MASCULINITY, PHYSICAL HEALTH, 
AND PERCEIVED BARRIERS TO HELP-SEEKING 

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by 
Christopher Mackowiak, MEd 
P. Paul Heppner, Ph.D., Dissertation Supervisor 

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The undersigned, appointed by the Dean of the Graduate School, have examined the dissertation entitled:

“Masculinity, Physical Health, and Perceived Barriers to Help-Seeking”

presented by

Christopher C. Mackowiak

a candidate for the degree of

Doctor of Philosophy in Counseling Psychology

and hereby certify that, in their opinion, it is worthy of their acceptance.

__________________________________________
Puncky Heppner, Ph.D. (Dissertation Chair)
Department of Educational, School, & Counseling Psychology

__________________________________________
Mary Heppner, Ph.D.
Department of Educational, School, & Counseling Psychology

__________________________________________
Lisa Flores, Ph.D.
Department of Educational, School, & Counseling Psychology

__________________________________________
Michael Porter, Ph.D.
Department of Communication
Dedication

This dissertation is dedicated to my son, Samuel Charles Mackowiak. My hope is that it will: (a) serve as a testament that hard work pays off, (b) give a brief a history of how men in our family have made meaning of masculinity, and (c) encourage him to be a man that values the health and well-being of himself and those in his life. I love you, buddy.
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I initially decided to pursue a PhD as a personal challenge, to learn more about myself, and to learn how to help the men that are important in my life. I would not be writing this were it not for a number of key relationships that kept me on track. I am extraordinarily thankful that I was given the chance to pursue the education that I have. I certainly had no idea what I was in for, but I am a much stronger version of myself than I used to be. Many thanks to the faculty, family, and friends who helped me get here. Big thanks to the friends, colleagues, mentors, and clients that have shared their stories with me. From writer Barry Lopez, “The stories people tell have a way of taking care of them. If stories come to you, care for them. And learn to give them away where they are needed. Sometimes a person needs a story more than food to stay alive.”

I’m grateful that I have had people in my life who have shown courage enough to share their stories with me, and I look forward to being able to share mine with those that might need it.
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Research Narrative

My grandfather is, for all intents and purposes, a traditional man of the baby-boomer generation. During his professional career, he worked as an electrician for the state of Massachusetts until retiring with pension at 65. A large Polish man, six-foot three and about two-hundred seventy-five pounds, his stature resembles more of a kitchen refrigerator than a man. His demeanor is largely stoic, he’s loud, self-reliant, and he prides himself in knowing how to fix nearly anything. He seems to find joy in the work he does with his hands, be it picking fruit or rewiring an electrical box. He is the one who molded my dad’s understanding of what it means to be a man and, by proxy, molded mine as well — for better and for worse.

From my early childhood, one particular story has always stood out to me as evidence of his masculinity. Now, I’ve been told that “the truth of a story lies in the telling,” so what follows may not be 100% factual. That said, it is as accurate to the original telling of the tale as I remember it. During a particularly bad blizzard when he was in his thirties, my grandfather was clearing the driveway prior to attending Sunday church services. When the wet, heavy snow was getting stuck in the chute of his snow-blower, he used a small tree branch to clear it away. After repeated use, the branch had been entirely consumed by the grinding blades of the machine. Frustrated, he turned off the snow-blower and began to clear the snow by hand…when, much to his surprise, the machine’s engine turned over once more, slicing through his hand and severing the fingertips of his right hand at the last knuckle.

I remember falling to silence and listening intently, cringing. “So, after my fingers got chewed up, I walked into the basement garage. Gram was in the kitchen cleaning up. I yelled up to her, ‘Honey? Do we have any Band Aids?’ Of course, her answer was, ‘Oh shit, how bad is it?’ She knew me too well. You know, I don’t worry about much, but this one really hurt.” He
described himself standing in the garage, dripping blood, arguing with his wife about whether or not they should call an ambulance. After five minutes of debate, it was decided that they would drive to the Emergency Room. He makes a point to mention that he had to finish snow-blowing a small portion of the driveway in order to get the car out of the driveway, and he pauses to explain how he wrapped up his hand in rags and a plastic bag to avoid “bleeding everywhere.” Perhaps more importantly, he mentions as a near afterthought that he was the one driving to the hospital since she didn’t have a driver’s license. When Gram cursed at him for being obstinate and pleaded with him to call an ambulance to the house, he simply stated, “I’m a stubborn Polack, and I’ve made my decision. You knew what you were getting when you married me.”

My grandfather’s story absolutely smacks of traditional masculine values. Using his hand to get the snow out after watching the machine crunch through a tree branch bit by bit? This lack of safety precautions characterizes risk-taking that’s the norm for many men on the job, myself included when I worked as a forklift operator during summer and winter breaks from college. His desire to finish clearing the snow before they left for the ER? The value of putting “a job well done” above one’s own physical well-being is what he viewed as central to his identity as a man. Debating with his wife about how to solve this problem, and his “my way or the highway” decision-making process? Social dominance and power over women are at the core of masculinity for men of his generation. Above all else, my grandfather’s lack of willingness to call an ambulance demonstrates significant disregard for his physical health and well-being. While many women of his generation were beginning to talk about “treating one’s body as a temple,” he considered his body as a means to an end and a machine to be maintained when a part broke down. Like fingertips, for example. Some parts are clearly more necessary than others to maintain overall functioning.
My grandfather believed in the idea that “pain is simply weakness leaving the body.” On the one hand, this concept helped him overcome many obstacles in his life, including training in the Marine Corps and maintaining his provider status as an electrician despite worn out knees. However, this attitude also led him to become alienated from his body and physical health – he had the first of two heart attacks in his fifties, all the while fighting tooth and nail with his physician about making changes to his diet to accommodate a “heart healthy lifestyle.” Since then, he’s survived several bouts with cancer, each of which he disclosed to his children only after he had gone into remission. Though his temperament has softened somewhat with age, he continues to wear toughness and stubbornness as badges of honor.

It’s fairly standard practice for western men to adopt a masculine identity that includes risk-taking, self-reliance, aggressiveness, dominance, and restrictive emotionality (Mahalik, et al., 2003). Once men internalize these attitudes and beliefs, some guys identify themselves as “real men” by taking unnecessary risks and standing in direct opposition to seeking help from others (Addis & Mahalik, 2003; Mansfield, Addis, & Mahalik, 2003). In essence, as the old cliché goes, “If it ain’t broke, don’t fix it”…and oftentimes it requires a significant amount of damage before some men recognize that it’s broken. For example, men often recognize the negative impact of their problematic alcohol use, but delay seeking help until long after their problem has become excessive (Simpson & Tucker, 2002).

If a man treats his body like a machine, he might avoid visiting a “mechanic” in order to avoid what he views as unnecessary repairs. Some traditional men conceptualize physician appointments as costly and superfluous. However, when men elect not to engage in “preventive maintenance” by refusing to seek care until more obvious problems emerge (e.g. heart attack, stroke, chronic/intense pain), they may be at significant risk for health problems or it might be
too late to apply interventions. In short, helping men attend to physical self-care, as well as reducing day-to-day risks, requires a two-pronged approach: (a) identifying and reducing barriers to accessing care (e.g. stigma, financial burdens, mistrust of caregivers), and (b) encouraging men to engage in preventive self-care (e.g. improvements in nutrition, exercise, sleep habits, healthy relationships) and harm-reduction strategies (e.g. reduced alcohol and drug use).

My dissertation focused on one specific part of helping men attend to their physical health. Specifically, I’m looking at how masculinity and other variables predict men’s perception of barriers to help-seeking for a physical pain. This study is a quantitative exploration of factors that have been associated with the degree to which men see barriers to accessing healthcare in their life. As I’ve described above, this study has been informed by my reading of the existing literature, guided by several key figures in my professional development, and reinforced by my personal experiences and family history. As is likely clear, men’s health and wellness is near and dear to my heart, which I hope to keep healthy far into the future through healthy living and regular healthcare screenings.
Masculinity, Physical Health, and Perceived Barriers to Help-Seeking

Christopher C. Mackowiak  
Dr. Puncky P. Heppner, Dissertation Supervisor

ABSTRACT

The purpose of this study is to examine how men’s perception of barriers to help-seeking for a hypothetical physical health concern is predicted by the following variables: gender role conflict, conformity to masculine norms, physical functioning, age, socioeconomic status, and prior history of healthcare engagement. 275 male participants were recruited via online solicitation from the website Reddit.com. Main and interaction effects for the variables of interest were examined in relation to perceived barriers to help-seeking. Hierarchical multiple regression analysis indicated that gender role conflict, socioeconomic status, and resistance to encouragement from family/friends to seek help were statistically significant main effects, with gender role conflict accounting for 21.4% of variance in barriers. When interaction effects were added in the second step, gender role conflict continued to be the strongest predictor. No interaction terms were found to be statistically significant. These findings suggest that men who are sensitive to gender role conflict are most likely to perceive barriers to help-seeking for physical health problems. Implications for clinical interventions and future research are discussed.
Introduction

As early as the 1970’s, U.S. based research has reported a widening gap between the genders with regard to mortality rates and severe health problems (Waldron, 1976). Despite attention to this issue for more than thirty years, significant health disparities between men and women continue to exist (Sebelius, Frieden, & Sondik, 2010). Men continue to suffer significantly higher mortality rates than women with an mean life expectancy difference of 5.0 years, as well as greater risk of death across every age group than women for problems such as heart disease, cancer, and accidental injuries (Xu, Kochanek, Murphy, & Tejada-Vera, 2010). Men of color are particularly at risk for a variety of health problems, including cardiac conditions, diabetes, sexually transmitted diseases, and decreased liver function (Diaz, 2006; Thomas, Boss, & Kaggwa, 2004; Witt, 2006).

Despite the overall greater risk of health concerns, men’s access to healthcare services continues to remain disproportionately lower than women’s (Ratner, Bottorff, Johnson, & Hayduk, 1994). Men have been shown to seek help from health care professionals less frequently for conditions related to both psychological (Good, Dell, & Mintz, 1989) and physical health (Galdas, Cheater, & Marshall, 2004). In fact, women’s rates of doctor visits for annual examinations and preventive healthcare services occurs twice as frequently than for their male counterparts (Brett & Burt, 2001).

In their review of the literature on men’s help seeking behavior, Addis and Mahalik (2003) suggest that masculine gender role socialization causes men to be significantly less likely than women to seek help for depression, substance abuse, physical disabilities, and stressful life events. Gender role socialization refers to the process by which an individual comes to identify with and internalize a set of gendered behavioral roles and expectations, such as the idea that
“boys don’t cry.” Gender roles are informed by the social environment a person lives in, including other individuals, social groups and organizations, and even the physical landscape (Pleck, 1981). In short, men are expected to “act like men” and are positively reinforced for adhering to sex-typed behavioral norms; alternatively, they are punished for straying too far from the norm of hegemonic masculinity (Connell, 2005). Masculine socialization has typically identified behavioral rules for men which include values such as avoiding femininity, striving for achievement at all costs, demonstrating toughness and self-reliance, and taking risks, even if violence is necessary (David & Brannon, 1976; Mahalik, Locke, et al., 2003). One specific health related example is that boys and men are significantly less likely to wear sunscreen unless they are specifically reacting to skin that has already been burned (Abroms, Jorgensen, Southwell, Geller, & Emmons, 2003). That is, if men consider sunscreen use a “female behavior”, or something that detracts from their toughness, they may elect to avoid sunscreen as a means of upholding masculine identity.

Asking for help is commonly viewed as contradictory to masculine ideology and may result in what Pleck (1981) referred to as gender role strain. Pleck created this theory to explain men’s experience of psychological and social strain when performing behaviors that are contradictory to socially normative male expectations (Levant, 2011; Pleck, 1995). Consequences of gender role strain can be intrapsychic (e.g. depression, anxiety) as well as interpersonal (e.g. shame, stigma) (Good & Wood, 1995). When an individual experiences recurrent gender role strain and common patterns of negative consequences begin to emerge, men are experiencing what is referred to as gender role conflict (O’Neil, 2008). Gender role conflict can occur in four distinct ways: (a) within the man, when negative emotions or thoughts are experienced as gender role devaluations, restrictions, and violations (e.g. “I’m less of a man
if I can’t fix my own problems”); (b) expressed toward others, when an individual provides a statement that devalues, restricts, or violates someone else as a result of their behaving in a way that is inconsistent with gender role norms (e.g. shaming another man for openly crying); (c) experienced from others, when messages are received from interactions with others (e.g. being insulted for backing down from verbal conflict); or (d) experienced from role transitions, when events during a man’s gender role development challenge or change the assumptions he has about himself and produce either gender role conflict or positive life changes (e.g. difficulty adjusting to a career change following significant physical injury) (O’Neil et al., 1995).

Given that avoidance of help-seeking demonstrates self-reliance, as well as physical and mental toughness, men can actively construct masculinity and avoid gender role conflict by choosing not to receive care from a physician (O’Brien, Hunt, & Hart, 2005). For those men who have internalized a masculine self-concept that includes physical toughness, self-reliance, rejection of femininity, and emotional restriction, the decision to seek medical care may feel like admitting physical weakness, not being able to take care of the problem themselves, and actively deciding that they want to be uncomfortably prodded and asked personal and invasive questions. Following this logic, it is not surprising to learn that men are more than twice as likely to have gone two or more years without direct contact with a physician (Pamuk, Makuc, Heck, Reuben, & Lochner, 1998) and are significantly less likely to maintain continuous relationships with their usual care providers (Ettner, 1999; Jarrett, Bellamy, & Adeyemi, 2007).

When men do access medical care, they have been shown to be less effective at engaging with healthcare providers for physical and mental health services. Men are more likely to minimize symptoms through the use of masculinity scripts that define them as the “tough guy” (Mahalik, Good, & Englar-Carlson, 2003), and men have been shown on average to ask fewer
questions of their treatment provider than women do (Courtenay, 2000a). For many men, gender role socialization regarding the “pain principle” has taught them that there is a distinction between being “hurt” and being “injured,” with the former being a nuisance that should be ignored or treated as a challenge to be overcome as typified in sports and military cultures (Dunivan, 1994; Sabo, 2005). The result is often underdiagnosed or undiagnosed ailments in male patients.

