SOMETIMES YOU NEED MORE THAN A WINGMAN: MASCULINITY, FEMININITY, AND THE ROLE OF HUMOR IN MEN'S MENTAL HEALTH HELP-SEEKING CAMPAIGNS

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The clinical literature has consistently documented that men seek help for mental health less often than do women, although they suffer from mental illness at comparable rates. This is particularly troublesome as depression and anxiety in men are more likely to manifest in substance abuse and suicidal behavior. This gender discrepancy in help-seeking may be explained by the social psychological literature on traditional masculinity, which has been associated with stigmatizing thoughts about mental illness and opposition to help-seeking. The present research explored this link between masculinity and mental health help-seeking, including the use of affiliative humor in public awareness messages about help-seeking for mental health. We hypothesized that incorporating light humor into this campaign might reframe help-seeking in a less threatening way, effectively circumventing the defensive reactions of masculine men. Across three studies, we presented young men with ads encouraging them to reach out to a friend suffering from anxiety or depression. Consistently, the perceived funniness of the ads predicted their persuasiveness without increasing stigma or trivializing the issue of mental health. Masculinity did not in fact predict stigmatizing and defensive thoughts about mental illness; rather, men's femininity emerged as the strongest and most consistent predictor of these reactions.

Keywords: humor, masculinity, femininity, mental health, mental illness

The state of men's mental health in North America has become the focus of increasing attention in recent years. For example, the Movember Foundation, initially formed to raise awareness and funding for men's cancers, has now expanded to promote awareness of mental health issues facing men (Mak, Pratt, Black, & Simon, 2015; see also https://ca.movember.com/mens-health/mental-health). The Canadian Mental Health Association has described the issue of men's mental health as a "silent crisis, a sleeper issue . . . at last awakening" (Canadian Mental Health Association, 2007). Indeed, an accumulating body of epidemiological research suggests that mental health is an important issue in North American society, with approximately 30–50% of all people experiencing some form of mental illness in their lifetime (Bland, Newman, & Orn, 1997; MacKenzie, Gekoski, & Knox, 2006). Despite this alarmingly high prevalence of psychopathology, efforts to seek help for mental illness remain low. Kessler and colleagues (2005) report that 65–80% of individuals diagnosed with mental health issues do not receive regular professional help and many do not receive any treatment at all. This problem may be exacerbated among men, who consistently demonstrate more negative attitudes toward seeking help for mental health concerns compared to women (Addis & Mahalik, 2003). Men's resistance to seeking help with mental illness is a well-documented and critical issue for clinical psychology, and one that may be assisted by research from within social psychology (e.g., persuasion, attitude change, humor) and personality (e.g., individual differences in masculinity and femininity).

In light of these concerns, we investigated whether an intervention strategy could be tailored toward breaking down men's reluctance to seek help for mental health problems. Might men be more willing to consider issues surrounding mental health if the subject matter were presented in a less threatening tone? We conducted three experiments to explore whether including affiliative humor into a public awareness campaign would more effectively influence men to consider mental health issues by reducing feelings of stress, threat, or discomfort. We explored the role of men's masculinity and made the novel contribution of exploring men's femininity in predicting reactions to mental health.

THE THREAT OF MENTAL HEALTH MESSAGING FOR MEN

There is accumulating evidence that many men feel uncomfortable discussing mental health issues, particularly the seeking of help for mental illness. In a series of focus group discussions, O'Brien, Hunt, and Hart (2005) observed that men widely endorsed the belief that men should be reluctant to seek help for physical and mental health, unless the help is in furtherance of masculinity in some way (e.g., to improve sexual performance or workplace responsibility). Similarly, MacKenzie and colleagues (2006) found that men held more negative views toward seeking help from a mental health professional than did women. This may be because men view depression as an unmasculine disease (Branney & White, 2008; Riska, 2009) or because they believe depression shows vulnerability and usurps feelings of strength and power (Oliffe, Ogrodniczuk, Borrorff, Johnson, & Hoyak, 2012). In addition, Griffiths and colleagues (2015) found that self-reported stigmatizing thoughts about seeking therapy predicted an increased likelihood of undiagnosed eating disorders among men. One barrier, to help-seeking, reported by males is a sense of shame or stigma that may be attached to mental illness, which triggers a tendency to withdraw and avoid problems (Addis, 2008; Oliffe et al., 2012; Yoon, 2015). Many men who suffer from depression or anxiety turn to other maladaptive coping strategies, such as relying on alcohol and drugs and exhibiting various externalizing behaviors such as anger and excessive competitiveness (Addis, 2008; Moller-Leikmuller, 2003). Ultimately, these strategies may prove tragically unsuccessful, as depression in men is significantly more likely to result in suicide compared to depression in women (Rudmin, Ferrada-Noli, & Skolbekken, 2003).

Recent Canadian public health campaigns have been created to raise awareness about mental health problems and to reduce the stigma around mental illness. In 2013, for example, the Canadian Mental Health Association released its "Not Myself Today" campaign, which included startling information about the high prevalence of mental health problems in Canada and the considerable cost of mental illness to the Canadian economy. Similarly, the Centre for Addiction and Mental Health Research (CAMH)

developed a campaign to identify and challenge the stereotypical and unhelpful comments people often make to mentally ill persons. For example, one ad reads, "Don't worry. It's just a phase . . . But for some it can last a lifetime." These ads are intended to break down common stereotypes about the triviality of mental health concerns, but it is possible that they might backfire for some men, making salient the threatening aspects of mental health issues and reducing their effectiveness.

