1991). Analyses revealed no significant differences for the Threat and No Threat groups in the correlation coefficients between RE and DERS or between DERS and Mean Shock Intensity. Inter-correlations among RE, NA, AH, emotion dysregulation, and RCAP aggression, between experimental groups are presented in Appendix A, Table 3.

**Moderating Effects of Masculine-Relevant Threat and Negative Affect Arousal**

The principal focus of the present study was to determine whether RE, the perception of threat, and negative affect arousal would interact to produce extreme levels of direct physical aggression. Moreover, given the positive and significant correlations between RE and RCAP aggression, three-way interaction analyses would allow for the investigation of the relationship between RE and aggressive behavior, moderated by both a threatening event and the negative emotions that may arise. Specifically, it was hypothesized that men with a greater tendency to restrict their emotions would evince a strong positive relationship to physical aggression under conditions of threat and increased emotional arousal. Moderation analyses were used because
affect response and perception of threat were both conceptualized as conditional constructs by which the relationship between RE and aggression would vary as a function of both variables.

Given that RE is continuous in nature, the use of linear regression analyses were indicated (Aiken & West, 1991; Cohen & Cohen, 1983). Separate equations were calculated such that the RE subscale score was regressed on each of the seven RCAP indices, using Threat (1 = Threat, 0 = No Threat) and Affect Response (NA Change or AH Change) as the moderator variables. The recommendations of Aiken and West (1991) and Jaccard and Turrisi (2003) were followed to test for three-way interaction effects with multiple regression. In this approach, it is necessary to compute a product term between the independent variable of interest (RE scores) and the moderator variables (Threat and Affect Response). This requires that scores be standardized (i.e., z-transformed) to reduce multicollinearity between interaction terms and their lower-order terms and to account for scale invariance. Standardizing scores also allows for regression coefficients to be interpreted within the same metric (Aiken & West, 1991; Cohen & Cohen, 1983; Jaccard & Turrisi, 2003). Thus, scores for RE and Affect Response were converted to z-scores and interaction terms were calculated by obtaining the cross-products of the first order variable scores. Unstandardized regression coefficients were interpreted because the interpretation of standardized coefficients would yield incorrect effects (see Aiken & West, 1991). Thus, parameter estimates for regression equations are reported as unstandardized $b$’s. The significance value of the interaction term would be examined to determine whether moderation would significantly improve the equation. For equations with no significant three-way effect, regression coefficients reflecting two-way interactions and main effects are reported below. For equations with significant interaction terms, regression coefficients for simple effects were tested to determine whether they were significantly different from zero.
Using Threat and z-Affect Response as the moderators and z-RE as the focal independent variable, separate regression equations were conducted for each of the seven RCAP indices and each of the two Affect Response measurements (i.e., z-log NA and z-log AH). Main effects were entered into the first step of a hierarchical regression analysis, two-way interactions terms were entered in the second step, and the three-way z-RE x Threat x z-Affect Response term was entered in the third step.

Mean Shock Intensity. There was no significant RE x NA x Threat interaction \([R^2 = .07, F(7, 101) = 1.01, p = .43]\) or RE x AH x Threat interaction \([R^2 = .08, F(7, 101) = 1.39, p = .38]\). The RE x Threat interaction was also non-significant, \(R^2 = .05, F(3, 102) = 1.63, p = .19\).

There was a significant main effect for RE \((b = .19; p = .04)\), which accounted for approximately 4% of the variance in aggression, \(R^2 = .04, F(1, 102) = 4.03, p = .04\).

Mean Shock Duration. There was no significant RE x NA x Threat interaction \([R^2 = .06, F(7, 101) = .86, p = .53]\) or RE x AH x Threat interaction, \([R^2 = .09, F(7, 101) = 1.22, p = .30]\). The RE x Threat interaction was also non-significant, \(R^2 = .04, F(3, 102) = 1.28, p = .28\).

Proportion 10. There was no significant RE x NA x Threat interaction \([R^2 = .06, F(7, 101) = .87, p = .52]\) or RE x AH x Threat interaction \([R^2 = .10, F(7, 101) = 1.48, p = .18]\). The RE x Threat interaction was also not significant, \(R^2 = .02, F(3, 102) = .84, p = .47\).