In short, masculine socialization reinforces the idea that men should be self-reliant, control their emotions, avoid expressing pain, and demonstrate courage in the face of adversity. Simultaneously, men are taught that physical self-care is a stereotypically feminine behavior to be avoided at all costs, asking for help a sign of weakness, and that electing to “tough it out” in the face of adversity earns social status and privilege in the masculine social hierarchy. When we consider these ideas in combination, the overall effect is that choosing not to attend preventive medical check-ups may be one way of performing hegemonic masculinity (Newland, 2006).

**Health Belief Model and Theory of Planned Behavior**

There are several theoretical models designed to capture the decision-making process with regards to physical health concerns. The Health Belief Model (HBM; Hochbaum, 1958) was first developed as a research paradigm to facilitate deeper understanding and lead to an increase of access to preventive services such as chest X-rays for tuberculosis screening (Rosenstock, 1974). In short, HBM theorists posit that an individual’s motivation to engage in health-related behaviors is impacted by the individual’s subjective perception of five variables: (a) susceptibility of being vulnerable to the particular concern, (b) severity of the condition, (c) benefits of seeking treatment, (d) barriers to seeking treatment, and (e) cues to take action, such
as a physical discomfort or pain (Janz, Champion, & Stretcher, 2002). In subsequent research, one additional factor from social learning theory has supplemented the HBM, specifically (f) self-efficacy. That is, individuals’ sense of self-efficacy facilitates determination about whether to initiate coping behaviors, the amount of effort that should be expended for self-care, and how ready, willing, and able they are to sustain effort in the face of obstacles and aversive experiences (Rosenstock, 1998).

The HBM is important to this study because of its focus on individuals’ perceived barriers to seeking treatment in the context of specific cues to take action (e.g., persistent physical discomfort). In addition, the HBM variables of perceived susceptibility and severity of the condition are highly subjective and vary significantly across individuals. Of relevance to this study, men who value physical toughness and self-reliance may minimize the likelihood of contracting or severity of physical health concerns (e.g. ignoring a nagging pain or injury). As such, the HBM allows for the researcher to account for how masculine ideology and gender-role conflict impact perception of factors within the model.

Utilizing the HBM, Mansfield, Addis, and Courtenay (2005) validated a psychological measure called the Barriers to Help Seeking Scale (BHSS) in order to measure men’s perception of barriers to seeking medical help for a physical health concern. The instrument identifies a specific situation for help-seeking by using a hypothetical narrative, resulting in significant variance in responses due to differences in personal beliefs and reactions to the stimulus. For example, a man may experience psychological barriers to seeking medical attention for a nagging ache because: (a) he believes it is not practical or necessary, meaning that he can tolerate the discomfort without intervention; (b) he believes that he can resolve the concern on his own without any assistance, (b) he believes that a “real man” would not seek help, and avoids
seeking help because it would make him feel weak; (d) he is embarrassed about having to discuss his concern with a professional and worries that he might be judged by others for having sought help; (e) he believes that health concerns are personal and private, and he does not feel comfortable discussing his concerns with a relative stranger; and/or (f) he worries that it may too expensive or logistically problematic to pursue care. Exploring men’s perception of barriers to help-seeking within a particular context leads to insight about the individuals’ subjective experience. By using this approach, research can tap into various components of the behavioral planning process of seeking help within a specific context.

However, the HBM alone does not fully account for the well-documented correlation between masculinity and barriers to help-seeking. Research on this topic has also utilized a second theory: the Theory of Planned Behavior (TPB; Ajzen, 1985). The TPB was developed using self-efficacy theory (Bandura, 1977) and has grown out of the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975) to incorporate relationships between beliefs, attitudes, behavioral intentions, and actual behavioral follow-through (Armitage & Conner, 2001). Research using the TPB has shown explanatory power for a number of health-related behaviors for men in the United States, including nutrition and exercise habits (Nguyen, Otis, & Potvin, 1996) and condom usage (Albarracinn, Johnson, Fishbein, & Muellerleile, 2001). Of particular interest to this study, previous TPB-based research demonstrated significant model fit in examining how traditional masculine ideologies predict attitudes and behavioral intentions toward help-seeking for psychological concerns (Smith, Tran, & Thompson, 2008).

In sum, by combining the explanatory power of gender role socialization (Connell, 1987), gender role strain theory (Pleck, 1995), the health belief model (Hochbaum, 1958), and the theory of planned behavior (Ajzen, 1985, 1991), research can better identify how masculinity
impacts men’s decisions about their healthcare. For instance, we know that men who adhere to traditional masculine ideologies frequently identify help-seeking as a stereotypically feminine behavior and sign of weakness or lack of willpower (Vogel, Wade, & Haake, 2006). Thus, men’s avoidance of help-seeking may actually function to avoid gender role conflict and maintain masculine social status amongst their peers (Newland, 2006). Simultaneously, the HBM and TPB theorize that men who express negative attitudes toward help-seeking are significantly less likely to have intentions to seek help or actually follow through with attending medical services or preventive screenings. As a result, these theories combine to provide power in explaining how “masculinity scripts” function to predict attitudes, beliefs, intentions, and perception of barriers to accessing healthcare services (Mahalik, Good, & Englar-Carlson, 2003).

**Current Study**

The purpose of this study was to compare the predictive power of several variables from these theories on men’s perceptions of barriers to help-seeking for a hypothetical physical health concern. Eight total measures were examined as predictor variables in this study, including two masculinity measures (Conformity to Masculine Norms Inventory-46, Gender Role Conflict Scale-Short Form); self-identified age; the SES Ladder, a measure of subjective social status (Singh-Manoux et al., 2003), current physical and mental health status as measured by the Physical Component Summary subscale of the Short Form health survey-12v2, and self-reported history of prior healthcare access as measured by three single items. The Barriers to Help-Seeking Scale (BHSS; Mansfield, Addis, & Courtenay, 2005) was utilized as the primary outcome variable because it specifically measures men’s perception of barriers to help-seeking for a hypothetical physical pain. In sum, the variables of interest to this study include components of masculinity ideology, gender role conflict, history of previous healthcare
engagement relevant to the health belief model, experience of current health problems relevant to the theory of planned behavior, and several demographic variables (i.e., age, socioeconomic status) which have demonstrated significant correlations with barriers to help-seeking in previous research in the extant literature.

Hierarchical multiple regression was utilized to identify the main and interaction effects for each of the eight measures on barriers to help-seeking. This approach allowed for direct comparison of main effects, meaning that each variable could be rank-ordered by quantitative strength for predicting outcomes on the BHSS within the sample. Previous research on attitudes toward psychological help-seeking had identified that two-way interactions between variables can be quite significant in predicting help-seeking attitudes. For example, Mackenzie and colleagues (2006) identified that the interaction effect between chronological age and marital status more completely predicted intentions to seek help for psychological concerns than either main effect alone.

**Methods**

**Participants**

Following data cleaning procedures outlined below, the final data set included 275 adult male participants (i.e., age 18 years or older) who were solicited by internet-based sampling from the social media website http://www.reddit.com. This website was selected for participant solicitation specifically because it of the predominantly male user base (72%) and because website users represent diversity in age, socioeconomic status, and masculine ideologies (Reddit, 2013). For example, Reddit subgroups self-identify as espousing more traditional masculine ideologies (e.g. /r/MensRights), non-traditional masculinity beliefs (e.g. /r/OneY), in addition to
seemingly neutral groups containing users who likely identify with a wide range of masculine ideologies (e.g. r/AskMen).

As criterion for inclusion of this study, all participants were required to self-identify as male. The mean age in the sample was 24.7 years with a range of 18 to 51 years ($SD = 5.615$). The sample was predominately white, but included some diversity across racial categories with the following distribution: 86.5% Caucasian/White, 5.5% Asian or Pacific Islander, 1.5% Hispanic/Latino, 0.4% African American, 3.6% biracial/multiracial, and 2.5% indicating their race to be other than the above or preferring not to answer. Within the sample, 60.9% of participants identified as single, 26.3% identified as currently being in a significant dating relationship, 10.6% indicated that they were currently married, 0.7% were divorced, and 1.5% indicated “other” relational status (e.g., casually dating). 77.1% self-identified as heterosexual, 8.8% as mostly heterosexual, 6.2% as bisexual, 0.4% as mostly homosexual, and 5.5% as homosexual. An additional 1.5% indicated “other” for sexual orientation (e.g., pansexual, asexual). Regarding education, 32% identified that they had completed a Bachelor’s degree and 42.2% reported that they had attended at least some college courses. For a full summary of demographic information, please refer to Table 1.

**Constructs and Instruments**

**Psychological barriers to help-seeking for a physical health concern**

Psychological barriers to help-seeking for a physical health concern was assessed using the Barriers to Help-Seeking Scale (BHSS; Mansfield, Addis, & Courtenay, 2005). The BHSS was developed from the Health Belief Model (Janz, Champion, & Stretcher, 2002). The instrument is comprised of 31-items rated on a five-point Likert scale (0 = not at all, 4 = very much). Scores indicate the extent to which items would be a reason why the individual would
not want to seek help for a hypothetical persistent physical pain. The instrument consists of five subscales: Need for Control and Self Reliance (NCSR), Minimizing the Problem and Resignation (MPR), Concrete Barriers and Distrust of Caregivers (CBDC), Privacy (P), and Emotional Control (EC). In the original study, it used the following narrative prompt:

Imagine that you begin to experience some pain in your body. The pain is not so overwhelming that you can’t function. However, it continues for more than a few days and you notice it regularly. You consider seeking help from a medical doctor or other clinician at the student health center. Below are several reasons why you might choose NOT to seek help. Please read each reason and decide how important it would be in keeping you from seeking help (Mansfield et al., 2005).

Of note, Mansfield and colleagues (2005) validated the instrument with a college-student sample which indicated self-referral to the student health center appropriate. However, because the current study uses an adult internet-based sample, this statement was altered to read “You consider seeking help from a medical doctor or professional healthcare provider in your area.” Example items following this prompt include: “I’d feel better about myself knowing I didn’t need help from others” (NCSR); “The problem wouldn’t be a big deal; it would go away with time” (MPR); “Financial difficulties would be an obstacle to getting help” (CBDC); “This problem is embarrassing” (P); and “I don’t like to get emotional about things” (EC).

Mansfield and colleagues (2005) conducted two studies to investigate scale reliability. Exploratory factor analysis was conducted with a sample of 537 undergraduate males and revealed a five factor solution. In both studies, internal consistency scores (Cronbach’s α) ranged from .75 to .93 across subscales. Boman and Walker (2010) studied a mediational model of Australian men’s health seeking behavior that indicated Cronbach’s α = .93. Test-retest reliability was also assessed Mansfield and colleagues (2005) by administering the BHSS to nine undergraduate participants over a two-week timespan, revealing acceptable full scale reliability ($r = .73, p < .05$). Of note, test-retest reliability for subscales in this study varied widely, from
the MPR subscale indicating poor test-retest reliability ($r = .34, p > .05$) to the CBDC subscale indicating excellent reliability ($r = .95, p < .05$) (Mansfield et al., 2005).

The authors also collected additional data from 58 undergraduate men to identify convergent validity with the Gender Role Conflict Scale-I (GRCS-I; O'Neil et al., 1986) and the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPH; Fischer & Turner, 1970) in order to provide criterion validity. Subscales of the BHSS positively correlated with subscale and total scores of the GRCS-I, with the SPC subscale of the GRCS-I contributing the greatest amount of variance. Correlations between subscales ranged from .28 to .41 and all were significant at $p < .05$ (Mansfield et al., 2005). All subscales of the BHSS negatively correlated with scores on the ATSPPH and were significant at $p < .01$, indicating strong criterion validity (Mansfield et al., 2005). In addition, Boman and Walker (2010) indicated that several subscales of the BHSS showed significant correlations with full-scale scores on the Conformity to Masculine Norms Inventory (CMNI-94; Mahalik, et al., 2003). For example, NCSR and MPR scores positively correlated the CMNI full scale at .42 and .24 (both $p < .01$), and scores on the EC scale was negatively correlated ($r = -.34, p < .01$). Neither the CBDC nor P subscales reached significance at $p < .05$ (Boman & Walker, 2010).

**Gender role conflict**

The construct of gender role conflict was measured using the Gender Role Conflict Scale-Short Form (GRCS-SF; Wester, Vogel, O’Neil, & Danforth, 2012). This measure is a 16-item brief version derived from the original 37-item Gender Role Conflict Scale (GRCS-I; O’Neil et al., 1986). The GRCS-I purports to measure the cognitive, emotional, and behavioral consequences associated with masculine gender role socialization, with higher scores indicating a greater degree of gender role conflict and fear of femininity (O'Neil, Good, & Holmes, 1995).
During initial validation of the GRCS-I, factor analysis revealed four distinct subscales, each of which is conceptualized to represent a main conflict area that men experience (O'Neil et al., 1986). These subscales include: Success, Power, and Competition (SPC); Restricted Emotionality (RE); Restricted Affectionate Behavior Between Men (RABBM); and Conflict Between Work and Family Relations (CBWF). SPC refers to men’s desires and worries about avoiding personal failure, being superior to others, and preoccupation with competition in order to gain social power and achieve success (e.g., “Winning is a measure of my value and personal worth.”) RE depicts what Levant (2001) identified as “normative male alexithymia” – that is, being afraid of, having difficulty finding words for, and/or having difficulty expressing one’s emotions (e.g., “I do not like to show my emotions to other people.”) RABBM refers to men’s discomfort with expressing affection or positive emotions to other men, largely as a result of internalized homophobia (Morin & Garfinkle, 1978; Poteat, 2007) (e.g., “Hugging other men is difficult for me.”) Lastly, CBWF represents the stress that results from difficulty balancing work or school roles with family or leisure activities (e.g., “My work or school often disrupts other parts of my life (home, health, leisure).”)

Full-scale and subscale scores on the GRCS-I have been shown to be positively correlated with measures of traditional masculinity ideology (Berger et al., 2005), symptoms of depression (Good, Dell & Mintz, 1990), substance use disorders (Ritter & Cole, 1992), and overall psychological distress (O'Neil et al., 1995). Convergent validity for the GRCS-I subscales includes moderate positive correlations with other measures of masculinity (e.g., $r = .20 – .56, p < .01$), masculine gender role stress (e.g., $r = .25 – .44, p < .01$), and macho attitudes ($r = .25 – .44, p < .01$) (Walker, Tokar, & Fischer, 2000). Moradi, Tokar, Schaub, Jome, and Serna
(2000) conducted a confirmatory factor analysis which offered further support for the factor stability of the 37-item GRCS-I.

