

7-1-2015

# Anger and Hostility as Primary Externalizing Features of Depression in College Men

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*Some have suggested that Major Depressive Disorder diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5) may not capture the full range of depressive symptoms of some men who adhere to hegemonic masculine gender role norms. The purpose of this study was to examine the ability of several proposed externalizing variables to predict masculine depression in a sample of men (n = 169). A stepwise multiple regression process was used, in which three models were analyzed. The analysis indicated that hostility and anger were the only variables predictive of masculine depressive symptoms. Additional implications for clinical assessment, limitations of the study, and suggestions for future research are addressed.*

**Keywords:** masculine depression, major depressive disorder, traditional masculinity ideology, anger, hostility, substance use

Epidemiological investigations of Major Depressive Disorder (MDD) diagnostic rates historically demonstrate notable discrepancies in prevalence and incidence rates between men and women. Over the course of a lifetime, approximately 13% of men and 20% of women in the United States are expected to develop MDD (Kessler et al., 2005). In contrast, men engage in substance abuse and commit suicide at notably higher rates than women (Centers for Disease Control and Prevention, 2012). Therefore some have suggested that the diagnostic criteria encompassed in the *Diagnostic and Statistical Manual of Mental Disorders* which is now in its fifth edition (American Psychiatric Association, 2013) may not adequately capture the full range of depressive symptoms, specifically when depression is experienced by men who adhere to hegemonic masculine gender role norms. This perspective, that some men may present with atypical depressive symptoms has received increased amounts of focus in research and is noted by both the American Psychological Association (APA, 2005) as well as the National Institute of Mental Health (NIMH, 2014) as a significant issue in the diagnosis of depressive disorders.

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## MASCULINE VARIATIONS OF DEPRESSIVE SYMPTOMS

The rapidly increasing body of literature on atypical presentations of depression in men currently includes theoretical discussions on the influence of masculinity on depressive symptom presentation (e.g. Addis, 2008; Fields & Cochran, 2010; Kilmartin, 2005; Lynch & Kilmartin, 2013; Oliffe & Phillips, 2008), conceptual models of atypical depressive symptoms in men (Cochran & Rabinowitz, 2000; Pollack, 1998), several measures to assess symptoms of masculine depression (Fields, 2010; Magovcevic & Addis, 2008, Rice, Fallon, Aucote, & Möller Leimküller, 2013; Rutz, von Knorring, Pihlgren, Rhimer, & Walinder, 1995), as well as results of investigations of atypical depressive symptoms in some ethnic minority groups of men (Perkins, 2013; Watkins, Abelson, & Jefferson, 2013).

With an increased level of focus on understanding the range of depression symptoms in traditional men, one of the current issues in the study of depression is the clarification of terminology and range of symptomatology associated with atypical depression in men (Addis, 2008; Genuchi & Valdez, 2014), which has been termed masculine depression (Kilmartin, 2005; Magovcevic & Addis, 2008), male depression (Rice, Fallon, Aucote, & Möller Leimküller, 2013; Rochlen, Whilde, & Hoyer, 2005), masked depression (Cochran & Rabinowitz, 2000, 2008), and major depression-male type (Pollack, 1998). The specific term masculine depression as conceptualized by Addis (2008) as well as Magovcevic and Addis (2008), is a phenotypic variant of prototypic depression. Within this conceptualization, the fundamental negative core affect (e.g. low mood, stress, lethargy) of the depressive disorder is the same or similar, whether a man experiences prototypic or masculine depression (Green & Addis, 2012; Russell & Barrett, 1999). Masculine depression and prototypic depression therefore, are not mutually exclusive syndromes, and masculine depression may include a conglomeration of symptoms that are both prototypic and masculine in nature. Moreover, each individual man's subsequent expression of depressive symptoms will then be influenced by a variety of factors, including each man's history of masculine gender role socialization. Those individuals adhering more strongly to traditional masculine norms would be expected to present with more masculine symptoms but not necessarily exclusively masculine symptoms.

Such a conceptual understanding of masculine depression as a phenotype or subtype of prototypic depression provides a rationale for men endorsing prototypic as well as masculine depressive symptoms. Therefore a primary focus of research on masculine depression has been on the investigation of the broad range of symptoms reported by men, as well as the relationship between these symptoms and men's adherence to hegemonic masculine gender role norms. However, a large proportion of the focus on masculine depression has been on a cluster of symptoms that are frequently referred to as externalizing symptoms (Magovcevic & Addis, 2008; Möller Leimküller & Yücel, 2009; Rice, Fallon, Aucote, & Möller Leimküller, 2013).