PROCESSING THREATENING MESSAGES AND A ROLE FOR HUMOR

Traditional public awareness campaigns surrounding mental health may be viewed as threatening to males and this threat is likely to evoke many psychological processes. Protection-motivation theory (Rogers, 1983) suggests that two processes occur in response to threatening persuasive appeals. An individual first appraises the level of threat present and then assesses his/her ability to implement the recommended actions. Witte (1992) further postulates that a person experiencing threat will either: (1). control the situation or (2). control their internal sense of fear by reacting defensively. These defensive reactions may take different forms, including issue avoidance, wishful thinking, fatalistic thinking, counter arguing, issue derogation, or hopelessness (Brouwers & Sorrentino, 1993; Rippetoe & Rogers, 1987; Yoon & Tinkham, 2013). The outcome chosen is influenced by the individual's belief that they are able to implement the recommended changes. One strategy to help guide individuals toward adaptive coping is to increase feelings of efficacy; another may be to reduce the perception of threat, which is where humor may be helpful. Humor can reduce feelings of threat and negative arousal, reframing negative situations into more positive and constructive ones (Martin, 2007).

Although there is substantial literature investigating the role of humor in consumer advertising, research into the use of humor in health messaging is relatively rare (Yoon, 2015; Yoon & Tinkham, 2013), with no previous work on mental health specifically. What evidence exists indicates that humor may be a promising way to improve mental health messaging for men. Mukherjee and Dube

(2012) presented participants with health messages about using sunscreen, varying the level of threat and presence of humor. In the high threat condition, participants viewed a face badly scarred by skin cancer, whereas a low threat condition showed the same face without scarring. The humorous condition presented an ad depicting sunscreen being pumped with a firehose; the serious condition presented only the ad text. An interaction was observed: humor increased persuasion in the high threat condition, but reduced persuasion in the low threat condition. The authors concluded that "fear-only messages can backfire if they generate high levels of fear tension arousal . . . adding an element of humor to fear advertising can mitigate this problem by reducing defensive responses in the audience" (p.154).

Yoon (2015) similarly explored the relation between humor and threat in the context of environmental awareness. Participants were presented with either funny or non-funny ads discussing deforestation, which advocated for recycling and paper conservation. Participants reported more positive emotions, fewer negative emotions, and lower threat after the funny ad. Yoon (2015) suggested that humorous and non-humorous messages may not differ in overall persuasiveness, but may be persuasive in different ways. When the message is intended to impart a sense of urgency or severity, non-funny messages may be the better strategy. In contrast, when the message is intended to elicit positive emotional reactions to the subject matter, humor may be the preferred option (Yoon, 2015). In addition, the effects of humor on persuasion may be influenced by the degree to which one is personally invested in the issue. For example, Yoon and Tinkham (2013) determined that humor was more persuasive when personal involvement was low, whereas serious ads were more persuasive when issue involvement was high. Other research has determined that humor has been effective as a vehicle for discussing shameful or embarrassing health-related issues, including childhood obesity (Simpson, Wilson, Ruben, & Thompson, 2008) and safer sex (Yoon, 2015).

THE ROLE OF MASCULINITY, FEMININITY, AND THE PRESENT RESEARCH

To the extent that mental illness is associated with negative emotional reactions among many men (MacKenzie et al., 2006; O'Brien et al., 2005; Riska, 2009), attempting to elicit a more positive emotional reaction may be a promising strategy. This may be true particularly for men who endorse more traditionally masculine gender roles. Conway and Dube (2002) demonstrated that traditionally masculine participants were more persuaded by humorous appeals than non-humorous appeals pertaining to sunscreen and condom use. Those low in masculinity were not differentially affected by the use of humor. Men high in traditional masculinity are also less likely to seek help for psychological problems or other health issues (Addis & Mahalik, 2003; Mansfield, Addis, & Courtenay, 2005). This same population may also be more persuaded by humorous appeals than by non-humorous appeals (Conway & Dube, 2002). The present study thus sought to bridge these findings by investigating whether humor might be particularly persuasive to highly masculine males in the context of mental health. Humor is believed to reframe the issue into one that is less threatening, thereby reducing defensive reactions and increasing the processing of message content. Might the use of humor present mental health in a less threatening and ultimately more approachable manner?

An existing humour-based mental health campaign, "Man Therapy," has shown some success at encouraging men to discuss mental health issues (www.mantherapy.org). The online campaign provides a frank but lighthearted discussion of mental illness and seeks to normalize the issue. It has shown positive reception among double jeopardy men: those most at risk for suicide but least likely to seek help (Spencer-Thomas, Hindman, & Conrad, 2014). We seek to extend this line of work in an experimental social psychological framework. In exploring this issue, we chose to design our campaign around encouraging men to speak with their male friends who seem to be struggling with mental health problems. This approach was chosen for several reasons. First, prior research has shown that humor is more persuasive when the message recipient is less personally

involved in the issue (Yoon & Tinkham, 2013) and when the message is intended to produce positive emotional reactions rather than suggest urgency or severity (Yoon, 2015). Second, research has shown that social support, in the form of a supportive network of friends and family, can have a very positive impact on men struggling with mental health problems (Gorman et al., 2007; Oliffe et al., 2012). Thus, the present research presented a public awareness campaign that encouraged men to reach out to friends who may be struggling with anxiety or depression, with the inclusion or exclusion of humor being our main experimental manipulation.

Prior research has established that mental illness is often seen as stigmatizing and threatening, particularly among men (Addis, 2008, Oliffe et al., 2012; MacKenzie et al., 2006). Pursuant to the protection-motivation framework (Rogers, 1983), threat triggers defensive reactions among men, such as avoidance or withdrawal from the issue. The use of humor was expected to reduce the perception of threat and thereby improve reception of the message. Thus, ad campaigns that incorporate humor should be more persuasive than those that do not incorporate humor. In addition, humor was expected to reduce stigmatizing attitudes toward mental illness. Thus, a main effect for ad type was hypothesized, such that those exposed to humorous ads would find the campaign more persuasive, would endorse less stigmatizing attitudes toward mental illness, and would exhibit less defensive reactance. It was hypothesized that masculinity would moderate this relationship, such that those scoring higher in masculinity would be more persuaded by humorous ads than by non-humorous ads, whereas those low in masculinity would not be differentially affected by humorous or non-humorous message types, as they are expected to find mental health issues less threatening overall. Finally, we explored the possible role of femininity in men's reactions to mental health messages. There is some literature to suggest that femininity is associated with increased tolerance for the stigma of mental illness (Ang, Lim, Tan, & Yau, 2004) and greater confidence in mental health professionals (Johnson, 1988). Otherwise, the role of men's femininity in predicting attitudes toward mental health and help-seeking is

essentially unstudied, and thus, we made no a priori hypotheses about the role of men's femininity.

