

DISSERTATION

DEVELOPMENT AND EVALUATION OF A PSYCHOEDUCATIONAL INTERNET  
INTERVENTION TO INCREASE MEN'S HELP-SEEKING FOR BODY IMAGE AND  
DISORDERED EATING/EXERCISE CONCERNS

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## ABSTRACT

### DEVELOPMENT AND EVALUATION OF A PSYCHOEDUCATIONAL INTERNET INTERVENTION TO INCREASE MEN'S HELP-SEEKING FOR BODY IMAGE AND DISORDERED EATING/EXERCISE CONCERNS

Statistics reveal that body image and disordered eating/exercise concerns among men are widespread; however, few men actually seek help. Researchers need to identify factors that prevent men from using available services in order to inform interventions specifically designed for men who are at-risk. Studies have shown that higher Gender Role Conflict (GRC) is related to both increased body image and disordered eating/exercise concerns in men as well as decreased help-seeking as defined by the Theory of Planned Behavior (TPB). The help-seeking literature suggests that the most effective interventions for men are those that target these variables and are also non-traditional. The purpose of the current study was to develop an effective internet intervention to increase help-seeking in men for body image and disordered eating/exercise concerns. Two-hundred-ninety-six undergraduate men were assessed for GRC, body image and disordered eating/exercise attitudes and behaviors, and help-seeking factors at pretest. One week later, they were exposed to the independent variable (intervention or no intervention) and were assessed again posttest. Regression analyses and Structural Equation Modeling (SEM) indicated that self-stigma of seeking help and attitudes toward seeking help are important predictors and mediators. ANCOVAs revealed statistically significant intervention effects for all help-seeking variables compared to the control group. These results suggest that educating men about body image concerns might be an effective way of increasing help-seeking.

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## Chapter 1: Introduction

The field of men and masculinity studies has grown significantly within the last decade. Since the establishment of APA Division 51 (Society for the Psychological Study of Men and Masculinity) in 1995 and the advent of the journal of Psychology of Men and Masculinity in 2000, the study of men's issues has become more prominent in terms of both research and clinical practice. Throughout this time, one of the major areas of focus has been the attempt to understand, prevent and treat men's unique mental health concerns. Researchers and scholars have outlined theories to explain both how men adopt certain masculine ideologies as well as the impact these ideologies have on their mental health. Many of these theories are broadly based within social learning and gender role socialization paradigms, suggesting that men learn what it means to be masculine by observing and applying the definitions set forth by their social environments (Addis & Mahalik, 2003; Addis & Cohane, 2005). These theories in and of themselves, however, do not make direct claims as to how specific masculine ideologies impact mental health outcomes for men.

### **Gender Role Conflict in Men**

To further explore the influence that adopting certain masculine ideologies has on men's mental health, some researchers have focused on the impact of traditional masculine gender roles. They have expanded on the aforementioned broad socialization theories and have more specifically studied the negative impact of aspiring to fit socially sanctioned, rigidly defined traditional masculine gender roles. Traditional masculine gender roles encompass such characteristics as being physically strong and powerful, emotionally tough, successful and self-reliant (Levant et al., 1992; Thompson & Pleck, 1986). One of the most widely researched theories examining the relationship between adopting restrictive male roles and mental health

outcomes is the concept of gender role conflict (GRC; O'Neil, 2008). O'Neil's conceptualization of GRC asserts that men experience conflict between ascribing to rigid masculine ideologies and their own physical and mental well-being (O'Neil, Helms, Gable, David, & Wrightsman, 1986). Essentially, the theory of GRC assumes that when men embrace these rigid masculine gender roles, they experience effects that are harmful to their mental health. GRC is further segmented into four empirically derived components of restrictive masculine gender roles, all of which focus on fear of femininity. These four constituents are: Success/Power/Competition (SPC), Restrictive Emotionality (RE), Restrictive Affectionate Behavior Between Men (RABM), and Conflict between Work and Family relations (CWF). To evaluate GRC, O'Neil created the Gender Role Conflict Scale (GRCS), which assesses overall GRC as well as each of the four subcomponents. The GRCS has been utilized in numerous research studies investigating negative impacts on men's mental health (O'Neil, 2008).

Research using the GRCS has supported the theory that GRC is related to negative mental health outcomes. Studies have confirmed connections between GRC and mental health issues including depression, anxiety, stress, low self-esteem, alcohol and substance use and abuse, alexithymia, risky health behaviors, feelings of shame, guilt, failure and pessimism, and interpersonal relationship difficulties (O'Neil, 2008; Shepard, 2002; Groeschel, Wester, & Sedivy, 2010; Levant, Wimer, Williams, Smalley, & Noronha, 2009; Thomas, 2009). In addition to these many psychological health issues, recent research has examined the relationship between GRC and body image dissatisfaction in men. More broadly, past research has explored the connection between adherence to rigid masculine gender roles and body image and disordered eating/exercise concerns. This body of research has demonstrated that men who adhere to more rigid masculine gender roles tend to ascribe to a more muscular ideal body type, desire a more

muscular, lean body for themselves and have overall decreased body satisfaction and self-acceptance (Frederick et al., 2007; Mussap, 2008; Tager, Good, & Morrison, 2006). In terms of the connection with GRC specifically, researchers have found similar results; GRC appears to be related to increased self-objectification, and desire to be muscular and decreased body esteem (McCreary, Saucier, & Courtenay, 2005; Schwartz & Tylka, 2008; Schwartz, Grammas, Sutherland, Siffert, & Bush-King, 2010; Shepherd & Rickard, 2011).

### **Body Image and Disordered Eating/Exercise Concerns in Men**

Results from these studies reveal that rigid masculine gender roles may be associated with greater risk of body image disturbance. Body image and disordered eating and exercise behaviors in men is an area of research that has largely been neglected until recently. Historically, studies of body image and eating disorders have focused primarily on women, thus defining these concerns as “female” issues. As the psychological study of men and masculinity has grown as a field, researchers and clinicians have learned that men also experience considerable body image and disordered eating/exercise problems. It was previously thought that only about 5 to 15% of individuals with eating disorders were men (Freeman, 2005). Within the last five years, as more research has been conducted, those estimates have risen to approximately 25% of the eight million Americans with diagnosable eating disorders (Andersen, Watson, & Schlechte, 2000; Hudson, Hiripi, Pope, & Kessler, 2007). Past statistics have also suggested that, perhaps due to the stereotype that eating disorders are “feminine” and only women or gay men have these issues, only about 16% of men with eating disorders actually seek help (Freeman, 2005). Thus, men are clearly experiencing eating disorders, which often go undetected because men are unlikely to seek treatment. Additionally, these statistics only take in to account those who actually meet official criteria for a diagnosable eating disorder.

In addition to stereotype about eating disorders as a “feminine” issue, studies have also shown that there is considerable stigma of having an eating disorder in general. Research has shown that individuals with eating disorders are perceived as attention-seeking and to blame for their own condition (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Mond, Robertson-Smith, & Vetere, 2006; Stewart, Keel, & Schiavo, 2006). In terms of interpersonal interactions, studies have found that people perceive those with anorexia nervosa as being difficult to talk to and that it is hard to feel empathy towards them (Crisp, 2005). Additionally, studies have illustrated that people assign certain personality traits and abilities to individuals with eating disorders, such as being incompetent, perfectionist, vain, sad, unsocial, emotional, fake and sensitive (Johnston & Rickard, 2006; Mond et al.). These studies indicate that people largely hold negative attitudes towards individuals with eating disorders, thus complicating this issue further for men.

Unfortunately, little research has examined men with diagnosable eating disorders. Research that has been conducted has found that presentation of eating disorders in men and women tends to be comparable (Burns & Crisp, 1985; Crisp & Burns, 1983; Olivardia, Pope, Mangweth, & Hudson, 1995; Ousley, Cordero, & White, 2008; Weltzin et al., 2005; Woodside, Garfinkle, Lin, Goering, & Kaplan, 2001). These studies have found that etiological factors, eating disorder symptoms, methods utilized for weight control and body dissatisfaction are relatively similar. Despite these similarities, some subtle gender differences have been identified. For example, in terms of specific diagnoses, men diagnosed with anorexia nervosa typically report being satisfied with their weight, unlike women diagnosed with the same disorder (Barry & Lippman, 1990). Moreover, with regard to bulimia nervosa, data suggest that men tend to focus less on unrealistic weight goals, restrictive dieting measures and thin ideal bodies than women (Schneider & Agras, 1987). One study also found that compared to women, men, on

average, typically engage in more bingeing and compulsive exercising, rather than laxative use, as a means of weight control (Sharp, Clark, Dunan, Blackwood, & Shapiro, 1994). It is speculated that this observed difference is due to the fact that binge eating and exercising are seen as more acceptable behaviors for men to engage in because they are more aligned with rigid masculine norms of behavior. Finally, age of onset of eating disorders has been found to differ slightly depending on gender, with typical age of onset for men occurring around age 20, compared to age 17 for women (Braun, Sunday, Huang, & Halmi, 1999). This information indicates that college aged men are particularly vulnerable to the development of eating disorders.

While it is estimated that about two million American men meet criteria for an eating disorder diagnosis, numerous men suffer from severe, but not diagnosable, body dissatisfaction and disordered eating and exercise behaviors (Woodside et al., 2001). Although not severe enough to warrant a diagnosis, individuals with body image issues and disordered eating and exercise behaviors have been found to experience significant psychological distress and thus are an important population to study (Shisslak, Crago, & Estes, 1995). Studies have found that body image disturbance among men is widespread, as revealed by a recent public internet survey (Frederick et al., 2006). The survey, consisting of 25,741 male respondents, discovered that only about half of the participants were satisfied with their weight. In particular, men who did not fit the muscular ideal body type, because they were either overweight or too thin, tended to be the least satisfied and least comfortable with their bodies. Out of the entire sample, 90% of the men stated that they desired a more muscular body. The results from this study are congruent with other research findings; overall, men tend to desire more muscular bodies, which may in some instances mean gaining weight and in others, losing weight (McCabe & Ricciardelli, 2004;

Olivardia, Pope, Borowieck, & Cohane, 2004; Ridgeway & Tylka, 2005; Tiggemann, Martins, & Kirkbride, 2007).

These studies reveal that the ideal body for men may in fact be very different from the ideal body for women. Therefore, men and women are likely to report different types of body dissatisfaction and body change strategies. While women strive to obtain the ideal female body, which is characterized by thinness, men tend to focus more on overall body shape and attaining a muscular body, which could involve gaining or losing weight. This ideal body for men is associated with rigid masculine gender roles, stating that men should be strong and powerful (Fernandez-Aranda et al., 2004; McCabe & Ricciardelli, 2004). In addition to a preference for muscularity as compared to thinness, research has also confirmed that men typically focus on different body areas than women. Research has found that body image for men centers more on satisfaction with chest, abs and shoulders (Furnham, Badmin, & Sneade, 2002; Tantleff-Dunn & Thompson, 2000). In addition to body dissatisfaction, studies have shown that men engage in dangerous body change strategies in order to alter and enhance their bodies. For example, researchers have noted that men frequently use excessive weight lifting, supplements, creatine, fat burning exercises, reduction of calories, monitoring of food intake and diet pills in order to obtain the desired muscular body type (Bottamini, 2006; McCreary, Sasse, Saucier, & Dorsch, 2004; Ridgeway & Tylka, 2005; Smolak & Murnen, 2005). This pattern of disordered eating/exercise attitudes and behaviors in men has been labeled as a Drive for Muscularity (DM; McCreary et al.). Although not yet recognized as an official eating disorder diagnosis, scholars have begun to refer to clinically significant levels of DM as “muscle dysmorphia” (Harvey & Robinson, 2003). Statistics demonstrate that muscle dysmorphia, especially, has become an

emerging area of concern for professionals working with college age men (Davey & Bishop, 2006).

Due to the identified discrepancies between men and women in terms of body image and disordered eating and exercise behaviors, assessment tools specific to the concerns of men are necessary. Most of the research to date exploring these issues has employed scales developed for women, including the Eating Disorders Inventory (EDI) and the Eating Attitudes Test (EAT), which focus on desire for thinness, lower body areas and weight gain prevention behaviors (Cafri & Thompson, 2004). Thus, the results of studies utilizing these measures consistently show that men have lower rates of body dissatisfaction and eating disorder symptomatology than women (Ricciardelli & McCabe, 2001; Cohane & Pope, 2001). These scales, however, do not examine body image related variables more commonly experienced by men, such as muscle dysmorphic symptoms. Therefore, these types of assessment tools should not be used exclusively to measure male body image and disordered eating and exercise concerns as they are likely to provide inaccurate results.

In response to the lack of accurate measures of male body image, male-oriented scales have been created to be used in research exploring rates and correlates of male body image and disordered eating/exercise concerns. The most extensively used scale of this type is the Drive for Muscularity Scale (DMS), created by McCreary and colleagues (2004). The DMS consists of items focusing on upper body areas, the desire to increase muscularity, and behaviors that potentially enhance muscularity, such as protein and supplement consumption and weight lifting. The DMS has been used in studies with nonclinical samples of adolescent and college aged males and females as well as weightlifters of both genders (McCreary et al.). Highlighting the undergraduate population, results of a study examining a sample of 157 college students

indicated that men had higher levels of the drive for muscularity than females and that the DMS had good reliability and validity.

While the DMS focuses specifically on motivation for becoming increasingly muscular and behaviors associated with this drive, the Male Body Attitudes Scale (MBAS) assesses male attitudes toward their bodies and includes body fat, height and overall body image dimensions as well as muscularity (Tylka, Bergeron, & Schwartz, 2005). The MBAS is a relatively new measurement tool and has currently only been used in samples of college aged men. Tylka and colleagues confirmed that this scale is related to DM, low body esteem, internalization of the muscular ideal, eating disorder symptomatology and pressures for muscularity. Studies have supported the reliability and validity of these measures and they are now used in research to help explain the factors associated with male body image and disordered eating/exercise concerns, including origins and consequences (Blashill, Vander Wal, & Jillon, 2009; Chandler, Grieve, Derryberry, & Pegg, 2009; Tylka et al.).

Similar to explanations of body image disturbance and eating disorders in women, sociocultural theory has been applied to explain why men also experience these problems. In particular, media representations of the ideal male image have been implicated in decreasing body satisfaction and influencing disordered behaviors (Bartlett, Vowels, & Saucier, 2008). Studies employing sociocultural theory have found that after viewing muscular and objectified male images, men do report higher levels of body dissatisfaction, increased depression and decreased self esteem (Agliata & Tantleff-Dunn, 2004; Arbour & Ginis, 2006; Farquhar & Waylkiw, 2007; Hargreaves & Tiggemann, 2009; Hobza & Aaron, 2009; Lorenzen, Grieve, & Thomas, 2004). Additionally, research has shown that men frequently identify social pressure, media, competition with peers and attractiveness to others as important factors in affecting body

image and change strategies (Bottamini, 2006; Grogan & Richards, 2002; McCabe & Ricciardelli, 2004; Schooler & Ward, 2006; Smolak, Murnen & Thompson, 2005).

One specific sociocultural theory that has been used to explain why men experience certain types of body image issues is the gender parity notion (Addis & Cohane, 2005). This theory, influenced by feminist perspectives, claims that men's focus on body image has increased as women have gained more power in society and rigid gender roles for men have shifted (Bottamini, 2006). This framework states that as men feel their power threatened, they resort to building muscle mass in order to preserve their masculine status. Because men are typically able to build muscle mass more easily than women, they may feel less threatened by women within this masculine domain, thus maintaining status and power.