### EXTERNALIZING SYMPTOMS AS PRIMARY FEATURE OF MASCULINE DEPRESSION

Men are more likely to express vulnerable emotions in an externalized manner because the expression of emotions such as sadness is inconsistent with hegemonic masculine gender role norms (Levant, 1996). Emerging empirical evidence focused on depression in men is consistent with this understanding that men may be more likely to externalize vulnerable emotions such as depression through anger, irritability, aggressive behaviors, risk-taking behaviors, and substance abuse. For example in their recent re-examination of data col-

lected through the National Comorbidity Survey-Replicated (NCS-R), Martin, Neighbors, and Griffith (2013) incorporated externalizing symptoms such as irritability, aggression, anger, alcohol/drug abuse, risk taking behaviors, and hyperactivity into their analysis of diagnostic rates of Major Depressive Disorder. After the inclusion of externalizing depressive symptoms into their measurement of MDD, Martin et al. (2013) discovered that, (a) NCS-R prevalence rates of MDD in men were in fact higher than women when externalizing symptoms were used as the sole diagnostic criteria for depression, and that (b) prevalence rates between sexes were equivalent when using both prototypic and externalizing symptoms in their measure of depression. Research focused specifically on samples of men also indicates that men who adhere more strongly to hegemonic masculine gender role norms are more likely to endorse externalizing symptoms (Magovcevic & Addis, 2008; Rice et al., 2013). Overall, such attempts to broadly incorporate externalizing symptoms into the framework of depressive disorder diagnosis appear to suggest that externalizing symptoms may be an important feature in the clinical presentation of depressed men, in particular men that adhere more strongly to traditional masculine gender role norms.

Other research has focused more on specific externalizing symptoms of depression in men, most notably anger and substance use. For instance men are at an increased risk of presenting with certain externalizing depressive features such as irritability (Möller Leimkuhler, Heller, & Paulus, 2006), depression associated with “anger attacks” (acute episodes consisting of rapid heart rate, shortness of breath, sweating, shaking, feeling out of control, feeling like attacking others, aggressive behaviors such as throwing objects, and feelings of guilt after the attack) (Winkler, Pjerk, & Kasper, 2005), and significant levels of trait anger associated with depressive symptoms (Genuchi & Valdez, 2014).

Additionally, the lifetime prevalence rate of substance use disorders for men in the United States (41.8%) is considerably higher than diagnostic rates for women (29.6%) as well as significantly higher than prevalence rates of Major Depressive Disorder (13.2%) in men (Kessler et al., 2007; Marcus et al., 2008). Examination of these prevalence rates alone does not necessarily indicate that substance abuse is a means that men use to externalize negative affect associated with depressed mood; however, a focused review of recent research appears to provide additional insight regarding the relationship between substance abuse and depression in men. In multiple qualitative investigations of the experiences of depression in men, men describe substance use (primarily alcohol and marijuana use) associated with their depressed mood as a method of mood management that is consistent with hegemonic masculine gender role norms (Chuick et al., 2009; Lindsey & Marcell, 2012, Rochlen, 2010).

Alternatively, not all research supports the theory that men are likely at a greater risk than women of developing depressive symptoms with prominent externalizing features. In their analysis of the relatively large Sequenced Treatment Alternatives to Relieve Depression Study (STAR\*D), Marcus et al. (2008) found that women were significantly more likely than men to endorse symptoms of irritability in conjunction with other prototypic depressive symptoms. Similarly, in their evaluation of the National Comorbidity Survey-Revised (NCS-R) data, Fava et al. (2010) found that women were more likely than men to report symptoms of depression with irritability. Externalizing symptoms consistent with masculine depression have also been shown to be prominent in both men and women college students (Möller Leimküller & Yücel, 2009). Therefore, an expanding body of evidence examining depressive symptoms in groups of men suggests externalizing depressive symptoms such as anger and substance abuse are features of the overall depressive symptoms presentation in some men. However, other evidence suggests that externalizing depressive symptoms

can also occur in women and that irritable depression may even be more prevalent in women. Such variability in findings suggests that we are still learning a great deal about the broad range of factors associated with externalizing depressive symptoms, including how those symptoms may be related to a masculine variation of depression. Further study of the nature of externalizing depressive symptoms in men may provide valuable understanding regarding such features as anger and substance use as components of masculine depression in traditional men and subsequently inform the clinical assessment process for depression in men.