METHOD

PARTICIPANTS

Two-hundred and twenty-two participants (M_{age} = 19.66, SD = 1.87) were recruited from an undergraduate psychology course at a large Canadian university in exchange for partial course credit. One participant was removed for failing to report gender. Participants who failed one or more attention checks (n = 40) were excluded from participation in the study, resulting in a final sample of 181. Of the final sample, 26 participants reported that they were currently (n = 14) or had previously experienced (n = 12) mental health problems. These participants were retained in the sample to increase representativeness and to improve statistical power.

MATERIALS

Advertisements. Participants were randomly assigned to view a public health campaign comprised of four advertisements encouraging men to speak to a friend who might be suffering from anxiety or depression. The ads were created by the researchers and were either funny or non-funny in tone. The text of the advertisements was held constant between the funny and non-funny conditions, but the image was altered to be either humorous or non-humorous. Participants viewed only the four funny ads or the four non-funny ads, in a between-subjects design. The message content centered around the idea that men help each other in many ways everyday, so talking to a friend who may be struggling with anxiety or depression should be no different. For example, one of the ads related to car repair. The headline for both versions read "You'd help a friend fix his car. Why not help him get a tune up of his own?" The non-funny version showed friends looking under the hood of a car, whereas the funny condition showed a car whose door had been replaced by large quantities of duct tape. This was accompanied by a website and

phone number for counselling services on campus wherein the viewer could obtain more information. The order of the ads was fully randomized within condition.[1] All stimulus materials and all items for all scales are available through the Open Science Foundation at https://osf.io/w7eb9/.

Ad Funniness Ratings. After viewing all four ads, participants provided their reactions to the ad campaign. On 7-point Likert scales from 1 (Not at All) to 7 (Very), participants reported how funny, amusing, and entertaining they found the ad campaign to be. These items were averaged together into a composite measure of funniness for the entire campaign, with higher scores indicating greater perceived funniness.

Message Receipt. Two items were included as measures of message reception. This included "To what extent did the ad campaign make you more aware of mental health issues?" and "I would be interested in learning more about mental health services on campus" with responses ranging from 1 (Not at all) to 7 (Very Much).

Defensive Reactance. Defensive reactance was measured with 12 questions that assessed the maladaptive thinking styles identified by prior research (Brouwers & Sorrentino, 1993; Rippetoe & Rogers, 1987; Yoon & Tinkham, 2013), including issue avoidance, wishful thinking, fatalism, and hopelessness (e.g., "I try not to think about mental illness that often.") Responses were made on a 7-point scale from 1 (Strongly Disagree) to 7 (Strongly Agree), and the items were averaged into a composite measure.

Mental Illness Stigma. Attitudes toward mental illness were assessed using the Day Mental Illness Stigma Scale (Day, Edgren, & Eshlemen, 2007), which has been shown to have good internal validity, is applicable to both specific and general mental illness, and is appropriate with both psychiatric and non-psychiatric samples. Thirteen items were selected for inclusion in the present study that addressed attitudes about one's ability to effectively treat mental illness (e.g., There are no effective treatments

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1. The four ads selected for inclusion in the study were selected from a longer list of ads which were subjected to pilot testing. Those ads deemed funniest and most relevant to young men were selected for inclusion in the study.

for mental illness) and one's discomfort about being around someone who is mentally ill (I feel anxious and uncomfortable when I'm around someone with mental illness). These items were chosen as they relate to the perceived efficacy of help for people with mental health problems, as well as comfort maintaining a relationship with a friend who is struggling with mental health problems.

Bem Sex Role Inventory. Masculinity and femininity were measured using the Bem Sex Role Inventory (BRSI; Bem, 1974; Holt & Ellis, 1998), which assesses the degree to which an individual believes they may be described by traditionally masculine or traditionally feminine traits. The scale presents participants with a list of 40 adjectival traits, half of which are stereotypically masculine characteristics (e.g., aggressive, dominant, competitive) and half of which are stereotypically feminine characteristics (e.g., affectionate, gentle, compassionate). Participants rated how well each item described them personally on a 7-point scale from 1 (Never/Almost Never True) to 7 (Always/Almost Always True).[2] The BSRI was selected to enable direct comparison to prior studies that explored masculinity and humor, which specifically employed the Bem scale (Conway & Dube, 2002).

PROCEDURE

Participants completed the study online using Qualtrics survey software. They were informed that the purpose of the study was to explore their reactions to a public awareness campaign targeting men's mental health issues. Following informed consent,

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2. In all 3 studies, participants also listed thoughts and feelings that they experienced in response to the ads, which were then coded for the presence of empathy/sympathy and emotional valence and arousal. In Studies 2 and 3, participants also generated icebreakers, statements they could use to approach a friend suffering from mental health issues. Only marginal effects were observed using these measures, and they have not been reported for reasons of parsimony. In Study 2, participants were invited to take part in a follow up study. Those who agreed were contacted by email one week later and asked to complete a short survey. Forty-three of the 187 participants (23%) took part in the follow-up, with roughly even numbers from the funny and non-funny conditions. Very few reported noticing a friend struggling with mental health and so our analyses were hampered by the small sample and few responses. We are happy to provide more details about these measures and analyses upon request.