The gender parity notion helps to explain why men focus on building muscularity as well as why they may be reluctant to talk about their body image and the change techniques they employ. Men are usually especially hesitant to acknowledge that their body issues are related to appearance, vanity, weight, dieting or other more typically "feminine" activities and worries (de Souza & Ciclitira, 2005; Grogan & Richards, 2002; Hargreaves & Tiggeman, 2006). Discussing body image has generally been viewed as effeminate and demasculinizing. Therefore, men may believe that they must keep their thoughts, feelings and behaviors on this subject to themselves in order to appear masculine. Consequently, men are more likely to say that their body image and disordered eating and exercise behaviors are based on health or medical concerns (de Souza & Ciclitira). As a result of this fear of seeming feminine, men are also more likely to use more "masculine" and muscularity enhancing change strategies such as weight lifting, engaging in sports and using supplements. In sum, these sociocultural feminist inspired theories assert that "individuals' symptoms are a response to unhealthy pressures, expectations or roles" in the

sociocultural environment (Maine & Bunnell, 2008, pp. 188). As a group, these theories provide a connection between body dissatisfaction and disordered behaviors in men and the concept of masculinity.

### **Help-seeking Behavior in Men**

In order to determine how men may be encouraged to obtain help for these body image and disordered eating/exercise concerns, research is needed to explore the factors that prevent men from utilizing available services. Previously mentioned statistics suggest that men may suffer more body image and body change issues than might initially be apparent because they do not seek help as often as women for these problems. The GRC research provides an explanation for why men do not seek help for their mental health problems, including body image and disordered eating/exercise issues. O'Neil (2008) cited eighteen studies that found significant negative relationships between GRC and help-seeking. Some of these studies have looked broadly at GRC and attitudes toward seeking help, finding RE and RABM were associated with negative attitudes toward seeking professional psychological help and negative perceptions of psychological treatment helpfulness (Cusack, Dean, Wilson, & Ciarrochi, 2006; Good, Dell, & Mintz, 1989). Mental health brochure evaluation studies have looked more specifically at how GRC is related to preferences for certain types of treatment. Results from these studies demonstrated that GRC, specifically RE and SPC, are related to negative mood reactions to treatment brochures, negative treatment perceptions, negative attitudes toward help-seeking and preference for non-traditional counseling methods such as classes, workshops and online techniques (Blazina & Marks, 2001; Robertson & Fitzgerald, 1992; Rochlen, Land, & Wong, 2004; Rochlen, McKelley, & Pituch, 2006).

Support for the relationship of GRC to help-seeking is also derived from studies that have looked more broadly at masculine ideology, and constructs and scales that are similar to GRC. Studies have revealed that high levels of rigid masculine ideology, self-concealment and low levels of distress disclosure are related to negative attitudes toward psychological help-seeking and refusal to seek psychological help, as well as increased distress, depression, negative affect, lower self-esteem and decreased life satisfaction (Berger, Levant, McMillan, Kelleher, & Sellers, 2005; Cepeda-Benito & Short, 1998; Kahn & Hessling, 2001). The results of this body of research collectively validate the paradox whereby men who are experiencing greater distress may also be those who are most unwilling to seek help. Masculine gender role scripts may provide some insight into why men with high GRC tend not to seek help despite experiencing heightened levels of psychological distress. Mahalik, Good and Englar (2003) identified a number of socialized scripts to which men typically ascribe. The “strong and silent” script, the “tough guy” script, the “winner” script and the “independent” script prescribe that men should be unemotional, control their feelings, suppress emotions that might make them seem vulnerable and be competitive and self-sufficient. Consequently, men may feel that they cannot express their emotions and that they have to resort to unhealthy coping mechanisms, suffering in silence rather than seeking help.

These scripts contain elements of GRC and are reflective of feminist theoretical explanations of men’s help-seeking attitudes and behaviors. Feminist paradigms indicate that power is the important defining factor in why men do not seek help. This theory makes “salient the variety of ways that power shapes men’s experience and, in turn, how men’s experience and behavior maintains power” (Addis & Cohane, 2005, pp. 642). Ultimately, men do not seek help because they don’t want to appear weak. Feminist paradigms and masculine gender role scripts

propose a set of sociopolitical reasons for why men may not seek help. Numerous researchers have attempted to develop and apply other theories to further breakdown and explain more specifically what prevents people from engaging in help-seeking behavior.

### **Theory of Planned Behavior**

The Theory of Planned Behavior (TPB) is one theory that has been commonly used by researchers to explain and predict help-seeking behaviors. Ajzen (1985) developed this theory, contending that intentions are the central factor in determining whether or not someone will perform a behavior. Additionally, he suggested that there are three factors that predict intentions: attitudes, subjective norms and perceived behavioral control. Attitudes, which are considered the critical predictor of intentions, refer to how favorably an individual judges a behavior (Smith, Tran, & Thompson, 2008). Subjective norms are based on the individual's perception of costs and benefits of participating in a behavior. Finally, perceived behavioral control takes into account how easily the individual can engage in the behavior.

These concepts can be utilized to increase understanding of psychological help-seeking behavior for men. Studies have shown that GRC is negatively related to both attitudes and intentions to seek help (Berger et al., 2005; Blazina & Marks, 2001; Cusack et al., 2006; Lane & Addis, 2005; Robertson & Fitzgerald, 1992; Wisch, Mahalik, Hayes, & Nutt, 1995). In addition, studies using the TPB have found that subjective norms, in particular stigma and normativeness, are also related to attitudes and intentions to seek help for male participants (Komiya, Good, & Sherrod, 2000; Magovcevic & Addis, 2005; Pederson & Vogel, 2005). Mansfield, Addis and Courtenay (2005) identified concrete barriers, a component of perceived behavioral control, as another factor involved in help-seeking for men. Moreover, Smith, Tran and Thompson (2008) directly tested whether or not the TPB could explain help-seeking behavior for men who adhere

to rigid masculine gender roles. The results of this study illustrated that attitudes toward psychological help-seeking mediate the relationship between restrictive masculine gender roles and help-seeking intentions, such that more negative attitudes are related to decreased intentions to seek help. Likewise, Pederson & Vogel (2007) found that the relationship between GRC and intentions to seek counseling is partially mediated by distress disclosure, self-stigma and attitudes toward seeing psychological help. Further substantiating the TPB, a study of undergraduate men ascertained that self-stigma of seeking help and attitudes toward seeking help significantly mediated GRC and intentions to seek help (Shepherd & Rickard, 2011).

The TPB not only helps to clarify why men who are high in GRC do not seek help, but can also inform intervention strategies for these men. Specific cognitive areas, namely attitudes, along with subjective norms and perceived behavioral control, should be targeted in order to increase intentions to seek help for men suffering from mental health problems like body image and disordered eating/exercise concerns.

### **Internet Interventions**

The help-seeking literature suggests that the most effective interventions for men are those that are both non-traditional and that also target TPB variables. In terms of non-traditional methods of delivery, it has been found that men do have a preference for utilizing internet options as opposed to face-to-face interactions for mental health related issues (Rochlen, Land & Wong, 2004). Additionally, it has been suggested that providing psychoeducation via the internet to men about psychological issues may be an effective way to reach men who are unlikely to seek help due to stigma (Chang & Wong, 2010). For example, a number of studies have demonstrated that men often gravitate toward the internet as a means of acquiring information regarding topics that may carry some stigma or be sensitive in nature, such as learning about

HIV and safer practices when engaging in sex with other men (Kubicek, Carpineto, McDavitt, Weiss, & Kipke, 2011; Rosser et al., 2011). In fact, online intervention methods have been shown to be effective in attracting groups that are normally resistant to seeking help, including men, due to the anonymity associated with the internet (White & Dorman, 2001). The use of internet interventions when targeting men appears to be an important medium to further explore given that such methods have shown promise in the existing, but sparse, research

In addition to being effective in terms of reaching men, the internet has also been suggested as a method of intervention for young adults. Estimates suggest that approximately one fifth of young adults, individuals between the ages of 18 and 24, use the internet as a source of information regarding mental health (Gould, Munfakh, Lubell, Kleinman, & Parker, 2002). Additionally, studies have found that in young adult samples, 24% listed the internet as one of their top sources of mental health information and 30.8% reported having previously used the internet for mental health information (Powell & Clark, 2006; Horgan & Sweeney, 2010). Based on this research, internet interventions demonstrate potential as an effective method of accessing college age men.

As technology has entered into the mental health arena, researchers have also begun testing the utility of internet-based interventions specifically for body image and disordered eating/exercise concerns. A number of these studies have focused on evaluating *Student Bodies*, an online eating disorder prevention program that is based on cognitive-behavioral principles (Doyle et al., 2008; Jacobi, Volker, Trockel, & Taylor, 2012; Low et al., 2006). *Student Bodies* spans eight weeks and incorporates psychoeducation, self-assessments, journaling, audio and behavioral assignments into interactive group sessions. Results of these studies demonstrate that this modality is effective in terms of reducing body dissatisfaction and eating disorder symptoms

for women. Nevertheless, while *Student Bodies* includes a psychoeducational component, it also relies on a variety of other activities, which may account for these positive results. Yet another study focused strictly on a web-based psychoeducational program and discovered similarly that women's eating disorder risk was decreased following the intervention (Zabinski et al., 2001). Furthermore, in a comparative study, researchers discovered that an internet administered psychoeducational program was equally as effective as a classroom-based curricula, further supporting the utility of technological interventions (Celio et al., 2000). Although optimistic, these studies were all based on women and, therefore, do not provide any information as far as how men might respond to these programs. Moreover, the goal of these programs was eating disorder prevention and symptom reduction as opposed to motivating help-seeking behavior. There are no empirical studies to date evaluating psychoeducational internet interventions and the ability to increase help-seeking in college-age men.

### **Purpose and Hypotheses**

The purpose of the current study is to establish a relationship between the variables of interest and to develop an effective internet intervention strategy using the TPB to increase help-seeking behavior in men suffering from body image and disordered eating/exercise concerns. The literature suggests that GRC is correlated with body dissatisfaction and behavioral attempts to obtain the muscular ideal. Given the negative relationship between GRC and help-seeking behaviors, the implication is that men with more body image and disordered eating/exercise concerns would be least likely to seek treatment. Therefore, this study attempts to determine if a male oriented psychoeducational internet intervention about body image and eating disorders may increase help-seeking behavior by improving intentions via the key components of the TPB: attitudes, subjective norms and perceived behavioral control. Specifically, this internet

intervention will target negative attitudes toward seeking help as well as negative attitudes toward individuals with eating disorders, which may both prevent men from reaching out. The intervention will also focus on decreasing stigma of seeking help and of having an eating disorder while also demonstrating to men that they are not alone if they are struggling with these issues. Lastly, the intervention will attempt to enhance perceived behavioral control over seeking help for eating disorder related issues.

**Regression analyses.** Based on previous research supporting the relationship between adherence to rigid masculine gender roles, body image and disordered eating/exercise concerns and help-seeking, the following hypotheses are proposed:

***Hypothesis 1.*** It is hypothesized that body image and disordered eating/exercise concerns (DM, preoccupation with low body fat and disturbed eating attitudes and behaviors) will significantly predict GRC.

***Hypothesis 2.*** It is hypothesized that help-seeking variables, as outlined by the TPB (attitudes, subjective norms, perceived behavioral control and intentions), will significantly predict GRC.

**Mediation analyses.** Based on the literature and principles of the TPB, the following hypotheses are proposed:

***Hypothesis 3.*** It is hypothesized that attitudes, as the key predictor of intentions, will mediate the relationship between both subjective norms and intentions to seek help as well as between perceived behavioral control and intentions to seek help. Two models will be tested as part of this hypothesis; the first model will include all components of attitudes (attitudes toward individuals with body image and disordered eating/exercise concerns and attitudes toward seeking help) and all components of subjective norms (self-stigma and non-normativeness of

having body image and disordered eating/exercise concerns and self-stigma of seeking help).

The second model will include only attitudes and subjective norms specifically related to help-seeking. It is hypothesized that Model 1 will better fit the data due to the inclusion of subjective norms and attitudes specific to body image and disordered eating/exercise concerns.

**Hypothesis 4.** It is hypothesized that subjective norms and perceived behavioral control, important predictors of attitudes as outlined in the TPB, will mediate the relationship between GRC and attitudes. Two models will be tested as part of this hypothesis; the first model will again include all components of attitudes and all components of subjective norms. The second model will include only attitudes and subjective norms specifically related to help-seeking. It is hypothesized that Model 1 will better fit the data due to the inclusion of subjective norms and attitudes specific to body image and disordered eating/exercise concerns.

**Hypothesis 5.** It is hypothesized that GRC will mediate the relationship between body image and disordered eating/exercise concerns and both subjective norms as well as perceived behavioral control. Two models will be tested as part of this hypothesis; the first model will again include all components of subjective norms. The second model will include only subjective norms specifically related to help-seeking. It is hypothesized that Model 1 will better fit the data due to the inclusion of subjective norms and attitudes specific to body image and disordered eating/exercise concerns.

**Hypothesis 6.** It is hypothesized that the relationship between body image and disordered eating/exercise concerns and intentions to seek help will be mediated as suggested by previous hypotheses by GRC, subjective norms, perceived behavioral control and attitudes. Models from hypotheses three, four and five will be combined to create a complete model of the relationship between all variables of interest. Two models will be tested as part of this hypothesis; the first

model will again include all components of subjective norms and attitudes while the second model will include only those specifically related to help-seeking. It is hypothesized that Model 1 will better fit the data due to the inclusion of subjective norms and attitudes specific to body image and disordered eating/exercise concerns.

**Intervention effects.** In accordance with the TPB as well as the literature on interventions to increase help-seeking, the following hypothesis is proposed:

***Hypothesis 7.*** It is hypothesized that help-seeking (attitudes, subjective norms, perceived behavioral control and intentions to seek help) will improve following exposure to the internet intervention compared to a no-intervention control group.

## Chapter 2: Method

### **Participants**

This study consisted of male undergraduate students enrolled in introductory psychology courses at a large, public Western university ( $N = 600$ ). Participants were recruited from the university psychology human subject research pool and received course credit for their involvement.

### **Measures**

**Intervention evaluation.** Prior to conducting this study, expert raters (doctoral level counseling psychology students with experience assessing and treating body image, eating disorders and men's issues) were asked to assess the accuracy and quality of the psychoeducational internet intervention. This internet intervention was assessed using a modified version of the Educational Materials Review Form (EMRF; Fahrenwald & Sharma, 2002; NCI, 1989). The modified version of the EMRF is a 7 item scale that measures quality and accuracy of educational materials. Items include questions about attributes such as content, credibility and attractiveness, and are measured on 6-point Likert response scale (1 = *unacceptable*, 6 = *excellent*). Higher total scores reflect greater accuracy and quality of the internet intervention.

**Participant characteristics.** Participants were asked to provide information regarding personal characteristics prior to completing other measures. Specifically, they were asked to provide information regarding demographics including their age, ethnicity, class standing as well as sexual orientation, since past studies have found connections between sexual orientation and specific body image and disordered eating and exercise concerns (Blashill, 2011). Due to the potentially sensitive nature of this question, participants had the option of choosing to not answer. Additionally, participants were asked to provide information regarding their mental

health and past treatment. Specifically, they were asked to report whether or not they have consulted a health professional (i.e., physician, mental health professional, nutritionist/dietitian) in the past for a problem, if they have ever been treated for a body image or disordered eating/exercise concern and if they have been diagnosed with any mental health concerns. These items were included because prior research has suggested that mental health and treatment history may be important variables to consider in terms of how participants respond to outcome measures (Blazina & Marks, 2001; Rochlen et al., 2006). Participants were also asked to indicate whether or not they are currently participating in any activities that require them to maintain a particular weight or body image. This variable was included since research has shown that certain groups such as models, aesthetic performers, wrestlers, runners and football players are at increased risk for male body image and disordered eating/exercise issues (Pope, Phillips, & Olivardia, 2000).