## PURPOSE

The primary purpose of this study was to examine an extensive set of proposed externalizing variables hypothesized as indicative of masculine depression in a sample of college men. Psychological distress, including depression, is an established concern in college populations, including college men (American College Health Association, 2013; Oliffe, Galdas, Han, & Kelly, 2012; Oliffe et al., 2010); therefore, college men were considered an important target group for investigation of masculine depression. Consistent with the extant literature focused on atypical depression in traditional men, we hypothesized that all externalizing variables would predict men's endorsement of masculine depression symptoms.

A secondary purpose of this study was to more specifically investigate anger, hostility, and aggression as features of depression in men in need of further clarification. Genuchi and Valdez (2014) found that more traditional men reported increased anger in conjunction with depressive symptoms but those men did not also report outwardly expressing their anger. Therefore we sought to extend Genuchi and Valdez's (2014) research by further investigating anger and depression in men, but while also investigating anger in a more complete and nuanced manner by examining hostility as well as multiple factors of expressed anger, including physical aggression and verbal aggression. Consistent with theory on masculine depression, we hypothesized that all anger-related variables would predict masculine depression symptoms in men; however, we were particularly interested in testing whether these results would be consistent with general masculine depression theory or recent results reported by Genuchi and Valdez (2014).

## METHODS

### Participant Characteristics

Participants were recruited from the student population of a large, urban, public university in the Northwest United States. The sample consisted of 169 male participants who were primarily White (82%), single-never married (66.7%), and heterosexual (93.5%). The participants had a mean age of 22.36 years-old ( $SD = 4.75$ ) and an average yearly income of \$US 23,578.12 ( $SD = 32730.12$ ). Participants additionally endorsed the following ethnicities: Latino/a (8%), Asian (2%), Black/African American (1%), Native Hawaiian/Pacific Islander (1%), Mixed Ethnicity (5%), and Other ethnicity (1%). Participants also reported their relationship status as follows: Married (11.8%), Living with Significant other (10.1%), dating or on a relationship (8.3%), and Divorced (3.0%). Additionally, participant reported their sexual orientation as gay (5.3%), and bisexual (1.2%). The sample also consisted of a majority of freshman level students (57.4%) but also included students at the sophomore (26.6%), junior (13.6%), senior (1.2%), and graduate (1.2%) levels.

## Sampling Procedures

Data in this study were collected through an anonymous online survey. An internet-based survey method of data collection presented a number of benefits (ease of administration, low cost, high degree of availability to participants) for conducting the data collection process. All instructions and questions from the measures were transcribed into electronic surveys using a website that specializes in Internet survey research ([www.qualtrics.com](http://www.qualtrics.com)). The sample was created by recruiting general psychology students, who received course credit for participation. Participation in the study was entirely voluntary, confidential, and approved by the university's Institutional Review Board.

## Measures

**Masculine Depression Scale.** The Masculine Depression Scale (MDS; Magovcevic & Addis, 2008) is a 44-item self-report measure developed to assess symptoms characteristic of a masculine form of Major Depressive Disorder. Participants are asked to rate how often each item is true for them during the past two weeks. The items are rated on a 4-point Likert scale (1 = none or little of the time, 2 = some of the time, 3 = most of the time, 4 = all of the time). The MDS measures two core features of masculine depression, described as internalizing and externalizing symptoms. In the initial development and validation study, the MDS was shown to have good internal consistency reliability, and the two-factor structure of the MDS was shown to have sufficient construct validity (Magovcevic & Addis, 2008).

**Aggression Questionnaire-Short Form.** The Aggression Questionnaire (AQ; Buss & Warren, 2000) is a full revision of the widely used Buss-Durkey Hostility Inventory (Buss & Durkee, 1957), a measure of anger and aggression. The full AQ is 34 items, but for purposes of research, the first 15 items can be administered as a short form. The AQ-SF items include descriptions characteristic of aggression and participants rate their responses on a 5-point Likert scale. The answer responses include, 1 (Not at all like me), 2 (A little like me), 3 (Somewhat like me), 4 (Very much like me), and 5 (Completely like me). The AQ-SF includes a total scale score and four subscales: Physical Aggression, Verbal Aggression, Anger, and Hostility. In the standardization sample, the AQ had strong internal consistency reliability ( $r = .71-.94$ ) and test retest reliability (.72–80), (Harris, 1997). Novaco (2003) demonstrated the AQ total score has modest levels of concurrent validity with other measures of aggression, including the Novaco Anger Scale ( $r = .74$ ) and Provocation Inventory ( $r = .59$ ), (Novaco, 2003).

