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# Individual Differences in Masculine Gender Socialization as Predictive of Men's Psychophysiological Responses to Negative Affect

*We investigated a long-theorized relationship between individual differences in masculine gender socialization and avoidance of vulnerable negative affect. Participants were thirty-six men (faculty, staff, and students, M age = 21.40, age range 18 – 30, SD = 3.00, 3% Hispanic, 11% Asian, 86% Caucasian) recruited from a small university in the Northeastern United States. Adherence to masculine norms was positively associated with participants' physiological fear/avoidant responses to a video of a man violating masculine gender norms by expressing vulnerable negative affect (crying, asking for help, showing affection for another man). Results suggest that masculine gender socialization may cause some men to be fearful of expressions of negative affect, potentially limiting some men's ability to experience and express their own negative affect.*

**Keywords:** masculine gender socialization, adherence to hegemonic masculine norms, masculinity, negative affect, depression

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In this study we examined a theorized relationship between masculine gender socialization and negative affect. A number of researchers and clinicians have suggested that some men, as a function of masculine gender socialization, are taught to avoid expressions of negative affect (Cochran & Rabinowitz, 2000; Levant & Pollack, 1995). In turn, it has been suggested that this avoidance may be at the heart of a number of psychological health problems for men (increased suicide rates relative to women, substance abuse, “masked,”

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“covert,” and other non-typical expressions of depression symptoms) (Real, 1997). To investigate this relationship, we exposed men to video stimuli of expressions of negative affect and recorded increases and decreases in both positive and negative affect using self-report measures, as well as fear/avoidant responses using psychophysiological instruments. While this study focuses on men from the United States, the norms, socialization, and public health problems discussed are present in a number of other Western countries and cultures.

## BACKGROUND

Over the last three decades researchers in the areas of psychopathology and gender have begun to explore the possibility that there are important individual differences among men in their expressions of psychological distress (Levant & Pollack, 1995; Mahalik, 2008; Nolen-Hoeksema, 1987). In particular, men who adhere more strongly to traditional notions of masculinity such as physical toughness, emotional stoicism, and self-reliance may be more prone to externalizing rather than internalizing symptoms of distress (Cochran & Rabinowitz, 2000; Real, 1997). Empirical support for this idea has come from a number of different angles. For example, epidemiological research conducted in the United States shows that men are four times more likely to commit suicide than are women (Moscicki, 1997; Oquendo et al., 2001). Data collected from men in the United States also show that they are more likely to engage in violent behaviors, exhibit anger and irritability, and abuse substances (Substance Abuse and Mental Health Administration, 2007; United States Department of Justice, 1995–2007).

Many clinicians and researchers have argued that this relative increase in externalizing symptoms is due to masculine gender socialization. Specifically, emotion socialization is known to be a highly gendered process (Addis, 2008). When boys and men are taught to “tough it out”, “keep a stiff upper lip”, or otherwise control the experience and expression of softer emotions such as depressed mood, they may respond to these emotions with a variant of classical depression which includes both internalizing and externalizing symptoms. While much of the empirical research on this topic has been conducted using primarily samples of undergraduates in the United States, results from multiple studies show that for men in the United States, individual differences in adherence to traditional masculine gender norms are associated with depression symptoms (Good & Wood, 1995; Magovcevic & Addis, 2008) as well as anger (Eisler, 1995), substance abuse (Blazina & Watkins, 1996; Locke & Mahalik, 2005), irritability (Mahalik, et al., 2003), somatic complaints (Mahalik et al., 2003), general psychological symptomology (Good & Wood, 1995; Hayes & Mahalik, 2000; Mahalik, et al., 2003), and lower rates of help-seeking (Addis & Mahalik, 2003). Nonetheless, it should also be noted that there is evidence to suggest that hegemonic masculinity and its effects are world-wide phenomena (Connell & Messerschmidt, 2005; Gilmore, 1990), underscoring the potential generalizability of these findings to populations outside of the United States.

A number of theories as to why men are more likely to express externalizing symptoms have been proposed, and each rests on the assumption that, as a result of gender socialization, men have been taught to avoid expressions of negative affect that violate masculine gender norms (e.g., appearing sad, crying, asking for help). For example, the possibility of a “masked” form of depression consisting of traditionally masculine expressions of nega-

tive affect such as anger, irritability, alcohol abuse, and other externalizing symptoms, has been theorized by a number of clinicians and researchers (Cochran & Rabinowitz, 2000; Real, 1997).

Additional support for the role of gender socialization in men's expression of psychological distress comes from Nolen-Hoeksema's response styles theory of depression (Nolen-Hoeksema, 1987). This theory suggests that men are more likely to engage in distracting behaviors while experiencing low mood. In contrast, women are more likely to engage in ruminating behaviors; thinking about the causes, problems associated with, and the effects of their low mood or depression (Morrow & Nolen-Hoeksema 1990; Nolen-Hoeksema & Corte, 2004; Nolen-Hoeksema, et al., 1999). These findings further suggest that men may avoid expressions of negative affect through a process of avoidance or distraction.