**Masculine gender role adherences.** Adherence to restrictive masculine gender roles was measured using the Gender Role Conflict Scale (GRCS; O'Neil et al., 1986). The GRCS measures gender role conflict, which is a result of restrictive masculine gender role socialization. The questionnaire consists of 37 items that ask participants to rate their agreement with statements on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). The GRCS contains four subscales: Restrictive Emotionality; Success, Power, and Competition; Conflict Between Work and Family; and Restrictive Affectionate Behavior Between Men. The subscale scores can be looked at individually and can also be summed to create the total score. Higher scores on the GRCS and its subscales represent higher levels of gender role conflict. The test-retest reliability of the GRCS has been reported at .88. The internal consistencies for the four

subscales range from .75 to .85. Psychometric analyses have supported the factorial, construct, and criterion validity of the subscales (O'Neil, 2008).

**Body image and disordered eating/exercise concerns.** Body image attitudes and related body change behaviors was measured using the Drive for Muscularity Scale (DMS), the Low Body Fat Subscale (LBFS) of the Male Body Attitudes Scale (MBAS) and the Eating Attitudes Test -26 item version (EAT-26). The DMS assesses attitudes (Muscle-oriented Body Image Subscale) and behaviors (Muscularity Related Behavior Subscale) related to desire for muscularity (McCreary & Sasse, 2000). The original DMS consists of 15 items measured on a 6-point Likert scale (1 = *never*, 6 = *always*). Based on the recommendation by McCreary et al. (2004), one item ("I think about taking anabolic steroids") will be excluded from this study because it does not load on either subscale of the DMS. All remaining 14 items are reverse coded so that high scores on the DMS indicate a high drive for muscularity. Internal consistencies have been reported between .83 and .87, factorial validity for each subscale has been reported at .85 and test-retest reliability has been reported at .93 (Cafri & Thompson, 2004; McCreary et al., 2004). Convergent validity, discriminant validity and concurrent validity have also been supported in the research (Wojtowicz & von Ranson, 2006).

The MBAS measures male body attitudes, particularly dissatisfaction and preoccupation, with regard to muscularity (Muscularity Subscale), low body fat (Low Body Fat Subscale; LBFS) and height (Height Subscale) (Tylka et al., 2005). The MBAS consists of 24 items rated on a 6-point Likert scale (1 = *never*, 6 = *always*). Higher total scores reflect more negative body attitudes. For the purposes of this study, only the Low Body Fat Subscale, which assesses perceptions of and attitudes toward the fat on one's body both globally and in discrete areas, will be used. This subscale was chosen because other measures of male body image, such as the

DMS, do not assess dissatisfaction with body fat. Internal consistencies for the total MBAS have been reported between .90 and .94. The total MBAS has been shown to have test-retest reliability of .91 as well as convergent, discriminant and concurrent validity (Tylka et al.). Additionally, internal consistency for the LBFS has been reported at .93.

The EAT-26 is one of the most widely used objective self-report measures of eating disorder symptoms and tendencies. This version yields a total score as well as three subscale scores: Dieting, Bulimia and Food Preoccupation and Oral Control (Garner, Olmstead, Bohr, & Garfinkel, 1982). The EAT-26 consists of 26 items rated on a 6-point Likert scale (1 = *never*, 6 = *always*). Higher total scores reflect higher levels of eating disturbance. The EAT-26 has been found to be reliable and valid in a male sample, with internal consistency reported at 0.77 (Reyes-Rodriguez et al., 2011).

**Attitudes.** Attitudes toward seeking help and toward individuals with body image and disordered eating/exercise concerns were measured with the Attitudes Toward Seeking Professional Psychological Help Scale-Short Form (ATSPPHS; Fischer & Farina, 1995) and the Adjective Rating Form (ARF; Johnston & Rickard, 2006), respectively. The ATSPPHS, which assesses attitudes regarding seeking psychological help, contains 10 items answered on a 4-point Likert scale (1 = *disagree*, 4 = *agree*). Half of the items on the scale are reverse-scored such that higher scores represent a more positive attitude toward help-seeking. Internal consistency has been reported between .82 and .84. Test-retest reliability has been reported at .80 (Fischer & Farina, 1995).

The ARF is used to assess perceptions of others' personality and physical attributes. The ARF consists of 23 items, including 11 positive adjectives and 12 negative adjectives, rated on a 7-point Likert scale (1 = *not at all*, 7 = *very much*). Participants are asked to rate the extent to

which they believe each of the 23 adjectives describes individuals with body image and disordered eating/exercise concerns. Negative and positive items are totaled separately to create two subscales; the ARFNeg and the ARFPos. For the ARFNeg, higher scores represent more negative attitudes towards individuals with body image and disordered eating/exercise concerns while higher scores on the ARFPos indicated more positive attitudes. Internal consistency has been reported at .87 (Johnstone & Rickard, 2006).

**Subjective norms.** Subjective norms of seeking help and of having body image and disordered eating/exercise concerns were measured using the Self-Stigma of Seeking Help scale (SSOSHS; Vogel, Wade & Haake, 2006) and the Perceptions of Problems in Living Questionnaire (PPLQ; Magovcevic & Addis, 2005). The SSOSHS assesses subjective norms, specifically perceived self-stigma of seeking help. This scale includes 10 items measured on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly agree*). Half of the items are reverse-scored so that higher total scores reflect greater self-stigma regarding seeking counseling and increased perceived threat to one's self-esteem for seeking help. Internal consistencies have been reported between .86 and .92. Construct validity, convergent validity and divergent validity for the SSOSHS was also supported (Vogel, et al., 2006).

The PPLQ assesses subjective norms, specifically self-stigma and perceived normativeness, of having body image and disordered eating/exercise concerns. The PPLQ examines respondents' negative perceptions of mental health problems and contains two subscales, the Self-Stigma Subscale (PPLQ-S) and the Normativeness Subscale (PPLQ-N). Participants are asked to imagine that they are experiencing body image and disordered eating/exercise concerns and to respond to the items accordingly. They are asked to rate their level of agreement with each item on a 5-point Likert scale (1 = *strongly disagree*, 5 = *strongly*

*agree*). Internal consistency has been reported at .87 for the self-stigma subscale and .66 for the normativeness subscale. The PPLQ is a new measure, and validity and reliability need to be further evaluated.

**Perceived behavioral control.** Perceived behavioral control over seeking help was assessed using the Concrete Barriers and Distrust of Caregivers subscale (CBDC) of the Barriers to Help-seeking Scale (Mansfield, Addis, & Courtenay, 2005). The CBDC scale consists of 6 items measuring barriers, such as finances, lack of knowledge about available resources and lack of trust in caregivers, which may prevent people from seeking help. Respondents rate their agreement with a number of statements on 5-point Likert scale (1 = *not at all*, 5 = *very much*). High scores on this scale indicate that the individual perceives more barriers to getting help and is therefore less likely to seek help. Internal consistencies have been reported between .77 and .79 and test-retest reliability has been reported at .95. Research has supported the convergent criterion validity of this scale (Mansfield et al.).

**Intentions to seek help.** Intentions to seek help were measured using a modified version of the Intentions to Seek Professional Psychological Help Scale (ISPPHS; Deane, Skogstad, & Williams, 1999; Young, 2004) and the Patterns of Help-seeking Scale (PHSS; Lane & Addis, 2005). The ISPPHS, as modified by Young, consists of 4 items measuring increasing levels of intentions to seek psychological help for a specified problem. In this study, participants will specifically respond to these questions with regard to body image and disordered eating/exercise concerns. Participants respond by indicating the likelihood that they would engage in each behavior on a 7-point Likert scale (1 = *very unlikely*, 7 = *very likely*). In addition, for the purposes of this study, the term “counselor” was changed to “professional helper” and was followed by a description of potential professional helpers available for those with body image

and disordered eating/exercise concerns (i.e. physician, nutritionist, mental health professional). The term “counselor” was changed and expanded on due to previous research showing that men might be more likely to see help from a medical professional as opposed to a mental health professional. Higher total scores reflect a greater overall likelihood of seeking help. Internal consistencies have been reported at .95 (Young).

**Manipulation and random responding checks.** Manipulation check items were included to verify that participants actually read, understand and retain information from the internet intervention. Participants were instructed, prior to viewing the internet intervention, that they would be asked to respond to questions regarding the content of the website. After viewing the website, participants were administered four manipulation check items, one corresponding to each section of the website. Additionally, three items were included throughout the questionnaire packets to determine whether or not participants are randomly responding. The three items included the following statements: “I am carefully reading each question and answering to the best of my ability.”, “I am honestly responding to every item on this questionnaire.” and “I randomly responded to items on this questionnaire.”

## **Procedures**

**Development of intervention.** A male-oriented psychoeducational internet intervention, in the form of a website, was developed for this study. The psychoeducational website contained information gathered from sources focused on men’s specific body image and disordered eating/exercise concerns (Pope, Phillips, & Olivardia, 2000; [www.mengetedstoo.co.uk](http://www.mengetedstoo.co.uk); [www.namedinc.org](http://www.namedinc.org); [www.nationaleatingdisorders.com](http://www.nationaleatingdisorders.com)). The website consisted of four major components: Definitions and Symptoms, Facts and Statistics, Personal Stories and Getting Help.

The psychoeducational website was evaluated, based on accuracy and quality as a psychoeducational material, using the EMRF prior to being used by participants

***Definitions and Symptoms.*** The Definitions and Symptoms section consisted of a webpage for each of the following conditions and diagnoses: Muscle Dysmorphia, Compulsive Exercise, Binge Eating Disorder, Bulimia and Anorexia. Within each tab, descriptions were provided for each condition or disorder including general characteristics and symptom presentation. For Muscle Dysmorphia, information included characteristics such as: dissatisfaction with body shape, size and muscularity; engaging in behaviors to increase muscularity and a lean physique; giving up social, occupational or recreational activities in order to maintain workout and diet schedule; continuing to work out, diet or use performance enhancing substances despite knowledge of adverse consequences. For Compulsive Exercise, information included characteristics such as: obsessively exercising for hours a day most days and setting ambitious fitness targets (e.g. running 5 miles every day); cancelling social events with family and friends to exercise; refusing to take time off from gym sessions despite illness or injury. For Binge Eating Disorder, information included characteristics such as: eating large amounts of food when not physically hungry and eating until uncomfortably full; lack of control over binges and feelings of disgust, guilt, or depression during and after overeating; physical problems (e.g. heart, blood pressure, blood sugar, joints, fatigue). For Bulimia, information included characteristics such as: recurrent episodes of binge eating and a sense of lack of control over eating during binge episodes; recurrent purging or compensatory behavior to prevent weight gain; preoccupation with weight, food and body size and shape. For Anorexia, information included characteristics such as: excessive dieting, fasting, restricted diet; difficulty eating with others, lying about eating; distortion of body size and intense fear of becoming fat or gaining

weight. The purpose of this section was to educate men about these disorders, thus reducing stigma and improving attitudes towards individuals who experience these symptoms.

***Facts and Statistics.*** The Facts and Statistics section consisted of a webpage for each of the following: Prevalence Rates; Age of Onset; Risk Factors. The Prevalence Rates webpage contained current statistics of men struggling with body image and eating disorder related concerns (e.g., 25% of Americans who meet criteria for an eating disorder are men; 2.7 million men in American meet criteria for an eating disorder; tens of millions of American men struggle with body image and disordered eating and exercise) as well as information discussing the underestimation of these issues due to “female” stigma. The Age of Onset webpage provided the following information: typical age of onset for eating disorders is between ages 14 and 25; typical age of onset for muscle dysmorphia is around age 19; college age men are a high risk group. The Risk Factors section focused on groups of men who are at increased risk for body image and disordered eating/exercise concerns such as sport involvement (e.g., runners, football players, wrestlers), professions that require a particular body type (e.g., modeling, acting, dancing) and families that focus on weight, inhibit emotional expression, have extremely high expectations, are overly critical, rigid, overprotective or detached or do not demonstrate effective ways of dealing with conflict. The aim of the Facts and Statistics section overall was primarily to alter the perception that having these concerns is abnormal for men and to demonstrate that men similar to the participants, in terms of age and background, struggle with these issues.

***Personal Stories.*** The Personal Stories section included a brief personal excerpt written by an individual struggling with each of the following issues: Muscle Dysmorphia; Compulsive Exercise; Binge Eating Disorder; Bulimia; Anorexia. This section also included a disclaimer that

the stories might be distressing to read but were intended to reflect real stories of men who experience body image and eating disorder concerns. The purpose of the Personal Stories section was to further normalize and also personalize (i.e., give a face to) these issues for men via stories of men who have suffered from body image and eating disorder issues.

***Getting Help.*** Finally, the section on Getting Help included the following webpages: Professional Help; Types of Treatment; Internet and Book Sources. The Professional Help and Types of Treatment sections provided information regarding locations, contact information, fees and treatment options for both local and national professional resources. The purpose of these webpages was to decrease perceived barriers to obtaining help. The Internet and Book Sources section provided information about resources so as to further reduce stigma and normalize the process of seeking help. Lastly, the idea that seeking help, especially for body image related issues, is “feminine” or weak was directly discussed and addresses in this section. Help-seeking was reconceptualized as being consistent with rigid masculine gender roles (i.e., “It takes courage to ask for help.”). Thus, while the other three sections (Definitions and Symptoms, Facts and Statistics and Personal Stories) indirectly attempted to alter help-seeking behaviors, the Getting Help section sought to more directly influence help-seeking.

**Data collection.** Approval for this study was obtained from the university Institutional Review Board. This study used a pretest-posttest control group design where participants were randomly assigned to either the experimental group (internet intervention) or the control group (no intervention). For participants assigned to the experimental group, their beliefs and behaviors were assessed both pre and post intervention. Therefore, these participants were required to participate in two separate sessions for this study; the first session took approximately one half hour and the second was about one hour in length. Participants assigned to the control group also

completed the questionnaire asking about their beliefs and behaviors at two time points; however, both sessions were only one half hour in length. For both the experimental and control groups, sessions were completed entirely via the internet. Participants who signed up for the study were directed via an internet link to the initial questionnaire. Prior to completing the actual questionnaire, participants were provided with information about the nature of the study and were assured anonymity and confidentiality. In order to maintain anonymity, participants were asked to create a unique participant identification number (PID) by providing three pieces of information: first two letters of their mother's name, last three digits of their primary phone number, first two letters of their current street address. This method was chosen so as to ensure that participants could easily reenter the same PID during session two without requiring any specific identifying information to be attached to their data. They signed the informed consent form with the knowledge that they could discontinue the study at any time without penalty. Participants were then asked to complete a questionnaire consisting of demographic and other characteristic questions as well as the GRCS, DMS, LBFS, EAT-26, ATSPPHS, ARF, SSOSHS, PPLQ and ISPPHS. The questionnaire was counterbalanced (A = GRCS, B = body image and disordered eating/exercise concern measures, C = help-seeking measures) such that participants within each condition were randomly assigned to receive the measures in a particular order.