TABLE 1. Descriptive Statistics and Condition Effects for Ad Ratings and Individual Differences Measures

	Collapsed across Condition		Funny Cond.	Non-funny Cond.			Condition Differences	
	Mean (*SD*)	alpha	Mean (*SD*)	Mean (*SD*)	*t*-test	*p*-value	*d*	95% CI
Funniness								
Study 1	3.48 (1.58)	.89	3.82 (1.65)	3.12 (1.43)	−3.04	.003	−0.45	−0.75, −0.15
Study 2	3.33 (1.48)	.86	3.90 (1.60)	2.74 (1.07)	−5.82	<.001	−0.85	−0.55, −1.16
Study 3	3.46 (1.49)	.87	3.87 (1.58)	3.04 (1.27)	−3.82	<.001	−0.58	−0.27, −0.88
Mega-analysis	3.42 (1.51)	.87	3.86 (1.60)	2.96 (1.27)	−7.23	<.001	−0.62	−0.45, −0.79
Increased Awareness								
Study 1	3.46 (1.65)	—	3.40 (1.64)	3.53 (1.67)	0.55	.581	0.08	−0.21, 0.38
Study 2	3.54 (1.71)	—	3.49 (1.74)	3.58 (1.69)	0.37	.712	0.05	−0.24, 0.35
Study 3	3.64 (1.61)	—	3.49 (1.63)	3.79 (1.57)	1.23	.220	0.18	−0.12, 0.49
Mega-analysis	3.55 (1.65)	—	3.46 (1.66)	3.64 (1.64)	1.22	.223	0.10	−0.06, 0.27
Interest in Learning More								
Study 1	4.14 (1.60)	—	4.02 (1.62)	4.26 (1.58)	1.01	.315	0.15	−0.14, 0.44
Study 2	4.38 (1.70)	—	4.48 (1.71)	4.29 (1.69)	−0.77	.442	−0.11	−0.40, 0.18
Study 3	4.34 (1.64)	—	4.19 (1.62)	4.48 (1.66)	1.19	.235	0.18	−0.48, 0.12
Mega-analysis	4.28 (1.65)	—	4.23 (1.65)	4.34 (1.64)	0.80	.425	0.07	−0.10, 0.24

Masculinity							
Study 1	4.80 (0.81)	.90	4.82 (0.79)	4.77 (0.84)	-0.37	.711	-0.06	-0.35, 0.24
Study 2	4.83 (0.96)	.92	4.79 (0.98)	4.87 (0.93)	0.58	.566	0.09	-0.21, 0.38
Study 3	4.67 (0.97)	.93	4.67 (1.01)	4.67 (0.94)	-0.01	1.00	<.001	-0.30, 0.30
Mega-analysis	4.77 (0.92)	.92	4.76 (0.93)	4.77 (0.90)	0.15	.884	0.01	-0.16, 0.18
Femininity							
Study 1	4.64 (0.62)	.85	4.69 (0.61)	4.59 (0.64)	-1.13	.262	-0.17	-0.46, 0.13
Study 2	4.58 (0.66)	.80	4.53 (0.70)	4.63 (0.62)	0.94	.350	0.14	-0.15, 0.43
Study 3	4.57 (0.72)	.86	4.56 (0.69)	4.57 (0.74)	0.02	.982	0.00	-0.30, 0.30
Mega-analysis	4.60 (0.67)	.83	4.60 (0.67)	4.59 (0.67)	-0.06	.949	-0.01	-0.17, 0.16
Defensive Reactance							
Study 1	2.27 (0.52)	.72	2.29 (0.48)	2.24 (0.52)	-0.62	.539	-0.09	-0.39, 0.20
Study 2	2.18 (0.55)	.75	2.22 (0.52)	2.14 (0.57)	-1.01	.315	-0.15	-0.44, 0.14
Study 3	2.14 (0.54)	.74	2.19 (0.53)	2.10 (0.55)	-1.06	.291	-0.16	-0.14, 0.46
Mega-analysis	2.20 (0.53)	.74	2.23 (0.51)	2.16 (0.55)	-1.58	.115	-0.14	-0.30, 0.03
Mental Illness Stigma							
Study 1	2.53 (0.48)	.72	2.58 (0.45)	2.49 (0.50)	-1.30	.197	-0.19	-0.49, 0.10
Study 2	2.41 (0.46)	.85	2.44 (0.44)	2.38 (0.48)	-0.89	.372	-0.13	-0.42, 0.16
Study 3	2.38 (0.49)	.89	2.36 (0.48)	2.40 (0.51)	0.52	.601	0.08	-0.22, 0.38
Mega-analysis	2.44 (0.48)	.86	2.46 (0.46)	2.42 (0.50)	-1.02	.311	-0.09	-0.26, 0.08

TABLE 2. Correlations Among Key Variables, Collapsed across Condition

	Funniness	Increased Awareness	Increased Interest	Defensive Reactance	Mental Illness Stigma	Masculinity
Increased Awareness						
Study 1	.28***	—				
Study 2	.27***	—				
Study 3	.48***	—				
Merged File	.34***	—				
Interest in Learning More						
Study 1	.20**	.36***	—			
Study 2	.07	.24***	—			
Study 3	.15*	.32***	—			
Merged File	.13**	.30***	—			
Defensive Reactance						
Study 1	.03	.02	−.29***	—		
Study 2	.21**	-.05	−.34***	—		
Study 3	.02	-.02	−.22***	—		
Merged File	.09*	-.02	−.29***	—		
Mental Illness Stigma						
Study 1	−.07	−.04	−.14	.54***	—	
Study 2	.09	.02	−.15	.48***	—	
Study 3	.01	.03	−.10	.58***	—	
Merged File	.02	.00	−.14	.54***	—	
Masculinity						
Study 1	.19**	.10	−.01	.02	−.01	—
Study 2	.06	.25	.09	−.03	−.17	—
Study 3	.08	.11	.15*	−.01	−.01	—
Merged File	.11*	.16	.08	−.01	−.06	—
Femininity						
Study 1	.09	.18*	.24***	−.21	−.11	.32***
Study 2	.01	.27**	.29***	−.26	−.12	.26***
Study 3	.10	.17*	.19*	−.12	−.16*	.52***
Merged File	.06	.20***	.24***	−.19***	−.12**	.37***

Note. *p < .05; **p < .01; ***p < .001

participants were randomly assigned to either the funny or non-funny condition. Each ad was presented for a minimum of 10 seconds, with participants permitted to continue to the next ad at any time after this period. After viewing the ads, participants completed the remaining measures along with a demographics

questionnaire. Three attention checks were included randomly throughout the study to identify careless responding (Marjanovic, Struthers, Cribbie, & Greenglass, 2014).