**Alcohol Use Disorders Identification Test.** The Alcohol Use Disorders Identification Test (AUDIT, Saunders et al., 1993) is a 10-item self-administered screening measure of excessive alcohol use, developed to help identify individuals that would benefit from reducing or terminating alcohol use. The AUDIT covers multiple areas of problematic alcohol use, including alcohol consumption, drinking behavior, dependence symptoms, and negative consequences associated with alcohol use (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). The AUDIT has sufficient internal consistency (Fleming, Barry, & MacDonald, 1993; Hays, Merz, & Nicholas, 1995) and test-retest reliability. The AUDIT has also shown to be a highly accurate measure in discriminating between individuals who meet criteria for alcohol use disorders and those that do not (Saunders et al., 1993). When compared to simi-

lar screening tests such as the CAGE, MAST, and the MacAndrews Scale the AUDIT has also been demonstrated to have strong concurrent validity (Bohn, Babor, & Kranzler, 1995; Hays, Merz, & Nicholas, 1995; Saunders et al., 1993).

**Drug Abuse Screening Questionnaire-10.** The Drug Abuse Screening Questionnaire-10 (DAST-10; Skinner, 1982) is a short version of the 28-item DAST, which is developed to identify drug use-related concerns experienced by individuals over the past year. The DAST has been shown to have strong internal consistency reliability ( $\alpha = .94$ ) and test-retest reliability ( $r = .71$ ). Cocco and Carey (1998) demonstrated that the DAST-10 has sufficient discriminant validity with individuals suffering from drug use disorders.

**Male Role Norms Inventory-Revised.** The Male Role Norms Inventory-Revised (MRNI-R; Levant et al., 2007) is a 53-item self-report inventory that assesses traditional masculinity ideology. The 53 items are normative statements about how men should or should not behave. Participants indicate their agreement or disagreement with items on a 7-point Likert-type scale with higher scores indicating greater endorsement of traditional masculinity ideology. The answer responses include, 1 (Strongly Disagree), 2 (Disagree), 3 (Slightly Disagree), 4 (No Opinion), 5 (Slightly Agree), 6 (Agree), 7 (Strongly Agree). The MRNI-R includes seven theoretically derived scales that assess distinct masculine gender role norms: Avoidance of Femininity, Fear and Hatred of Homosexuals, Extreme Self Reliance, Aggression, Dominance, Non-relational attitudes towards sexuality, and Restrictive Emotionality.

The MRNI-R is an internally consistent instrument (Cronbach's alpha estimates range from .73–.95), (Levant et al., 2007). Although test-retest reliability has not been investigated for the MRNI-R, Levant & Heesacker (2001) demonstrated sufficient test retest reliability ( $r = .65$  for men,  $r = .72$  for women) of the original MRNI. The MRNI-R has also shown convergent validity with other measures of traditional masculinity ideology such as the Gender Role Conflict Scale ( $r = .54$ ), the Conformity to Masculine Norms Inventory ( $r = .60$ ), the Male Role Attitudes Scale ( $r = .60$ ), and the Normative Male Alexithymia Scale ( $r = .51$ ) (Levant, Rankin, Williams, Hasan, & Smalley, 2010).

## Data Analysis

To investigate the diverse range of externalizing variables hypothesized as predictive of the range of typical and atypical depressive symptoms of masculine depression in a sample of men, a stepwise multiple regression process was developed. A stepwise process was implemented because it allowed for the investigation of the amount of explained variance in masculine depression by three conceptual groups of variables. The three groups were anger and aggression-related variables (verbal aggression, physical aggression, anger, hostility), substance use-related variables (alcohol abuse and drug abuse), and masculinity (traditional masculinity ideology). The addition of each variable group was hypothesized to substantially increase the variance explained of each model, with the first group of anger-related variables contributing the largest amount of explained variance.

The relationships between all anger-related, substance abuse variables, and the two factors of the MDS (externalizing symptoms and internalizing symptoms) were investigated to further understand relationships between all study variables and the MDS (Masculine Depression Scale; Magovcevic & Addis, 2008). We hypothesized that all of the predictor variables (physical and verbal aggression, anger, hostility, drug abuse, alcohol abuse) as well



as traditional masculinity ideology would be more strongly correlated with the MDS externalizing symptoms scale than with the MDS internalizing symptoms scale.