One week after completing the first questionnaire, participants were asked to complete the second online questionnaire. At this point, participants were randomly assigned to either the experimental group or control group and received a link that directed them to the appropriate questionnaire. Participants in the experimental group were first guided to the psychoeducational website containing information about male specific body image and eating disorder related problems. They were asked to spend approximately twenty minutes looking at the website and so

that they would be able to answer a series of questions about the content. After reading the psychoeducational website, participants completed the manipulation check items to ensure that they read and understood the information. Participants then had about one half hour to complete the original questionnaire immediately following the website review. Participants assigned to the control group were asked to complete the initial questionnaire again. Upon completion of the final questionnaire, all participants were shown a debriefing form describing the purpose of the study as well as providing contact information for the researchers and resources available for mental health concerns.

## Chapter 3: Results

### **Data Management and Analyses**

Data management and analyses were conducted using IBM SPSS 20.0 and AMOS 19.0. Regression imputation was used to replace missing data (18 missing items). Participants who failed more than one manipulation check item ( $n = 33$ ) were eliminated from subsequent analyses. In addition, participants who failed any of the random response detection items ( $n = 115$ ) were also removed. Lastly, only participants with complete data sets were included in the analyses for this study. A number of participants ( $n = 156$ ) were lost due to a mismatch between the PID number used at Time 1 and the PID used at Time 2. After accounting for failed manipulation check and random response items as well as unmatched data sets, the total number of participants was 296.

### **Preliminary Analyses**

**Intervention evaluation.** The psychoeducational internet intervention was evaluated by doctoral students in counseling psychology ( $N = 15$ ) who had experience working in a therapeutic context with men as well as those with body image and disordered eating/exercise concerns. Table 1 shows the minimum values, maximum values, means and standard deviations for each evaluation item and the total EMRF score. The results indicate that the internet intervention was accurate and of adequate quality as a psychoeducational material.

**Participant characteristics.** Frequencies were calculated for demographic characteristics of the sample including class standing, ethnicity and sexual orientation (Table 2). Results indicate that the majority of participants were First-year students (60.8%) followed by Sophomores (25.3%), Juniors (7.8%) and lastly, Seniors (6.1%). Participants were also predominantly White Non-Hispanic (83.1%), with a smaller proportion of the sample being

comprised of individuals who identify as Hispanic/Latino (8.1%), African-American (4.0%), Asian-American (2.4%), American Indian/Alaska Native (.7%). A few additional participants identified as Other (1.7%). In terms of sexual orientation, most participants identified as heterosexual (95.6%); however, a few identified as gay (2.0%), bisexual (1.4%), other (.3%) or indicated that they did not wish to respond (.7%).

Frequencies were also calculated for treatment and mental health characteristics of the sample including consultation with a health professional, treatment for a body image or disordered eating/exercise related concern and mental health diagnoses (Table 3). Over half of participants (61%) indicated that they had consulted a physician in the past for a health related problem. One-third reported (33.3%) having consulted a mental health provider in the past for a problem and only 4.4% had consulted a nutritionist or dietitian. Twenty participants (6.8%) indicated that they had consulted a professional specifically regarding a body image or disordered eating/exercise related concern. In addition, a small subset (9.8%) of the sample reported having a mental health diagnosis; 12 reported having depression, nine having anxiety, four having Attention-Deficit Hyperactivity Disorder/impulsivity, two having Bipolar, one having Obsessive Compulsive Disorder and one having an Eating Disorder.

Finally, frequencies were calculated for participation in weight/body type related activities of the sample (Table 4). A few participants (7.1%) reported currently participating in an activity that requires them to maintain a certain weight or body type. Of those participants, five reported participating in wrestling, four in track/field, four in football, two in body building, two in snowboarding, two in dance, one in modeling and one in piloting.

**Descriptive data.** Descriptive statistics were calculated for pretest and posttest variables in order to determine whether or not the sample was comprised of individuals reporting a range

of responses. Calculations revealed that participants reported a range of responses, with mean scores for all variables falling within the moderate range (see Table 5). Therefore, the sample is comprised of individuals with varying adherence to rigid masculine gender roles, a range of body image and disordered eating/exercise concerns and variance in terms of level of openness to help-seeking.

**Scale reliabilities.** Table 5 also shows internal consistency estimates for measures at both Time 1 and Time 2. Reliability analyses revealed that the CBDC subscale did not have adequate internal consistency at Time 1 ( $\alpha = .54$ ) or Time 2 ( $\alpha = .56$ ). Therefore, future analyses were conducted without the CBDC subscale. All other scales were found to have adequate internal consistency ( $\alpha > .70$ ).

**Variable intercorrelations.** Correlation analyses were conducted for both pretest and posttest GRC, body image and disordered eating/exercise concerns, subjective norms, attitudes and intentions to seek help (see Table 6 and Table 7 respectively). Correlation analyses are recommended as a preliminary step when utilizing Structural Equation Modeling (SEM) as a method for modeling data (Tabacknick & Fidell, 1996). Identifying variable intercorrelations is imperative in order to ensure that correlations between indicators of separate latent variables are less than .90. When correlations are above this critical value, the variables are not distinct and should be collapsed into one construct. In addition, any significant correlations between latent variables that are not specified in SEM may artificially decrease the model fit indices and increase the chi-square estimation.

For pretest variables, significant moderate correlations ( $r > .30, p < .05$ ) were found between GRC (GRCS) and DM (DMS) as well as GRC and self-stigma of seeking help (SSOSHS). Significant small correlations were identified between GRC and low body fat

(LBFS) and disturbed eating attitudes and behaviors (EAT-26) as well as attitudes towards seeking help (ATSPPHS) and self-stigma and non-normativeness of body image and disordered eating/exercise concerns (PPLQ). Attitudes towards seeking help (ATSPPHS) was significantly and moderately correlated with self-stigma of seeking help (SSOSHS) and intentions to seek help (ISPPHS) while a significant small correlation was found between attitudes towards seeking help (ATSPPHS) and self-stigma and non-normativeness of body image and disordered eating/exercise concerns (PPLQ). Negative attitudes towards body image and disordered eating/exercise concerns (ARFNeg) were significantly but minimally correlated with self-stigma and non-normativeness of body image and disordered eating/exercise concerns (PPLQ). Lastly, self-stigma of seeking help (SSOSHS) was found to have a significant small correlation with intentions to seek help (ISPPHS).

For posttest variables, significant moderate correlations were still found between GRC (GRCS) and DM (DMS) and self-stigma of seeking help (SSOSHS) and significant small correlations were also still identified between GRC and low body fat (LBFS) as well as disturbed eating attitudes and behaviors (EAT-26). A few changes occurred in terms of correlations from pretest to posttest for GRC and help-seeking variables. Correlational analyses revealed that GRC (GRCS) was now significantly and moderately correlated with self-stigma and non-normativeness of body image and disordered eating/exercise concerns (PPLQ) but was no longer significantly correlated with attitudes towards seeking help. Attitudes towards seeking help (ATSPPHS) was still significantly and moderately correlated with self-stigma of seeking help (SSOSHS) and significantly but minimally correlated with self-stigma and non-normativeness of body image and disordered eating/exercise concerns (PPLQ); however, the correlation between attitudes towards seeking help (ATSPPHS) and intentions to seek help (ISPPHS) went from

moderate to small. Negative attitudes towards body image and disordered eating/exercise concerns (ARFNeg) went from being minimally to moderately correlated with self-stigma and non-normativeness of body image and disordered eating/exercise concerns (PPLQ).

Additionally, positive attitudes towards body image and disordered eating/exercise concerns (ARFPos) was found to now have a significant and small correlation with self-stigma and non-normativeness of body image and disordered eating/exercise concerns. Lastly, self-stigma of seeking help (SSOSHS) still had a significant small correlation with intentions to seek help (ISPPHS).

Pretest and posttest correlation analyses revealed that none of the correlations were above .90; thus, no new constructs were created for SEM analyses. In addition, all significant correlations were identified in SEM analyses as necessary.

**Pretest differences.** To determine if there were any significant differences between the control group and the experimental group for personal characteristics, a one-way MANOVA was conducted with intervention condition as the independent variable and personal characteristics (demographics, mental health treatment and diagnosis, and body-image related activity participation) as the dependent variables. The overall test of equal group means was not significant (Wilk's  $\lambda = .97$ ,  $F = .94$ ,  $p = .48$ , partial  $\eta^2 = .03$ ). This suggests that participants randomly assigned to intervention condition were similar in personal characteristics. To determine if there were any significant differences between the control group and the experimental group for GRC, body image and disordered eating/exercise concerns or help-seeking, a one-way MANOVA was conducted with intervention condition as the independent variable and pretest variables (GRCS, DMS, LBFS, EAT-26, ATSPPHS, ARFPos, ARFNeg, SSOSHS, PPLQ and ISPPHS) as the dependent variables. The overall test of equal group means

was not significant (Wilk's  $\lambda = .98$ ,  $F = .60$ ,  $p = .82$ , partial  $\eta^2 = .02$ ). This suggests that participants randomly assigned to intervention condition were also similar in levels of pretest variables.

### **Primary Analyses**

**Regression analyses.** A series of multiple linear regression (MLR) and simple linear regression (SLR) analyses were conducted to test hypotheses one and two.

**Hypothesis 1.** To test the first hypothesis, that body image and disordered eating/exercise concerns would predict GRC, a MLR analysis was conducted. In the initial model, GRC (GRCS) was regressed on body image and disordered eating/exercise concerns (DMS, LBFS and EAT-26). Results indicate that body image and disordered eating/exercise concerns significantly predicted GRC,  $R^2 = .17$ ,  $F(3, 292) = 20.09$ ,  $p < .01$ . DMS was the only predictor in the model that emerged as significant. A SLR analysis was conducted to test a second model by regressing GRC on DMS. Results indicate that DMS alone significantly predicted GRC,  $R^2 = .16$ ,  $F(1, 294) = 54.36$ ,  $p < .01$ . Results of regression analyses for Model 1 and Model 2 are presented in Table 8.

**Hypothesis 2.** To test the second hypothesis, that help-seeking variables would predict GRC, a MLR analysis was conducted. In the initial model, GRC (GRCS) was regressed on help-seeking (ARFNeg, ARFPos, PPLQ, ATTSPPHS, SSOSHS and ISPPHS). Results indicate that help-seeking significantly predicted GRC,  $R^2 = .14$ ,  $F(6, 289) = 8.01$ ,  $p < .01$ . Both PPLQ and SSOSHS emerged as significant predictors in the model. A second MLR analysis was conducted to test a second model by regressing GRC on PPLQ and SSOSHS. Results indicate that these two help-seeking variables significantly predicted GRC,  $R^2 = .16$ ,  $F(1, 294) = 54.36$ ,  $p < .01$ . Results of regression analyses for Model 1 and Model 2 are presented in Table 8.

**Mediation models.** The proposed mediated structural models for the third, fourth, fifth and sixth hypotheses were tested using the maximum likelihood method of Structural Equation Modeling (SEM) in AMOS 19.0. SEM procedures allow for the estimation of hypothesized causal relationships between variables of interest. In order to conduct SEM analyses, each latent variable must be comprised of multiple indicators. Following SEM recommendations, observed indicators were created for each of the latent variables that were not already composed of subscales. The chi-square statistic is reported in this study as is standard practice in SEM analyses; however, due to the larger sample size and high correlation of many variables in the model, this statistic is not a very accurate measure of goodness of fit (Hu & Bentler, 1995). In accordance with current recommendations, the Comparative Fit Index (CFI), the Incremental Fit Index (IFI) and the Standardized Root Mean Square Residual (SRMR) are also included as measures of goodness of fit. CFI and IFI scores greater than .90 and SRMR scores lower than .08 indicate a good fitting model to the data.

**Hypothesis 3.** In Model 1, all components of subjective norms, including self-stigma (PPLQ-S) and non-normativeness (PPLQ-N) of having body image and disordered eating/exercise concerns as well as self-stigma of seeking help (SSOSHS), and all components of attitudes, including attitudes towards individuals with body image and disordered eating/exercise concerns (ARFNeg and ARFPos) and attitudes towards seeking help (ATTSPPHS), were assessed. Attitudes were examined as a potential mediator of subjective norms and intentions to seek help (measured by the four individual items of the ISPPHS). Contrary to the hypothesis, attitudes did not emerge as a statistically significant mediator and the structural model did not provide a good fit to the data:  $\chi^2(32, N = 296) = 284.58, p < .05$ ; CFI = .86; IFI = .86; SRMR = .15 (see Figure 1). In Model 2, only components of subjective norms and attitudes specifically

related to help-seeking (SSOSHS and ATSPPHS) were included. Observed indicators were created for SSOSHS (SSOSHS1, SSOSHS2, SSOSHS3) and ATSPPHS (ASTPPHS1, ATSPPHS2, ATSPPHS3). Attitudes were again examined as a potential mediator of subjective norms and intentions to seek help (measured by the four individual items of the ISPPHS). As predicted, attitudes emerged as a statistically significant mediator and the structural model provided a good fit to the data:  $\chi^2 (32, N = 296) = 129.63, p < .05$ ; CFI = .96; IFI = .96; SRMR = .04. All of the paths were significant (see Figure 2); however, subjective norms still significantly accounted for intentions to seek help even in the presence of attitudes, suggesting that attitudes are only a partial mediator of this relationship.

**Hypothesis 4.** In Model 1, all components of subjective norms, including self-stigma (PPLQ-S) and non-normativeness (PPLQ-N) of having body image and disordered eating/exercise concerns as well as self-stigma of seeking help (SSOSHS), and all components of attitudes, including attitudes towards individuals with body image and disordered eating/exercise concerns (ARFNeg and ARFPos) and attitudes towards seeking help (ATTSPPHS), were assessed. Subjective norms were examined as a potential mediator of GRC and attitudes. Results indicated that Model 1 was recursive and, therefore, not a good fit to the data. In Model 2, only components of subjective norms and attitudes specifically related to help-seeking (SSOSHS and ATSPPHS) were included. Observed indicators were used for SSOSHS (SSOSHS1, SSOSHS2, SSOSHS3) and ATSPPHS (ASTPPHS1, ATSPPHS2, ATSPPHS3). Subjective norms were again examined as a potential mediator of GRC and attitudes. As predicted, subjective norms emerged as a statistically significant mediator and the structural model provided a good fit to the data:  $\chi^2 (32, N = 296) = 121.92, p < .05$ ; CFI = .94; IFI = .94; SRMR = .06. All of the paths were significant (see Figure 3); however, GRC still significantly accounted for attitudes even in the

presence of subjective norms, suggesting that subjective norms are only a partial mediator of this relationship.

**Hypothesis 5.** In Model 1, all components of subjective norms, including self-stigma (PPLQ-S) and non-normativeness (PPLQ-N) of having body image and disordered eating/exercise concerns as well as self-stigma of seeking help (SSOSHS), and all components body image and disordered eating/exercise concerns (DMS, LBFS and EAT-26), were assessed. GRC (measured by the subscales of the GRCS; GRCS-SPW, GRCS-RE, GRCS-RABM, GRCS-CBWF) was examined as a potential mediator of body image and disordered eating/exercise concerns and subjective norms. Contrary to the hypothesis, although all paths were statistically significant, the structural model did not provide a good fit to the data:  $\chi^2(32, N = 296) = 113.16$ ,  $p < .05$ ; CFI = .89; IFI = .89; SRMR = .08 (see Figure 4). In Model 2, only components of subjective norms specifically related to help-seeking (SSOSHS1, SSOSHS2, SSOSHS3) were included. GRC was again examined as a potential mediator of body image and disordered eating/exercise concerns and subjective norms. As predicted, GRC emerged as a statistically significant mediator and the structural model provided a good fit to the data:  $\chi^2(32, N = 296) = 113.83$ ,  $p < .05$ ; CFI = .93; IFI = .93; SRMR = .07. All of the paths were significant (see Figure 5); however, body image and disordered eating/exercise concerns still significantly accounted for subjective norms even in the presence of GRC, suggesting that GRC is only a partial mediator of this relationship.