Findings from the research described above are consistent with the assumption that individual differences in gender socialization affect how different men respond to soft or "vulnerable" emotions (e.g., sadness and depressed mood) and that such responses may in turn affect how different men experience depression. Based on these findings and the literature on masculine gender socialization and emotion, Addis (2008) developed a "gendered-responding" theory of men and depression. According to this theory, prototypic depression can be seen as a particular constellation of responses to more basic negative affect (Russell & Barrett, 1999; Tellegen, 1985; Watson, et al., 1988; Watson & Tellegen, 1985; Watson, Clark, & Tellegen, 1984), which is a dimension of subjective distress and unpleasant engagement underlying a series of discreet emotions including guilt, anger, disgust, and fear (Watson, et al., 1988). The discreet emotion expressed in response to negative affect is a function of the context in which the negative affect is experienced (Feldman-Barrett, 2006). It is important to note that the term "negative" affect in and of itself does not suggest that experiencing aversive mood states is socially problematic, but simply subjectively unpleasant. In fact, only in gendered contexts do expressions of negative affect become problematic. Indeed, because emotion socialization is a heavily gendered process, individual differences in adherence to different gender norms should be associated with how people respond to expressions of negative affect, and thus, with the likelihood of presenting as prototypically depressed. Similarly, externalizing behaviors such as substance abuse, violence, and excessive risk-taking can be understood as gendered responses to negative affect that are more common in men who adhere to traditional masculine norms.

The key tenet of each of the theories described above is that individual differences in traditional gender socialization (specifically conformity to gendered norms or stress around violating gendered norms) should lead some men to be intolerant and avoidant of men's non-traditional expressions of negative affect. In other words, it has long been assumed that 1) men who have undergone strong gender socialization are avoidant of gender non-normative expressions of negative affect, and that 2) men's avoidance of such expressions is the reason that these men experience and express psychological distress differently. Although these hypotheses have been suggested often in clinical and theoretical literature on men and depression they have never been directly empirically tested.

### THE PRESENT STUDY

The goal of the present study was to determine if individual differences in masculine gender socialization are associated with men's responses to negative affect that violate mascu-

line gender norms. In this study, we measured conformity to masculine gender norms and masculine gender role stress to examine masculine gender socialization. This is because gender socialization itself is very difficult to measure, especially when considering Addis' gendered responding framework (2008). Such an examination of masculine gender socialization would require examining in great detail an individual's learning history with regard to gendered cues, responses, and relevant reinforcers and punishers. Rather, we examine the effects of masculine gender socialization under the assumption that those men who experience greater masculine gender socialization will be more likely to conform to hegemonic masculine norms and will experience more stress when those norms are violated.

Because we were interested in cued responding to violations of gender norms, and given the sensitivity of this responding to other contextual and cultural factors (Addis, 2008), it was important that we carefully consider the characteristics of our sample. In particular, we were interested in using a sample that was likely to be sensitive to those violations. In the present study we used an 18 to 30 year old sample. Recent research on the developmental phase of emerging adulthood suggests that men of this age have several characteristics that may make them particularly sensitive to gendered cues in the environment. In particular, individuals at this developmental stage are said to be engaged in a period of highly self-focused identity exploration (Arnett, 2004). In other words, more than at any other time of their lives, these individuals are free to investigate who they are with regard to a variety of identity related issues, not the least of which is how they orient themselves with regard to gendered norms. As identity construction often occurs through processes of social comparison and social referencing (Festinger, 1954; Stapel & Blanton, 2007), (i.e., examining contextual cues for reference points with regard to one's own thoughts, feelings, behaviors, and, ultimately, identity) it is likely that men at this developmental period pay particular interest to gendered cues in the environment. For many men, these cues may take the form of advertisements seen on television, the internet, etc. (Courtenay, 2000; Hargreaves & Tigge-mann, 2009). Arguably, men at this age are more likely to receive messages about various constructions of masculinity through the media than are older men. Because these men are still in the process of constructing their identities, and because they are exposed to such a variety of gendered cues and examples of responses to those cues, it is likely that these emerging adult men have a more diverse repertoire of responses to gendered cues than do older men, who are less likely to be engaged in such active identity construction processes. Furthermore, we exposed participants to violations of gendered norms via video stimulus in this study. That emerging adult men are likely exposed to gendered cues in contexts similar to the one we are experimentally providing is an asset, as is the potential diversity of their responses.

We proceeded from the theoretical frameworks of gendered responding (Addis, 2008) and Feldman-Barret's conceptualization of negative affect (2006). Both theories stress the importance of context in the expression of behaviors related to gender and the expression of negative affect. As such, it was important that the stimuli used in the study contain expressions of negative affect that violated masculine norms and pulled for men's gendered responses. We used a video clip of a young man violating traditional gender norms by expressing vulnerable emotions in the presence of another man. Because we chose a novel and otherwise untested video stimulus for this study, we thought it necessary to validate the video clip. In Study 1, we performed such a validation by seeking to determine whether the video contained gender-violating expressions of negative affect. In Study 2, we examined

the relationship between masculine gender socialization and men's responses to negative affect. We expected that men who reported strong gender socialization (in the form of masculine gender role stress and conformity to hegemonic masculine norms) would be more likely to experience fear/avoidant responses to the character's gender-norm-violating expressions of negative affect. Because the research question focused on avoiding and masking of negative affect, simply asking the participants to report on their current affect would not have been sufficient; their verbal reports could have easily been affected by traditional gender norms. For example, if a participant was asked whether the film clip made him sad or upset, traditional gender norms about expressing vulnerable emotions might influence him to say "no" regardless of his experience during the film. Instead, we recorded participants' physiological responses during the video. We expected that men who adhered more strongly to traditional masculine norms would exhibit a fear/avoidant response at a physiological level when exposed to stimuli where one man expressed emotions associated with negative affect while violating gendered norms in front of another man (e.g. crying, asking for help, and showing affection). As such, we developed and tested the following specific hypotheses. First, we hypothesized that there would be a positive relationship between scores on both measures of the effects of masculine gender socialization (conformity to masculine norms and masculine gender roles stress) and the number of fear/avoidant responses a participant had while watching the video of a man violating gendered norms. Second, we hypothesized an inverse relationship between scores on both measures of the effects of masculine gender socialization and scores on self-reported measures of negative affect.