RESULTS

Preliminary data exploration confirmed the normality of all variables discussed herein. Table 1 presents the means, standard deviations, and internal reliabilities for all dependent measures. By way of manipulation check, mean composite funniness scores were compared between conditions. As seen in Table 1, average ratings of ad funniness were higher in the funny condition than in the non-funny condition, confirming that the humorous ads were perceived to be funnier overall. To explore how individual difference variables related to the key dependent measures, zero-order Pearson correlation analyses were performed. As seen in Table 2, ad funniness was positively correlated with both measures of message reception (i.e., increased awareness and increased interest). Encouragingly, funniness was uncorrelated with defensive reactance and Mental Illness Stigma, suggesting that humor was not associated with negative perceptions of mental illness. Defensive reactance showed a moderately strong positive correlation with Mental Illness Stigma, suggesting that those who hold more stigmatizing views about mental illness are also more likely to think maladaptively about the issue. Finally, defensive reactance was negatively correlated with interest in mental health, which is consistent with the tendency to engage in avoidant responses. Surprisingly, and contrary to hypotheses derived from literature based on other contexts, defensive reactance and mental illness stigma were not related to masculinity scores but were negatively correlated with femininity.

REGRESSION MODELS

To determine whether the humor manipulation interacted with masculinity, regression analyses were performed based on Aiken and West's (1991) recommendations. Condition was effect coded such that the non-funny condition was −1 and the funny condition was +1. Masculinity and femininity scores were mean-cen-

TABLE 3. Regression Analyses for Key Dependent Measures Across Studies

	Study 1			Study 2			Study 3			Mega Analysis		
	Beta	t	p value	Beta	t test	p value	Beta	t	p value	Beta	t	p value
Awareness[a]												
Condition	−.095	−0.79	.432	−.007	−0.056	.955	−.147	−1.21	.228	−.086	−1.31	.252
Masculinity	.108	0.07	.494	.349	2.69	.008**	.132	0.90	.370	.180	4.19	.041*
Femininity	.479	2.34	.021*	.549	2.91	.004**	.312	1.55	.123	.447	13.83	.0002***
Masc. × cond.	.293	0.16	.064	−.042	−0.30	.745	−.013	−0.09	.927	.101	1.32	.252
Fem. × cond.	.107	0.52	.604	.205	1.81	.278	−.361	−1.79	.075	.127	1.12	.291
Interest in Learning More												
Condition	−.154	−1.33	.186	.141	1.18	.242	−.147	−1.22	.224	−.058	−0.84	.403
Masculinity	−.193	−1.29	.201	.027	0.21	.838	.055	0.37	.709	−.021	−0.27	.791
Femininity	.731	3.72	.001**	.772	4.06	<.001**	.326	1.64	.102	.597	5.36	.001**
Masc. × cond.	.206	1.37	.173	−.182	−1.39	.165	.069	0.47	.639	−.034	0.08	.671
Fem. × cond.	−.122	−0.62	.536	.092	0.48	.631	.051	0.26	.798	−.109	−0.98	.329
Defensive Reactance												
Condition	.032	0.89	.373	.037	0.95	.344	.043	1.07	.288	.036	1.64	.102
Masculinity	.056	1.20	.232	.016	0.04	.699	.029	0.59	.556	.043	1.63	.104

	B	t	p	B	t	p	B	t	p	B	t	p
Femininity	−.204	−3.33	.001**	−.212	−3.48	.001**	−.107	−1.61	.109	−.175	−4.85	.001**
Masc. × cond.	−.107	−2.28	.024*	.117	2.80	.006**	.019	0.39	.697	.027	1.03	.304
Fem. × cond.	.036	0.59	.556	−.043	−0.71	.477	.094	1.43	.156	−.026	0.72	.471
Mental Illness Stigma[b]												
Condition	.051	1.44	.152	.021	0.62	.535	−.020	−0.55	.586	.021	1.03	.304
Masculinity	.016	0.36	.722	−.075	−2.08	.039*	.021	0.47	.642	−.013	−0.53	.598
Femininity	−.101	−1.68	.095	−.059	−1.13	.259	−.122	−2.11	.046*	−.081	−2.45	.015*
Masc. × cond.	−.070	−1.53	.127	−.004	−0.13	.897	.056	1.24	.215	−.003	−0.11	.915
Fem. × cond.	.073	1.21	.227	.059	1.13	.260	.052	0.86	.391	.072	2.19	.029*

[a]Robust regression performed due to heteroscedasticity in the mega-analysis. Values reported correspond to Betas and F-tests of significance; [b]Two high leverage cases removed in Study 2. *$p < .05$; **$p < .01$; ***$p < .001$.

tred and an interaction term was computed by multiplying these scores by the effect coded condition. Regressions were run entering condition, masculinity, femininity, and interaction terms for masculinity × condition and femininity × condition. These terms were entered simultaneously to predict funniness, awareness, interest, mental health stigma, and defensive reactance scores in separate multiple linear regressions. All regressions reported herein satisfied assumptions of non-multicollinearity, homoscedasticity, absence of multivariate outliers, and normality of residuals. See Table 3 for a summary of regression statistics.