**Hypothesis 6.** In Model 1, all components of body image and disordered eating/exercise concerns (DMS, LBFS, EAT-26), GRC (GRCS-SPW, GRCS-RE, GRCS-RABM, GRCS-CBWF), subjective norms (PPLQ-S, PPLQ-N, SSOSHS), attitudes (ARFNeg, ARFPos, ATSPPHS) and intentions to seek help (ISPPHS1, ISPPHS2, ISPPHS3, ISPPHS4) were

assessed. Results indicated that Model 1 was recursive and, therefore, not a good fit to the data. In Model 2, only components of subjective norms (SSOSHS1, SSOSHS2, SSOSHS3) and attitudes (ATSPPHS1, ATSPPHS2, ATSPPHS3) specifically related to help-seeking were included. As predicted, GRC, subjective norms and attitudes emerged as significant mediators between body image and disordered eating/exercise concerns and intentions to seek help and the structural model did provide a good fit to the data:  $\chi^2 (112, N = 296) = 341.86, p < .05$ ; CFI = .93; IFI = .93; SRMR = .07. All of the paths were significant (see Figure 6); however, body image and disordered eating/exercise concerns still significantly accounted for subjective norms even in the presence of GRC, suggesting that GRC is only a partial mediator of this relationship.

### **Intervention effects.**

*Hypothesis 7.* To test the seventh hypothesis, which was that help-seeking (i.e. attitudes, subjective norms, perceived behavioral control and intentions to seek help) would improve following exposure to the internet intervention compared to a control group, a one-way ANCOVA was conducted for each help-seeking variable. The participants' pretest help-seeking scores were used as covariates. For studies using a pretest-posttest control group design, ANCOVA is recommended as the most powerful statistical test (Oakes & Feldman, 2001). Given random assignment, as evidenced by equivalence between groups on baseline measures, ANCOVA yields unbiased estimates of intervention effects. Since no initial differences were detected between the experimental group and the control group, ANCOVA is the most appropriate method for analyzing intervention effects in this study. Results of the ANCOVA indicate that all help-seeking variables (ATSPPHS, ARFNeg, ARFPos, SSOSHS, PPLQ and ISPPHS) were significantly improved following intervention (see Table 9).

## Chapter 4: Discussion

The growing body of research examining adherence to rigid masculine gender roles indicates that GRC is associated with mental health concerns as well as decreased help-seeking behavior in men, as defined by the TPB, in men (O'Neil, 2008; Shepard, 2002; Shepherd & Rickard, 2011). The aim of the current study was to provide additional evidence for these connections by replicating the relationships found in past research. This study sought to establish a positive relationship between Gender Role Conflict (GRC) and body image and disordered eating/exercise concerns, specifically Drive for Muscularity (DM), preoccupation with low body fat and disturbed eating attitudes and behaviors. Additionally, this study attempted to demonstrate that a negative relationship exists between GRC and help-seeking. It should be highlighted that, due to low scale reliability of the perceived behavioral control measure (CBDC), this variable could not be tested in any of the hypotheses. As a result, the potential contribution of this variable is unknown.

### **Interpretation of Results**

Initial correlation analyses confirmed that GRC is positively correlated with body image and disordered eating/exercise concerns as expected. The strongest correlation was found between GRC and DM, as opposed to preoccupation with low body fat or disturbed eating attitudes and behaviors. Likewise, the first hypothesis, that body image and disordered eating/exercise concerns would predict GRC was partially supported in this study. Results of regression analyses revealed that DM is a significant predictor of GRC. However, neither preoccupation with low body fat nor disturbed eating attitudes significantly contributed to the model beyond the variance accounted for by DM. This finding is consistent with past studies and suggests that men who strive to uphold rigid masculine gender roles are likely to experience

body image and disordered eating/exercise concerns (McCreary, Saucier, & Courtenay, 2005; Schwartz & Tylka, 2008; Schwartz et al., 2010). In particular, men with high GRC seem to be most prone to experience body image concerns and engage in behaviors related to muscularity. Moreover, while men with higher GRC may be at increased risk for developing disturbed eating/exercise attitudes and behaviors and concerns related to a desire to decrease body fat, this appears to be less common compared to DM related issues. This link between GRC and DM fits with feminist sociocultural theories and explanations, such as the gender parity notion, which posit that men focus on enhancing muscularity in response to pressure from society (Addis & Cohane, 2005; Bottamini, 2006).

Correlation analyses also illustrated that, as anticipated, GRC was associated with lower levels of help-seeking. More specifically, analyses showed that men with higher GRC tended to have a greater sense of self-stigma regarding seeking help as well as about having body image and disordered eating/exercise concerns. GRC was also found to be negatively correlated with attitudes towards seeking help. Similarly, the second hypothesis, that help-seeking variables would predict GRC was also partially supported in this study. Results of regression analyses demonstrated that subjective norms, specifically self-stigma regarding seeking help as well as about having body image and disordered eating/exercise concerns, are significant predictors of GRC. None of the other help-seeking variables (attitudes towards individuals with body image and disordered eating/exercise concerns, attitudes towards seeking help or intentions to seek help) significantly contributed to the model beyond the variance accounted for by the previously mentioned two variables alone. Despite a significant correlation between GRC and attitudes toward seeking help, this variable did not emerge as a strong predictor. Yet, this result is not entirely surprising given previous TPB studies in which attitudes emerged as a mediator between

subjective norms and intentions rather than being directly influenced by GRC (Pederson & Vogel, 2007; Shepherd & Rickard, 2011). Therefore, this finding is reflective of previous research and indicates that men who ascribe to rigid masculine norms are more likely to view reaching out for help in a negative light (Pederson & Vogel, 2005). In addition, these same men may be less likely to admit to experiencing body image and disordered eating/exercise concerns, perhaps due to the “feminine” stigma (de Souza & Ciclitira, 2005; Grogan & Richards, 2002; Hargreaves & Tiggeman, 2006).

It is interesting to note that while some of these initial correlations persisted post-intervention, others decreased in magnitude. Specifically, results of posttest correlation analyses showed that GRC was no longer correlated with attitudes towards seeking help. This finding implies that men’s help-seeking attitudes may be tapped and modified independent of their masculine gender role adherence. Hence, it may not be necessary to entirely alter men’s masculine ideologies, which are often strongly engrained and resistant to change; rather, it may be sufficient to focus on improving attitudes in order to increase intentions for help-seeking.

This study further examined the relationships between the variables of interest by applying the Theory of Planned Behavior and exploring mediational factors. The third hypothesis, that all aspects of attitudes would mediate the relationship between all components of subjective norms and intentions, was not confirmed in this study. The inclusion of attitudes towards individuals with body image and disordered eating/exercise concerns along with subjective norms related to having these concerns significantly did not create a good fitting model. When these variables were eliminated, the model, including only variables that concretely focused on help-seeking, was a good fit to the data. This finding mirrors aforementioned research demonstrating that attitudes toward seeking help is a significant

mediator between subjective norms regarding seeking help and intentions to seek help (Smith, Tran & Thompson, 2008). According to these findings, attitudes toward seeking help appears to be the critical predictor of intentions to seek help, as has been suggested by the TPB (Ajzen, 1985). Although other studies have emphasized that stigma and negative attitudes towards those with body image and disordered eating/exercise concerns for men is strong, based on this study, it does not seem that this ultimately prevents men from intending to seek help (Crisp et al., 2000; Mond et al., 2006; Stewart et al., 2006). This is promising in that this stigma and negative perception may be more of a peripheral concern that men are willing and able to put aside for the sake of obtaining professional help when needed. It is also possible though that when considering their intentions to seek help, men were envisioning discussing their problems in a stereotypically masculine way, as defined by previous research (i.e., focusing on health or medical problems) as opposed to conceptualizing their concerns as consistent with the more stigmatized feminine definition (i.e., focusing on appearance, weight, dieting, etc.) (de Souza & Ciclitira, 2005).

The fourth hypothesis, that all components of subjective norms would mediate the relationship between GRC and all aspects of attitudes, was not supported in this study. Again, the addition of attitudes and subjective norms focusing on having body image and disordered eating/exercise concerns resulted in a model that poorly fitted the data. The removal of these variables, as with the third hypothesis, resulted in a better model fit. Thus, the significance of subjective norms as a mediator, specifically self-stigma of seeking help, was supported in this study. The validity of this mediation model has also been demonstrated in past research (Pederson & Vogel, 2007). The results for this hypothesis suggest that self-stigma of seeking

help is an important variable to consider in discussions of GRC and attitudes toward seeking help.

An analysis of the fifth hypothesis, that the relationship between DM and subjective norms would be mediated by GRC, also did not produce the predicted result. As with previous mediation models, subjective norms that focused on body image and disordered eating/exercise concerns were excluded from the second model for this hypothesis. The results of this model analysis demonstrate that body image and disordered eating/exercise concerns are related to self-stigma of seeking help via adherence to rigid masculine beliefs. This mediational model provides a preliminary explanation for why men with body image and disordered eating/exercise concerns statistically do not frequently seek help (Freeman, 2005). If men who have these concerns also see help-seeking as stigmatized and incongruent with masculine gender roles, they are unlikely to pursue any resources despite suffering.

As with all three prior hypothesized mediation models, the model proposed in hypothesis six was not validated. Once more, deletion of subjective norms and attitudes about having body image and disordered eating/exercise concerns resulted in a model with a good fit to the data. This model further clarifies, as mentioned above, a possible explanation for the underutilization of services by men with body image and disordered eating/exercise concerns and the consequent underestimation of men who are afflicted. For all of the mediation models, although GRC, self-stigma of seeking help and attitudes toward seeking help emerged as significant mediators between body image and disordered eating/exercise concerns and intentions to seek help, they are only partial mediators. Thus, there are likely other variables implicated in this relationship.

Finally, this study attempted to develop an effective intervention, using principles from the TPB, to increase help-seeking behavior in men for body image and disordered eating/exercise

concerns. The hypothesis that help-seeking would improve following exposure to the internet intervention compared to a control group was supported in this study. In fact, all testable help-seeking variables (subjective norms, attitudes and intentions) were significantly increased. These findings suggest that providing psychoeducation to men regarding body image and disordered eating/exercise concerns via an internet format is effective in terms of improving their attitudes toward seeking help and perceptions of those who are struggling with these issues. Additionally, this method of information dissemination is also useful with regard to reducing stigma of seeking help and of having this type of problem as well as normalizing these concerns for men. Lastly, this form of intervention appears to be beneficial with respect to actually altering men's likelihood of seeking help were they to struggle with a body image or disordered eating/exercise concern.

While results of these statistically significant outcomes as a whole are encouraging, it should be noted that only attitudes toward seeking help reached a level that could be considered practically significant (i.e., a medium effect size,  $d > .30$ ). It is possible that the internet intervention was not strong enough, was too passive (i.e., participants were simply reading material rather than engaging) or too brief to induce substantial effect sizes for these other help-seeking variables. Perhaps a more interactive or more extensive intervention, similar to those developed for women to reduce eating disorder symptoms (e.g., *Student Bodies*) would produce different results (Doyle et al., 2008; Jacobi et al., 2012; Low et al., 2006; Zabinski et al., 2001). It is also pertinent to keep in mind that, based on the mediation analyses in this study, the intervention contained extraneous information that was not influential in terms of men's intentions to seek help (i.e., information focused on stigma, normativeness and perceptions of individuals with body image and disordered eating/exercise concerns). An intervention solely

focused on concrete help-seeking variables might have a greater impact on intentions to seek help.

### **Limitations and Future Research**

There were several limitations in this study that indicate the need for future research in this area. First of all, the sample was fairly homogenous. Participants were all undergraduate students and were predominantly white non-Hispanic, heterosexual, underclassmen of traditional college age. For this reason, the findings from this study cannot be generalized to other populations of men, including those from different ethnic backgrounds, age groups, sexual orientations or education status. Future studies should include different samples to examine how men from other groups might respond differently to body image, GRC and help-seeking variables; this will aid in creating interventions to most effectively target these certain groups. This study also only assessed intentions and other predictors of behavior, but did not measure actual help-seeking behaviors. Future studies could examine real behaviors rather than relying on self-report measures, which are subject to demand characteristics and underreporting. In addition, as was previously mentioned, future studies should incorporate more reliable and varied measures of the variables included in this study as well as more extensive and focused interventions.

This study attempted to investigate the role of previous help-seeking, mental health treatment, mental health diagnoses and participation in weight/body focused activities, as these variables have been identified as important in past research (Blazina & Marks, 2001; Rochlen et al., 2006). Unfortunately, due to nonequivalent groups, analyses could not be conducted to determine the impact of these factors. Future studies might focus in these factors and obtaining a more representative sample in terms of these characteristics. Another limitation of this study was

that it is unknown which elements of the internet intervention actually affected change. Researchers should continue to explore the impact of male-specific psychoeducation on help-seeking, specifically focusing on pinpointing which components of this material is most essential so as to further tailor help-seeking intervention methods.

Future research would also benefit from identifying a more reliable measure of perceived behavioral control in order to validly examine the contribution of this variable. Studies could also include measures of subjective norms or attitudes that have been incorporated in other studies, such as distress disclosure and stigmatization by others (Pederson & Vogel, 2007; Vogel, Wade, & Aschman, 2009). Perhaps these factors, or others, could account for the partial mediation identified in this study. Additionally, as the ultimate goal of this line of intervention research is to assist those with clinically significant body image and disordered eating and exercise concerns, it may be valuable to examine these TPB variables and compare men who have actually sought help with those who haven't. Because only one participant in this sample reported having been diagnosed and treated for an eating disorder, this comparison could not be conducted as a part of the current study. Furthermore, a final limitation of this study was the lack of intervention follow-up. While significant results were identified, this occurred immediately after presentation of the intervention. Future research might include follow-up assessments to determine if the intervention has sustained effects after a period of time (e.g., 6 months). As research in this area progresses and more clearly designates the most important aspects of the TPB in affecting help-seeking behavior change, interventions should be developed and empirically tested with a clinical population.

## **Implications**

Altogether, the results from this study lend support for the utility of the TPB in explaining help-seeking behavior in men. These results in particular add to the body of research supporting the relationship between GRC and decreased help-seeking behaviors (Blazina & Marks, 2001; Cusack et al., 2006; Good et al., 1989; O'Neil, 2008; Robertson & Fitzgerald, 1992; Rochlen et al., 2004; Rochlen et al., 2006). Based on this study, self-stigmatization of seeking help and negative attitudes towards professional help appear to be important predictors of intentions. These relationships imply that men with body image and disordered eating/exercise concerns do not seek help because they tend to ascribe to rigid masculine gender roles, have greater stigmatization about getting help for their problems and hold more negative attitudes about seeking help. Their negative attitudes are ultimately connected to decreased intentions to engage in behaviors to help themselves, and presumably, to actual decreased help-seeking behaviors. Current rates of those presenting for treatment for body image issues suggest that women experience more body image concerns than men; however, findings from this study support the notion that perhaps many men with body image and disordered eating/exercise concerns aren't being accounted for because they do not seek help (Freeman, 2005).

Furthermore, this study demonstrated that educating men about body image and disordered eating/exercise concerns including various diagnoses, factors that impact development of problems, prevalence rates, personal stories and where they can get help, is effective in increasing help-seeking, most notably, attitudes toward seeking help. The information from this study can therefore be applied to other programs that might utilize similar methods of distributing information to men about body image concerns in hopes of increasing their likelihood of utilizing services when they are struggling with these issues. Thus, the

mediation models presented along with the results of the intervention in this study suggest that self-stigma of seeking help and, to an even greater extent, attitudes toward seeking help should be the primary focus of interventions aimed at increasing help-seeking behavior for men who suffer from body image concerns and disordered eating and exercise behaviors.