## RESULTS

To examine the full range of externalizing features hypothesized as predicting masculine depression in this study, a stepwise multiple regression process was developed that included an incremental inclusion of variables in three conceptual groupings. The three conceptual groups included anger and aggression (physical aggression, verbal aggression, anger, hostility), substance use (drug abuse, alcohol abuse), and masculinity ideology. The MDS Total score represented the outcome variable of masculine depression for all three models (see Table 1 for descriptive statistics on all variables). The order of entry of variable groupings in the analysis was chosen for conceptual purposes. The externalizing variable groupings were entered first and masculinity was entered last in order to assess the additional variance explained by traditional masculinity ideology. However, the groups were entered in all possible orders to test for any possible order of entry effects. Regardless of order of entry of the regression models, the results were identical.

The multiple regression model fit for all three models was significant and was shown to be strongly predictive of masculine depressive symptoms (see Table 2 for regression model summary statistics). The first model, which included all anger and aggression-related variables explained 32% of variance in men's masculine depressive symptoms. The stepwise addition of substance abuse and masculinity groups in two subsequent models demonstrated

Table 1  
*Means, Standard Deviations, Ranges, and Variances for all Masculine Depression Variables*

Variable	<i>M</i>	<i>SD</i>	Score Range	Variance
MDS TOT	69.89	20.63	98	425.62
MDS EXT	17.21	4.46	22	19.92
MDS INT	52.69	17.63	82	310.74
DAST	2.30	1.74	9.00	3.02
AUDIT	6.36	5.83	35	34.04
P-AGGR	47.14	9.53	78	90.79
V-AGGR	50.51	8.48	38	71.99
ANGER	48.44	9.40	65	88.33
HOST	50.60	9.64	43	92.93
MASC-TOT	3.40	.97	4.77	.95

*Note:* MDS Total represents the Masculine Depression Scale Total Score. The two subscales of the MDS are the externalizing symptoms (MDS EXT) and internalizing symptoms (MDS INT) scores. The DAST is the Drug Abuse Screening Tool. AUDIT represents the Alcohol Use Disorders Identification Test. The subscales of the Aggression Questionnaire are the Physical Aggression (P-AGGR), Verbal Aggression (V-AGGR), Anger (ANGER), and Hostility (HOST) subscales. MASC-TOT represents the total masculinity scale score on the Male Role Norms Inventory-Revised.



**Table 2**  
*Correlation Coefficients for MDS factors and Proposed Components of Masculine Depression*

Variables	1	2	3	4	5	6	7	8	9	10
1. MDS TOT	1									
2. MDS INT	.99**	1								
3. MDS EXT	.73**	.60**	1							
4. DAST	.16	.03	.37**	1						
5. AUDIT	.04	-.04	.31**	.50**	1					
6. P-AGGR	.22**	.18**	.30**	.07	.11	1				
7. V-AGGR	.26**	.18**	.20**	.03	-.07	.27**	1			
8. ANGER	.43**	.41**	.39**	.04	-.06	.46**	.45	1		
9. HOST	.521**	.519**	.359**	.05	.06	.22**	.32	.45	1	
10. MASC	-.02	-.02	.10	-.11	.02	.18**	.26	.12	.08	1

*Note:* MDS Total represents the Masculine Depression Scale Total Score. The two subscales of the MDS are the externalizing symptoms (MDS EXT) and internalizing symptoms (MDS INT) scores. The DAST is the Drug Abuse Screening Tool. AUDIT represents the Alcohol Use Disorders Identification Test. The subscales of the Aggression Questionnaire are the Physical Aggression (P-AGGR), Verbal Aggression (V-AGGR), Anger (ANGER), and Hostility (HOST) subscales. MASC-TOT represents the total masculinity scale score on the Male Role Norms Inventory-Revised. \*\*  $p < .001$

that these variables explained very little additional variance when added to subsequent predictive models.

Further examination of the individual predictor variables within each regression model consistently indicated that out of the anger and aggression-related variables, only anger and

**Table 3**  
*Results from Stepwise Regression Analysis to Determine Variance Explained in Each Model with Added Variable Predicting Masculine Depression*

Model, Included Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	SE	Significance
1 Physical Aggression , Verbal Aggression Anger, Hostility	.563	.317	.300	17.261	$p < .001$
2 Physical Aggression, Verbal Aggression, Anger, Hostility, Drug Abuse, Alcohol Abuse	.568	.323	.298	17.288	$p < .001$
3 Physical Aggression, Verbal Aggression, Anger, Hostility, Drug Abuse, Alcohol Abuse, Traditional Masculinity Ideology	.574	.329	.300	17.260	$p < .001$

Table 4  
*Summary of Regression Model Variables Predicting Masculine Depression*