## STUDY 1

### METHOD

#### Participants

Eleven (11) members of a small university in the Northeastern United States (faculty, staff, and students) participated in the study ( $M$  age = 20.63 years, age range 19 - 26,  $SD$  = 2.06, 9% Hispanic, 9% Middle-Eastern, 82% Caucasian). Recruitment methods included announcements in introductory psychology classes and snowballing. Prospective participants were told that they would be participating in the "Men and Movies Study" and that they would receive five dollars compensation for their time. None of the participants in the video validation portion of the study participated in the main study.

#### Video Stimulus

All video stimuli were displayed on a thirteen-inch LCD screen. Participants were given a set of headphones through which to listen to the accompanying audio for the video stimuli. They were given a few moments to adjust the volume on the headphones to a comfortable level prior to the start of the video clip.

Participants viewed an eight-minute segment of the film *Ordinary People* (Redford, 1980). During this scene, the primary character Conrad (Timothy Hutton) is in the midst of vivid flashbacks of his brother's death and he confides the depth of his pain about the event to his therapist, Tyrone (Judd Hirsch). Throughout the scene, Conrad violates masculine norms by

acting vulnerable (crying, asking for help, showing affection for another man, etc.) in front of another man (Tyrone).

There are a number of important reasons why we chose this clip in place of a more commonly used stimulus (“The Champ”, etc.). The goal in showing the clip was to expose participants to stimuli associated with negative affect. As previously mentioned, it was also important that the clip contain gendered content, especially the violation of hegemonic masculine norms surrounding inhibition of expressing vulnerable feelings. Because we conceptualized gender as a process or reaction that occurs moment to moment in social contexts, it was important that the stimulus pull for men’s gendered responses (Addis, 2008).

## **Procedure**

The same male researcher completed the treatment protocol for all study participants. Consent was obtained from participants after which they completed a brief survey about their movie preferences. This survey was not analyzed and served only to make the study seem as though it was about movie preferences. Participants were then told that they would be watching an eight-minute video clip and answering a few questions. They were told that at five points during and once at the end, the movie would pause. At this time the screen would instruct them to consider the main character’s behavior in the past fifteen seconds while answering a corresponding question. Participants were also given six sheets of paper, each asking the same question, corresponding to the pauses in the video.

To determine whether the main character in our video clip violated gendered norms related to emotional expression, we asked participants, “How common is it for a man to express emotion in this way?” Participants could respond that this behavior was very uncommon, uncommon, common, or very common. Participants were told that they would have twenty seconds to answer the question before the movie began playing again. They then watched the video clip. Participants were left alone in the laboratory while completing all measures and watching the video.

## **RESULTS**

There were no missing data from this portion of the study and all responses were valid. Responses (very uncommon, uncommon, common, very common) were re-coded (0, 1, 2, 3) for the purposes of statistical analysis. The median response across all moments was 1 or “uncommon.” Responses for all moments ranged from “very uncommon” to “common” (0 to 2). These results, as well as standard deviations of rating scores across all moments, can be found in Table 1.

## **DISCUSSION**

This study sought to validate an untested video stimulus of a man violating masculine gender norms around expression of soft and vulnerable affect. Results suggest that participants thought the main character in the video clip violated gendered norms surrounding emotional expression. As such, the video is an appropriate stimulus for Study 2.

Table 1  
*Modes, Ranges, and Standard Deviations of Video Validation Data*

<i>Moment</i>	<i>n</i>	<i>Mode</i>	<i>Minimum</i>	<i>Maximum</i>	<i>SD</i>
Crying Moment 1	11	1	0	2	.77
Crying Moment 2	11	1	0	2	.70
Crying Moment 3	11	1	0	2	.60
Asking for Help Moment 1	11	1	0	2	.75
Asking for Help Moment 2	11	1	0	2	.82
Affection Moment 1	11	1	0	2	.87

*Note.* Scores for the commonality of the main character's emotion expression were coded as 0 = very uncommon, 1 = uncommon, 2 = common, 3 = very common.

## STUDY 2

### METHOD

#### Participants

Thirty-six (36) male members of a small university in the Northeastern United States (faculty, staff, and students) participated in the study ( $M$  age = 21.40, age range 18 – 30,  $SD$  = 3.00, 3% Hispanic, 11% Asian, 86% Caucasian). Recruitment methods included flyers posted on campus and announcements in introductory psychology and biology classes to participate. Prospective participants were told that they would be participating in the "Men and Movies Study" and that they would receive twenty dollars compensation for their time.

#### Measures of Gender Socialization

**The Conformity to Masculine Norms Inventory (CMNI).** The CMNI (Mahalik et al., 2003) is a measure of the degree to which one endorses particular masculine norms. These norms are represented by eleven subscales; Winning, Emotional Control, Risk-Taking, Violence, Dominance, Playboy, Self-Reliance, Primacy of Work, Power Over Women, Disdain for Homosexuals, and Pursuit of Status. The CMNI is a 94-item questionnaire that asks people to rate their agreement with statements on a four-point Likert scale (strongly agree, agree, disagree, strongly disagree). Subscales are summed to produce a total score. Higher scores indicate a greater degree of conformity to masculine norms. The test-retest reliability for the CMNI for men is reported at .95 while internal consistency ranges from .72 to .91 (Mahalik et al., 2003). In the present study, Cronbach's  $\alpha$  was .90.