This study contributes to the literature on increasing help-seeking behavior for men suffering from mental health concerns. The findings provide support for the relationship of GRC, body image and disordered eating/exercise concerns and predictors of help-seeking behavior as defined by the TPB. These findings can be applied to a number of mental health issues to develop interventions for men in the hopes of decreasing negative mental health consequences. Efforts to increase help-seeking behavior and decrease mental health problems for men might also benefit from more qualitative research in this area, directly questioning men about the barriers that prevent them from seeking help. One potentially promising direction that has been suggested is combining the Stages of Change Model with Social Marketing strategies when designing interventions. This strategy is said to achieve a better fit between the needs of the target audience and the intervention characteristics, leading to maximum behavior change potential (Rochlen & Hoyer, 2005). By further evaluating the barriers that men experience as well as their needs in terms of psychological help services, more appropriate and successful interventions can be developed to better the lives of men who need help but feel unable to ask for it.

Table 1

*Results of the Psychoeducational Internet Intervention Evaluation*

Item	Min. value	Max. value	<i>M</i> (criterion $\leq 3.0$ )	<i>SD</i>
1. Content	5	6	5.40	.51
2. Credibility	5	6	5.47	.52
3. Attractiveness	4	5	4.87	.35
4. Convey information	5	6	5.47	.52
5. Change attitudes	4	5	4.67	.49
6. Elicit appropriate response	4	6	5.40	.74
7. Overall rating	5	6	5.33	.49
8. EMRF-T	32	38	36.60	.99

*Note.*  $N = 15$ . EMRF-T = Educational Materials Review Form total scale score.

Table 2

*Demographic Characteristics of Sample*

Characteristic	<i>n</i>	(%)
Class Standing		
First-year	180	60.8
Sophomore	75	25.3
Junior	23	7.8
Senior	18	6.1
Ethnicity		
White Non-Hispanic	246	83.1
African-American	12	4.0
Hispanic/Latino	24	8.1
Asian-American	7	2.4
American Indian/Alaska Native	2	.7
Other	5	1.7
Sexual Orientation		
Heterosexual	283	95.6
Gay	6	2.0
Bisexual	4	1.4
Other	1	.3
No Response	2	.7

*Note.* *N* = 296.

Table 3

*Mental Health Treatment and Diagnostic Characteristics of Sample*

Characteristic	<i>n</i>	%
Consultation		
Physician	181	61.0
Mental Health	99	33.3
Nutrition/Dietitian	13	4.4
Past Treatment		
Yes	20	6.8
No	276	93.2
Eating Disorder Treatment		
Yes	1	.4
No	295	99.6
Mental Health Diagnosis		
Yes	29	9.8
No	267	90.2
Diagnoses		
Eating Disorder	1	.4
Depression	12	4.0
Anxiety	9	3.0
ADHD/Impulsivity	4	1.4
Bipolar Disorder	2	.6
OCD	1	.3

*Note.* *N* = 296.

Table 4

*Weight/Body Type Related Activities of Sample*

Characteristic	<i>n</i>	%
Activity		
Yes	21	7.1
No	275	92.9
Activities		
Wrestling	5	1.7
Track/Field	4	1.4
Football	4	1.4
Body Building	2	.6
Snowboarding	2	.6
Modeling	1	.3
Dance	2	.6
Pilot	1	.3

*Note.*  $N = 296$ .

Table 5

*Pretest Means, Standard Deviations and Reliability Estimates for Variables*

Variable	Time 1			Time 2		
	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$
1. GRCS	133.95	22.08	.90	133.76	22.78	.91
2. DMS	44.02	13.21	.89	42.91	13.22	.90
3. LBFS	31.62	13.22	.94	32.41	12.66	.93
4. EAT-26	51.88	14.59	.88	54.48	16.13	.90
5. ATSPPHS	24.60	6.00	.83	26.49	4.77	.70
6. ARFNeg	50.69	10.12	.79	48.00	9.41	.76
7. ARFPos	46.48	10.63	.85	48.02	10.19	.84
8. SSOSHS	27.83	7.61	.91	26.16	7.39	.89
9. PPLQ	42.67	7.23	.78	38.22	8.03	.81
10. CBDC	13.18	2.66	.54	11.95	2.75	.56
11. ISPPHS	9.85	6.64	.95	10.42	6.37	.94

*Note.*  $N = 296$ . GRCS = Gender Role Conflict Scale; DMS = Drive for Muscularity Scale; LBFS = Low Body Fat Scale; EAT-26 = Eating Attitudes Test-26; ATSPPHS = Attitudes Toward Seeking Professional Psychological Help Scale; ARFNeg = Attitude Rating Form Negative; ARFPos = Attitude Rating Form Positive; SSOSHS = Self-Stigma of Seeking Help Scale; PPLQ = Perceptions of Problems in Living Questionnaire; CBDC = Concrete Barriers and Distrust of Caregivers' ISPPHS = Intentions to Seek Professional Psychological Help Scale.

\* $p < .05$ .      \*\* $p < .01$ .

Table 6

*Pretest Intercorrelations for Variables*

Variable	2	3	4	5	6	7	8	9	10
1. GRCS	.40**	.23**	.25**	-.18**	.06	.05	.33**	.27**	-.10
2. DMS	-----	.32**	.36**	-.14*	.06	-.01	.15*	.24**	-.08
3. LBFS		-----	.72**	.08	-.00	-.00	.10	.19**	.09
4. EAT-26			-----	.07	-.04	-.01	.11*	.17**	.15**
5. ATSPPHS				-----	-.04	-.07	-.58**	-.15*	.40**
6. ARFNeg					-----	-.68**	.04	.16**	.08
7. ARFPos						-----	.02	-.09	-.06
8. SSOSHS							-----	.40**	-.29**
9. PPLQ								-----	.00
10. ISPPHS									-----

Note.  $N = 296$ . \* $p < .05$ . \*\* $p < .01$ .

Table 7

*Posttest Intercorrelations of Variables*

Variable	2	3	4	5	6	7	8	9	11
1. GRCS	.42**	.27**	.28**	-.00	.07	.11	.35**	.34**	-.03
2. DMS	-----	.34**	.41**	-.04	.14*	-.05	.20**	.26**	-.01
3. LBFS		-----	.70**	.03	.05	.05	.24**	.19**	.13*
4. EAT-26			-----	.07	-.01	.07	.16**	.12*	.24**
5. ATSPPHS				-----	-.12*	.12*	-.42**	-.25**	.28**
6. ARFNeg					-----	-.65**	.10	.37**	-.06
7. ARFPos						-----	-.01	-.21**	.10
8. SSOSHS							-----	.54**	-.22**
9. PPLQ								-----	-.13*
11. ISPPHS									-----

Note.  $N = 296$ . \* $p < .05$ . \*\* $p < .01$ .

Table 8

*Results of Regression Analyses for Hypotheses 1 and 2*

Hypothesis		Dependent Variable	Predictors	<i>B</i>	<i>Se</i>	$\beta$	<i>t</i>	
1	Model 1	GRC	DMS	.58	5.09	.35	6.04**	
			LBFS	.10	.13	.06	.79	
			EAT-26	.12	.12	.08	1.05	
	Model 2	GRC	DMS	.66	.09	.40	7.37**	
	2	Model 1	GRC	ARFPos	.29	.16	.14	1.88
				ARFNeg	.26	.17	.12	1.55
PPLQ				.50	.19	.16	2.67**	
ATTSPPHS				.09	.26	.03	.35	
SSOSHS				.75	.21	.26	3.53**	
ISPPHS				-.13	.20	-.04	-.63	
Model 2		GRC	PPLQ	.50	.18	.16	2.75**	
			SSOSHS	.76	.17	.26	4.42**	

*Note.*  $N = 296$ . \* $p < .05$ . \*\* $p < .01$ .

Table 9

*Results of ANCOVA for Impact of Intervention on Help-Seeking*

Variable		<i>M</i>	<i>SD</i>	<i>F</i>	$\eta^2$	1- $\beta$
ATSPPHS				143.04**	.33	1.00
	Experimental	29.30	3.85			
	Control	24.26	4.22			
ARFNeg				33.94**	.10	1.00
	Experimental	45.43	8.59			
	Control	50.04	9.55			
ARFPos				27.98**	.09	1.00
	Experimental	50.35	9.46			
	Control	46.17	10.39			
SSOSHS				32.87**	.10	1.00
	Experimental	24.55	7.13			
	Control	27.43	7.36			
PPLQ				63.59**	.18	1.00
	Experimental	35.42	7.61			
	Control	40.44	7.67			
ISPPHS				19.02**	.06	1.00
	Experimental	11.69	5.92			
	Control	9.41	6.54			

*Note.*  $N = 296$ . \* $p < .05$ . \*\* $p < .01$ .

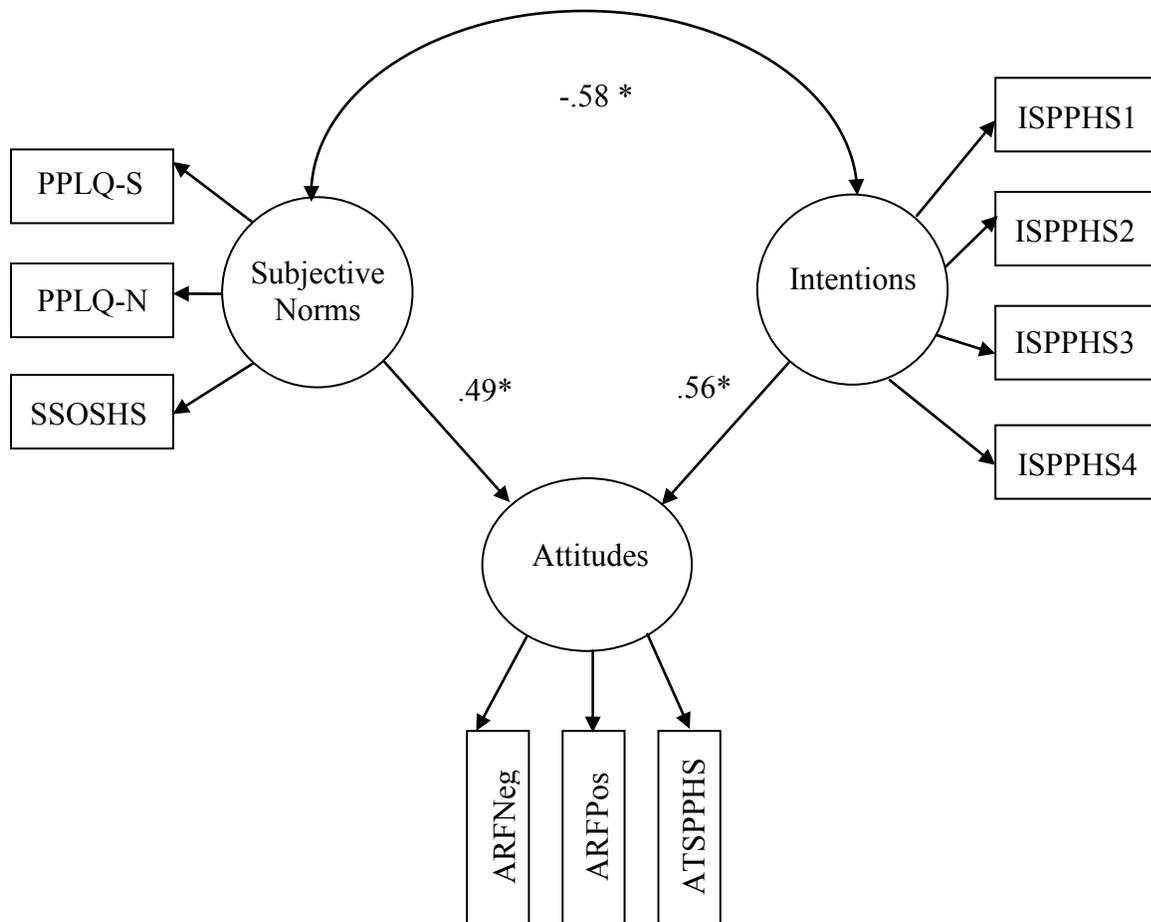


Figure 1. Parameter estimates for Model 1 testing the third hypothesis that the relationship between subjective norms and intentions to seek help is mediated by attitudes.  $*p < .05$ .

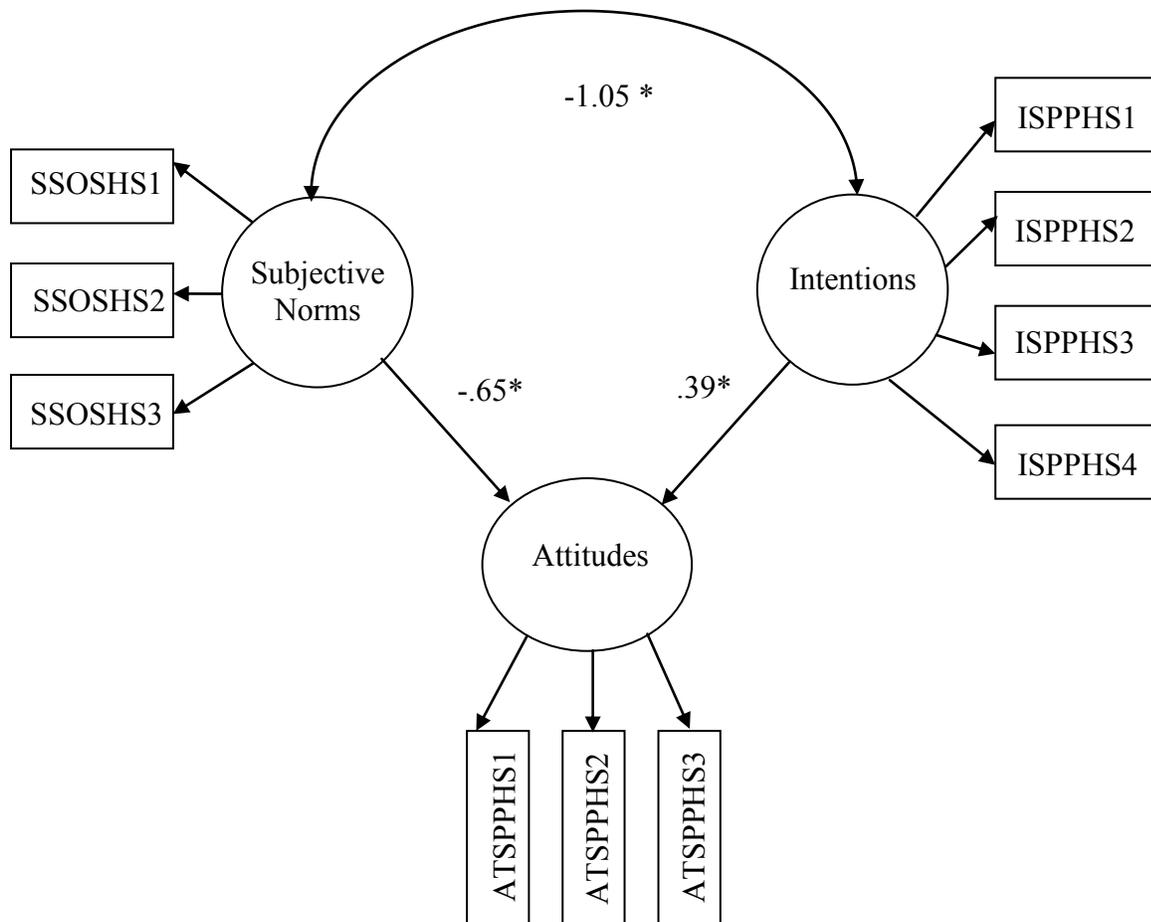


Figure 2. Parameter estimates for Model 2 testing the third hypothesis that the relationship between subjective norms and intentions to seek help is mediated by attitudes. \* $p < .05$ .