In this study, the shortened form of the GRCS-I, the Gender Role Conflict-Short Form (GRCS-SF; Wester et al., 2012) was selected in order to (a) minimize participant “response burden” (Parent & Moradi, 2009), and (b) further examine the short-form instrument’s reliability and validity with a non-college aged participant sample. The GRCS-SF contains 16-items on a six-point Likert scale (1 = strongly disagree, 6 = strongly agree) on the same four subscales as the GRCS-I. During validation of this short-form instrument, Wester and colleagues (2012) first used exploratory factor analysis ($N = 399$) to identify which items on the GRCS-I had strongest factor loadings on the four subscales. Once these items were identified, the authors used confirmatory factor analysis ($N = 1031$) to determine goodness-of-fit for the 16-item model. Following Hu and Bentler (1999), a four-factor model of the GRCS-SF (consistent with the GRCS-I subscales) demonstrated good fit for the data, with scaled $\chi^2 = 430.83$, $p < .001$; CFI = .96; TLI = .96; RMSEA = .057; and SRMR = .05. Of note, Wester and colleagues’ (2012) CFA sample included a significantly diverse representation (i.e. 68% Caucasian, 26% racial/ethnic minority; 39% heterosexual, 60% non-heterosexual). The authors solicited an additional sample of 495 college students to study the relationship between subscales of the GRCS-SF and the full-scale original version of the GRCS-I, with correlations ranging from $r = .90$ to .96 ($p < .01$).

**Conformity to normative masculine ideologies**

Adherence to masculine ideologies was measured using the Conformity to Masculine Norms Inventory-46 (CMNI-46; Parent & Moradi, 2009). This instrument is a brief version of the 94-item Conformity to Masculine Norms Inventory (CMNI; Mahalik, Locke, et al., 2003). The CMNI measures individuals’ attitudes about conforming to normative masculine values as
conceptualized by Thompson and Pleck (1986) and Levant, Hirsch, Celentano, and Cozza (1992). Both versions of the CMNI include 11 subscales: Winning, Emotional Control, Risk-Taking, Violence, Dominance, Playboy, Self-Reliance, Primacy of Work, Power over Women, Heterosexual Self-Presentation (called Disdain for Homosexuality in the original CMNI), and Pursuit of Status. Sample items from the measure include: “I would feel uncomfortable if someone thought I was gay” (Heterosexual Self-Presentation); “In general, I will do anything to win” (Winning); and “If I could, I would frequently change sexual partners” (Playboy).

The CMNI was initially developed by Mahalik, Locke, and colleagues (2003) in order to measure adherence to traditional masculine ideologies. In contrast to the GRCS-I (O’Neil et al., 1986) which measures problems caused by psychological conflict due to gender role socialization (e.g., “work comes first” attitudes causing conflict in family relationships), the CMNI simply assesses the degree to which men identify with traditional masculine values (Mahalik, Locke, et al., 2003). Initial validation studies of the 94-item version demonstrated good validity and reliability (Mahalik, Locke, et al., 2003) and subsequent research has indicated that higher scores on the CMNI are associated with a number of health risk behaviors such as increased alcohol use (Iwamoto, Cheng, Lee, Takamatsu, & Gordon, 2011), interpersonal violence (Tager, Good, & Brammer, 2010), and poorer nutrition and exercise (Courtenay, 2011).

Given the length of the instrument, the 94-item CMNI can result in significant response burden to participants. As a result, several studies have explored briefer versions of the measure, including 22, 44, 46, and 55-item versions (Owen, 2011; Parent & Moradi, 2009, 2011; Rochlen, McKelley, Suizzo & Scaringi, 2008). At the time of this study, the CMNI-46 has demonstrated the greatest balance between brevity and maintaining strong reliability and validity. As a result, the CMNI-46 (Parent & Moradi, 2009) was selected for use in this study. Similarly to the
GRCS-SF, items on the CMNI-46 were selected from highest loading factors from the 94-item version. Participants rate their responses on a four-point forced-choice Likert scale (0 = strongly disagree, 3 = strongly agree). In their validation of the CMNI-46, Parent and Moradi (2009, 2011) conducted two studies with samples of $N = 229$ and $N = 255$ college-aged men. Both studies indicated goodness-of-fit in the good to excellent range, with Cronbach’s $\alpha$ values ranging from .78 to .89 across the eleven subscales and a median of .82 (Parent and Moradi, 2011). Subsequent research by Iwamoto and colleagues (2011) found Cronbach’s $\alpha$ values ranging from .70 to .86, and Parent and Smiler (2013) also demonstrated good reliability for the full-scale instrument.

Current functional physical health status

In order to measure men’s current functional health and general well-being, this study used the Physical Component Summary of the 12-item Short Form-12 Version 2 Health Survey (SF-12v2; Medical Outcomes Trust, 2012). This instrument has been utilized primarily in medical treatment facilities to measure patients’ overall quality of life (de Haan, 2002). There are several versions of the scale available, including the SF-36v2 (Ware & Sherbourne, 1992), SF-12v2 (Ware, Kosinski, & Keller, 1996), and SF-8 (Ware, Kosinski, Dewey, & Gandek, 2001). While the SF-36 has been researched most extensively (see Ware, 2000), the SF-12v2 has demonstrated highly effective balance between instrument length and scale reliability and was recommended for use in this study by owners of the instruments (Medical Outcomes Trust, 2012). Items on the instrument measure physical health and mental health across eight domains – physical functioning, role limitations due to physical problems (e.g., ability to work), general health perceptions, social functioning, general mental health, role limitations due to emotional problems, and health transitions (Andreson & Meyers, 2000). The SF-12v2 uses both total
scores and norm-based scoring which allows for use of established cutoff values for physical and mental health concerns (Utah Department of Health, 1996).

Cheak-Zamora, Wyrwich, and McBride (2009) evaluated the reliability of the SF-12v2 using a large sample of prior medical patients \((N = 20,661)\). They found high internal consistency (Cronbach’s \(\alpha > .80\)) and one year test-retest reliability in the moderate to high range (Cronbach’s \(\alpha = .60\) and \(.78\) for Mental Component Summary and Physical Component Summary scores respectively). The instrument also demonstrated moderate to high convergence with the Euro Quality of Life-5 Dimensions (EQOL-5; Brooks, 1996). Saris-Balagma and colleagues (2009) used web-based data collection with the SF-12v2 and reported that the factor structure was upheld, internal consistency was in the acceptable range \((r > .40)\), and the instrument appropriately differentiated between patients along a range of health statuses in their study population (i.e., chronic kidney disease, dialysis, and transplant).

**History of healthcare engagement**

Data regarding history of previous healthcare engagement was initially collected as eight individual items with the intentions of creating a composite score. However, due to poor reliability between items (Cronbach’s \(\alpha = .385\)), history of healthcare engagement was measured in the current study as three single-item scores. These three items were specifically selected because they demonstrated good variance and were theoretically strong in assessing previous history of healthcare engagement. First, the item “5Years” asked, “Roughly how many times in the past five years have you sought help from a health care professional (e.g., nurse, doctor)?” Second, the item “AnnualVisits” asked, “Do you have “annual check-ups” with a health care professional?” Third, the item “Resistance” asked, “Roughly how many times in the past year has someone suggested
you seek medical assistance, but you decided not to seek medical advice?” Higher scores on 5Years and AnnualVisits indicated greater exposure to the healthcare milieu. Alternately, higher scores on Resistance denoted greater psychological resistance to help-seeking from medical professionals despite encouragement from social supports.

**Demographics**

In addition to providing context for the sample population, several demographic items were collected in this study specifically because of their relevance to men’s rates of help-seeking for medical concerns as seen in epidemiological research. Two specific demographic constructs were examined as predictor variables in primary analyses in this study: (a) age, and (b) socioeconomic status. Self-identified age was asked as a single-item and examined in this study as a continuous variable. Socioeconomic status was identified using a single-item “SES-Ladder” adapted from the MacArthur Scale of Subjective Social Status (Adler & Stewart, 2007). The SES-Ladder used a sliding scale from 0 to 100 and provided the following prompt:

Think of this sliding scale as representing where people stand in society. At the top of the scale (100) are the people who are best off—those who have the most money, most education and best jobs. At the bottom (0) are the people who are worst off—who have the least money, least education and the worst jobs or no job. The higher up you are on this ladder, the closer you are to people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the sliding scale? Please click where you think you stand.

Previous research by Singh-Manoux and colleagues (2005) indicated that measurement of subjective socioeconomic status (SES) using the SES-Ladder may more accurately assess feelings of financial security and perceived resources than objective measures. The authors showed that the scale has predicts overall health status up to three years later even after controlling for overall health at initial assessment (Singh-Manoux et al., 2005).

**Procedure**
Online data collection was conducted on the predominantly male-populated website http://www.reddit.com. The study was advertised as research about men’s health and masculinity by posting to ten subgroups from a research account (throwaway_research) (see Appendix III). Interested participants clicked the internet link to the web-survey hosted on a University of Missouri sponsored Qualtrics website, provided consent to participate, and began the study. Upon completion, participants were shown a debriefing screen and were encouraged to complete a separate survey to submit their Reddit username to enroll in a raffle drawing. Raffle prizes included 15 one-year subscriptions to Reddit Gold ($29.99 value), a status which provides extended and special website features.

Data cleaning

Once data collection was completed, the first steps of statistical analysis were to remove inappropriate cases, clean the data by recoding string responses as continuous variables, analyze patterns in data (i.e., missingness), conduct multiple imputation, and calculate full and subscale scores. An initial sample of 409 individuals clicked the link to provide informed consent and enter participation in the study. Due to the criterion of self-identifying as male for inclusion in this study, data from six participants were removed because the participant did not identify as male (i.e., female, transgender, or “prefer not to answer.”) Seven individuals consented to the study but left the survey page before answering any items. 32 individuals were missing data for at least one instrument completely (e.g., no responses to any items on the CMNI-46), and an additional 89 individuals failed to complete at least 10% of items from the study. According to Qualtrics survey results, these participants most frequently left the study during the first survey (i.e., BHSS, the identified independent variable). Missing data analyses were conducted for both conditions (i.e., missing 90% of data, missing a full scale) and revealed that these data were not
missing at random due to a pattern of attrition from the study. As a result, a dummy-coded variable was created in order to compare data from cases where attrition occurred with data from individuals that completed the full study. An independent t-test was conducted to compare dummy-coded groups on available BHSS items. The t-test for equality of means was significant at \( p < .05 \), meaning that data from individuals who left the study before completing the BHSS were statistically comparable to those who completed the instrument (and subsequent instruments). As a result, these cases could be removed prior to imputation with the assumption that they did not represent statistically unique variance in the study. Following this case removal process, the final sample for analyses was \( N = 275 \).

Next, data cleaning was conducted to ensure data points were available for quantitative analysis. For example, data that had been entered as string variables by participants were recoded as numerical values (e.g., “Twenty” was recoded as “20”). Any values that were entered as a range were recoded using the mean value of the provided range (e.g., “20-25” was recoded as “22.5”).

Following recommendations of Schlomer, Bauman, and Card (2010), I next conducted missing data analysis. SPSS’s Missing Values Analysis module was used to examine the presence and qualities of missing data (IBM Corporation, 2012). Little’s MCAR analysis revealed a Chi Square value of 6993.714 (\( df = 6676, p = .003 \)) indicating that data were missing completely at random. 99% of all data points were complete in the sample, 75% of cases were complete, and 45% of variables included complete data. Because data were found to be missing at random, the Multiple Imputation procedure was available as an option to replace missing values in the data set. The SPSS Multiple Imputation module was utilized, and imputation constraints were set for each instrument (IBM Corporation, 2012). That is, for CMNI-46 items
rated on a 0-3 scale, imputation constraints were set at 0-3. In the case of variables without
natural limits (e.g., age), the upper and lower limits were identified as the highest and lowest
existing data points (i.e., 18 to 51 years of age).

Following imputation, I tested each of the scales of interest to identify normality. Data
were examined visually using histograms, as well as statistically using the Kolmogorov-Smirnov
test for normality. Each of the instruments’ full scale scores were examined (i.e. BHSS, GRCS-
SF, CMNI-46, SF-12v2) as well as individual items of interest (e.g., age, SES-Ladder, three
healthcare items). Results from the Kolmogorov-Smirnov test indicated that the BHSS and
CMNI scores were normally distributed \( (p > .05) \). However, all other scales were found not to
be normally distributed \( (p < .05) \).

As a result of data being non-normally distributed and to reduce collinearity, data
transformation (e.g., centering) was performed for each continuous variables of interest. Next,
interaction terms were calculated by multiplying these centered variables. For example, \( C_{\text{Age}} \)
was calculated as \( \text{Age} - M(\text{Age}) \), and the interaction term \( C_{\text{Age}} \times C_{\text{SES}} \) was created. These
centered variables were utilized in all subsequent analyses.

Full-scale and subscale values were calculated in accordance with previous validation
studies and instructions for each instruments. In the case of the SF-12v2, special software
provided by Medical Outcomes Trust was used to calculate the following scores: (a) 0-100 point
raw score, (b) norm-based score, and (c) component summary scores for physical health and
mental health subscales.

Results

Preliminary Analyses
First, descriptive analyses were conducted for each of the variables of interest in the study (i.e. BHSS, GRCS-SF, CMNI-46, SF-12v2, age, SES-Ladder, 3 health-items). This included identifying reliability values for individual scales using Cronbach’s α coefficients, as well as mean and standard deviation scores. All scales demonstrated good to excellent internal consistency (see Table 2). Means, standard deviations, skewness, and kurtosis for variables of interest are reported in Table 3.

Next, zero-order correlations were explored to identify (a) relationships between the dependent variable BHSS and predictor variables, and (b) relationships between the independent (predictor) variables in the study (see Table 4). Given the primary interest of predicting variance in perception of barriers to help-seeking, full-scale scores were used for all instruments. Four independent variables were significantly correlated with participant scores on the BHSS. Specifically, the GRCS-SF ($r = .44, p < .001$), CMNI-46 ($r = .35, p < .001$), SES-Ladder ($r = -.19, p = .002$), and single item Resistance ($r = .21, p = .001$) were all identified as statistically significant correlations.