The model predicting increased awareness of mental health was statistically significant, $R^2 = .07$, $F(5, 175) = 2.44$, $p = .036$. Only femininity emerged as a significant predictor, such that those higher in femininity were more likely to report that the ads increased their awareness of mental health issues. The regression predicting increased interest in counselling services was also statistically significant, $R2 = .09$, $F(5,175) = 3.27$, $p = .008$. Again, femininity emerged as the sole predictor in the model, such that higher femininity was associated with a greater interest in learning more about counselling services on campus following the ads.

The hypothesis that humor would reduce defensive thoughts for those high in masculinity was supported. The overall model was statistically significant, $R^2 = .08$, $F(5,175) = 3.21$, $p = .009$, and a significant condition × masculinity interaction was observed. Masculinity was associated with lower defensive reactance in the funny condition than in the non-funny condition. Femininity emerged as a significant predictor, wherein higher femininity was associated with less defensive thoughts about mental health. Finally, the regression predicting scores on Mental Illness Stigma was not statistically significant, $R^2 = .04$, $F(5, 175) = 1.45$, $p = .210$, and no predictors emerged as statistically significant.

STUDY 1
DISCUSSION

It was hypothesized that humor would reduce the potential threat that more masculine men feel when presented with mental illness concerns. These hypotheses were partially supported.

Male participants scoring higher in masculinity had fewer defensive thoughts after viewing the funny ads and more defensive thinking after viewing the non-funny ads. However, the hypothesized interaction between masculinity and humor was observed only with respect to defensive reactance. An unexpected and intriguing finding was the emergence of femininity as a consistent predictor for three of our four dependent measures.

The purpose of Study 2 was to replicate the findings of Study 1. Consistent with the principles of open science, the methods, hypotheses, and analytic plan were preregistered in advance of data collection (available at https://aspredicted.org/jr82b.pdf).

STUDY 2
METHOD

PARTICIPANTS

Two hundred and thirty-four male undergraduates (M_{age} = 19.16 years, SD = 2.51) were recruited from a large Canadian university in exchange for partial course credit. Participants who failed one or more attention checks (n = 46) were excluded from the analyses. Additionally, participants who left 3 or more items blank over the course of the study were excluded (n = 2). Finally, one participant was removed for listing her gender as female, resulting in a final sample of 185. Thirty-four participants reported that they currently (n = 16) or previously (n = 18) had been diagnosed with a mental health problem.

MATERIALS AND PROCEDURE

This study was a replication of Study 1 with two minor revisions. First, participants completed the study in lab rather than on-line to enhance attentiveness. After arriving at the laboratory, participants were seated at individual cubicles and instructed to complete the materials privately on a computer. Second, the full 28-item Mental Illness Stigma Scale was adopted (Day et al., 2007) for this replication rather than the truncated version ad-

opted in Study 1. All other stimuli, measures, and procedures were identical.

RESULTS

Normality of all variables was confirmed through data exploration, and the data were again analyzed through correlational patterns followed by a series of linear regressions. Mean funniness ratings in the funny condition were higher than in the nonfunny condition, again confirming the success of our manipulation (Table 1). Zero-order Pearson correlations were calculated and are provided in Table 2, and all key correlations from Study 1 were replicated. Masculinity was unrelated to defensive reactance, mental illness stigma, and interest in learning about psychological services on campus. Mental illness stigma was again correlated with defensive reactance and negatively correlated with interest in psychological counselling services on campus. Femininity was negatively correlated with defensive reactance and mental illness stigma, but positively correlated with increased awareness and interest in mental health.

REGRESSION MODELS

Regression analyses were conducted in an identical manner to that adopted in Study 1, and key results from these regressions appear in Table 3. Again, all assumptions underlying multiple regression were tested for non-multicollinearity, homoscedasticity, normality of residuals, and absences of multivariate outliers. The model predicting increased awareness of mental health issues was again statistically significant, $R^2 = .09$, $F(5, 179) = 4.68$, $p < .001$, with both masculinity and femininity predicting increased awareness of mental health. The model predicting increased interest was also statistically significant, $R^2 = .08$, $F(5, 179) = 4.06$, $p = .002$. As in Study 1, femininity emerged as the only significant predictor, positively predicting increased interest.

The model predicting defensive reactance was statistically significant, $R^2 = .08$, $F(5, 180) = 4.31$, $p = .001$, and a masculinity × condition interaction again emerged, but in an opposite direction to that observed in Study 1. Here, those higher in masculin-

ity showed less defensive reactance after a non-funny ad than a funny one. This interaction is at odds with both the predicted interaction and the findings of Study 1. Femininity again significantly predicted lower levels of defensive reactance, consistent with Study 1. Finally, the model predicting mental illness stigma was not statistically significant, $R^2 = .02$, $F(5, 180) = 1.75$, $p = .125$. Masculinity emerged as the only predictor of mental illness stigma, predicting less stigmatizing thoughts about mental illness.

STUDY 2
DISCUSSION

Study 2 was conducted in an attempt to replicate the results of Study 1. Curiously, the interaction between masculinity and humor condition predicting defensive reactance appeared in the opposite direction as observed in Study 1, and contrary to hypotheses. That is, in Study 2 more masculine men reported more defensiveness after exposure to funny ads. One potential explanation for the discrepancy between these studies may be the different conditions under which they were conducted. Study 1 was conducted online, most likely in a casual home environment. In comparison, Study 2 was conducted in a psychology laboratory on a university campus, with lab managers, research assistants, and other participants present. Despite efforts to ensure privacy (e.g., individual cubicles), the mere presence of others in the lab may have influenced participants' responses to sensitive questions dealing with masculinity, stigmatization, and defensiveness toward mental health, as well as natural humor responses. Across these two studies, masculinity does not appear to be operating as hypothesized and as conceptualized in the literature. Rather, it is femininity that emerges as a consistent predictor of men's reactions to mental health. In an attempt to clarify the interpretation of both sets of results, Study 3 was run as an additional replication of Studies 1 and 2, returning to an online format for administration. Study 3 had the additional purpose of confirming the roles of femininity in men's reactions to messages about mental health, as this appears to be a novel but consistent discovery. This study was pre-registered, with our

methods, hypotheses, and analytic plan available at https://
aspredicted.org/cq7dn.pdf.