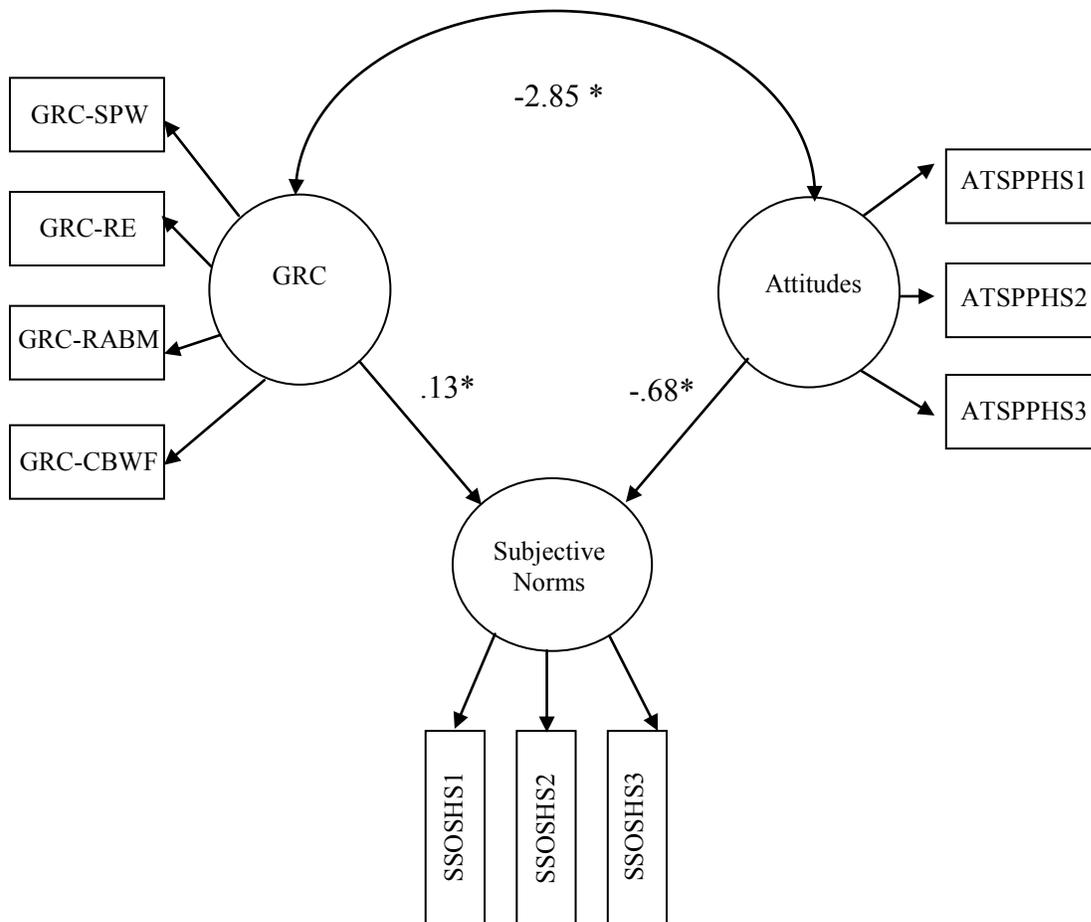


Figure 3. Parameter estimates for Model 2 testing the fourth hypothesis that the relationship between GRC and attitudes is mediated by subjective norms.  $*p < .05$ .

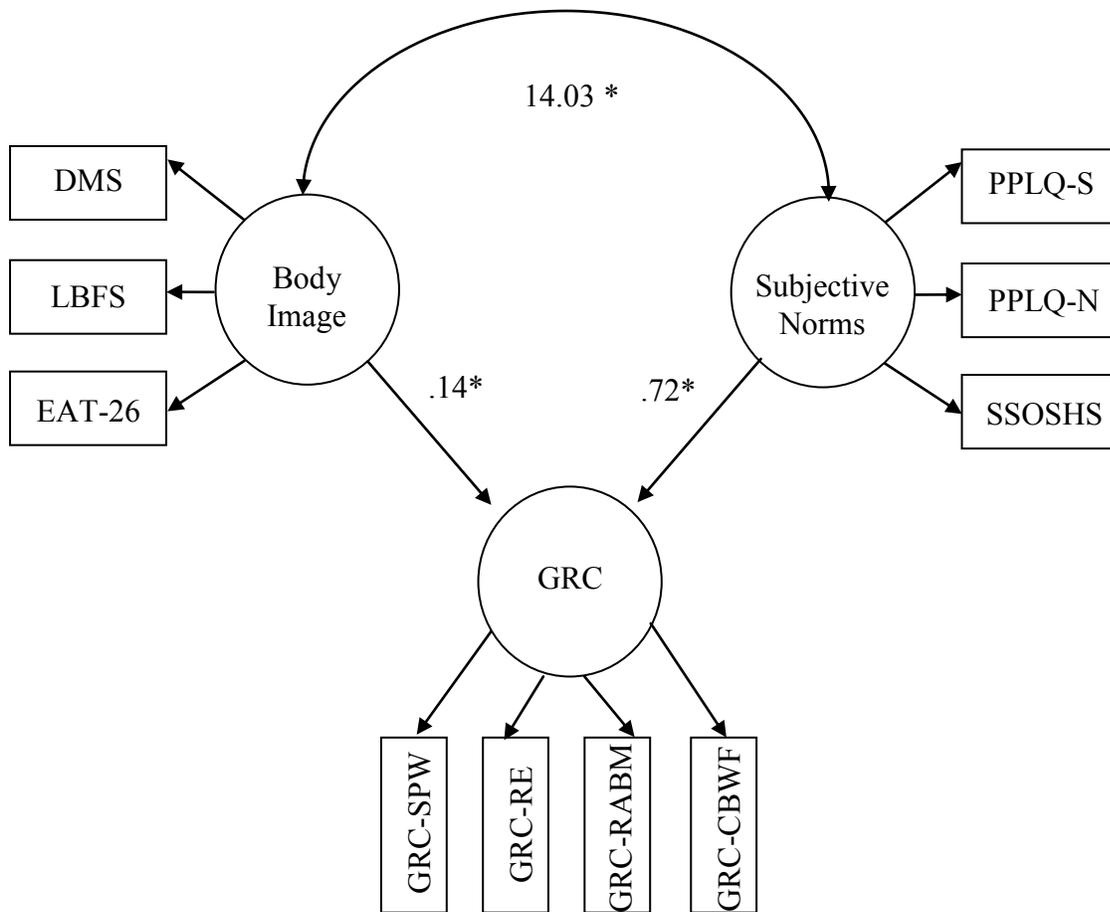


Figure 4. Parameter estimates for Model 1 testing the fifth hypothesis that the relationship between body image and disordered eating/exercise concerns and subjective norms is mediated by GRC. \* $p < .05$ .

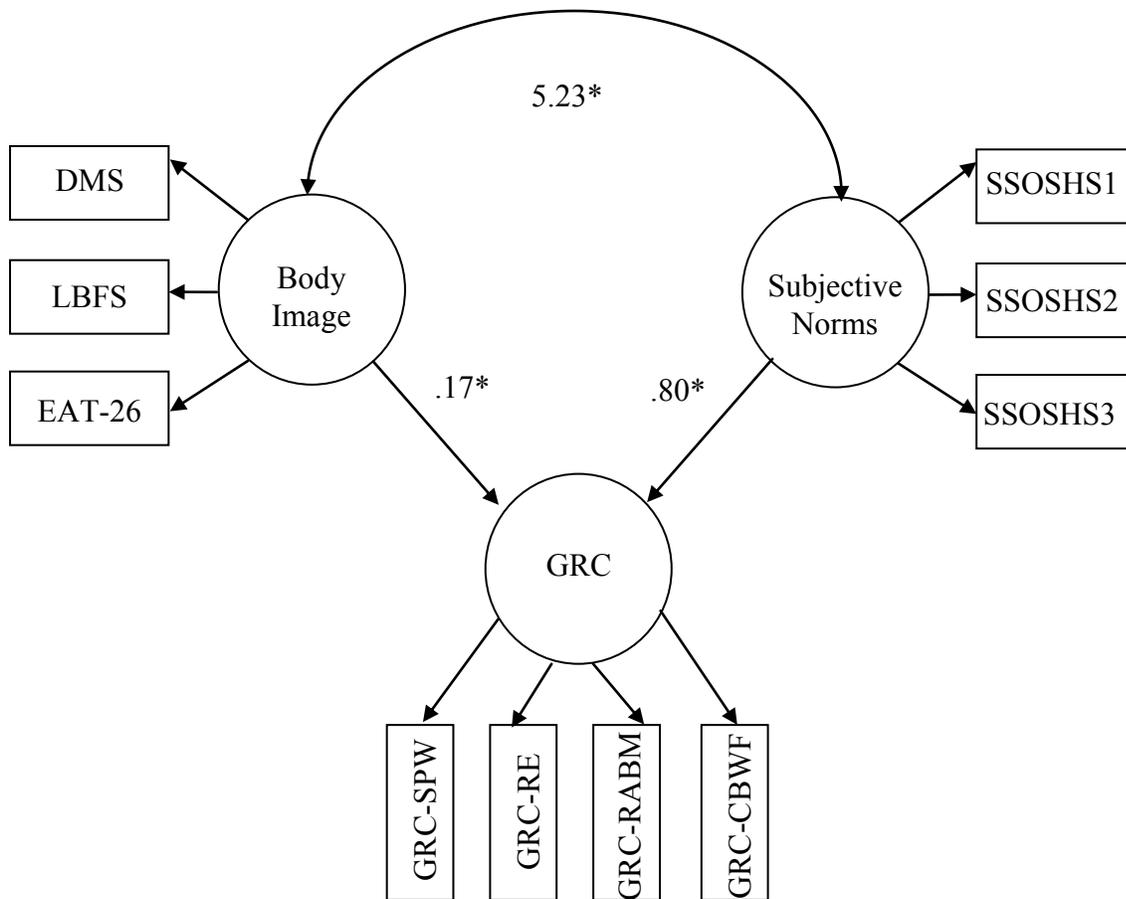


Figure 5. Parameter estimates for Model 2 testing the fifth hypothesis that the relationship between body image and disordered eating/exercise concerns and subjective norms is mediated by GRC.  $*p < .05$ .

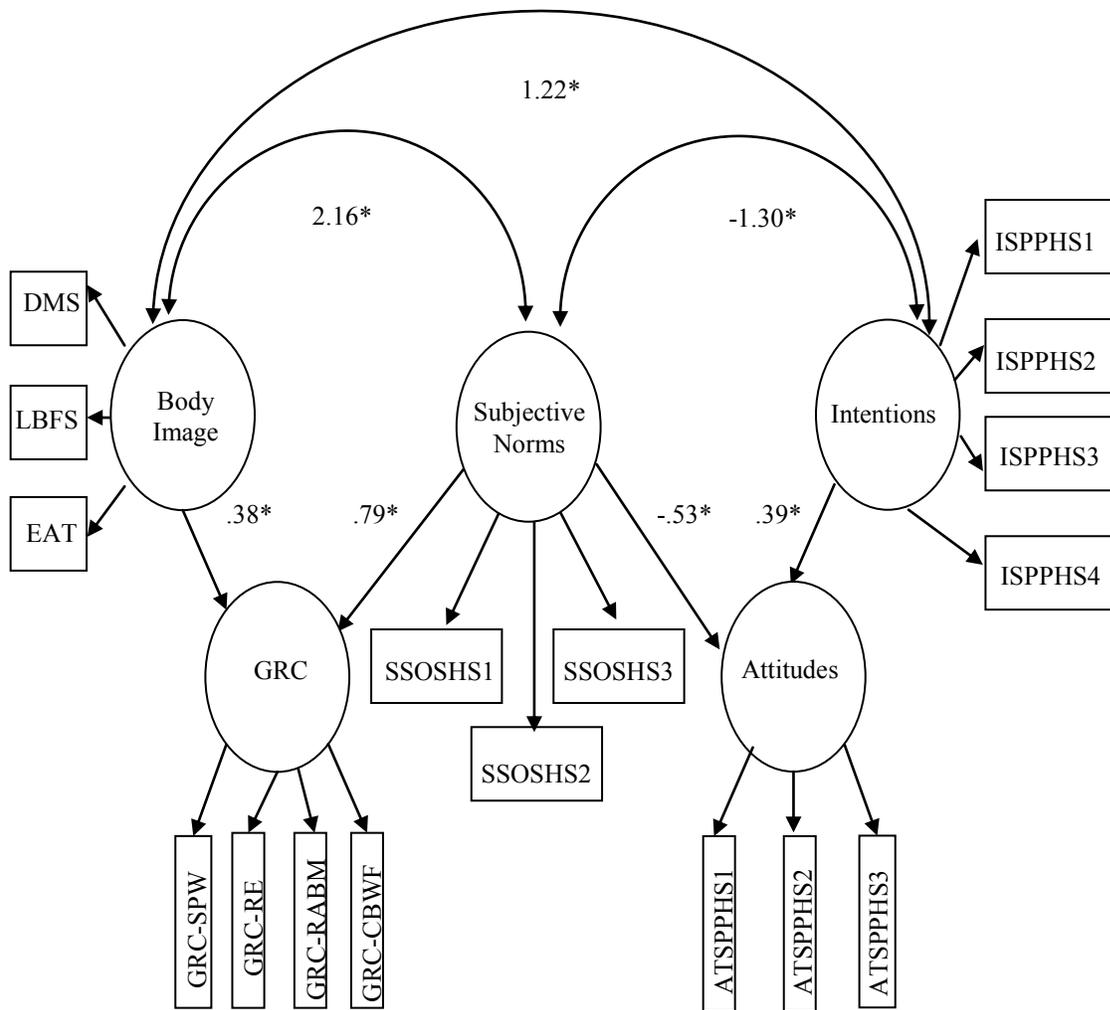


Figure 6. Parameter estimates for Model 2 testing the sixth hypothesis regarding the relationship of all variables in the model. \* $p < .05$ .

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## Appendix A

### Consent Form

#### Consent to Participate in a Research Study Colorado State University

**TITLE OF STUDY:** Male Perceptions of Body Image and Disordered Eating and Exercise Behaviors

**PRINCIPAL INVESTIGATOR:** Kathryn Rickard, Ph.D (Kathryn.Rickard@colostate.edu)  
Dept of Psychology, 1876 Campus Delivery, Colorado State University, Fort Collins, CO 80523-1876.

**CO-PRINCIPAL INVESTIGATOR:** Caitlin Shepherd, M.S.  
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Dept of Psychology, 1876 Campus Delivery, Colorado State University, Fort Collins, CO 80523-1876.

**WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH?** Body image and disordered eating and exercise behaviors are a particularly relevant topic for college students. Most research has focused on females so we are interested in male perceptions of these topics. We felt that your opinions and viewpoints would be valuable to our research.

**WHO IS DOING THE STUDY?** The PI for this study is a member of the CSU Counseling Psychology faculty. The Co-PI is a Counseling Psychology doctoral student who is conducting this study as part of a Dissertation project.