In addition, several of the independent variables were identified as having statistically significant correlations with one another. The GRCS-SF demonstrated strong correlation with the CMNI-46 ($r = .66, p < .001$). The single-item 5Years was negatively correlated with several variables of interest, including the GRCS-SF ($r = -.19, p < .01$), CMNI-46 ($r = -.18, p < .01$), PCS ($r = -.20, p = .001$), and AnnualVisits ($r = -.19, p < .01$). As expected, age showed a significant negative correlation with overall physical functioning as measured by the PCS of the SF-12v2($r = -.23, p < .001$). Lastly, the item Resistance was significantly correlated with the SES-Ladder in a negative direction ($r = -.13, p < .05$).

**Primary Analyses**
Primary analyses in this study were intended to address two research questions. First, which variables are significant predictors of variance in perceived barriers to help-seeking as measured by the BHSS, and how do these variables associated with theories about masculinity and help-seeking models compare with one another in their predictive power? Second, how do these variables interact with one another in predicting the same outcome, and does accounting for these interactions more accurately predict perception of barriers than individual variables alone? In summary, the theories of interest in this study (and their associated variables) included (a) gender role strain theory (i.e., GRCS-SF), (b) masculine ideology (i.e., CMNI-46), and (c) the health belief model (i.e., 5Years, AnnualVisits, Resistance). In addition, several other variables have been linked with perception of barriers to help-seeking in existing epidemiological research including age, socioeconomic status (i.e., SES-Ladder), history of help-seeking (i.e., healthcare access items) and current physical health (i.e., PCS of the SF-12v2).

Hierarchical multiple regression was used to identify main effects of predictor variables on the outcome BHSS. This approach was selected to directly compare which predictors (and associated theories) demonstrated greatest statistical power in predicting men’s perception of barriers to help-seeking. In step one, all main effects were entered as dependent variables and BHSS was entered as the independent variable. In step two, all main effects and five interaction effects were entered as dependent variables. The five interactions were selected from review of the previous help-seeking literature. For full results of main and interaction effects, see Table 5.

The first step of the hierarchical multiple regression revealed that three variables yielded statistically significant results in predicting BHSS scores. Results are discussed here in terms of declining significance. The GRCS-SF significantly predicted variance on BHSS, $t(275) = 5.41$, $p < .001$. Given that this relationship is sloped in a positive direction, higher scores on gender
role conflict predicted significantly greater perception of barriers to healthcare access. The GRCS-SF explained a significant proportion of variance in BHSS scores, $R^2 = .21$, $F(1, 275) = 2.47, p < .001$. That is, the GRCS-SF predicted 21.4% of total variance in BHSS scores.

Next, scores on the SES-Ladder negatively predicted BHSS scores, $t(275) = -3.01, p = .003$, indicating that individuals who perceived themselves as having higher SES perceived significantly fewer barriers to healthcare access. The SES-Ladder explained a smaller, but still significant, proportion of variance in BHSS scores, $R^2 = .03$, $F(1, 275) = 7.80, p = .006$. That is, the SES-Ladder predicted 3% of variance in BHSS.

Lastly, and as expected, the healthcare item Resistance positively predicted BHSS scores, $t(275) = 2.29, p = .022$, indicating that the more occasions an individual refused to seek help despite encouragement from friends and family, the greater they perceived barriers to help-seeking. The single-item Resistance explained a significant proportion of variance in BHSS scores, $R^2 = .04$, $F(1, 275) = 11.18, p = .001$, or 4.3% of variance in BHSS.

Although none of the remaining variables were statistically significant predictors of scores on the BHSS, the directionality of these relationships is worth noting. These are expressed here in order of increasing $p$ values. Attendance at yearly “check-ups” with medical healthcare providers (AnnualVisits) was associated with fewer perceived barriers to healthcare, $t(275) = -1.57, p = .118$. Older age was associated with reduced perception of barriers, $t(275) = -1.51, p = .131$. Greater physical health problems as measured by the PCS subscale of the SF-12v2 was associated with fewer perceived barriers to healthcare, $t(275) = -1.29, p = .198$). Interestingly, greater barriers to help-seeking were associated with higher totals of medical appointments over the last five years (5Years), $t(275) = 1.13, p = .260$). Lastly, higher scores on conformity to masculine norms were associated with greater perception of barriers to healthcare
access, \( t(275) = .97, p = .334 \). However, as indicated, all of the above associations were not statistically significant, and thus are likely to be chance events.

In the second step of the hierarchical multiple regression, five interaction effects were added to the main effects. These five interaction terms were selected because these variables were hypothesized to interact in a way that would predict significant variance in barriers to help-seeking. These interaction terms including the following: (a) Gender role conflict x conformity to masculine norms (i.e., GRCS-SF*CMNI-46), (b) conformity to masculine norms x socioeconomic status (i.e., CMNI-46*SES-Ladder), (c) physical health condition x age (i.e., PCS*Age), (d) physical health condition x socioeconomic status (e.g., PCS*SES-Ladder), and (e) age x total number of medical appointments attended during the past five years (i.e., Age*5Years). For example, it was hypothesized that overall health status as measured by the PCS subscale of the SF-12v2 would be associated with perception of barriers to help-seeking differently depending on individuals’ age or socioeconomic status.

Surprisingly, in step two of the hierarchical regression analysis, none of the five interaction effects were statistically significant at \( p < .05 \). As noted above, it was hypothesized that several variables would be associated with barriers to help-seeking differently according to other variables. Significant interaction effects were not identified in any of the hypothesized five models in this study. Parenthetically, age had a significant main effect on barriers to help seeking; that is, older men reported greater perception of barriers to seeking medical help. However, each of the three main effects continued to be statistically significant after including the five interactions. This suggests that the main effects of gender role conflict, socioeconomic status, and resistance to encouragement from friends/family are most useful (out of all of the variables included in this study) in predicting variance in perception of barriers to help-seeking.
Discussion

Preliminary Analyses

Zero-order correlations revealed that four variables were significantly correlated with participant scores on the BHSS. Specifically, gender role conflict, conformity to masculine norms, socioeconomic status, and resistance to others’ recommendation to seek help were all statistically significant. As expected, masculine conformity and gender role conflict were positively associated with perceived barriers to help-seeking, and lower SES was associated with greater barriers. Not surprisingly, resistance to medical help-seeking was correlated with perceived barriers to help-seeking, though the moderate correlation ($r = .21$) indicates that other factors are likely to be stronger predictors of perceived barriers than resistance to referrals from friends/family.

Of note, several of the independent variables in this study were significantly correlated with one another. Specifically, gender role conflict and conformity to masculine norms were significantly correlated to one another at $r = .66$, $p < .001$. Extant research using the CMNI-94 and GRCS-I has demonstrated a correlation between these instruments at approximately $r = .30$ to .60, so the correlation found in this study appears somewhat inflated compared to previous research. It is unclear whether this can be attributed to sample characteristics or use of the abbreviated forms of each scale, so additional research is recommended. In addition, history of healthcare access over the past five years demonstrated a significant negative correlation with gender role conflict, conformity to masculine norms, physical health status, and whether the individual attends annual health screenings. These correlations indicate that greater masculine ideology adherence, greater gender role conflict, and better overall physical health were associated with reduced likelihood of engaging medical care over the last five years. Not
surprisingly, self-reported age was negatively correlated with overall level of physical functioning. Lastly, resistance to encouragement from social supports to seek help showed a significant negative correlation with SES, indicating that lower self-reported SES associated with greater resistance to social pressure to seek help for medical concerns.

**Primary Analyses**

In this study, hierarchical multiple regression examined main effects predicted variance in barriers to help-seeking in step one, and several key interaction effects were added to the main effects as dependent variables in step two. Given that the variables selected in this study represent key factors across help-seeking theories (e.g., gender role strain theory, gender role socialization/masculine ideology, health belief model, theory of planned behavior), this statistical approach allowed for comparison of key components across different psychological theories in predicting the outcome of barriers to help-seeking. Adding the five two-way interactions in analyses also allowed for examination of how variables/theories interacted with one another to account for variance in the dependent variable at a rate that is greater than the main effects alone.

This study provides a considerable amount of new information about the variables associated with men’s perceptions of the barriers with seeking medical help. Specifically, three variables demonstrated a significant main effect on perception of barriers at $p < .05$. Gender role conflict showed the strongest main effect, accounting for 21.4% of variance on perceived barriers to help-seeking. As such, this indicates that gender role strain theory provides the strongest explanation for men’s perception of barriers to help-seeking as measured by the BHSS, even beyond variables of age, SES, previous exposure and familiarity with healthcare environment, and current health status or concerns. For men who internalize masculine values of physical toughness, social dominance, and self-reliance, asking for help from a health care
provider can cause significant internal conflict. That is, help-seeking may be qualitatively experienced as showing emotional/physical weakness and an admission that he is not able to handle the problem on one’s own. Although the GRCS-SF and GRCS-I (O’Neil et al., 1986) do not measure gender role conflict as it specifically relates to asking for help from others, the idea that men experience this type of conflict is supported by research on self-stigma (Vogel et al., 2006) as well as qualitative research on men’s narratives regarding help-seeking behaviors for psychological concerns (Mahalik, Good, & Englar-Carlson, 2003). Additional qualitative and quantitative research on this specific type of gender role conflict is recommended in future research on masculinity and men’s help-seeking.

An additional stepwise regression analysis was conducted to identify how the GRCS-SF full-scale score predicted outcomes on individual subscales of the BHSS. Four out of five subscales of the BHSS demonstrated statistically significant results at $p < .05$. Specifically, and in order of declining significance, the GRCS-SF demonstrated significant main effects on the subscales Emotional Control ($F(49, 275) = 2.04, p < .001$), Need for Control & Self-Reliance ($F(49, 275) = 1.98, p = .001$), Privacy ($F(49, 275) = 1.60, p = .014$), and Minimizing the Problem & Resignation ($F(49, 275) = 1.49, p = .030$). When we consider the traditionally masculine values of stoicism and self-reliance, the expectation that men must disclose psychological and physical difficulties during brief contact with their healthcare provider seems likely to create significant gender role conflict. As a result, men who are sensitive to gender role conflict may consciously (or subconsciously) report greater perception of barriers to healthcare in order to avoid a state of cognitive dissonance and affective discomfort. Of note, the only subscale of the BHSS that the GRCS-SF did not significantly predict was Concrete Barriers and Distrust of Caregivers ($F(49, 275) = 1.17, p = .230$). This subscale is conceptually distinct as a set of
practical barriers, and as a result it makes sense that the relationship between GRCS-SF and the Concrete Barriers subscale of the BHSS are statistically non-significant.

These results indicate that gender role conflict taps into psychological barriers related to intrapsychic (i.e., need for control in order to feel self-reliant, desire to maintain emotional control and stoicism) and interpersonal concerns (i.e., desire to maintain privacy from others, minimizing the problem so as to avoid judgment of others). It also indicates that gender role conflict is conceptually distinct from concrete barriers (e.g., financial and/or transportation needs). Given that gender role conflict is the most significant predictor of variance in perception of barriers to help-seeking, future interventions may be better served by targeting reduction of intrapsychic and interpersonal barriers rather than focusing on reduction of concrete barriers alone (e.g., offering free health screenings).

That said, socioeconomic status was the second strongest predictor of outcomes on perceived barriers to help-seeking. The negative slope of this main effect indicates that lower socioeconomic status predicts greater perception of barriers to help-seeking. However, it was unclear from this analysis whether variation in SES was associated with concrete barriers (i.e., lack of health insurance, sick days, reliable transportation), or whether the relationship between SES and barriers to help-seeking was actually better understood as moderation or mediation by other psychological variables (e.g., negative attitude toward help-seeking). As such, an additional analysis was conducted using SPSS’s Multivariate General Linear Model to identify how scores on the item SES-Ladder were associated with the five subscales of the BHSS. Importantly, the SES-Ladder demonstrated a significant main effect on only one subscale, Concrete Barriers and Distrust of Caregivers ($F(66, 275) = 1.70$, $p = .003$). Thus, these results suggest that SES predicts health seeking barriers which are specifically linked to concrete
barriers (e.g., financial concerns) and not to psychological beliefs/attitudes as measured by the Privacy, Need for Control & Self-Reliance, Minimizing the Problem & Resignation or Emotional Control subscales. Socioeconomic status has been documented as a key construct in epidemiological research on men’s help-seeking for psychological and physical concerns (Garfield et al., 2008). Given the connection between SES and concrete barriers to accessing care, this result can likely best be conceptualized within the Health Belief Model.

Of note, lower SES has been associated with both greater conformity to masculine norms (Connell, 2005) and poorer overall health even after controlling for financial and practical access to healthcare as a concrete barrier (Pampel, Krueger, & Denney, 2010). Recent research has identified that interactions between variables is crucial to understand the relationship between SES and barriers to help seeking. For example, Springer and Mouzon (2011) identified that older blue-collar men attended preventive screenings at a greater rate than white-collar men, though this trend was reversed amongst middle-aged men. In the current study, the interaction between age and SES was not correlated with barriers to help-seeking, going against Springer and Mouzon’s previous findings. Likewise, adding gender role conflict or conformity to masculine norms to the equation (i.e., CMNI-46 x Age x SES-Ladder) did not result in statistically significant prediction of barriers to help-seeking either. As research continues to explore how constructs such as age, SES, and race/ethnicity intersect with masculinity beliefs to inform men’s health-related behaviors, a deeper understanding of the factors involved will better inform interventions for the most at-risk male populations.