**The Masculine Gender Role Stress Scale (MGRSS).** The MGRSS (Eisler & Skidmore, 1987) is a measure of the amount of stress one feels in relation to not adhering to a particular masculine norm. It is a 40-item questionnaire that asks participants to rate the amount of stress they would feel in a given situation. It has five subscales; Physical Inadequacy, Emotional Inexpressiveness, Subordination to Women, Intellectual Inferiority, and Per-



formance Failure. Scores are summed to produce a total score for the measure, with higher scores indicating a greater degree of masculine gender role stress. The MGRSS is sufficiently reliable with test-retest reliability for a 2-week period reported at .93. The measure also has good internal consistency ( $\alpha = .90$ ) (Eisler et al., 1988). In our own data, Cronbach's  $\alpha$  was calculated to be .89.

### Measure of Self-Reported Affect

**Positive and Negative Affect Schedule (PANAS).** The PANAS (Watson, et al., 1988) is a measure of the participant's positive and negative affect during a given period of time (at the present moment, over the past day, few days, week, few weeks, month, year, and in general). Participants are asked to report the degree to which their present feelings correspond with the emotion words provided. This measure consists of 20 total emotion-words; ten positive affect words and ten negative affect words. Scores from negative affect items are summed to create a total score for negative affect, and scores from positive affect items are summed to create a total score for positive affect. Test-retest reliability was reported at between 0.39 and 0.71 depending upon the length of time (present moment, past day, past few days, etc.) and type of affect (positive or negative) the participant was reporting on. Internal consistency was reported at between 0.84 and 0.90, again, depending upon the length of time and type of affect that the participant was reporting on. In the present study, Cronbach's  $\alpha$  was .80 for the first administration of the PANAS and .83 for the second administration.

### Psychophysiological Measurement

Physiological state was monitored for a portion of the experiment. Specifically, participants' heart rate (via echocardiogram or ECG), galvanic skin response (GSR) and skin temperature were measured and recorded using a MP35 high-performance data-acquisition unit (BIOPAC Systems Inc.). This unit was connected via USB 2.0 to a Dell desktop (3.0 gigahertz Pentium R Processor with 1 gigabyte of RAM) running Windows XP. Signals from the data-acquisition unit were recorded using AcqKnowledge software (Biopac, Santa Barbara, CA) at a sample rate of 200 Hz. The skin temperature lead was attached to the volar surface of the participants' right medial phalange (just below the fingertip of the right middle finger). Signals from the skin temperature lead passed through two digital filters. The first was a 1Hz low pass filter and the second, a .05 Hz high pass filter. GSR leads were attached to electrodes on the opposite hand on the same portion of the participants' index and middle fingers. Skin conductance level (SCL) was recorded using constant voltage (0.166 VDC) (calibration = +/- 3%; range 0-50 micromohs). We used Signa electrode gel to assure appropriate conduction between the participants' skin and the electrode (conductivity not less than 40,000 microohms; impedance 2.5 ohms or less). A Lead II configuration was used to connect the three ECG leads; the positive and negative leads were attached to electrodes on the medial portion of the participants' left leg and ventral portion of the participants' right forearm, respectively. The ground lead was attached to the medial portion of the participants' right leg. This configuration was used (rather than a Lead I configuration) to avoid having participants remove their shirts in order to attach ECG leads. We felt that this could make participants unnecessarily uncomfortable. ECG signals passed through several digi-

tal filters. The first was a high pass hardware filter of 0.05 Hz used to screen out low frequency noise. There were also two low pass filters of 66.5 (quality factor of attenuation  $Q = 0.5$ ) and 38.5 ( $Q = 1$ ) Hz, along with a 60 Hz centered band stop filter ( $Q = 1$ ), to screen out high frequency noise.

### **Video Stimulus**

The presentation of all video stimuli in this study was identical to that of Study 1. Video stimuli were displayed on a thirteen-inch LCD screen and participants were given a set of headphones through which to listen to the accompanying audio for the video stimuli. They were given a few moments to adjust the volume on the headphones to a comfortable level prior to the start of the video clip.

Participants were first shown a two-minute movie clip of a neutral stimulus (colored bars appearing and disappearing against a black background) (Gross & Levenson, 1995) immediately after which they viewed the eight-minute segment of *Ordinary People* (Redford, 1980) validated in Study 1.

### **Procedure**

The same male researcher completed the treatment protocol for all study participants. This started by obtaining consent from participants, and then describing that the study was about movie preferences. Participants were first connected to the physiology equipment. This step was performed first so that the participants' skin temperature would be recorded accurately; the skin temperature lead must be given time to warm from room temperature to the temperature of the participant's finger. Participants were then asked to fill out the CMNI, MGRSS, and PANAS. Participants were also given a brief survey about their movie preferences. This survey was not analyzed and was given only to make the study seem as though it were about movie preferences. Participants were alone in the research laboratory while they completed these self-report measures. Upon completing these measures, the researcher re-entered the room to collect the questionnaires and turn on both the video and the psychophysiological equipment. The researcher also asked that participants remain very still throughout the video so as to avoid any movement artifacts in psychophysiological measurement. The researcher then left the room and participants watched the video clip described above alone. Participants' heart rate (HR), galvanic skin response (GSR), and skin temperature (ST) were monitored throughout the presentation of the neutral video in order to determine baseline physiology, and also during the video stimulus. At the conclusion of the video, participants once again completed the PANAS, and were alone in the room as they did so. Participants were thanked for their participation and received twenty dollars for participating in the study.