Variable	<i>B</i>	<i>SE B</i>	95% CI for <i>B</i>	$\beta$
<i>Model 1</i>				
Physical AGG	.051	10.159	-.261-.363	.024
Verbal AGG	.062	.177	-.288-.413	.026
Anger	.480	.186	.112-.486	.018*
Hostility	.864	.158	.551-1.177	.404**
<i>Model 2</i>				
Physical AGG	.046	.021	-.270-.363	.021
Verbal AGG	.055	.023	-.298-.408	.023
Anger	.474	.216	.103-.485	.216*
Hostility	.863	.403	.458-1.179	.403**
Drug Abuse	1.050	.088	-.713-2.813	.088
Alcohol Abuse	-.080	-.023	-.616-.455	-.023
<i>Model 3</i>				
Physical AGG	.071	.033	-.247-.390	.033
Verbal AGG	.109	.045	-.253-.472	.045
Anger	.467	.213	.096-.838	.213*
Hostility	.860	.402	.545-1.175	.402**
Drug Abuse	.871	.073	-.912-2.654	.073
Alcohol Abuse	-.046	-.013	-.584-.491	-.013
Masculinity	-1.791	-.085	-4.65-1.069	-.085

\* $p < .05$ , \*\* $p < .001$

hostility were significantly predictive of masculine depressive symptoms (see Table 4). Hostility was strongly predictive of masculine depression and anger was weakly predictive of masculine depression.

To provide further understanding regarding the relationships between the variables included in this study we also examined correlations between all of the variables included in the regression models as well as the two distinct factors of the masculine depression scale, internalizing and externalizing symptoms (see Table 2). Overall, fewer externalizing predictor variables were correlated with the internalizing subscale of the MDS (see Table 2) versus with the MDS externalizing subscale. Several notable correlations were also illuminated during investigation of the correlations between variables, in particular when examining the relationships between the MDS factors and other variables. For instance the MDS externalizing factor was strongly associated with MDS internalizing symptoms; moderately associated with the anger, aggression, hostility and substance use related variables; but not correlated with traditional masculinity. The MDS internalizing symptoms were weakly correlated with aggression but moderately correlated with anger and hostility.

## DISCUSSION

Men are diagnosed with Major Depressive Disorder at notably lower rates than women, but are diagnosed with substance use disorders and commit suicide at dramatically higher

rates. These substantial differences in diagnostic rates between men and women may be a factor of the significant influence of societal gender role norms on symptom presentation, more specifically, that some men are likely to express their depressive affect in a manner that is consistent with hegemonic masculine gender role norms. Therefore, when men who adhere more strongly to traditional masculine gender role norms develop depressive symptoms, they may be at greater risk to externalize their depressive symptoms into atypical or masculine depressive symptoms such as anger, aggression, substance use, and alcohol use.

The focus of this study was to investigate a broad range of proposed externalizing components potentially indicative of masculine depression in a sample of men and assess these components' ability to predict men's endorsement of the diverse scope of items on the Masculine Depression Scale (MDS; Magovcevic & Addis, 2008), which contains a range of typical and atypical depressive symptoms. Three predictive models were developed and analyzed in a stepwise fashion to assess whether these variables did in fact predict men's endorsement of symptoms of masculine depression. The models indicated that the variables of anger and hostility were by far the strongest predictors of depressive symptoms endorsed by men. Notably, the other variables included in the model (verbal aggression, physical aggression, substance abuse, alcohol abuse, and traditional masculinity ideology) were not indicative of masculine depression symptoms on the MDS. Therefore, these results are somewhat consistent with a rapidly emerging body of research that indicates externalizing symptoms are very likely critical components in the overall symptom profile of depression in men. However, these results also indicate that some externalizing symptoms may play more prominent roles than others in men.

### **Anger and Hostility as Components of Masculine Depression**

Additional examination of the predictor variables examined in each model provides some further clarification regarding the role that these externalizing variables play in men, particularly the roles of anger, hostility, and aggression in masculine depression. Specifically, anger and hostility emerged as significant predictors of men's endorsement of masculine depressive symptoms. This finding that angry affective arousal is predictive of depression in men is generally consistent with findings by Genuchi and Valdez (2014) who found evidence that anger was a significant indicator of prototypic depression in men. However, in this study, anger was predictive of atypical or masculine depression, which consists of a conglomeration of both prototypic and externalizing symptoms. Therefore, in conjunction with previous findings the evidence from this study appears to suggest that anger is likely a key feature of the overall depressive experience in traditional men.