Lastly, and not surprisingly, greater resistance to encouragement from friends and family members to seek help was associated with greater perception of barriers to help-seeking. The item Resistance can be best conceptualized within the Theory of Planned Behavior as attitudes
toward the behavior of help-seeking. More specifically, this item reflects a gap between receipt of social support and actual intentions to seek help. Additional analysis was conducted using the Multivariate General Linear Model function in SPSS to identify how resistance to social encouragement related to individual subscales of the BHSS. Resistance to social encouragement was significantly associated with two of the five subscales of the BHSS at \( p < .05 \). Specifically, scores on the item Resistance was associated with Minimizing the Problem & Resignation \( F(16, 275) = 2.56, p = .001 \) and Need for Control & Self-Reliance \( F(16, 275) = 1.97, p = .02 \). As such, the item Resistance can be viewed as tapping into the extent to which men feel desire to take charge of the situation by minimizing the severity of the concern and/or resigning themselves to accept or tolerate the pain. This supports both Dunivan’s (1994) and Sabo’s (2005) discussion of the “pain principle” within military and sports cultures, as well as meta-analysis that found men who self-identify as more stereotypically masculine demonstrated higher pain thresholds and tolerance (Alabas, Tashani, Tabasam, & Johnson, 2012). In future research, this item could be useful in exploring intrapsychic barriers to healthcare access in a way that distinguishes from concrete barriers (e.g., lack of transportation) and minimizes social processes (e.g., desire for privacy, avoidance of emotional displays). In a related study, Berger and colleagues (2013) found that the source of the advice to seek help for a psychological concern (i.e., romantic partner, medical doctor, psychotherapist) has a significant impact on predicting men’s reactions to advice regarding intentions to pursue medication and/or psychotherapy. In short, interpersonal context plays a significant role in men's help seeking. Future research might examine the role of individuals in men's lives are positively/negatively associated with men's health behaviors including help-seeking for concerns.
It was fairly unexpected that none of the other main effects were statistically significant in predicting help seeking outcome scores. In particular, the CMNI-46 demonstrated strong association with the BHSS (Mansfield et al., 2005; \( r = .35 \)). In addition, previous research by Boman and Walker (2010) found that scores from the 94-item full version of the CMNI significantly predicted scores on the BHSS (Boman & Walker, 2010). Although adherence to masculine ideology and perceived barriers to help-seeking as measured by the CMNI-46 and BHSS were quite positively correlated in this study \( (r = .35) \), the CMNI-46 did not function as a significant predictor of perceived barriers in this sample once the other main effects were included in the model. Moreover, the correlations in Table 4 reveal that GRCS and CMNI-46 were strongly correlated \( (r = .66) \). Thus, it seems that gender role conflict is a more powerful variable than masculinity in predicting BHSS scores, indicating that gender role strain theory supersedes masculine socialization/gender ideologies in theoretical importance in this study. In effect, the extent to which men have internalized traditional or non-traditional beliefs about being a man is less statistically relevant than their experience of making behavioral decisions which contradict those internalized beliefs and cause subjective distress.

Interestingly, the total number of attended appointments during the past five years was found to predict barriers to help seeking with a positive slope. That is, greater numbers of medical appointments attended during the last five years actually predicted greater barriers to help-seeking for medical concerns. It seemed logical to hypothesize that greater exposure to healthcare providers would be associated with a decrease in psychological barriers to help-seeking through relationship building with healthcare providers. However, further analysis using Multivariate-General Linear Analysis module of SPSS revealed that the item 5Years was only significantly associated with the Privacy subscale of the BHSS at \( F(31, 275) = 1.61, p = .023 \).
That is, individuals who reported greater access to healthcare over the last five years also expressed a greater desire for privacy of their health and medical information. This may indicate that individuals who frequently seek healthcare services have greater desire to keep their health private from others (e.g., friends/family members), or that they experience greater sense of shame or embarrassment about their health condition.

In consideration that variables included in this study reflect key constructs in distinct theories about men’s help-seeking, the results described above may be considered as data in order to compare the relative strength these theories in accounting for variance in men’s perception of barriers to help-seeking as measured by the BHSS. Specifically, given the statistical significance of the GRCS-SF, gender role strain theory appears to demonstrate the most powerful effect in predicting men’s perception of barriers to seeking care. This indicates that men’s experience of gender role conflict during the help-seeking process is most important to consider as a predictor variable, even beyond men’s age, SES, previous exposure and familiarity with healthcare environments, or even their current health status or concerns. Second, the demographic variable SES has been supported as a key barrier to care in epidemiological research. While the variable SES does not reflect a specific theory, these results solidify the importance of considering concrete barriers to help-seeking within the Health Belief Model. Lastly, the item Resistance supports the Theory of Planned Behavior and accounted for significant variance in this study. In consideration that the BHSS was established to measure a specific component of the Health Belief Model, this finding supports an interaction between the Theory of Planned Behavior and Health Belief Model. This interaction between theoretical models warrants further attention in future research. Of note, preliminary results indicated that masculine ideology was correlated with barriers and gender role conflict, but that conformity to
traditional masculine ideology does not operate as a key theory in predicting men’s barriers to help-seeking. That is, the extent to which men have internalized traditional or non-traditional beliefs about being a man is less important than their experience of help-seeking contradicting these internalized beliefs and their sense of self. In sum, gender role conflict is supported as the construct which accounted for the greatest variance in men’s perception of barriers to help-seeking in this study.

The second hypothesis of this study was that there would be statistically significant interactions between predictor variables on men’s perceived barriers to help-seeking. The five interaction terms in this study were specifically selected because these variables were hypothesized to interact in a way that would predict significant variance in barriers to help-seeking. For example, it was expected that men’s beliefs about masculinity would interact with barriers to help-seeking differently based on socioeconomic status, or vice versa. That is, it was hypothesized that the interaction between CMNI-46 and SES-Ladder would be a statistically significant predictor of BHSS scores. When these five two-way interactions were entered into step two of the hierarchical multiple regression, none of them were found to be statistically significant. This finding was quite surprising. As a result, these findings indicated that the main effects have more significant direct effects, and that they do not interact with other variables in a statistically meaningful way. For example, SES did not predict barriers differently according to either level of (a) conformity to masculine norms, or (b) physical health status. This finding about SES* CMNI goes against Springer and Mouzon’s (2011) findings regarding interaction effects between age and masculinity in predicting barriers to help-seeking. The non-significant interaction between SES*PCS indicates that men of different social classes do not differ in their perception of barriers to healthcare based on their current health problems (e.g., physical
disability, cancer diagnosis) despite potentially greater need, in contrast to reports on health disparities (Adler & Newman, 2002). Rather, SES is better understood as a main effect in predicting barriers to help-seeking, and thus men from lower SES experience more barriers to seeking medical health. Perhaps some lower SES men simply cannot afford the costs of health care, but also cannot take the time off from work because they then lose salary for time away. These concrete barriers represent a key component of the Health Belief Model and support interventions which reduce financial and practical obstacles to accessing care.

In summary, each predictor variable in this study was selected in accordance with help-seeking theories and extant epidemiological research. Prediction of barriers to help-seeking for an ambiguous physical health concern was best predicted by the main effects of gender role conflict, SES, and resistance to encouragement from social supports, and none of the expected interaction effects were statistically significant. The finding that gender role conflict predicts 21.4% of the variance in barriers to help-seeking offers significant support of gender role strain theory in future clinical interventions to improve help-seeking for men that are at-risk for health problems. It was interesting that conformity to masculine norms was significantly correlated with perception of barriers to help-seeking, but did not function as a significant predictor after other predictors were in the model. In effect, these findings suggest that men’s internalized beliefs about masculinity do not directly predict barriers (e.g., “Men should be tough”), but rather men’s experience of psychosocial conflict about these beliefs contributes more to such perception of barriers (e.g., “Men should be tough, and going to the doctor means that I’m not tough”).

**Study Limitations**
Of course, results from this study should not be over-interpreted. While variables from several psychological theories did not demonstrate statistically significant predictive power on the outcome BHSS in this study, this does not mean that these variables (and associated theories) are not key factors in predicting men’s barriers to help-seeking. In addition, while data from several key theories were collected in the current study, there may be additional factors not included in data collection which could contribute to our understanding of psychological barriers to help-seeking. Nonetheless, the significance of GRCS-SF, SES-Ladder, and Resistance in predicting the outcome BHSS, particularly at a greater rate than self-reported history of actual attendance (as measured by AnnualVisits and 5Years), is a potentially important finding in identifying the strength of these variables in predicting attitudes toward help-seeking.

There are some additional limitations to this study. The BHSS is a self-report measure that utilizes a hypothetical situation as a prompt for attitudes about a simulated future behavioral response. As such, this measure may not necessarily reflect real-world behavior of the men in this sample. Each additional variable in the study were self-report measures. It therefore seems reasonable to conclude that some men in the sample may have responded in a socially desirable way to some items (e.g., masculine attitudes toward violence and power over women). In addition, as noted above, there may be other unmeasured variables that moderate or mediate the relationships between variables of interest or prediction of barriers to help-seeking.

Finally, although the population sampled was arguably more diverse than a male college population, internet-based sampling methods from the website Reddit.com contains some obvious selection bias. For example, the sample population largely self-identified as white/Caucasian ($n = 86.5\%$). The sample also identified as highly educated, with 42.2% of participants attending at least “some college” and an additional 41.8% earning a bachelor’s
degree or higher (i.e., Master’s, Doctorate). The sample population is also overrepresented by Atheist (48.7%) and Agnostic (21.5%) individuals, and 60.7% of the sample population self-identified as single. As such, generalizing these findings to all men is strongly cautioned. In particular, given the emphasis on health care disparities for lower SES (Adler et al., 1994) and men of color (Hammond et al., 2011), further research that with these populations has support from governing agencies like the American Psychological Association (APA, 2013). The literature on the relationship between predictor variables in this study and perceptions of barriers to help-seeking for physical health problems would significantly benefit from research that targets samples of men of color and lower SES men.

**Implications for Practice and Future Research**

Despite the above limitations, results from this study are beneficial to the psychology of men and masculinity in two meaningful ways. First, previous research on men’s help-seeking for physical concerns has been primarily limited to one theoretical orientation. Results from this study examined the main effects and interaction effects of several different measures on predicting men’s perception of barriers to seeking help for a hypothetical physical health concern. As such, this study investigated how different constructs from different masculine ideologies, gender role conflict theory, the health beliefs model, theory of planned behavior, and empirically-associated variables compare in predicting variance on the BHSS. These results of this study indicate that the constructs of gender role conflict, SES, and resistance to social encouragement are powerful predictors of variance in barriers to help-seeking. These findings warrant additional attention in future research. In particular, given the quantitative strength of gender role conflict in predicting perception of barriers to help-seeking, further attention to this particular type of gender role conflict is recommended.
Second, data collected from this study provides some additional evidence toward instrument validation of the CMNI-46, GRCS-SF, and BHSS, as well as data regarding correlations with demographic data and other variables related to help-seeking attitudes. Given that each of these three instruments have been used together in a relatively low number of research studies, and given that samples have been almost entirely comprised of U.S. college students, internet-based data collection with adult males in the current study provides some new information about the validity of each instrument. For example, previous research using college student samples has indicated that BHSS full scale scores range from $M = 34.16$ ($SD = 21.85$) to $M = 59.37$ ($SD = 19.76$) (Mansfield et al., 2003). In the current study, the BHSS full scale mean was outside of the previous range at $M = 33.35$ ($SD = 17.34$). Similarly, previous research using the CMNI-46 reported a full scale mean of $M = 66.55$ ($SD = 12.81$), and CMNI-46 total mean values ranged from $M = 1.40$ ($SD = .32$) to $M = 1.54$ ($SD = .28$). In this study, the CMNI-46 results indicated a full scale mean of $M = 60.488$ ($SD = 13.0473$) and a total mean lower than expected at $M = 1.315$ ($SD = .28$). These results indicate that the sample of adult men in this study demonstrated less conformity to masculine norms and perceive fewer barriers to help-seeking than their college-aged counterparts in the extant research. However, in this study, self-identified age was not significantly correlated with CMNI-46 or BHSS scores, nor was age a significant predictor for barriers to help-seeking. These findings clearly indicate differences when college-aged and adult male samples are compared, suggesting that further research with adult male samples is important to (a) further validate these instruments as accurate measures of their respective constructs across varying age groups of men, and (b) identify factors that contribute to differences in scores across sample populations and demographics. Moreover, the results indicate that, at least in predicting BHSS, when GRCS is in the model, the predictive
power of CMNI-46 is reduced. It seems that in this study, these two inventories significantly overlap; this finding also merits additional examination in the future.

There is significant potential for clinical utility of this research. Mahalik and colleagues (2012) encourage clinicians to take into account masculine socialization and gender role conflict in the context of help-seeking. As such, the finding that gender role conflict was the statistically strongest predictor of perceived barriers to health care can help to support future research on help-seeking for physical health concerns. In addition, interventions to promote men’s engagement in healthcare can be tailored to reduce the amount of gender role conflict that actual or potential male patients experience (Jimbo, 2006). One example of an intervention which used this approach was Gascoyne Public Health in Australia (Hall & Alston, 2001). The organization provided free health screenings at several well-attended events, including an automobile drag-racing competition. At this event, staff members and medical providers dressed in coveralls and facilitated the event as a “car inspection” by providing participants with work order sheets that included checking their “oil levels” (i.e. blood pressure), “exhaust system” (i.e. lung health), and “spark plugs” (i.e. testicular cancer). By connecting vehicle maintenance, a traditionally masculine behavior, to engagement in healthcare, this approach attempted to reduce gender role conflict compared with traditional medical care. As a result, the authors expressed that men’s feelings of discomfort and self- and social-stigma about help-seeking were subverted. These free health screenings also eliminated significant practical barriers by delivering the intervention at no cost in a setting where men were already gathered, thereby significantly reducing financial barriers and effectively targeting predominantly blue-collar men who may benefit from the intervention the most.
Future research is necessary to continue validating the BHSS, GRCS-SF, and CMNI-46 as effective survey instruments. In particular, these variables should be investigated with samples that are comprised of men that have less education, identify as lower SES, and/or are men of color. In addition, this study provides evidence that specific investigation of gender role conflict caused within the context of help-seeking is important for future research on the construct. One potential extension of the current study is to compare a gender-sensitive health screening event similar to Hall and Alston’s (2001) with a control comparison (e.g. “screening as usual”) by measuring gender role conflict in the specific context of the event using a measure such as the Gender Role Conflict Scale-II (GRCS-II; O’Neil et al., 1986). Alternatively, longitudinal research can identify the cost-effectiveness of outreach events compared to “screenings as usual” and identify whether interventions with men who demonstrate greater gender role conflict or are identify as lower SES actually experience long-term health benefits by attending male-friendly adaptations to health screenings. Lastly, given the statistical significance of SES on perceived barriers to healthcare access, additional qualitative research on lower-SES men’s perception of barriers to accessing healthcare may be important in order to improve effective interventions to promote their access to care. Further understanding of men’s psychological barriers to engagement in healthcare may help to decrease the gap in lifespan expectancies between men and women, as well as increase the quality of life for these men and the families, friends, and community members that live alongside them.
Table 1