### **Moments of Interest and Fear/Avoidant Responses**

We identified several specific moments of interest in the eight-minute long video stimulus. These were moments when the main character expressed negative affect in a non-traditional manner. We identified a total of six such moments. During these moments the main character was crying, asking for help, or showing affection toward his therapist. Specifically,

the main character engages in three separate moments where he is crying, then two separate moments in which he is asking for help, and finally, one moment in which he is showing affection for another man. These clips were each approximately 20 seconds in length. Data for each of these moments, including baseline, were obtained by averaging a participant's responses throughout the course of the given clip. For example, participants watched a two-minute-long neutral video stimulus while we determined their baseline physiological state. Physiological data were collected at hundreds of sub-second intervals during the entire two-minute clip. These data were then averaged to produce one number per type of physiological measurement (HR, GSR, and ST) per participant.

We calculated standardized residual scores between the participants' physiological state during baseline and during the video stimulus. Because the goal of the study was to determine if participants avoided negative affect, it was important to operationalize avoidance. Previous research has shown that an avoidant or fear response is characterized by an increase in HR and a drop in ST (Eckman, et al., 1983; Kreibig, et al., 2007; Levenson, et al., 1990). As such, participants whose HR increased and ST decreased in a given moment compared to baseline scores were assumed to have had a fear/avoidant response to that moment's associated stimulus. Fear/avoidant responses across all moments were summed together and were also grouped into three categories based on the specific non-traditional ways the main character expressed soft and vulnerable affect. These were crying, asking for help, and showing affection. We then summed participants' fear/avoidant responses during these groups of moments.

## RESULTS

### Overview of Data Cleaning and Statistical Analyses

We conducted a series of both one-tailed and two-tailed bivariate correlations to address our research questions. While we report on both statistical significance of relationships as well as effect sizes and confidence intervals, we focus more on the latter two as suggested by Cohen (1994), Cohen, et al. (2003), Cumming (2008), Cumming and Fidler (2009) Meehl (1978), Schmidt (1996), and Wilkinson and the APA Task Force on Statistical Inference (1999). We use cut-offs described by Cohen (1988) to describe the strength of correlations and effect sizes.

Prior to conducting analyses, all psychophysiological data were cleaned for movement artifacts. As a result of this cleaning, one participant's ECG data was determined to be too distorted to clean or analyze. As ECG data are needed to determine whether a participant had a fear/avoidant response, this participant's data were removed from the analysis. Cleaned data from the remaining 35 participants were analyzed. Neither the participants' age nor ethnicity were statistically related to their responses.

Change scores for the PANAS were calculated by regressing post-video scores from pre-video scores. This was done separately for positive and negative affect. The resulting scores allowed us to see how participants' positive and negative affect had changed as a result of having viewed the video stimulus. In order to assess participants' changes in negative affect, we performed a paired-samples t-test on pre- and post-video stimulus PANAS scores for negative affect. This test yielded an effect size of .32,  $t(34) = -1.63$ ,  $p = .11$ , 95% CI [-3.40, .37] with post-video negative affect being higher than pre-video scores.

Bivariate correlations were conducted between self-report measures (scores on the CMNI, MGRSS, and change scores for positive and negative affect derived from the PANAS) and the number of instances during which participants experienced fear/avoidant responses during moments of negative affect. These results can be seen in Table 2.

In general, participants experienced at least one fear/avoidant response while watching the video stimulus ( $M = 1.4$ ,  $SD = 2.0$ ) while reporting normal levels of physiological arousal at baseline for both HR ( $M = 73.0$ ,  $SD = 8.2$ ) and ST ( $M = 92.3$ ,  $SD = 2.7$ ). Participants' average score on both the CMNI ( $M = 124.4$ ,  $SD = 23.6$ ) and MGRSS ( $M = 75.0$ ,  $SD = 23.6$ ) were comparable to those reported in other studies using these measures (Jakupcak et al., 2002; Mahalik et al., 2003). Means and standard deviations for all dependent variables can be found in Table 3.

### Power Analysis

Given the study's small sample size, we thought it pertinent to conduct a power analysis. The analysis was performed using the program G Power 3.0. We analyzed power for correlations between measures of masculine gender socialization (CMNI and MGRSS) and other study variables (fear/avoidant responses, affect) as our hypotheses focused on the relationship between masculine gender socialization and these other variables. Overall, power for correlations supporting the study's main hypotheses approached 0.8, the recommended cutoff for power analyses (Cohen, et al., 2003). Additionally, a binary distribution among effect sizes and their relative power was observed, with correlations between measures of masculine gender socialization and fear/avoidant responses tending to group around 0.3 (indicative of a medium effect size per Cohen, 1988) and all other correlations tending to group around 0. These results can be seen in Table 4. Based on the binary distribution of effect sizes, and our power analyses, we concluded that the study had adequate power to detect statistically significant relationships among the medium effect sizes found for hypothesized relationships between variables.

### Hypothesis 1: Is there a relationship between masculine gender socialization and physiological responses to expressions of negative affect that violate masculine gender norms?