In addition to anger, hostility was found to be moderately predictive of masculine depressive symptoms, and a considerably stronger predictor of masculine depressive symptoms than anger. While hostility is conceptually related to anger, hostility is distinctly different than anger because it is primarily attitudinal versus affective in nature, and hostile attitudes are more focused in that they typically involve a negative appraisal of others (Buss, 1961). For instance, hostile attitudes are usually focused on others as selfish, distrustful, dishonest, and willing to perform harmful and/or selfish acts on purpose (Eckhardt, Norlander & Deffenbacher, 2004). Therefore the finding that hostility was uniquely predictive of masculine depression appears to suggest in particular that men who present with attitudes of distrust and dislike of others are at greater risk for developing the range of symptoms consistent masculine depression. Because individuals that present with more hostile attitudes are also at greater risk for experiencing anger (Novaco, 2003), we might also ex-

pect that men who present with hostile attitudes are subsequently at increased risk for masculine depressive symptoms as well as greater levels of anger. Such a pattern was confirmed in our sample of men, as hostility and anger were moderately correlated (see Table 2).

While anger and hostility accounted for a unique amount of variance in all of the proposed models, both types of aggression (physical and verbal) did not significantly predict symptoms of masculine depression. This finding is also consistent with Genuchi and Valdez (2014) who found that expressed anger did not uniquely predict men's endorsement of depressive symptoms. Therefore, in conjunction with previous findings, the results from this study appear to suggest that the experience of anger (i.e. cognitions and affective arousal) is likely an important component of the overall depressive symptomatology in men. However, the finding that these men did not report acting out their anger aggressively is not wholly consistent with theories of masculine depression and has several possible interpretations. Firstly, some participants in this study may have concurrently engaged in aggressive behaviors, but because of concern regarding the antisocial nature of their aggression may have experienced hesitancy reporting those aggressive behaviors on self-report measures. Such a tendency, to underestimate one's engagement in aggressive behaviors compared with external observers, has been demonstrated empirically (Moffit et al., 1997). Secondly, the measures used in this study may not be adequately sensitive to capture the expression of anger that is consistent with masculine depression (Fields, 2010). In other words, the expressed anger typical of masculine depression may be quite subtle, especially in a non-clinical population such as this one, and therefore go generally unassessed by measures seeking to assess overtly problematic symptoms of aggression. Therefore, while this finding that men did not endorse aggressive behavior as a part of their depressive experience has now replicated, this finding should still be viewed cautiously as further investigation continues to bridge the gap between theory and research.

### **MDS Internalizing and Externalizing Features of Masculine Depression**

To provide further understanding regarding the variables explored in this study and masculine depression, correlations between all externalizing variables and the two factors (internalizing and externalizing symptoms) of the Masculine Depression Scale (MDS) were examined. Overall, a review of these correlations suggests that multiple variables are associated with both internalizing and externalizing depressive symptoms in men, including physical aggression, verbal aggression, anger, and hostility. Therefore, even when the MDS factors were separated into internalizing and externalizing factors, both anger and hostility continued to be emerge as significantly related to depressive symptoms. Interestingly, alcohol and substance abuse were both moderately associated with externalizing depressive symptoms but not associated with internalizing symptoms. This finding is not unexpected in that it reflects the general trend that men are less likely to report prototypic depressive symptoms while they are more likely to report symptoms of substance and alcohol use. Overall, this correlational evidence seems to suggest though that men are likely to report a broad range of depressive features, and that these features are likely to include a conglomeration of both internalizing and externalizing symptoms.

### **Masculinity Ideology as a Part of Masculine Depression**

In regards to the construct of masculine depression, the results of the final model did not support the hypothesis that traditional masculinity ideology would significantly predict

men's endorsement of masculine depressive symptoms. Surprisingly, not only was masculinity insignificant in the model, it explained very little variance in the proposed model. This result is surprising because adherence to norms consistent with traditional masculinity ideology is a critical conceptual factor that influences men who experience or express depression in a masculine manner (Cochran & Rabinowitz, 2000; Kilmartin, 2005; Lynch & Kilmartin, 2013). While this result is consistent with recent research on masculinity, anger and depression in men (Genuchi & Valdez, 2014), other research supports traditional masculinity as an important predictor and correlate of masculine depressive symptoms in men (Magovecevic & Addis, 2008; Rice et al., 2013). Moreover, a large body of empirical evidence exists that supports the relationship between rigid adherence to traditional masculine gender role norms and prototypic depressive symptoms (O'Neil, 2008). While the results from this sample suggest that masculine norm adherence was not a predictive variable, in the context of other research, these results must be viewed tentatively. Continued research on the role that masculinity plays in the expression of atypical depressive symptoms is clearly warranted.