*Means, Standard Deviations, and Percentages for Demographics*

<table>
<thead>
<tr>
<th>Age (N = 275)</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
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<tr>
<td></td>
<td>18</td>
<td>51</td>
<td>24.71</td>
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<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
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<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Asian/Asian American</td>
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<td>5.5</td>
</tr>
<tr>
<td>Black/African American</td>
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<td>.4</td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>238</td>
<td>86.5</td>
</tr>
<tr>
<td>Latino/Hispanic</td>
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<td>1.5</td>
</tr>
<tr>
<td>Biracial/Multiracial</td>
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<td>3.6</td>
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<tr>
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<td>.7</td>
</tr>
<tr>
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<td>1.8</td>
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<table>
<thead>
<tr>
<th>Highest Comp Education</th>
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<th>Percent</th>
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</thead>
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<tr>
<td>Some High School</td>
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<td>1.1</td>
</tr>
<tr>
<td>HS Diploma/GED</td>
<td>19</td>
<td>6.9</td>
</tr>
<tr>
<td>Some College</td>
<td>116</td>
<td>42.2</td>
</tr>
<tr>
<td>Associate's degree</td>
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<tr>
<td>Bachelor's degree</td>
<td>88</td>
<td>32.0</td>
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<tr>
<td>Master's degree</td>
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<td>8.0</td>
</tr>
<tr>
<td>Doctorate degree</td>
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<td>1.8</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>2.5</td>
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<table>
<thead>
<tr>
<th>Sexual orientation</th>
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<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Heterosexual</td>
<td>212</td>
<td>77.1</td>
</tr>
<tr>
<td>Mostly heterosexual</td>
<td>24</td>
<td>8.7</td>
</tr>
<tr>
<td>Bisexual</td>
<td>17</td>
<td>6.2</td>
</tr>
<tr>
<td>Mostly homosexual</td>
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<td>.4</td>
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<tr>
<td>Homosexual</td>
<td>15</td>
<td>5.5</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>1.5</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>2</td>
<td>.8</td>
</tr>
<tr>
<td>Marital status</td>
<td>N</td>
<td>Percent</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----</td>
<td>---------</td>
</tr>
<tr>
<td>Married</td>
<td>29</td>
<td>10.5</td>
</tr>
<tr>
<td>Single</td>
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</tr>
<tr>
<td>Committed relationship</td>
<td>72</td>
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<tr>
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<table>
<thead>
<tr>
<th>Religious affiliation</th>
<th>N</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian</td>
<td>41</td>
<td>14.9</td>
</tr>
<tr>
<td>Jewish</td>
<td>6</td>
<td>2.2</td>
</tr>
<tr>
<td>Buddhist</td>
<td>2</td>
<td>.7</td>
</tr>
<tr>
<td>Muslim</td>
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<td>.4</td>
</tr>
<tr>
<td>Atheist</td>
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<tr>
<td>Agnostic</td>
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<td>21.5</td>
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<tr>
<td>Other</td>
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<td>6.2</td>
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<tr>
<td>Prefer not to answer</td>
<td>15</td>
<td>5.5</td>
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Table 2

Reliability Statistics for Variables of Interest

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
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<tbody>
<tr>
<td>BHSS</td>
<td>.89</td>
</tr>
<tr>
<td>GRCS-SF</td>
<td>.80</td>
</tr>
<tr>
<td>CMNI-46</td>
<td>.87</td>
</tr>
<tr>
<td>PCS</td>
<td>.62</td>
</tr>
</tbody>
</table>

Note. BHSS = Barriers to Help Seeking Scale; GRCS-SF = Gender Role Conflict Scale – Short Form; CMNI-46 = Conformity to Masculine Norms Inventory-46; PCS = Physical Component Summary of the Short Form-12 Version 2 Health Survey (SF-12v2). All other variables of interest in the current study were single-item measures.

Table 3

Means, Standard Deviations, Skewness, and Kurtosis for the Variables of Interest

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHSS</td>
<td>33.36</td>
<td>17.35</td>
<td>.72</td>
<td>-.02</td>
</tr>
<tr>
<td>GRCS-SF</td>
<td>56.26</td>
<td>11.48</td>
<td>.17</td>
<td>-.14</td>
</tr>
<tr>
<td>CMNI-46</td>
<td>60.48</td>
<td>13.04</td>
<td>-.06</td>
<td>.45</td>
</tr>
<tr>
<td>PCS</td>
<td>57.40</td>
<td>6.89</td>
<td>-.92</td>
<td>1.21</td>
</tr>
<tr>
<td>Age</td>
<td>24.69</td>
<td>5.60</td>
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<td>3.91</td>
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<tr>
<td>SES-Ladder</td>
<td>62.29</td>
<td>21.32</td>
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<td>5Years</td>
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<td>AnnualMD</td>
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<td>.48</td>
<td>-.65</td>
<td>-1.58</td>
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<tr>
<td>Resistance</td>
<td>2.37</td>
<td>4.22</td>
<td>4.25</td>
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</table>

Note. BHSS = Barriers to Help Seeking Scale; GRCS-SF = Gender Role Conflict Scale – Short Form; CMNI-46 = Conformity to Masculine Norms Inventory-46; PCS = Physical Component Summary of the Short Form-12 Version 2 Health Survey (SF-12v2). All other variables of interest in the current study were single-item measures.

All continuous data points (i.e., BHSS, GRCS-SF, CMNI-46, PCS, Age, SES-Ladder, 5Years, and Resistance) were transformed during data cleaning by using the centered value. For example, C_Age = Age – M(Age).
Table 4

Correlations Among Variables of Interest

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<tr>
<th></th>
<th>1</th>
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<td>1. BHSS</td>
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<td>2. GRCS-SF</td>
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<td>3. CMNI-46</td>
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<td>.35**</td>
<td>.66**</td>
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<tr>
<td>5. Age</td>
<td>-.07</td>
<td>-.04</td>
<td>-.10</td>
<td>-.23**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6. SES-Ladder</td>
<td>-.19**</td>
<td>-.05</td>
<td>-.05</td>
<td>.10</td>
<td>-.10</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. 5Years</td>
<td>-.00</td>
<td>-.19**</td>
<td>-.18**</td>
<td>-.20**</td>
<td>.05</td>
<td>.12</td>
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<td>8. AnnualMD</td>
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<td>-.05</td>
<td>.03</td>
<td>-.05</td>
<td>-.07</td>
<td>-.19**</td>
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<td>9. Resistance</td>
<td>.21**</td>
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<td>.01</td>
<td>.00</td>
<td>-.13*</td>
<td>.07</td>
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Dependent Variable: BHSS

*Note. BHSS = Barriers to Help Seeking Scale; GRCS-SF = Gender Role Conflict Scale – Short Form; CMNI-46 = Conformity to Masculine Norms Inventory-46; PCS = Physical Component Summary of the Short Form-12 Version 2 Health Survey (SF-12v2). All other variables of interest in the current study were single-item measures, including 5Years, AnnualMD, and Resistance.

* p < .05; ** p < .01
### Table 5

*Hierarchical Multiple Regression Analysis in Predicting BHSS Scores*

#### Step 1

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>Std Error</th>
<th>T</th>
<th>Sig</th>
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<tr>
<td>GRCS-SF</td>
<td>.58</td>
<td>.11</td>
<td>5.41</td>
<td>.00**</td>
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<tr>
<td>CMNI-46</td>
<td>.09</td>
<td>.10</td>
<td>.97</td>
<td>.33</td>
</tr>
<tr>
<td>PCS</td>
<td>−.18</td>
<td>.14</td>
<td>−1.29</td>
<td>.20</td>
</tr>
<tr>
<td>Age</td>
<td>−.27</td>
<td>.18</td>
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<tr>
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<td>.00**</td>
</tr>
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<td>5Years</td>
<td>.08</td>
<td>.07</td>
<td>1.13</td>
<td>.26</td>
</tr>
<tr>
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<td>.12</td>
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<td>Resistance</td>
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<td>2.29</td>
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#### Step Two

<table>
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<th>B</th>
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<td>.11</td>
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<tr>
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<td>.00**</td>
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<tr>
<td>5Years</td>
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<td>.08</td>
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<td>.76</td>
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<tr>
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<td>.58</td>
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<td>GRCS*CMNI</td>
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<td>PCS*Age</td>
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<td>PCS*SES-Ladder</td>
<td>−.01</td>
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<td>Age*5Years</td>
<td>.02</td>
<td>.01</td>
<td>1.60</td>
<td>.11</td>
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</tbody>
</table>

*Dependent Variable: BHSS*

*Note.* BHSS = Barriers to Help Seeking Scale; GRCS-SF = Gender Role Conflict Scale – Short Form; CMNI-46 = Conformity to Masculine Norms Inventory-46; PCS = Physical Component Summary of the Short Form-12 Version 2 Health Survey (SF-12v2). All other variables of interest in the current study were single-item measures. *p < .05; **p < .01
APPENDIX I:

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APPENDIX II:

ADDITIONAL ANALYSES
Additional Statistical Analyses

The preceding manuscript focused primarily on the main and interaction effects of several variables in predicting the outcome of BHSS scores. In primary analyses, full scale scores were entered as the predictor variables. However, during the process of interpreting results and writing the discussion section, several follow-up research questions emerged which are documented here. These questions primarily focus on main effects using subscale scores. In addition, hypotheses were tested to corroborate findings from previous research.

The GRCS-SF significantly predicted outcomes on the full-scale BHSS and four out of five individual subscales of the BHSS (except Concrete Barriers and Distrust of Caregivers). How do individual subscales of the GRCS-SF predict (a) total scale and (b) individual subscales of the BHSS?

The Multivariate General Linear Model function in SPSS was used to conduct additional analyses to explore how the GRCS-SF predicted BHSS scores. First, all GRCS-SF subscales were entered as predictors for the outcome BHSS full scale score. Two of the four subscales were significant predictors of the BHSS total scale. In order of declining significance, these factors were Restrictive Affectionate Behavior Between Men \( (F(18, 275) = 2.72, p < .001) \), and Restrictive Emotionality \( (F(20, 275) = 1.90, p = .015) \). Neither of the remaining subscales (Success, Power, & Competition and Conflict Between Work & Family) were significant at \( p < .05 \). This finding is interesting and can be interpreted in several different ways. For example, one direct way that RABBM scores may impact barriers to help-seeking is that men with high RABBM scores may experience significantly greater difficulty opening up to and expressing difficulties to male physicians or healthcare providers. Alternatively, a more indirect association
may be that these men have firmer psychological boundaries in their relationships with men and experience help-seeking as a breaking of these boundaries. Further research into the relationship between RABBM and barriers to help-seeking is necessary. It was less surprising to identify Restrictive Emotionality as a significant predictor, particularly knowing that the BHSS possesses Emotional Control and Privacy subscales which seem to measure very similar constructs.

Next, the four GRCS-SF subscales were entered as predictors and the five BHSS subscales as outcomes. The GRCS-SF subscale which most strongly predicted outcomes on the BHSS subscales was Restrictive Affectionate Behavior Between Men (RABBM). Four of the five BHSS subscales were statistically significant at \( p < .05 \), including Need for Control & Self-Reliance \( (F(18, 275) = 2.50, p = .001) \), Emotional Control \( (F(18, 275) = 2.18, p = .006) \), Concrete Barriers & Distrust of Caregivers \( (F(18, 275) = 1.72, p = .040) \), and Minimizing the Problem & Resignation \( (F(19, 275) = 1.69, p = .046) \). The only non-significant relationship was for Privacy which still was marginally significant at \( p < .10 \) \( (F(18, 275) = 1.49, p = .099) \). The RABBM subscale is purported to measure difficulty expressing positive emotion with other men. As identified in previous analyses, the relationship between RABBM and BHSS subscale scores can be interpreted in several different ways. The relationship between these variables seems likely to be moderated or mediated by some other variable, such as self-stigma (Vogel, Wade, & Haake, 2006) or fear of social judgment for seeking help. In short, men who would experience gender role conflict at expressing affectionate behavior to another man seem likely to have fear of expressing what they might consider to be psychological weakness at not being able to tolerate pain. As such, the ambiguity of the hypothetical physical pain makes men more likely to minimize the concern as a means of upholding toughness and masculine status. Additional research to explore the predictive power of the relationship between these subscales is necessary.
The Restricted Emotionality subscale of the GRCS-SF significantly predicted outcomes on two subscales of the BHSS. Not surprisingly, these include Emotional Control ($F(19, 275) = 3.57, p < .001$) and Need for Control & Self-Reliance ($F(20, 275) = 1.96, p = .012$). Given the well-established validity of the GRCS scale, this finding seems to add criterion validity to subscales of the BHSS instrument. Expressing difficult emotions is associated with relying on others for social support, so it makes conceptual sense that psychological distress at the idea of emotional disclosure predicts desire to maintain self-reliance.

The Success, Power & Competition subscale significantly predicted scores on the Need for Control & Self-Reliance subscale ($F(19, 275) = 1.91, p = .016$) and was insignificant on the remaining four subscales of the BHSS. For individuals that place high importance on social dominance over others and competition, it is not surprising that they experience greater desire to feel in control and handle things on their own. Further research about the relationship between these variables would benefit from examining general self-efficacy (i.e., the belief that “I can handle this”) as a potential moderator or mediator. This main effect helps us understand that for individuals who experience self-reliance as a barrier, one potential intervention to improve access to care may be to reframe help-seeking for a physical problem as a means to maintain status and achievement in competitive environments. For example, one intervention is to discuss the mind-body connection and how maintaining one’s physical health contributes to greater effectiveness in other areas of one’s life (e.g., cognitive, affective health). Other interventions may include using professional athletes or high status individuals to promote help-seeking.

Lastly, the subscale Conflict Between Work & Family did not significantly predict any of the subscales on the BHSS at $p < .05$. It was interesting that this construct, focused on difficulties maintaining balance between work and family demands, did not tap into the Concrete
Barriers subscale of the BHSS. That is, it was expected that financial barriers to help-seeking would occur as a result of prioritizing monetary assets for familial demands rather than one’s own healthcare. In this study, the subscale did not significantly predict subscales of the BHSS.

_How did having health insurance impact men’s perception of barriers? Does having (or not having) health insurance moderate the relationship between socioeconomic status and perception of concrete barriers to seeking care?_

A single-item regarding whether the participant has health insurance was solicited in the study as a demographic variable. From the sample of $N = 273$, 37 individuals identified that they did not currently have health insurance and 236 individuals identified as currently having health insurance. Zero order correlations between the single-item Insurance and variables of interest in this study revealed somewhat strange results. Statistically significant correlations were yielded with conformity to masculine norms in a positive direction ($r = .16, p < .01$), indicating that greater masculine ideology was correlated with having insurance; and negatively with age ($r = .16, p < .01$). Having health insurance was not significantly correlated with SES-Ladder, AnnualMD, 5Years, or the BHSS at $p < .05$. Some of the expected correlations were not only non-significant at $p < .05$ but were actually in the opposite direction than expected. For example, 5Years and AnnualMD were negatively correlated with having health insurance.