STUDY 3
METHOD

Two hundred and thirty-two male undergraduates were re-
cruited from a large Canadian university in exchange for partial
course credit (M_{age} = 18.92 years, SD = 1.87). Participants who
did not indicate consent were removed from the analyses (n =
2), along with those who failed one or more attention checks (n =
51). Additionally, participants who left three or more items blank
(n = 4) were excluded. Finally, five participants were removed
for failing to list their gender, resulting in a final sample of 175.
Forty-two participants reported that they were currently (n = 21)
or had previously (n = 21) experienced problems with mental ill-
ness. As before, these participants were retained for analysis to
be consistent with participant sampling across studies.

RESULTS AND DISCUSSION

Normality of variables was once again confirmed, and Pearson
correlations were performed on key measures. Mean funniness
ratings were again significantly higher in the funny ad condition
than in the non-funny ad condition (see Table 1). A number of
zero-order Pearson correlations were replicated in Study 3 and
generally seem consistent with those observed in Study 1. Ad
funniness was positively correlated with increased awareness of
ad content and interest in counselling services on campus, but
was unrelated to mental illness stigma or defensive reactance.
Defensive reactance was positively correlated with mental ill-
ness stigma and negatively correlated with interest in counsel-
ling services on campus. Thus, our pattern of correlations was
consistently replicated across all three studies.

Regression analyses were again used to determine whether
the effect of the humor manipulation was moderated by either
masculinity or femininity. All statistical assumptions underlying
multiple regression were tested and satisfied. The model predict-
ing increased awareness of mental health issues was not statisti-

cally significant, $R^2 = .01$, $F(5, 168) = 1.38$, $p = .234$. There were no statistically significant predictors or interaction terms. The model predicting interest in learning more about counselling services on campus was statistically significant, $R^2 = .05$, $F(5, 167) = 2.61$, $p = .027$ but there were no statistically significant predictors in the model. The interaction term between condition and femininity approached statistical significance, such that at low levels of femininity the presence of funny ads mildly increased interest, whereas at high levels of femininity funny ads decreased interest. The model predicting defensive reactance was not statistically significant, $R^2 = .02$, $F(5, 169) = 1.63$, $p = .156$. Additionally, there were no statistically significant predictors or interaction terms. The model predicting mental health stigma was not statistically significant, $R^2 = .05$, $F(5, 168) = 1.95$, $p = .090$. That said, femininity was a statistically significant predictor ($B = -.12$, $p = .046$), such that higher femininity was associated with lower mental health stigma. Neither interaction term was statistically significant. The regression models generally do not offer support for a role of masculinity in how humour affects persuasion. The interaction between masculinity and condition when predicting defensive reactance obtained in Study 1 and 2 (in opposite directions) is not borne out by this data. To further clarify these patterns of results, we combined all the shared data across the 3 studies and conducted a mega-analysis.

MEGA-ANALYSIS

Across 3 studies, we found evidence for different, conflicting relationships between masculinity and humor in predicting ad efficacy. It appears that masculinity may not play a role at all in men's reactions to mental health; rather, femininity may be the critical, previously overlooked predictor. In order to empirically examine the robustness of these findings across the 3 studies, we performed a mega-analysis (Steinberg et al., 1997), aggregating and reanalyzing data across our 3 studies to get a clearer estimate of the overall population effect size.

RESULTS AND DISCUSSION

After the data were concatenated, our total sample included 541 participants, with 275 in the funny condition and 266 in the non-funny condition. Descriptive statistics are presented in Table 1 and correlations are presented in Table 2. Ad funniness was higher in the funny condition than in the non-funny condition (see Table 1), confirming the success of our manipulation across studies. As seen in Table 2, funniness was positively related to both indices of message reception, including increased awareness of mental health and greater interest in counselling services. Participants who found the ads funnier also found them to be more persuasive. Masculinity was positively related to funniness, such that those who were higher in traditional masculinity rated the ads as funnier. Both mental illness stigma and defensive reactance correlated negatively with interest in learning more about mental health services on campus but were not related to awareness of mental health issues. This suggests that those who responded defensively to the ads or thought maladaptively about mental illness were dissuaded from learning more about mental health services but experienced no change in awareness about mental health issues.

To assess the moderation of condition by masculinity, all regressions were run with the combined sample, and statistical assumptions tested. For one variable (awareness), a robust regression was conducted to control for heteroscedasticity. The model predicting increased awareness of mental health issues was statistically significant overall, $R^2 = .05$, $F(5, 535) = 6.73$, $p < .001$. Both masculinity and femininity were statistically significant predictors, such that those higher in either experienced a greater increase in awareness of mental health issues than did those who were lower in either. These effects did not differ by condition. The model predicting interest in counselling services was also significant, $R^2 = .05$, $F(5, 535) = 6.83$, $p < .001$. Femininity emerged as the only significant predictor of this variable.

The model predicting defensive reactance was statistically significant overall ($R^2 = .04$, $F(5, 535) = 5.69$, $p < .001$). Femininity significantly predicted defensive reactance, such that those high-

er in femininity reacted less defensively to the ads. The model predicting mental health stigma was statistically significant, R^2 = .02, $F(5, 535) = 2.90$, $p = .014$. Again, femininity emerged as a predictor such that those higher in femininity had fewer stigmatizing thoughts about mental health. However, femininity interacted with humor condition: femininity was associated with more mental illness stigma after the funny ads and less stigma after viewing the non-funny ads.