Flashpoint. There was no significant RE x NA x Threat interaction \([R^2 = .10, F(7, 101) = 1.54, p = .16]\). The RE x AH x Threat model was significant \([R^2 = .15, F(7, 95) = 2.23, p = .04]\), but the three-way term did not significantly improve the model, \(R^2 \Delta = .01, F\Delta(1, 95) = .68, p = .56\). The RE x Threat model was significant, \(R^2 = .08, F(3, 102) = 3.06, p = .03\), but the interaction term did not significantly improve the model, \(R^2 \Delta = .01, F\Delta(1, 99) = .94, p = .34\).
There was a significant main effect for Threat \((b = -3.78, p = .03)\), indicating that individuals who were threatened evinced lower flashpoints than those who were not threatened. The model accounted for a significant 7% of the variance in aggression, \(R^2 = .07, F(1, 100) = 4.58\). A main effect for RE approached significance, \(F(1, 102) = 3.43, R^2 = .03, p = .06\).

**Flashpoint Intensity.** There was no significant RE x NA x Threat interaction \([R^2 = .06, F(7, 101) = .94, p = .48]\), or RE x AH x Threat interaction, \([R^2 = .08, F(7, 95) = 1.08, p = .43]\). Analyses revealed a trend for a significant main effect for RE, \(R^2 = .03; F(1, 103) = 3.68, p = .06, b = .06\). The RE x Threat interaction was also non-significant, \(R^2 = .04; F(3, 102) = 1.44, p = .24\).

**Flashpoint Duration.** There was no significant RE x NA x Threat interaction \([R^2 = .05, F(7, 101) = .74, p = .64]\) or RE x AH x Threat interaction, \([R^2 = .08, F(7, 95) = 1.21, p = .32]\). The RE x Threat interaction was also non-significant, \(R^2 = .03; F(3, 102) = 1.18, p = .32\).

**Shock Frequency.** There was no significant RE x NA x Threat interaction \([R^2 = .08, F(7, 101) = 1.19, p = .31]\), or RE x AH x Threat interaction \([R^2 = .08, F(7, 95) = 1.05, p = .41]\). The RE x Threat interaction was also non-significant, \(R^2 = .05; F(3, 102) = 1.94, p = .13\). Analyses revealed a trend for a significant main effect for RE, \(R^2 = .03; F(1, 103) = 3.12, p = .08, b = .01\).

**Mediating Effects of Emotion Dysregulation**

A secondary aim of this study was to investigate whether poor emotion regulation strategies may explain the relationship that exists between individuals who endorse high levels of RE and exhibit high levels of aggressive behavior. The recommendations of Baron and Kenny (1986) were followed to test for the recommended mediation effect. In Step 1, the IV of interest is significantly related to the DV of interest. In Step 2, the independent variable should be significantly related to the mediator of interest. In Step 3, the mediator is shown to be
significantly associated with the DV. Last, in Step 4, full mediation is supported if the IV is no longer significantly associated with the DV once the mediator is included in the model, while partial mediation is demonstrated by a statistically significant reduction in the beta value associated with the IV and DV. Only significant mediation effects are report below.

**Step 1**: For MSI, the model was significant, $R^2 = .04$, $F(1,103) = 4.03$, $p = .04$, $b = .19$.

**Step 2**: RE significantly predicted greater scores on the DERS, $R^2 = .20$, $F(1,103) = 26.02$, $p = .01$, $b = .44$.

**Step 3**: DERS scores were significantly associated with MSI, $R^2 = .07$, $F(1,101) = 7.23$, $p = .01$, $b = .26$

**Step 4**: The main effects model was significant for MSI, $F(2,101) = 4.20$, $p = .02$, $R^2 = .08$. When both variables were entered into the model simultaneously, RE was no longer significantly associated with aggression ($b = .09$, $p = .36$), while the relationship between emotion dysregulation and MSI remained significant ($b = .21$, $p = .04$). See Appendix B, Figure 3 for depiction of mediation effect.