In order to investigate the impact of having health insurance on perception of barriers to help-seeking, the Multivariate General Linear Model Function in SPSS was utilized. First, the five BHSS subscales were entered as dependent variables, and then the centered value for SES and single-item Insurance were entered as independent variables. The GLM function automatically calculates an interaction term within the model in order to test for interaction effects and subsequently provide data about potential moderating relationships. This method
was selected in order to identify the amount of variance which Insurance predicts on the specific subscales of the BHSS, as well as to see whether having health insurance moderates the relationship between SES and perception of barriers to help-seeking (i.e., Concrete Barriers and Distrust of Caregivers).

The single-item Insurance predicted variance on two of the BHSS subscales at \( p < .05 \). Specifically, these included Need for Control and Self-Reliance \( (F(273) = 6.57, p = .037) \) and Emotional Control \( (F(273) = 5.01, p = .026) \). However, the single-item insurance was shown to be a poor predictor of the Concrete Barriers and Distrust of Caregivers subscale \( (F(273) = .16, p = .689) \). When the interaction term of \( C_{SES} \text{*Insurance} \) was examined as a predictor for variance in BHSS subscale values, none of the relationships were found to be significant at \( P < .05 \). As a result, it seemed that insurance was not a good predictor of concrete barriers as measured by the CBDC subscale of the BHSS, and it was not significantly correlated with any of the expected variables of interest in the study. As a result, the variable Insurance was left out of subsequent analyses in this study.

**Despite null findings in this study, masculine ideologies and barriers help-seeking behavior were shown to be highly correlated. Does the CMNI-46, or any of its subscales, effectively predict subscale outcomes on the BHSS?**

Given my interest in masculine ideologies and barriers to help-seeking for physical health concerns, several additional analyses were conducted with regards to the main effect of the CMNI-46 on the BHSS. As a reminder, the CMNI was significantly correlated with the BHSS \( (r = .35, p < .001) \), though stepwise regression revealed non-significant results \( (t(275) = .95, p = .346) \).
In this study, the full scale score of the CMNI-46 was reported in the study to have a non-significant effect in predicting the BHSS scores ($t(275) = .97, p = .334$). Next, the main effect of the CMNI-46 on individual subscales of the BHSS was examined using the Multivariate General Linear Modeling analysis function in SPSS. The CMNI-46 total score significantly predicted outcomes for two of the five subscales of the BHSS. Specifically, these subscales were Need for Control & Self-Reliance ($F(58, 275) = 1.75, p = .003$) and Emotional Control ($F(58, 275) = 1.63, p = .009$). These results seem to indicate that masculinity functions to predict men’s perception of barriers by way of the internal affective experience, rather than from external barriers (i.e., Concrete Barriers and Distrust of Caregivers subscale), concerns about the problem itself (i.e., Minimizing the Problem & Resignation subscale), or cognitive desire to protect one’s personal information (i.e., Privacy subscale).

Next, the Multivariate General Linear Modeling analysis function in SPSS was used to examine the main effects of CMNI-46 subscales on BHSS subscales. Given that this analysis tested main effects in an 11x5 structure, not all main effects will be discussed here for purposes of brevity and to avoid Type I error. That said, there were several interesting findings worth noting. Specifically, when CMNI-46 subscales were entered as predictors for BHSS subscales, the Emotional Control subscale of the CMNI-46 did not significantly predict the Emotional Control subscale of the BHSS ($F(18, 275) = 1.06, p = .403$). As expected, the Self-Reliance subscale of the CMNI-46 did predict the Need for Control and Self-Reliance outcome significantly ($F(15, 275) = 2.79, p < .001$). Out of the eleven CMNI-46 subscales, the most significant predictor for outcomes on BHSS subscales was Self-Reliance. Each of the five main effects were significant at $p < .05$, ranging from at $p < .001$ to $p = .035$ on Concrete Barriers and Distrust of Caregivers respectively. The idea that men have internalized the expectation of
handling problems on one’s own has been explored in previous research by Boman and Walker (2010). The authors identified that the construct of General Self-Efficacy moderates the relationship between scores on the CMNI-94 and BHSS, indicating that men’s beliefs about social pressure to self-manage significantly predicts subsequent decisions about asking for support. In addition, the Primacy of Work subscale of the CMNI-46 was only significant in predicting outcomes on the Concrete Barriers subscale of the BHSS ($F(11, 275) = 2.80, p = .004$), indicating that when men in the sample possessed a “work comes first” attitude, practical barriers such as scheduling and not being able to leave work were perceived as the primary barrier to healthcare engagement. Of note, the worst predictors were the Power over Women and Violence subscales which demonstrated no significant predictive power on any of the BHSS subscales.

Mackenzie and colleagues (2006) identified a significant interaction effect between age and marital status in predicting intentions to seek psychological help as measured by the ISCI (Cash, Kehr, & Salzbach, 1978). Does this interaction predict BHSS scores in my sample?

Perceived barriers to help-seeking is conceptualized as a predictor for intentions to help-seeking within the Health Belief Model literature (Janz, Champion, & Stretcher, 2002). However, it is unclear whether this finding extends to the BHSS within this study’s sample. Regression analyses revealed that neither of the main effects for age nor marital status were significant predictors of variance on the BHSS total score. Using the Univariate General Linear Model function of SPSS, the interaction effect between age and marital status on the outcome BHSS was also found to be statistically non-significant for this sample ($F(20, 275) = .68, p = .848$). As such, Mackenzie and colleagues’ (2006) finding was not supported within this sample when the ISCI was replaced with the BHSS.
APPENDIX III:

EXTENDED LITERATURE REVIEW
Why is Men’s Health a Major Concern?

Over the last forty years, research has reported a significant gap between men and women with regards to rate of mortality due to severe health problems and health-related behaviors. During the 1970’s, the incidence of mortality for men was 60% greater than for women (Harrison, 1978). At that time, several factors were identified as significant contributors to differential rates of mortality, including genetically inherited factors (e.g. chronic illness), as well as behavioral differences between the genders (Waldron, 1976). For example, men were identified to be at higher risk for heart disease, suicide, fatal motor vehicle and other accidents, cirrhosis of the liver, respiratory cancer, and emphysema (Waldron & Johnston, 1976).

To some extent, sex differences research has pointed to biogenetic factors as a major contributor in the gap between men’s and women’s mortality rates (Waldron, 1983). However, research on both genetic and behavioral contributors to medical illness indicates that psychosocial and behavioral explanations attribute for a greater proportion of variance in sex differences regarding mortality (Harrison, 1978; Verbrugge, 1985). For example, Goldberg (1976) illustrated that “macho pressure” causes men to force themselves to perform in the workplace no matter the physical, psychological, or social costs, in addition to ignoring or denying psychological or physical pain. The author expressed that men who did not conform to the masculine sex-role norm were more likely to perceive themselves as incapable of providing for their family, more replaceable in their occupational position, and imagined that coworkers and significant others viewed them as unreliable (Goldberg, 1976). As a result of this hyper-masculine social norm, men during the 1970’s were prone to view primacy of work as central to their self-concept (Pleck, Staines, & Lang, 1980), and many defined their self-worth as contingent upon their occupational performance rather than other life roles they assumed outside
of the workplace (e.g. father, significant other, friend, son). Other common masculine social norms for men of this generation include social and sexual risk taking, dominance and competition between males, and generally avoiding feminine behaviors or attitudes (David & Brannon, 1976; Pleck, 1981).

The literature on masculine sex-role norms has expanded over the last forty years to include other versions of “doing masculinity” (West & Zimmerman, 1987). However, men continue to experience psychological and social pressure to adhere to the dominant values of male culture, termed hegemonic masculinity (Connell, 2005). Many of the same social norms that David and Brannon (1976) discussed as the “Man Code” that men experienced during the mid-1970’s continue to be salient in research on men today, including restricted emotionality, risk-taking, playboy attitudes, aggression and violence, and conflict between work and family (Levant, et al., 2010; Mahalik, Locke, et al., 2003; O'Neil, 2008).

In addition to these masculine norms maintaining salience over time, the disparity between men’s and women’s health condition and mortality continues to persist as well. Sebelius and colleagues (2010) reported that men continue to suffer significantly higher mortality rates than women. Of note, this gap appears to be on a declining trend from 7.0 years in 1994 (Singh, Kochanek, & MacDorman, 1996) to 5.4 years in 2002 (Kochanek, Murphy, Anderson, & Scott, 2004) and 5.0 years in 2007 (Xu et al., 2010). That said, men continue to experience a greater risk for mortality across every age group when compared to women. According to the Center for Disease Control’s most recent reports in 2010, men are at 1.41 times greater risk of mortality across all causes of death, 1.54 times more likely to die from heart disease, 1.44 times more likely to die from cancer, and more than 2.5 times more likely to die from accidents (Center for Disease Control & Prevention, 2010). Men are more likely to engage
in 30 behaviors that contribute to decreased life expectancy or risk of death, including higher rates of alcohol and other substance use, poorer diet and nutrition, higher levels of risk-taking (particularly in the workplace), violent behaviors, and lower engagement in regular exercise (Courtenay, Good, & Brooks, 2005).

Though the current study does not specifically focus on minority men, it must be noted that men of color historically have experienced some of the poorest health conditions and worst rates of healthcare access in the United States. For example, research on black men’s health and engagement in preventive healthcare services has consistently indicated problematic findings. Neighbors and Howard (1987) found that African American men are significantly less likely to see a physician than African American women, and the mortality rate within the black population has been found to be 1.3 times higher than for whites when gender is statistically controlled for (Xu et al., 2010). Research has also shown that 51% of all new HIV infections in men occur among black men (Center for Disease Control & Prevention, 2007), indicating that sexual health promotion and prevention practices may be less effective within black communities.

While significant research has pointed to health concerns in black and African American men, other minority men also suffer from health concerns at a disproportionate rate. Latino men disproportionately suffer from cardiac problems, hypertension and stroke, and several types of cancer (Diaz, 2006). An interaction effect between gender role conflict and acculturation has been shown for both Latino men (Cox, 2009; Lane & Addis, 2005) and Asian American men (Kim, 2008) that predicts reduction in help-seeking behaviors for physical and mental health concerns. Native American men suffer from chronic liver disease and cirrhosis at rates of 2.4 times higher than for other populations (National Center for Health Statistics, 2005). Diabetes,
hypertension, and heart related problems are also common for Native American men, who are also 1.5 times more likely to die from unintentional injuries than other racial backgrounds (Center for Disease Control & Prevention, 2006). In short, minority men are particularly at risk for health concerns, partly of which is due to internalized masculinity beliefs (Thomas, Boss, & Kaggwa, 2004).

In sum, epidemiological data points to the fact that men have been disproportionately at risk for chronic and severe health problems over the last forty years. In particular, minority men are at even more significant risk for health related problems. Knowing that men are particularly at risk for health-related problems, we must ask an important question: What are the root causes for these differences, and do we have any control to change these outcomes? While some previous research indicates that mortality variance stems from genetic and inherited health factors (Waldron, 1976, 1983), more recent research points to men’s behavioral decision-making as a greater contributing factor in predicting variance in overall health status and mortality (Courtenay, 2011). As a result, the current study falls into a line of research which is focused on (a) promoting an increase in men’s healthy behaviors and (b) reducing psychological barriers to accessing preventive health care.

What Specific Behaviors Place Men at Risk for Health Problems?

During the last decade, many studies have shown that men’s behavioral decision-making has resulted in an increased risk of encountering health related problems (see Courtenay, 2011, for a review). Men have demonstrated significantly disproportionate problems related to several key areas of health-related behaviors including alcohol and other drug use, difficulty maintaining consistent exercise practices, and poorer engagement in healthy diet and nutrition. Here, key literature findings are reviewed related to these three areas.
Sex differences research has indicated that men tend to consume alcohol at a greater rates and volume than their female counterparts resulting in greater outcomes of alcohol-related consequences (Brady & Randall, 1999). Nolen-Hoeksema (2004) reported that not only do men consume more alcohol, but they are also more likely to have negative outcomes result from excessive drinking including physical violence, antisocial behavior patterns, and physical illness (e.g. liver disease). Masculinity plays a key role in alcohol use patterns and research indicates that heavy alcohol use has been linked to beliefs about demonstrating manliness, thereby increasing the risk of negative alcohol consequences related to alcohol use (Iwamoto et al., 2011; Levant & Richmond, 2007). For example, 68% of male college students equated the ability to physically consume and tolerate large amounts of alcohol without adverse reactions as being characteristic of “masculine” behavior (Peralta, 2007). Men also use illicit drugs at disproportionately higher rates, including current, binge, and heavy users (Substance Abuse and Mental Health Services Administration, 2010).

With regards to eating habits, men have been shown to engage in less healthy diet and nutrition practices across their lifespan ranging from college-aged students (Davy, Benes, & Driskell, 2006) to the elderly (Baker & Wardle, 2003). Garfield, Isacco, and Rogers (2008), in their review of men’s health and masculinity, reported that men who endorse more traditional masculine ideologies tend to (a) eat larger portions, (b) be inattentive to nutritional labels, (c) ignore nutritional information when making food choices, (d) not eat as much of foods that are identified as healthy (e.g., fruits and vegetables), and (e) focus on proteins and vitamins instead of fat and calories. When we consider mainstream media sources, fast food and frozen food companies have marketed “man-sized meals,” indicating that larger-than-life food portions are considered more appropriate for their male customers than smaller portions or healthier options.
One study of Finnish carpenters and engineers linked masculinity and food choice when they found that the carpenters, who endorsed higher rates of traditional masculine values, demonstrated significantly greater focus on consuming meat rather than vegetables than engineers did. This indicated to the authors that social class and/or education may play a significant role in food-related decisions (Roos, Prättäla, & Koski, 2001). Recent research by Rothberger (2013) further connected masculine beliefs with meat consumption by examining male attitudes which justified meat consumption, connecting the politics of feminism with vegetarianism, and concluding that the “primary reason why men eat meat is because it makes them feel like real men.” (363). Additional research indicated that men are likely to eat the portions in front of them rather than what they consider to be healthy or satisfying, resulting in significantly greater caloric intake than necessary (Hannum et al., 2006).