We hypothesized that participants' scores on measures of the effects of gender socialization would be positively related to the number of fear/avoidant responses they experienced while watching the video stimulus. We conducted a bivariate correlation between participants' fear/avoidant responses during negative affect across all moments and their total scores on the CMNI. This yielded a moderate-sized correlation,  $r = .34$ ,  $p < .05$ , 95% CI [.01, 0.60]. A similar analysis between fear/avoidant responses and scores on the MGRSS yielded a correlation of .18, *ns*, [-.16, .48]. Analysis of moment groups reveals a significant, moderate-sized correlation between scores on the CMNI and fear/avoidant responses during moments where the main character was crying,  $r = .41$ ,  $p < .05$ , [.09, .65]. The correlation between scores on the MGRSS and fear/avoidant responses during these moments was characterized by a small effect size,  $r = .28$ , *ns*, [-.05, .56]. A bivariate correlation between scores on the CMNI and participants' fear/avoidant responses while the main character was asking showing affection yielded a small but nonsignificant effect,  $r = .32$ , *ns*, [-.01, .59]. A similar correlation between scores on the MGRSS and participants' fear/avoidant responses

Table 2  
Correlations Matrix

Variable	1	2	3	4	5	6	7	8
1. CMNI	-	.49** [.19, .71]	.34* [.01, .60]	.41* [.09, .65]	.07 [-.27, .39]	.32 [-.01, .59]	-.35* [-.61, -.02]	-.09 [-.41, .25]
2. MGRSS		-	.18 [-.16, .48]	.28 [-.05, .56]	-.03 [-.36, .31]	.06 [-.28, .39]	-.10 [-.42, .24]	.02 [-.26, .40]
3. Fear/Avoidant Responses During All Moments			-	.92** [.85, .96]	.77** [.59, .88]	.71** [.49, .84]	-.11 [-.43, .23]	-.02 [-.35, .32]
4. Fear/Avoidant Responses During Crying				-	.50** [.20, .71]	.57** [.29, .76]	-.11 [-.43, .23]	-.12 [-.44, .22]
5. Fear/Avoidant Responses During Asking for Help					-	.42** [.1, .66]	-.05 [-.38, .29]	.16 [-.18, .47]
6. Fear/Avoidant Responses During Affection						-	-.05 [-.38, .29]	-.02 [-.35, .32]
7. PANAS Δ Positive Affect							-	-.44** [-.67, -.13]
8. PANAS Δ Negative Affect								-

Note. 95% Confidence Intervals appear below each correlation and are offset by brackets. CMNI = Conformity to Masculine Norms Inventory (scale endpoints, 0 – 282), MGRSS = Masculine Gender Role Stress Scale (scale endpoints 0 – 160), PANAS Δ Positive Affect = Standardized residual scores after regressing time two scores on to time one scores from the Positive and Negative Affect Schedule for positive affect items, PANAS Δ Negative Affect = Standardized residual scores after regressing time two scores on to time one scores from the Positive and Negative Affect Schedule for negative affect items. *n* = 35 in all cases.

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

Table 3  
Means and Standard Deviations

Measure	<i>n</i>	<i>M</i>	<i>SD</i>
Age	35	21.4	3.0
CMNI	35	124.4	21.2
MGRSS	35	75.0	23.6
Fear/Avoidant Responses During All Moments (6)	35	1.4	2.0
Fear/Avoidant Responses During Crying Moments (3)	35	0.8	1.2
Fear/Avoidant Responses During Asking for Help Moments (2)	35	0.5	0.8
Fear/Avoidant Responses During Affection Moments (1)	35	0.2	0.4
PANAS $\Delta$ Positive Affect	35	-1.5	7.8
PANAS $\Delta$ Negative Affect	35	1.5	5.5
HR at Baseline	35	73.0	8.2
ST at Baseline	35	92.3	2.7
Change in HR between Baseline and Crying Moments	35	0.0	0.9
Change in ST between Baseline and Crying Moments	35	0.0	1.0
Change in HR between Baseline and Asking for Help Moments	35	0.0	0.8
Change in ST between Baseline and Asking for Help Moments	35	0.1	0.9
Change in HR between Baseline and Affection Moments	35	0.0	1.0
Change in ST between Baseline and Affection Moments	35	0.1	0.9

*Note.* CMNI = Conformity to Masculine Norms Inventory (scale endpoints, 0 – 282), MGRSS = Masculine Gender Role Stress Scale (scale endpoints 0 – 160), for all video clip moments, numbers in parentheses denote the number of total moments in each category, PANAS  $\Delta$  Positive Affect = Standardized residual scores after regressing time two scores on to time one scores from the Positive and Negative Affect Schedule for positive affect items, PANAS  $\Delta$  Negative Affect = Standardized residual scores after regressing time two scores on to time one scores from the Positive and Negative Affect Schedule for negative affect items, HR = hear rate in beats per minute, ST = skin temperature in °F.

Table 4  
Power Analysis

Variable	<i>r</i>	<i>p</i>	Power
CMNI by F/A responses across all moments	.34	.04	.53
CMNI by F/A responses during crying	.41	.01	.71
MGRSS by F/A responses across all moments	.18	.31	.18
MGRSS by F/A responses during crying	.28	.10	.38
CMNI by F/A responses during asking for help	.07	.68	.07
MGRSS by F/A responses during asking for help	-.03	.89	.05
CMNI by F/A responses during affection	.32	.06	.48
MGRSS by F/A responses during affection	.06	.74	.06
CMNI by PANAS $\Delta$ Negative Affect	-.09	.63	.08
MGRSS by PANAS $\Delta$ Negative Affect	.02	.92	.05
CMNI by PANAS $\Delta$ Positive Affect	-.35	.04	.55
MGRSS by PANAS $\Delta$ Positive Affect	-.10	.57	.09

*Note.* F/A responses = fear/avoidant responses, CMNI = Conformity to Masculine Norms Inventory (scale endpoints, 0 – 282), MGRSS = Masculine Gender Role Stress Scale (scale endpoints 0 – 160)

during these moments yielded nonsignificant results,  $r = .06$ , *ns*, [-.28, .39]. Scores on neither the CMNI nor the MGRSS were significantly correlated with participants' fear/avoidant responses while the main character was asking for help. These results can be seen in Table 2.