**Post Hoc Analyses: Examination of Unprovoked Aggressors**

It was deemed prudent to examine whether individuals who engaged in unprovoked aggression (i.e., choosing to shock before being shocked) were more likely to have been threatened, as well as to endorse elevated levels of RE, negative affect arousal, and emotion dysregulation, relative to participants who engaged in provoked aggression. A Provocation category was created whereby individuals were categorized as Unprovoked if they delivered their first shock before receiving one from their opponent (i.e., Flashpoint $\leq 2$), or Provoked if they engaged in an aggressive response only after being shocked (i.e., Flashpoint $\geq 3$). ANOVA tests did not find significant differences between provoked and unprovoked aggressors on any of
the experimental variables. Similarly, results from a two-way contingency table analysis that examined that association between Provocation category and Threat condition found no differences in the proportion of cases in the Threat and No Threat groups who engaged in aggression without being provoked, Pearson $\chi^2 (1, N = 103)= .01, p = .95, \Phi = .01$. 
CHAPTER 4

DISCUSSION

The results of the present study lend partial support to several of the hypotheses. First, Hypotheses 1 and 2 regarding the conditional effects of threat and negative affect on the relationship between RE and aggression were not supported. It was posited that, for men who experience threat and attendant feelings of negative affect, RE would exert a significant influence on aggressive behavior, whereas in men with low negative affect and who experienced no threatening event, the effect of RE on aggression would be non-significant. Furthermore, it was proposed that, regardless of one’s negative emotional response, RE would positively predict RCAP aggression, under conditions of threat, but not under non-threatening conditions. This two-way effect was also not supported by the data. Although these findings are incongruent with the stated hypotheses and previous theories of aggression (Berkowitz, 1990), they are similar to findings reported in other studies (Schwartz, Waldo, & Daniel, 2005; Jakupcak, Lisak, & Roemer, 2002) where no significant relationship was found between RE and self-reported physical aggression.

There could be several explanations for the aforementioned results. First, analyses showed no relationship between the threat manipulation and negative affect arousal. Moreover, Fischer z-score transformations of the correlation coefficients between DERS and MSI and RE and DERS revealed no differences in the strengths of the associations for the Threat and No Threat groups. These findings suggest that the threat manipulation may not have produced a measurable emotional response or increased proclivity toward physically aggressive behavior.
Second, tests also showed that individual differences in levels of RE did not predict self-reported affect responses. An explanation for this may be that participants may not have accurately recorded their internal experiences for reasons of social desirability or due to demand characteristics. Moreover, by virtue of the conceptual nature of the RE construct, it may be likely that men who restrict their emotions may not have either an awareness of, or clarity about their internal experiences. This notion is consistent with Wong, Pituch, and Rochlen’s (2006) findings that negative attitudes toward expressing emotions and difficulty identifying feelings were strongly associated with men’s restrictive emotionality.

Hypotheses 3 and 4 were partially supported. Data indicated that higher levels of RE predicted higher average shock intensities via regression analyses, while correlation coefficients demonstrated that RE was associated with lower shock latencies and higher intensities of the first shock delivered. In addition, participants who tended to restrict their emotions were also more likely to have engaged in a minor physical assault over the last year, were less likely to use negotiation strategies during conflict, and evinced greater dispositional aggressivity as measured by the BAQ. One perspective to explain these findings suggests that men who restrict their emotional experiences may behave with hostile intent toward another in an effort to conceal or over-ride intense internal turmoil (Schwartz, Waldo, & Daniel, 2005). Coupled with this notion, it may be that, in comparison to men who endorse low levels of RE, those who are reportedly high in RE are more likely to conceal negative emotions via overt aggressive acts. This would be consistent with theories of self-regulation of affect, which state that individuals adapt their behavior in relation to feedback received from the environment and their current emotional state (Vohs & Baumeister, 2004). It has also been postulated that some men with high RE, particularly
those with poor conflict resolution strategies, resort to externalizing behavior as the only expression of negative internal states (Moore & Stuart, 2004).