GENERAL DISCUSSION

The present research explored the application of social psychological research on attitudes and gender role ideology to a pressing issue in clinical psychology: how can we overcome men's documented opposition to seeking help for psychopathology? To answer this question, we tested the link between men's traditional masculinity and their reactions to a mental health awareness campaign that incorporated affiliative humor. Over the course of three studies, we observed no clear evidence that masculinity was associated with defensiveness or stigmatizing thoughts about mental illness. Rather, femininity and funniness emerged as the most consistent predictors of men's attitudes toward mental health and help-seeking. The perception of humor in an advertisement thus appears to increase its persuasiveness, which is consistent with research linking funniness to increased ad attention and more positive attitudes toward the ad and its message (see Eisend, 2009, for meta-analytic review). Use of humor did not appear to increase defensive reactance or mental illness stigma, suggesting that including humor in persuasive ad campaigns regarding mental health issues will not trivialize the subject matter or lead to more negative thoughts about the issue. Rather, it seems safest to conclude that perception of humor in an ad promotes increased interest and awareness of mental health without harmful or disparaging associations.

Across the three studies, femininity was negatively associated with mental illness stigma and defensive reactance, and positively associated with message reception variables. The role of femininity was exploratory due to the paucity of research on men's

femininity, however, its emergence as the strongest predictor in each model warrants careful consideration. Early gender role research suggested that masculinity taps into the independent, problem-solving aspects of personality, whereas femininity taps an expressive dimension focussed on sympathy, nurturance, loyalty and concern for the welfare of others (Bem, 1974; Bem, Martyna, & Watson, 1976; Hoffman & Borders, 2001). Other research has found that, in both men and women, femininity is associated with increased tolerance for stigma associated with seeking help for mental illness (Ang et al., 2004). Johnson (1998) observed that femininity was associated with confidence in mental health professionals to assist with psychological problems and greater tolerance for the stigma of seeking professional help. Further exploration of the role of male femininity in help-seeking appears to be warranted in light of the current data.

One possible explanation for the null findings associated with traditional masculinity pertains to the manner in which help-seeking for mental health was presented, specifically in terms of encouraging a friend to seek help. This vehicle was chosen for several reasons, including the enhanced persuasive impact of humor when recipients are less personally involved (Yoon & Tinkham, 2013) and when messages are intended to produce positive feelings (Yoon, 2015). We believed that framing the issue as one of encouraging a friend to seek help would reduce personal involvement and thereby improve message reception. However, this strategy may have had the unintended effect of minimizing the threat experienced in relation to help-seeking, usurping the role humor was intended to play. Some research has suggested that male opposition to mental health help-seeking is attenuated when the help-seeking is presented in furtherance of masculinity, such as improving work performance or sexual ability (O'Brien et al., 2005). Framing the issue in terms of helping a friend may have made the issue one of utilitarianism, duty, or being the strong one in a friendship, all forms of fulfilling traditionally masculine goals (Bem et al., 1976) and eliminating the link between masculinity and defensive reactance.

Prior research has found that the interaction between masculinity and humor operate at higher levels of threat (Conway & Dube, 2002; Mukherjee & Dube, 2012). In the present research,

participants generally expressed low levels of mental illness stig-
ma and defensive reactance toward mental illness, regardless of
ad condition. As a result, participants in this sample may not
have found the concept of mental health to be threatening, sug-
gesting that humor would have a limited impact. Future research
may wish to manipulate threat to determine if humor might op-
erate at higher levels of threat. Alternatively, social desirability
may have played a role to the extent that participants may have
felt less comfortable reporting stigmatizing views following an
ad campaign specifically targeting mental health. In the absence
of a non-mental-health control condition, it is difficult to deter-
mine the baseline level of these stigmatizing attitudes in the pop-
ulation and the potential impact of the ad manipulation. Future
research should incorporate such a control condition, presenting
funny and non-funny ads that target other sensitive or stigma-
tized subjects facing young men, such as online piracy, or safer
sexual practices.

There were a number of limitations to these studies that warrant
discussion. First, some of our measures consisted of only a single
item (i.e., awareness of mental health issues, interest in learn-
ing more about mental health services on campus). Although we
feel that these single-items are valid in representing their respec-
tive constructs, including additional items could have improved
our confidence in these measures. Second, our stimuli in these
studies did not refer to any specific mental illnesses in particular.
Because perception of different mental illnesses may differ, it is
not clear that our results generalize equally across every mental
illness. Third, our participants were undergraduates in an intro-
ductory psychology class and may have been actively interested
in psychology and already have progressive or nuanced per-
spectives on mental health. Finally, there may be concerns about
the use of the Bem Inventory, which was originally constructed
by asking about the social desirability of traits for either men or
women. However, the measure itself now asks for self-ratings on
these traits. A recent study found that self-ratings and desirabil-
ity ratings on the same traits in the Bem Inventory form differ-
ent factors, which calls the measure into question (Choi, Fuqua,
& Newman, 2008). As stated, we incorporated the Bem scale to
maintain consistency with other published work on masculinity

and humor, but future research may wish to incorporate revised or updated gender role scales such as the Conformity with Masculine Norms Inventory (Mahalik et al., 2003).

In summary, our results suggest that traditional and stereotypical masculinity may not play a role in men's reactions to mental health campaigns. Rather, their traditional femininity may be the more promising candidate for reaching men and encouraging helping. This is particularly true with regard to encouraging a friend to seek help for mental health problems. A supportive social network has been shown to improve the outcome of mental health struggles among men, increase the likelihood of seeking professional assistance for psychopathology (Gorman et al., 2007), and may reduce the likelihood of suicide or self harm (Oliffe et al., 2012). Public awareness campaigns that target the social support network may be a promising form of intervention and our results provide insight into the benefit of humor within this context.

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