### **Hypothesis 2: Is there a relationship between gender socialization and men's self-reported responses of negative affect?**

We hypothesized that participants' scores on measures of the effects of masculine gender socialization would be inversely related to their scores on self-reported measures of negative affect. However, bivariate correlations did not reveal such a relationship CMNI,  $r = -.09$ , *ns*, [.41, .25], MGRSS,  $r = .08$ , *ns*, [-.26, .40]. At the same time, it is important to note that participants' change in positive affect was negatively correlated with scores on the CMNI,  $r = -.35$ ,  $p < .05$ , [-.61, -.02]. This relationship suggests that participants who more strongly endorsed hegemonic masculine norms were more likely to report experiencing less positive affect at the end of the video clip than they had prior to it. Additionally, it is worth noting that there were no significant relationships between participants' fear/avoidant responses across any and all moments and self-reported experiences of positive or negative affect.

## **DISCUSSION**

The primary purpose of the study was to determine if individual differences in masculine gender socialization (as measured by conformity to hegemonic masculine norms and masculine gender role stress) are associated with men's psychophysiological responses to expressions of negative affect that violate masculine gender norms. It was hypothesized that men who reported stronger adherence to traditional masculine norms would be more likely to exhibit fear/avoidant responses in the presence of masculine-gender-norm-violating expressions of negative affect. Results from the present study lend support to this hypothesis. Men who scored higher on a measure of conformity to masculine norms were more likely to respond with fear at a physiological level when viewing a video of another man displaying soft, vulnerable affect in a non-traditional way (e.g., intense sobbing). This finding lends support to theories that are based on the assumption that some men, as a function of gender socialization, are fearful or avoidant of such expressions of negative affect (Addis, 2008; Cochran & Rabinowitz, 2000; Real, 1997). While this notion has been suggested repeatedly in theoretical and clinical literature on men and emotion, it has never been demonstrated empirically at the level of psychophysiology. Thus, the current findings lend further support to self-report studies finding associations between adherence to masculine norms and restricted emotional expression (Eisler, 1995; Good & Wood, 1995; Levant et al., 2006; Wong et al., 2006). They also suggest one potential mechanism behind restricted emotionality. Men who adhere more strongly to traditional masculine norms may be restricting their ability to experience emotions because of fear responses in the presence of others' (and possibly their own) vulnerable negative affect. Whether this is a conscious process of emotional inhibition or a more automatic conditioned process of fear/inhibition is unclear (Wong, et al., 2006). Continued use of psychophysiological methods in future research may help tease apart the degree to which men are aware of fear, inhibition, and other responses to vulnerable negative affect.

These findings also suggest a mechanism by which some men may come to express a unique constellation of symptoms when experiencing depression; men who, as a result of masculine gender socialization, have learned to avoid expressions of negative affect may, in turn, engage in more gender-conforming externalizing behaviors and moods, many of which are destructive (substance abuse, violence, anger, irritability, etc.). It is these behaviors that constitute the constellations of symptoms most often associated with unique expressions of depression in men (Cochran & Rabinowitz, 2000; Real, 1997).

Men who adhered more strongly to masculine norms were more likely to exhibit a fear/avoidant response when watching one man cry in front of another man. Interestingly, this was the strongest relationship observed in the study. This suggests that there may be something specific about crying as an expression of negative affect. In the current case, the main character in the movie clip was completely overwhelmed by his negative affect and was unable to express it in a more gender-conforming fashion. In contrast, the main character does not appear overwhelmed or flooded by his negative affect when performing other gender-violating behaviors; asking for help or hugging his therapist. In both of these cases he is still sad and emotional, but is not overcome by his emotions. Thus, it may be the lack of "control" that elicited fear in some participants. Alternatively, it may be the sight of tears, specifically, that elicited this fear. As there appeared to be something particular about crying as a stimulus in the current study, future research might productively focus on what it is specifically about the nature of crying that is fearful for some men. Understanding this relationship has obvious clinical implications for helping men work through vulnerable emotions.

Alternatively, it is also important to consider those men who did not experience a fear/avoidant response while watching another man cry. These men tended to score lower on the CMNI and were less likely to conform to hegemonic masculine norms. It is possible that the lack of restrictive gendered norms surrounding other men and expressions of negative affect allowed these men to have an empathic response towards the main character in the movie (rather than one of fear and avoidance). While it is important to understand men's fearful and avoidant responses to another man crying, it is equally important that future research examine positive, empathic experiences between men.

While adherence to hegemonic masculine norms was clearly related to fear/avoidant responses, the relationship between these responses and masculine gender role stress was less apparent. Scores on the MGRSS were not significantly correlated with fear/avoidant responses across all moments or within any specific groupings of moments. However, correlations between the MGRSS and fear/avoidant responses yielded small effect sizes. It seems possible that there are important differences in what participants are being asked to report on the MGRSS as opposed to the CMNI. The MGRSS relies on participants' conscious awareness of the stress they would feel in response to the violation of gendered norms. It is possible that, paradoxically, those men who are aware that they find violations of gender norms stressful are not those who respond with fear. It may be that those who respond with fear are less aware of their sensitivity to violations, and because the CMNI is a less transparent measure of sensitivity to gender norms, men that respond in this way tend to score higher on the CMNI.