### **Limitations and Recommendations for Future Research**

While the results of this study provide additional understanding regarding anger and hostility as components of masculine depression, there are some limitations of this study that must be noted. Firstly, this study involved recruitment of a non-clinical sample, so the possibility of participants experiencing clinically significant levels of symptoms during the time of the study is certainly less than that of a clinical population. Therefore, while we might hypothesize that the magnitude of the predictive ability of this model might be stronger with a clinical sample because symptoms are likely to occur along a broader continuum of severity, this conclusion cannot be made with confidence. Similarly, statements could not be made about the overall severity level of masculine depressive symptoms in this sample because the MDS was only recently developed and as of yet no recommended levels for clinical significance have been developed. Additional research that further incorporates clinical samples and evaluates the psychometric properties of the MDS will likely aid our understanding of the impact of externalizing symptom severity in masculine depression as well as possible score ranges for clinical significance.

This study also continues a body of systematic research on masculine depression that is focused on predominantly White male samples and therefore limited in generalizability. However, this trend is changing with some research now focusing on masculine depression in ethnic minority men. For example, both Perkins (2013) and Watkins, Abelson, and Jefferson (2013) have conducted qualitative studies on depression in Black men and have found evidence that some black men report symptoms of masculine depression. Möller Leimküller and Yücel (2009) and Rice, Fallon, Aucote and Möller Leimküller (2013) also conducted two large-scale studies that included an investigation of externalizing symptoms in women as well as men. Results from both studies included women reporting a significant number of externalizing symptoms of masculine depression. Therefore clearly further research on masculine depression in women will provide additional understanding regarding similarities and differences in masculine depressive symptom presentation in men and women.

We must also acknowledge that our investigation of symptoms is limited in scope, as it is neither a comprehensive model of masculine depression nor necessarily a comprehensive model of externalizing symptoms of masculine depression. The primary purpose was to in-

investigate certain symptoms, specifically several anger-related variables and substance use. However, researchers in this area may consider moving towards a comprehensive, integrated, and empirically-supported model of masculine depression that broadly incorporates current research. Such a model might include an integration of externalizing symptoms supported by this study and others, with prototypic symptoms, as well as with other masculine symptoms suggested by qualitative research (e.g. over-involvement with work, physical stress, and isolation).

A necessary part of the process of developing a comprehensive model of masculine depression will also be to further clarify the construct of masculine depression. For example masculine depression as measured in this study as well as by Magovecevic and Addis (2008) consists of a grouping of both externalizing and prototypic symptoms. However, in their recent work, Rice et al. (2013) operationalize Male Depression as consisting exclusively of externalizing symptoms. Therefore, while increased dialogue appears to be developing around the validity of an externalizing component of a masculine variation of depression, researchers should continue to investigate the full range of depressive symptoms in traditional men, which may include prototypic and externalizing symptoms. Additionally, the developmental nature of externalizing symptoms in men is an area of future research that will provide a great deal of insight into the construct of masculine depression. Historically, it has been unclear regarding whether masculine depression is the manifestation of the vulnerable affect associated with prototypic depression or whether masculine depression is a disorder that is entirely distinct from prototypic depression (Addis, 2008). However, recent attempts to address this issue experimentally support the theory that more traditional men are more likely to avoid the expression of negative affect (Green & Addis, 2012). Longitudinal research methods may then be helpful in further determining if traditional men who avoid the experience and expression of vulnerable affect are subsequently more likely to externalize that affect (Safford, 2008).

In summary, this study has provided further clarification regarding a range of externalizing features of depression in men, and therefore contributes to an established body of research investigating externalizing symptoms as components of a masculine variation of depression. Based on these results, various health care providers working with men may benefit from remaining aware of men's presenting levels of anger and hostility in addition to their prototypic depressive symptoms. At a broader level, as continued investigation encourages clarification of the symptoms of masculine depression, the focus of research on depression in men can hopefully also begin to address preventative research questions. For example, might the identification of men with atypical or masculine depression more broadly impact the highly concerning suicide rate of men in the United States? Also, what are the reasons (within certain social, economic, political, cultural, and spiritual contexts) that men might become angry, hostile, and suicidal? Such efforts that promote identification and prevention of depression in men may result in a decrease in men's high suicide rate as well as allow us to more effectively provide men with the treatment and resources that they need.

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