Having received a threat significantly predicted shorter latencies of an aggressive response, compared to individuals who were not threatened. That is, regardless of one’s predisposition for RE, men whose masculinity had been threatened behaved aggressively by initiating aggression earlier, than their non-threatened peers. This may have been due to the perception that they had violated male role norms and were, therefore, compensating for the dissonance by over-conforming to the masculine ideal. One rather inconsistent finding, however, was that correlation coefficients revealed that increased anger arousal was related to lower aggressive tendencies for men whose masculinity was not threatened. An explanation for this may be that, while threatened men experienced increased anger, other factors that were not accounted for (e.g., fatigue) may have inhibited an aggressive response. Overall, the data indicate that aggression may function as a strategy that allows threatened men to appear powerful and men high in RE to control their emotional experience (Mahalik et al., 2003). Further investigation into the causes and sequelae of these processes in men is warranted.

Finally, Hypothesis 5 was supported, as regression analyses demonstrated that emotion dysregulation fully mediated the association between RE and average shock intensity. That is, while RE significantly predicted aggressive behavior via average shock intensity, this relationship was no longer significant after accounting for the effects of personality-based emotion regulation abilities. Therefore, the association between RE and aggression may be better accounted for by this individual difference variable. These data suggest that the association between RE and aggression does not exist as a function of transient, state-driven factors, but rather, is influenced by dispositional factors and the ability to regulate emotional experiences.
Results from the mediation analyses are consistent with personality-based models for externalizing behavior (Bettencourt, Talley, Benjamin, & Valentine, 2006), that stable and enduring traits explain a large amount of variance in aggression, under neutral and provocation conditions.

Overall, these results suggest that individuals low in RE may be less susceptible to engage in aggressive behavior, while those high in RE are at greater risk to react with hostile intent, given a real or perceived sense of provocation. Moreover, Threat category appeared to have no significant influence on negative affect response, whether one chose to administer a shock, and whether a participant chose to act aggressively without provocation. Given these findings, it may be that aggressive behavior in men is not as strongly influenced by threat to male identity as has been argued in the literature (Moore & Stuart, 2004). It seems more likely that RE and other factors related to male gender role stress are of greater importance.

The results of the present study are consistent with Anderson and Bushman’s (2002) General Aggression Model. This is a mediational model that proposes that various features of a situation and individual difference factors affect aggressive behavior via associated cognitions, affects, and arousal. In the present study, the association between men’s tendency to restrict their emotions and physical aggression existed largely as a function of their ability, or lack thereof, to regulate their emotional experiences. This finding may be explained by the fact that men who are higher in RE may be less effective at controlling their aggressive impulses than those low in RE. This may be evident through findings in the current study that individuals high and low in RE do not appear to differ with respect to the intensity of their experiences of negative affect, but did appear to differ with respect to their physically aggressive behavior.
Future studies warrant an examination of the longitudinal effects of RE and emotion regulation abilities on aggressive and other negative behavior patterns.

That hypotheses were supported for the measures of shock intensity and flashpoint, but not for any other index of physical aggression, merits further consideration. Aggression indices reflect conceptually independent information regarding the topography of an aggressive interaction. Consequently, it is possible, if not likely, that each aggression index will produce varying results and be influenced by a variety of different factors. In the present study, the pattern of results observed for shock intensity and flashpoint are congruent given the direct nature of these measures. In contrast, indices such as shock duration and flashpoint duration reflect indirect and/or subtle measures of physical aggression. Consequently, variations in the outcome measures are not believed to weaken the strength of the association between RE and aggression. Rather, they may suggest differences in the topography of the aggressive interaction that occurs between perpetrator and victim, given attendant situational and dispositional factors.

The present study adds to the literature in several ways. First, while masculine gender role stress has consistently been linked to self-reported physical aggression (i.e., Conflicts Tactics Scale) and to attitudes endorsing violence (Mahalik et al., 2003; Moore & Stuart, 2004), little research has examined effects of RE as a key component in the gender role stress-aggression link in a laboratory setting. Second, the laboratory paradigm used in the current study affords the opportunity to assess physical direct aggression without the risk of measuring behavior that was forced on participants by experiment demand characteristics or without the measurement error that may be due to participant bias that is often associated with self-report questionnaires. The present procedure should allay some of the concerns raised by previous researchers as to the construct validity of the paradigm (Tedeschi & Quigley, 2000). In the
present study, significant associations between the RCAP indices with measures of self-reported aggression and dispositional aggressivity provide validation for the construct validity of this paradigm. Moreover, while remaining an experimental analogue to aggression, not many participants in the present study elected to refrain from becoming aggressive, despite their option to do so and, as such, their responses reflect a volitional choice to retaliate against their provoker. Third, the RCAP allows for the study of intra-individual processes that may be activated when one chooses to inflict harm on another person. Thus, understanding the activation of aggressive behavior as it relates to dispositional constructs is central to the ability to identify the factors and conditions under which a provoked individual is brought to the point of initiating aggression or retaliation.