The study was not designed to specifically test whether masculinity was related to any form of masking of emotions. However, the correlation between scores on the CMNI and changes in positive affect,  $r = -.35, p < .05, [-.61, -.02]$  may provide some evidence of men



masking emotions. Overall, men reported feeling worse after watching the video stimulus (i.e. more negative affect); however this negative affect was not associated with adherence to masculine norms. In contrast, participants reported less positive feelings, which were associated with adherence to masculine norms. It seems possible that gendered norms did not prevent these men from reporting fewer positive feelings. This is consistent with prior research demonstrating a relationship between adherence to masculine norms and depressed mood (Good & Wood, 1995; Magovcevic & Addis, 2008). Considering that a decrease in positive affect is associated with low mood (Clark & Watson, 1991), this finding suggests that more traditional men may be better able to describe feelings associated with low-mood (a decrease in positive affect), but not the fear and other negative feelings underlying it (negative affect). This finding also lends support to longstanding clinical observations. Clinicians have suggested that some men experience and express depression in non-traditional ways (Real, 1997). In particular, their constellation of symptoms does not include any form of sadness but, rather, these men are described as having flat affect or a lack of positive emotions.

### **Limitations and Future Research**

There are some limitations to the present study that should be considered when interpreting the results. It is worth noting that despite the study's focus on measures of effect size and confidence intervals, the study's sample size was relatively small. However, our power analysis revealed not only that power approached appropriate levels for several of the study's main findings, but also that there was a clear distinction with regard to the effect size of correlations that supported the study's main hypotheses (near or exceeding 0.3). Additionally, those correlations that were irrelevant to the study's main hypotheses or inconsistent with them grouped around 0. This binary distribution of effect sizes provides evidence that these observed relationships between self-report measures of the effects of masculine gender socialization and psychophysiological fear/avoidant responses are indicative of the overarching hypothesized relationship between masculine gender socialization and men's phobic responses to negative affect.

Furthermore, despite attempts to recruit a diverse population, the study sample was relatively homogeneous in regard to ethnicity (primarily White). It should also be noted that all participants were recruited from the same university in the Northeastern United States. Furthermore, as was mentioned in the introduction, our sample consisted entirely of emerging adults. While this lack of diversity with regard to age, race, and geography may limit the generalizability of the study's findings, it is also important to consider the breadth of diversity with regard to responses to gendered cues. As was mentioned in the introduction, there is reason to believe that emerging adult men will exhibit a wider variety of responses (both physiological and self-reported) when exposed to gendered cues than would older men.

It is also important to note that participants were administered several dependent measures before watching the video stimulus and before physiological responses were recorded. Many of these measures were likely inconsequential (demographics, the PANAS). However, it seems possible that participants may have been primed as a result of completing the CMNI and that this priming may have had an effect on their responses to the video stimulus. As the goal of the study was to examine the relationship between masculine gender socializa-

tion and responses to expressions of negative affect that violated masculine gender norms, it was important that the men in the study respond in a gendered way to the stimulus. In keeping with Addis' (2008) gender responding framework, it was important that the context of the study pull for men's gendered responses. As such, administering the CMNI prior to having participants watch the video stimulus further ensured that men would respond in a gendered way. Future research could investigate such a priming effect in detail as a way of bringing about gendered responses as suggested by Addis (2008).

Another potential criticism of the study's method could be the lack of a control condition. In this study, all participants watched the same video of a man violating hegemonic masculine norms surrounding the expression of negative affect. This may prompt curiosity about how study participants may have responded to a different video, and how these responses would compare to those examined in this study. However, it is important to remember the study's research question; whether individual differences in masculine socialization affect men's responses to negative affect. As such, this study makes use of a between subjects design for which, by its nature, a control condition would be inappropriate. If the study's main question was to determine whether men as a whole, regardless of masculine gender socialization, experienced fear/avoidant responses to negative affect, then a between subjects design with a control condition would have been warranted.

It is also important to consider the degree to which participants were responding to the expressions of negative affect in the video or to their own negative affect. While we approached our analyses assuming the former, there is some evidence to suggest that the latter is equally possible. Participants' self-reported negative affect increased after watching the video clip. While these indices were gathered from self-report data, we would expect that if participants had any reporting bias it would be to underreport. There is some evidence that men tend to underreport mental health symptoms (Hunt, 2003), and it is plausible, especially when considering gendered norms about self-reliance and help-seeking, that this trend is applicable to some men's reporting of soft, vulnerable, or negative affect. This suggests that our video stimulus may have acted as a mood induction; participants may have identified with the video clip's main character, experienced negative affect, and had a fear/avoidant response to their own negative affect. In either case (whether study participants were responding to another man's expressions of negative affect or to their own negative affect) results suggest that men are fearful and avoidant of negative affect as a function of masculine gender socialization.

While the current study provides new insights about masculine gender socialization and psychophysiological responses to negative affect, we are left with a number of new and intriguing questions. Primarily, we have yet to understand whether or not some men are aware of their own process of avoidance. How do these men feel as they experience another man's expression of negative affect? Are they aware of their avoidant responses, or is this an unconscious process? Also, to what degree are these men responding to their own experiences of negative affect? Clearly, further research is needed to determine exactly how these phenomena interact.

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