**WHAT IS THE PURPOSE OF THIS STUDY?** The purpose of this study is to examine college males' perceptions of body image and eating disorders and gender role related behaviors.

**WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST?**

The study can be completed online and requires participation in two separate sessions. The first online session will take approximately one ½ hour and the second session will take about 1 hour.

**WHAT WILL I BE ASKED TO DO?** In the first session, you will complete an online questionnaire about your gender roles, body image and disordered eating and exercise and help-seeking. This questionnaire will assess your beliefs about and behaviors related to each of these variables. In the second session, you will be asked to spend one ½ hour reading through a psychoeducational website. You will answer questions related to the website and will be asked to evaluate the website. Finally, you will complete the initial online questionnaire a second time.

**ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY?**

We have no criteria for excluding anyone from participating in our study other than gender. If for any reason, however, the study makes you feel uncomfortable at any point, you are welcome to stop participating.

**WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?**

- One potential risk is a breach of confidentiality. This is extremely unlikely due to efforts to maintain confidentiality. In addition, it is possible that some of the topics in the questionnaire might trigger feelings of discomfort if you have had personal experiences related to the subject matter.
- It is not possible to identify all potential risks in research procedures, but the researchers have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

**ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY?** Although there are no direct benefits that result from taking part in this study, it is our hope that you will gain insight into your personal beliefs and values.

**DO I HAVE TO TAKE PART IN THE STUDY?** Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

**WHAT WILL IT COST ME TO PARTICIPATE?** There will be no costs involved with participating in this study.

**WHO WILL SEE THE INFORMATION THAT I GIVE?**

We will keep private all research records that identify you, to the extent allowed by law.

Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

This study is anonymous. That means that no one, not even members of the research team, will know that the information you give comes from you. You will be identified only by an ID number.

**CAN MY TAKING PART IN THE STUDY END EARLY?** No, unless you decide to withdraw early from the study.

**WILL I RECEIVE ANY COMPENSATION FOR TAKING PART IN THIS STUDY?** As a result of participating in this study, you will be receiving 1.5 research credits.

**WHAT HAPPENS IF I AM INJURED BECAUSE OF THE RESEARCH?** The Colorado Governmental Immunity Act determines and may limit Colorado State University's legal responsibility if an injury happens because of this study. Claims against the University must be filed within 180 days of the injury.

**WHAT IF I HAVE QUESTIONS?** Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the Co-PI, Caitlin Shepherd at (970) 491-6197 or [Caitlin.Shepherd@colostate.edu](mailto:Caitlin.Shepherd@colostate.edu). If you have any questions about your rights as a volunteer in this research, contact Janell Barker, Human Research Administrator at 970-491-1655. We will give you a copy of this consent form to take with you.

**WHAT ELSE DO I NEED TO KNOW?** Clicking “I agree” indicates that you acknowledge that you have read the information stated and willingly sign this consent form.

I Agree

I Do Not Agree

## Appendix B

### Participant Characteristic Items

1. Age: \_\_\_\_\_
2. Class Standing: (Check the level that fits you)  
 Freshman       Sophomore       Junior       Senior       Other
3. Ethnicity: (You may choose more than one option)  
 White Non-Hispanic       African American       Hispanic/Latino  
 Asian American       American Indian/Alaska Native       Other
4. Sexual Orientation (Choose the answer that best describes you)  
 Heterosexual       Gay       Bisexual       Other  
 Prefer not to answer
5. I have consulted the following professionals for a problem in the past (Choose as many as apply)  
 Physician       Nutritionist/dietitian       Mental health professional
6. Have you ever received treatment from any of the professionals listed above for body image, disordered eating or exercise issues?  
 Yes       No
8. Have you ever been diagnosed with a mental health concern (e.g. depression, anxiety, bipolar disorder)? Please explain: \_\_\_\_\_
9. Are you currently involved in any activities that require you to maintain a certain weight or body type (e.g. wrestling, modeling)? Please explain: \_\_\_\_\_

## **Appendix C**

### Educational Materials Review Form

- 1) Content
- 2) Credibility
- 3) Attractiveness
- 4) Ability to convey information
- 5) Ability to change attitudes
- 6) Ability to elicit appropriate response
- 7) Overall rating

## Appendix D

### Gender Role Conflict Scale (GRCS) and Subscales

#### Success, Power, Competition:

1. Moving up the career ladder is important to me.
5. Making money is part of my idea of being a successful man.
8. I sometimes define my personal value by my career success.
12. I evaluate other people's value by their level of achievement and success.
14. I worry about failing and how it affects my doing well as a man.
18. Doing well all the time is important to me.
21. I often feel that I need to be in charge of those around me.
23. Competing with others is the best way to succeed.
24. Winning is a measure of my value and personal worth.
28. I strive to be more successful than others.
31. My work or school often disrupts other parts of my life (home, family, health leisure).
33. Being very personal with other men makes me feel uncomfortable.
36. Overwork and stress caused by a need to achieve on the job or in school, affects/hurts my life.

#### Restrictive Emotionality:

2. I have difficulty telling others I care about them.
6. Strong emotions are difficult for me to understand.
9. Expressing feelings makes me feel open to attack by other people.
13. Talking about my feelings during sexual relations is difficult for me.
15. I have difficulty expressing my emotional needs to my partner.
19. I have difficulty expressing my tender feelings.
22. Telling others of my strong feelings is not part of my sexual behavior.
25. I often have trouble finding words that describe how I am feeling.
29. I do not like to show my emotions to other people.
30. Telling my partner my feelings about him/her during sex is difficult for me.

#### Restrictive Affectionate Behavior Between Men:

3. Verbally expressing my love to another man is difficult for me.
7. Affection with other men makes me tense.
10. Expressing my emotions to other men is risky.
16. Men who touch other men make me uncomfortable.
20. Hugging other men is difficult for me.
26. I am sometimes hesitant to show my affection to men because of how others might perceive me.
32. I am often concerned about how others evaluate my performance at work or school.
34. Being smarter or physically stronger than other men is important to me.

#### Conflicts Between Work and Leisure – Family Relations:

4. I feel torn between my hectic work schedule and caring for my health.
11. My career, job, or school affects the quality of my leisure or family life.

17. Finding time to relax is difficult for me.
27. My needs to work or study keep me from my family or leisure more than would like.
35. Men who are overly friendly to me make me wonder about their sexual preference.

## Appendix E

### Drive for Muscularity Scale and Subscales

#### Muscularity-Oriented Body Image:

1. I wish I were more muscular.
7. I think I would feel more confident if I had more muscle mass.
9. I think I would look better if I gained 10 lbs in bulk.
11. I think I would feel stronger if I gained a little more muscle mass.
13. I think that my arms are not muscular enough.
14. I think that my chest is not muscular enough.
15. I think that my legs are not muscular enough.

#### Muscularity Behavior:

6. I feel guilty if I miss a weight-training session.
2. I lift weights to build more muscle.
3. I use protein or energy supplements.
4. I drink weight gain or protein shakes.
5. I try to consume as many calories as I can in a day.
8. Other people think I work out with weights too often.
10. I think about taking anabolic steroids.
12. I think that my weight-training schedule interferes with other aspects of my life.

## Appendix F

### Low Body Fat Subscale of the Male Body Attitudes Scale

#### Low Body Fat:

2. I think my body should be leaner.
4. I feel satisfied with the definition in my abs (i.e., stomach muscles).
8. I am concerned that my stomach is too flabby.
10. I feel dissatisfied with my overall body build.
13. I think I have too much fat on my body.
14. I think my abs are not thin enough.
18. I feel satisfied with the size and shape of my body.
21. Has eating sweets, cakes, or other high calorie food made you feel fat or weak?
23. Have you felt excessively large and rounded (i.e., fat)?
24. Have you felt ashamed of your body size or shape?
25. Has seeing your reflection (e.g., in a mirror or window) made you feel badly about your size or shape?
27. Have you been so worried about your body size or shape that you have been feeling that you ought to diet?

## Appendix G

### Eating Attitudes Test – 26 and Subscales

#### Dieting:

1. I engage in dieting behavior.
2. I eat diet foods.
3. I feel uncomfortable after eating sweets.
4. I enjoy eating new and rich foods.
5. I avoid foods with sugar in them.
6. I particularly avoid foods with high carbohydrate content.
7. I am preoccupied with the desire to be thinner.
8. I like my stomach to be empty.
9. I think about burning up calories when I exercise.
10. I feel extremely guilty after eating.
11. I am terrified about being overweight.
12. I am preoccupied with the thought of having fat on my body.
13. I am aware of the calorie contents of foods I eat.

#### Bulimia & Food Preoccupation:

1. I have the impulse to vomit after meals.
2. I vomit after I have eaten.
3. I have gone on eating binges where I feel I am not able to stop.
4. I give too much time and thought to food.
5. I find myself preoccupied with food.
6. I feel that food controls my life.

#### Oral Control:

1. I cut my food into small pieces.
2. I take longer than others to eat my meals.
3. Other people think I am too thin.
4. I feel that others would prefer if I ate more.
5. I feel that others pressure me to eat.
6. I avoid eating when I am hungry.
7. I display self-control around food.

## Appendix H

### Attitudes Toward Seeking Professional Psychological Help Scale

1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears *without* resorting to professional help.
5. I would want to get psychological help if I were worried or upset for a long period of time.
6. I might want to have psychological counseling in the future.
7. A person with an emotional problem is not likely to solve it alone: he or she *is* likely to solve it with professional help.
8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.
9. A person should work out his or her own problems: getting psychological counseling should be a last resort.
10. Personal and emotional troubles, like many things, tend to work out by themselves.

## Appendix I

### Adjective Rating Form

Positive:

2. Attractive
3. Ambitious
5. Fun
9. Confident
11. Independent
13. Easygoing
15. Sensitive
17. Friendly
19. Self-control
21. Kind
23. Intelligent

Negative:

1. Lacks common sense
4. Ugly
6. Pretentious
7. Emotional
8. Sad
10. Unsocial
12. Fake
14. Unhealthy
16. Vain
18. Egocentric
20. Perfectionistic
22. Lazy

## **Appendix J**

### Self-Stigma of Seeking Help Scale

1. I would feel inadequate if I went to a therapist for psychological help.
2. My self-confidence would NOT be threatened if I sought professional help.
3. Seeking psychological help would make me feel less intelligent.
4. My self-esteem would increase if I talked to a therapist.
5. My view of myself would not change just because I made the choice to see a therapist.
6. It would make me feel inferior to ask a therapist for help.
7. I would feel okay about myself if I made the choice to seek professional help.
8. If I went to a therapist, I would be less satisfied with myself.
9. My self-confidence would remain the same if I sought help for a problem I could not solve.
10. I would feel worse about myself if I could not solve my own problems.

## Appendix K

### Perceptions of Problems in Living Questionnaire and Subscales

#### Self-stigma:

1. I would be disappointed in myself for having this problem
2. I would be ashamed to admit to having this problem.
3. If I had this problem it would make me a less worthy person.
4. Others would think less of me if I had this problem.
5. Having a problem like this would mean I failed in some way.
6. If other people found out about this problem it could get me into trouble at work or at school.
7. Having this problem would mean that there was something seriously wrong with a part of myself I highly value.
8. My family and friends might see me as a failure if I had this problem.
9. A problem like this is not a measure of my personal value.

#### Normativeness:

10. Even though everybody has hard times, most people don't have problems this bad.
11. If I had this problem I would be the only one I know who had it.
12. It would be easy to find others with the same problem to talk to.
13. I wouldn't be alone if I had this problem because many people experience it.
14. Most people don't have problems like this.

## **Appendix L**

### Concrete Barriers and Distrust of Caregivers Subscale of the Barriers to Help-seeking Scale

1. People typically expect something in return when they provide help.
2. I would have real difficulty finding transportation to a place where I can get help.
3. I wouldn't know what sort of help was available.
4. Financial difficulties would be an obstacle to getting help.
5. I don't trust doctors and other health professionals.
6. A lack of health insurance would prevent me from asking for help.

## **Appendix M**

### Intentions to Seek Professional Psychological Help Scale

1. How likely are you to seek information in the next 1 month regarding professional help (i.e. physician, nutritionist/dietitian, mental health professional)?
2. How likely are you to contact (i.e. phone, email) a professional helper (i.e. physician, nutritionist/dietitian, mental health professional) in the next 1 month?
3. How likely are you to set up an appointment with a professional helper (i.e. physician, nutritionist/dietitian, mental health professional) in the next 1 month?
4. How likely are you to attend an appointment with a professional helper (i.e. physician, nutritionist/dietitian, mental health professional) in the next 1 month?

## Appendix N

### Debriefing Form

Thank you for your participation in this study. Your participation represents a valuable contribution.

The data collected from this study are for research purposes only. The primary purpose of the research is to develop an effective intervention strategy using the Theory of Planned Behavior (Ajzen, 1985) to increase help-seeking behavior in men suffering from body image and disordered eating/exercise concerns and disordered eating and exercise behaviors and gender role conflict. More specifically we are examining whether a psychoeducational website providing information specific to male issues is effective in increasing help-seeking behavior by altering attitudes, subjective norms and perceived behavioral control.

This was accomplished through the use of empirically supported gender role conflict (Gender Role Conflict Scale, O'Neil, 1986), body image and disordered eating and exercise behavior (Drive for Muscularity Scale, McCreary & Sasse, 2000; Male Body Attitudes Scale, Tylka, Bergeron & Schwartz, 2005; Eating Attitudes Test-26, Garner, Olmstead, Bohr & Garfinkel, 1982), attitudes toward seeking help and having disordered eating issues (Attitudes Toward Seeking Professional Psychological Help Scale, Fischer & Farina, 1995; Adjective Rating Form, Johnstone & Rickard, 2006) subjective norms about seeking help and having disordered eating issues (Self-Stigma of Seeking Help scale, Vogel, Wade & Haake, 2006; Perceptions of Problems in Living Questionnaire, Magovcevic & Addis, 2005), perceived behavioral control over seeking help (Concrete Barriers and Distrust of Caregivers, Mansfield, Addis & Courtenay, 2005) and intentions to seek help (Intentions to Seek Professional Psychological Help Scale, Young, 2004) scales. Based on previous research, we predict that help-seeking behavior in men will vary based on these variables.

In addition, a psychoeducational website containing information about body image and disordered eating and exercise behaviors in men was developed and evaluated for this study. This website specifically targeted Theory of Planned Behavior variables (attitudes, subjective norms, perceived behavioral control and intentions) in hopes of increasing help-seeking related variables. Based on previous research, we predict that by targeting these variables, we will be able to increase help-seeking behaviors for men. Ultimately, we are hoping that our research will provide insight into how to increase help-seeking for men suffering from body image and disordered eating/exercise concerns and disordered eating and exercise behaviors. Information regarding these subjects can be found in your textbook on pages 364 to 365.

If you have further questions about this study, or if you would like to receive a summary report of this research when it is completed please contact the co-primary investigator, Caitlin Shepherd, at the Psychology Department of the Colorado State University by phone: (970) 491-6197, or electronic mail: [Caitlin.Shepherd@colostate.edu](mailto:Caitlin.Shepherd@colostate.edu)

If you feel that you are experiencing adverse consequences from this study please contact the CSU University Counseling Center and receive treatment free of charge. Counseling Center Services are available to all currently registered CSU students. Students may initiate services be

visiting the Center located in 123 Aylesworth Hall (970) 491-6053. Privacy and confidentiality are protected in accordance with Colorado mental health law.

Thank you again for your participation.

Caitlin Shepherd, M.S.

Kathryn Rickard, Ph.D.