The findings of the present study should be interpreted with caution. First, although regression equations provide powerful statistical analysis for determining moderation effects using historical subject characteristics, such analyses do not necessarily warrant conclusions of causality (Jaccard & Turrisi, 2003). Other factors that were not accounted for in the study may have affected the relationship between RE and aggressive behavior. The findings suggests that emotional competence, a pre-requisite for completing self-report questionnaires, may be negatively correlated with one’s tendency to restrict emotional experiences, and that future studies warrant the assessment of this variable as a possible covariate. Second, given the small range in age and lack of diversity in terms of ethnicity, relationship status, and income in the sample, the findings may not be generalizable to men outside of the college setting. Indeed, previous studies using a college population have found similar results as those demonstrated in the current study (Jakupcak, Lisak, & Roemer, 2002), however, studies that have examined the predictors of aggressive behavior in clinical populations have found different results (Jakupcak,
Third, although RE and the threat manipulation explained a significant proportion of the variance in aggression, this proportion is considered small (Cohen & Cohen, 1983). Moreover, while both RE and the experience of being threatened were associated with aggression, the effect was not demonstrated for all seven RCAP indices.

As noted, simple product terms permit the investigator to test for the presence of moderated relationships. In principle, there is a wide variety of moderated relationships that can characterize the conditional effects of a focal independent variable on a dependent variable at particular values of a given moderator, and the number of possible functional forms can be infinite. The functional form used in the present study examined the slope between RE and aggression as it changes in a linear, monotonic function at particular values of negative affect arousal and threat condition. However, other types of functional forms were not tested in the present study. For example, the relationship between RE and aggression may be nonlinear and the failure to obtain statistically significant interactions may reflect the presence of an alternative functional form rather than the absence of a moderated relationship (Jaccard & Turrisi, 2003).

There may have also been several limitations to the experimental threat manipulation. First, participants’ self-ratings of their own emotional experiences may not have provided the most reliable means for assessing emotional arousal. One technique to rectify this in future studies may be to gather objective measures of emotional reactivity, such as heart rate and blood pressure. Second, it may have been that participants did not believe fully in the feedback they received. While few participants expressed doubt about the veracity of the feedback, this should be directly assessed in future studies. Finally, in the present study, all participants were given feedback by a female experimenter, which may have lessened the negative impact of the threat manipulation. In the future, it would be beneficial to randomly assign participants to receive
feedback from either a male or female experimenter to assess whether demand characteristics of this nature impact the negative effects of masculine-relevant threat.

More research is needed to clarify the interactive role of RE on the relationship between emotional arousal and aggressive behavior. It remains unclear from the data whether men high in RE react aggressively to distant themselves from negative emotions, or, whether hostile behavior toward another is merely an outward expression of an inward experience. The current study provides preliminary evidence that men with a strong tendency to restrict their emotions are apt to behave aggressively as a function of their ability to regulate their emotional experience. At present, few, if any, psychological treatments specifically teach men to deal with the cognitive and affective components of gender role stress that may lead to poor management of psychological distress. Training in emotion regulation, as well as anger-reduction strategies may be indicated. Future studies should also examine behavior patterns associated with adaptive and maladaptive means of coping with emotional lability and negative affect in men. Additionally, more research is needed to test whether increases in hostile and aggressive behavior may serve to attenuate negative internal states (e.g., increased arousal) and whether this relationship is specific to men with a strong desire to ascribe to male gender role norms.
REFERENCES


APPENDICES
APPENDIX A

TABLES
Table A.1. *Demographic Characteristics of Participants (N = 128)*

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
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Table A.2. Distribution of Aggressive and Non-Aggressive Responders Between Experimental Groups*

<table>
<thead>
<tr>
<th>Experimental Groups</th>
<th>% Shockers (N)</th>
<th>% Non-shockers (N)</th>
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<tr>
<td>Threat</td>
<td>88.7% (47/53)</td>
<td>11.3% (6/53)</td>
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<tr>
<td>No Threat</td>
<td>78.8% (41/52)</td>
<td>21.2% (11/52)</td>
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</table>

Note: RCAP = Response Choice Aggression Paradigm
* Pearson $\chi^2 (1, N = 105) = .12, p = .17, \Phi = .13$
Table A.3. Descriptive Statistics and Inter-correlations for Restrictive Emotionality, Affect Response, Emotion Dysregulation, and RCAP Indices between Experimental Groups (N = 111)

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<th>Measure</th>
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<th>Max</th>
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<th>4</th>
<th>5</th>
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<td>11</td>
<td>56</td>
<td>.13</td>
<td>.11</td>
<td>.49*</td>
<td>.21†</td>
<td>.08</td>
<td>.02</td>
<td>.24*</td>
<td>.09</td>
<td>.06</td>
<td>.24*</td>
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<tr>
<td>3. AH Chg</td>
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<td>1.72</td>
<td>7</td>
<td>15</td>
<td>.13</td>
<td>--</td>
<td>.04</td>
<td>.05</td>
<td>.13</td>
<td>.10</td>
<td>.01</td>
<td>.00</td>
<td>.02</td>
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<td>4. DERS</td>
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<td>14.93</td>
<td>38</td>
<td>119</td>
<td>.40**</td>
<td>.02</td>
<td>.11</td>
<td>.28*</td>
<td>.03</td>
<td>.06</td>
<td>.27*</td>
<td>.08</td>
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<td>5. MSI</td>
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<td>10</td>
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<td>.18</td>
<td>.02</td>
<td>.24*</td>
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<td>.55**</td>
<td>.61**</td>
<td>.71**</td>
<td>.84**</td>
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<td>6. MSD²</td>
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<td>3305</td>
<td>.19†</td>
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<td>.39**</td>
<td>--</td>
<td>.59**</td>
<td>.55**</td>
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<td>.75**</td>
<td>.52**</td>
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<td>7. P10</td>
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<td>.19†</td>
<td>.15</td>
<td>.12</td>
<td>.16</td>
<td>.73**</td>
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<td>8. FP</td>
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<td>.10</td>
<td>.68**</td>
<td>.49**</td>
<td>.21†</td>
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</table>

RE = Restrictive Emotionality; NA Chg = Negative Affect change; AH Chg = Anger Hostility change; DERS = Difficulties in Emotion Regulation; MSI = Mean Shock Intensity; MSD = Mean Shock Duration; P10 = Proportion Highest Shock; FP = Flashpoint; FPI = Flashpoint Intensity; FPD = Flashpoint Duration; SF = Shock Frequency

a = measured in milliseconds; * p < .05; ** p < .01; † marginally significant

Correlation coefficients for Threat group in bold
Correlation coefficients for No Threat group in italics
APPENDIX B

FIGURES
Figure B.1. Anderson and Bushman’s General Aggression Model (2002)
Figure B.2. Model of Aggressive Behavior in Men [adapted from Anderson and Bushman (2002)]

- **Inputs**
  - Restrictive Emotionality
  - Threat

- **Routes**
  - Present Internal State:
    - Negative Affect
    - Cognitions
    - Arousal
  - “I feel uncomfortable”
  - “I should not show my emotions”
  - “I must appear masculine”
  - Appraisal: Threat to masculinity
  - Decision-making:
    1. Attenuate negative affect
    2. Restore self-perception

- **Outcomes**
  - RCAP

---

**a** = Person variable

**b** = Situation

**c** = Social encounter (RCAP = Response Choice Aggression Paradigm)
Figure B.3. Mediating Effects of Emotion Dysregulation on the Relationship Between Restrictive Emotionality and Physical Aggression

* $p < .05$

** $p < .01$