In addition to poorer nutrition, greater endorsement of traditional masculine ideologies has been linked in the research with poorer exercise habits as well. Garfield, Isacco, and Rogers (2008) identified that physical activity is a significant health concern for men, including avoiding exercise so as to not look weak or unskilled, as well as being too busy to exercise. Importantly, physical inactivity has been associated with obesity, hypertension, diabetes, back pain, poor joint mobility, and psychosocial problems (Allender, Hutchinson, & Foster, 2008). Regular exercise has been shown to promote significant cardiovascular benefits (Shephard & Balady, 1999), as well as provide an opportunity for men to gain social recognition, engage in healthy competition, and demonstrate skills, competence, and endurance (Kilpatrick, Hebert, & Bartholomew, 2005). Mahalik and Burns (2011) explored how a Health Belief Model applies to men’s heart healthy behavior, including diet and exercise, and the authors identified that three-fourths of Americans
under the age of 65 who die annually from cardiovascular disease are men (American Heart Association, 2010).

In short, due to higher rates of alcohol and substance use concerns, poorer diet and nutrition, and a decreased role of regular exercise, men are at increased health-risk compared to women (Mahalik, Burns, & Syzdek, 2007). Importantly, while the preceding review of sex differences research demonstrates key behavioral contributors to health risks for men across the lifespan, it is noteworthy that these same behaviors of alcohol abuse, poor attention to diet and low rates of aerobic exercise may actually be considered consistent with socially normative expectations of traditionally masculine behavior (Courtenay, 2000b). In effect, internalized masculinity beliefs can be viewed as a key contributor to poor care of one’s mental and physical health. The result is that many men identify with “masculinity scripts” that involve poor self-care, a higher degree of risk-taking, and unhealthy behavioral practices as a means to demonstrate their social status as a masculine being (Thompson, Pleck, & Ferrera, 1992).

The Impact of Male Gender Role Socialization on Men’s Behavior

While several behaviors that men typically associate with traditional masculinity have been identified, an important question has not been asked yet: How do men come to identify with and internalize these values about “manly” unhealthy behaviors? Gender theorists assert that men learn through a social learning process. Specifically, evidence suggests that interactions with their social environment where they enact traditionally masculine behavior are more frequently rewarded with positive reinforcement and that acting against the masculine norm is more frequently punished (Rosenstock, Stretcher, & Becker, 1988). With regards to behavioral decision-making around health, men are commonly socialized that it is appropriate to follow one of two behavioral scripts: (a) one can avoid engaging in self-care and body maintenance as a sign
of toughness and self-reliance, or (b) one can embrace health behaviors in an effort to display
dphysical prowess, strength, and muscularity as a means of clearly marking his body as masculine
(Pope, Phillips, & Olivardia, 2000). While a third option of choosing to care for his physical self
(without focusing specifically on masculine self-presentation) is available, this behavior is likely
to be labeled as “feminine” or “homosexual”, both of which are considered denigrated statuses
within hegemonic masculinity (David & Brannon, 1976; Connell, 2005). Male gender role
socialization instructs boys and men that “acting manly” is often constructed in direct opposition
to femininity (Demetriou, 2001).

So where do men learn these values about performing masculinity? One theory is that
the process of gender role socialization trains men how to think, feel, and behave “like men.”
Gender role socialization refers to the process by which an individual comes to identify and
internalize a specific set of behavioral roles and expectations based on his or her gender identity.
The social environment reinforces and punishes men through “gender policing” to display sex-
typed behaviors and attitudes, in effect supporting men’s efforts to adhere to masculine norms
and stereotypes and buffering against acting feminine (Pleck, 1981). For example, professional
athletes typically embody masculine norms of physical strength, virility, and power through their
athletic performance, and as a result are rewarded with wealth, social status, privilege, and fame.
Men are positively reinforced for adhering to sex-typed behavioral norms and punished for
straying too far from the norm. Men that elect to deviate from behavioral norms may experience
significant psychological stress, often referred to as gender role strain (Pleck, 1995).

Connell (2005) refers to hegemonic masculinity as the version of masculinity that is
considered mainstream and normative within a particular culture. In Western culture, hegemonic
masculinity has been described by a number of gender theorists in strikingly similar terms.
Perhaps one of most parsimonious and popular conceptions of hegemonic masculinity is David and Brannon’s (1976) “Man Code” of traditional masculinity. The authors discuss four tenets of masculinity: (a) “No Sissy Stuff” – that men should avoid feminine things lest they be labeled as gay or “sissies”; (b) “The Big Wheel” – that men should strive for success, power, and competition above all else and that competition is a key factor in a man’s life; (c) “The Sturdy Oak” – that men should not show weakness or vulnerability in the face of hardship (e.g. athletes are expected to “play through the pain” when hurt or injured during competition); and (d) "Give 'Em Hell" – that men should seek adventure and take risks, even if violence is a necessary component. David and Brannon (1976) highlight through a series of essays how men’s social and political power in society allows for the transmission of these values from generation to generation.

Since David and Brannon’s (1976) publication, several masculinity researchers have created survey instruments in order to effectively measure men’s level of adherence and conformity to masculine norms. For example, Levant and colleagues (2010) published the Male Role Norm Inventory-Revised (MRNI-R) which consists of seven factors: Restrictive emotionality, self-reliance through mechanical skills, negativity toward sexual minorities, avoidance of femininity, importance of sex, toughness, and dominance. Levant, Wimer, and Williams (2011) have also conducted research on how scores on the MRNI-R relate to attitudes toward health behaviors and help-seeking for psychological problems, finding that higher rates of adherence to masculine ideologies are linked with reduced rates of help-seeking attitudes and less likelihood to attend to healthy behaviors.

Currently, the most well-tested and empirically validated measure of adherence to masculine ideologies is Mahalik, Locke, and colleagues’ (2003) Conformity to Masculine Norms.
Inventory (CMNI). The CMNI consists of eleven subscales that are considered to be core values of traditional masculinity. These include winning, emotional control, risk-taking, violence, dominance, playboy, self-reliance, primacy of work, power over women, disdain for homosexuals, and pursuit of status. In the authors’ original validation research, five studies were conducted for the purpose of factor analysis, testing internal consistency and reliability estimates, identifying test-retest reliability, and validating the measure by examining correlations with other well-researched masculinity constructs. Internal consistency scores (Cronbach’s α) for the CMNI full-scale was .94, and subscale scores ranged from .72-.91. Test-retest reliability over a two-to-three week time period was .95 for the full-scale and ranged from .74-.91 on subscales. Correlations with other masculinity instruments, including the Gender Role Conflict Scale-I (GRCS-I; O’Neil et al., 1986), the Masculine Gender Role Stress Scale (MGRS; Eisler, Skidmore, & Ward, 1988), and the Attitudes Toward Seeking Professional Psychological Help scale (ATSPPH; Fischer & Turner, 1970), were statistically significant and ranged from .12 to .60. These findings indicate similarity between the constructs, yet strong enough differentiation so as to validate the construct of adherence to masculine ideologies as theoretically distinct from the previously validated masculinity measures.

The CMNI (Mahalik, Locke, et al., 2003) has been shown to correlate with a number of health-related variables. Mahalik, Levi-Minzi, and Walker (2007) identified health risk behaviors such as experiencing increased stress and anger (e.g. allowing things to build up until temper loss) and difficulty disclosing concerns to others (e.g. not consulting a mental health professional if feeling sad or depressed for longer than a month). Studies have demonstrated the relationship between the CMNI and beliefs about help-seeking as measured by Fischer and Turner’s (1970) ATSPPH scale (Levant, Wimer, Williams, Smalley, & Noronha, 2009;
McKelley, 2008), as well as Vogel and colleague’s (2006) Self-Stigma of Seeking Help Scale (Steinfeldt & Steinfeldt, 2012). Hammer, Vogel, and Heimerdinger-Edwards (2012) found significant correlations between scores on the CMNI and SSOSH for men of different geographic landscapes (e.g., suburban, urban). In short, the CMNI has demonstrated a foundational history of evidence with regards to both health-behaviors and help-seeking attitudes across a wide variety of male samples.

In recent years, Parent and Moradi (2009, 2011) validated a 46-item short-form of the CMNI which was able to (a) maintain subscale and full-scale reliability as tested using Confirmatory Factor Analysis, and (b) somewhat reduce participant fatigue caused by the extensive nature of the original 94-item measure. In their validation of the CMNI-46, the authors completed two studies with samples of 229 and 255 college-aged men respectively, each of which indicated strong goodness-of-fit ($\chi^2(908, 255) = 1337.18, p < .001, CFI = .92, RMSEA = .04, 90\% CI: .04, .05, SRMR = .06, and \chi^2/df = 1.45$), and internal consistency scores in the good to excellent range (Cronbach’s $\alpha = .78-.89$, median $= .82$) (Parent & Moradi, 2009, 2011). While the CMNI-46 is a relatively new measure, there is strong support for its reliability and validity for use in social science research related to masculinity and help-seeking.

Thus far, this review of the literature has highlighted the relationship between traditional masculine ideologies and negative behavioral outcomes for boys and men. However, it is worth noting that several studies have recently encouraged the perspective that endorsement of traditional masculine ideologies can be understood in part as internalized values that are core to being perceived as a “good man.” Empirical research using a positive psychology and strengths-based approach has documented significant relationships between men’s endorsement of specific masculine norms (e.g., risk-taking, violence) with positive traits such as autonomy, courage,
endurance, and resilience (Hammer & Good, 2010). Kiselica and Englar-Carlson (2010) have also encouraged researchers and practitioners to consider how learned values from traditional masculinity such as providing for and protecting one’s family, as well as engaging in healthy risk-taking and heroic action, can be considered significantly positive traits for men to internalize and embody in behavioral decisions.

That said, the preponderance of research is heavily lopsided in the direction of associating internalized masculinity with problematic health concerns. These include legal problems and a variety of delinquent behaviors associated with risk-taking (Pleck, Sonenstein, & Ku, 1993), increased rates of illicit substance use, tobacco use, binge drinking and problems related to alcohol (Blazina & Watkins, 1996; Iwamoto et al., 2011), increased rates of relationship conflict and dissatisfaction (Burn & Ward, 2005) and interpersonal violence and sexual aggression (Locke & Mahalik, 2005). Of particular interest to the current study is the finding that higher CMNI scores were shown to predict poorer overall health prognosis (Mahalik, Burns, & Syzdek, 2007). In general, there is strong support that men who adhere to the norms of hegemonic masculinity are more likely to work under hazardous conditions and to adopt negative health behaviors that include poor nutritional habits, aggressive and violent behavior, and risky sexual practices than their less traditionally masculine peers (Courtenay, 2000a; Terre, 2008).

**What Happens When Men Defy Traditional Masculine Norms?**

Men are clearly rewarded for upholding masculine tenets as defined by David and Brannon (1976), but what about the exception to the rule? There are two different conditions in which men experience defiance of traditionally masculine norms. First, some men intentionally subvert masculine norms, as in the case of a man electing to work in a career that is considered
traditionally female (e.g. nursing, elementary education, full-time parenting). In this situation, the individual man makes a conscious decision to behave against a particular social norm and accept the psychosocial consequences that comes with this decision. In contrast, the second condition involves a situation where a specific social context demands that the individual man behaves against masculine norms despite his desire to act in a way that is consistent with masculine norms. For example, a father may have internalized emotional restriction and self-reliance. When a family member contracts a terminal illness, he may find himself engaging in behaviors that cause him significant psychological and relationship stress because they are outside of the norm of typical behavior for him (e.g., crying, relying on others for emotional support). While these two conditions clearly differ because of the element of choice, both can result in what Pleck (1995) refers to as gender role strain.

The Gender Role Strain Paradigm was created to explain how, despite the extremely common occurrence of violating gender role norms, many men continue to experience significant psychological and social strain when they perform behaviors that contradict socially normative male expectations (Levant, 2011; Pleck, 1995). There can often be significant consequences to experiencing gender role strain, including intrapsychic (e.g. depression, anxiety) and interpersonal (e.g. shame, stigma) problems (Good & Wood, 1995). Pleck (1995) proposed three types of gender role strain: (a) discrepancy strain, when he is unsuccessful in meeting traditional gender role standards (e.g., failure to win in competition); (b) trauma strain, when he experiences a traumatic event or process during socialization into the traditional masculine gender role (e.g., experiencing physical violence as a means of “toughening up”); and (c) dysfunction strain, when his fulfillment of gender role norms are hazardous (e.g., suffering from disability without help because men are supposed to “tough it out” and handle things
independently) (Meek, 2010). These three types of gender role strain are significant factors in reinforcing and punishing men’s behavioral decision-making.

Oftentimes, repetition of gender role strain experiences can reveal specific patterns of negative psychosocial consequences for men. These patterns are referred to as gender role conflict (O’Neil, 2008). Generally speaking, gender role conflict can occur four different ways: (a) within the man, when negative emotions or thoughts are experienced as gender role devaluations, restrictions, and violations (e.g. “I’m less of a man if I can’t fix problem on my own”); (b) expressed toward others, when an individual expresses a statement that devalues, restricts, or violates someone else as a result of their behaving in a way that is inconsistent with gender role norms (e.g. shaming another man for crying in public by telling him to “man up”); (c) experienced from others, referring to the interpersonal experience of gender role conflict received from interactions with others (e.g. being insulted or called names for backing down from physical conflict); or (d) experienced from role transitions, wherein events during a man’s gender role development challenge his self-assumptions and produce either gender role conflict or positive life changes (e.g. adjustment from a “work comes first” mentality to be more involved at home after becoming a father for the first time) (O’Neil, Good, & Holmes, 1995).

In order to further explore the construct of gender role conflict through research, O’Neil and colleagues (1986) created and validated the Gender Role Conflict Scale (GRCS-I). Initial validation of the GRCS-I utilized a sample of 527 Midwestern undergraduate males. The authors identified four subscales which include Success Power, and Competition (SPC), Restrictive Emotionality (RE), Restrictive Affectionate Behavior between Men (RABBM), and Conflict Between Work and Family Relations (CBWF). The authors reported internal consistencies (Cronbach’s α) of .85, .82, .83, and .75 (N = 527) and 4-week test–retest
reliabilities of .84, .76, .86, and .72 (N = 17) for the SPC, RE, RABBM, and CBWF, respectively. Recent studies of the GRCS-I and men’s health-related behaviors continue to report similar reliability coefficients (e.g., .78–.92; Levant, Wimer, & Williams, 2011). Moradi and colleagues (2000) provided statistical support for the structural validity of the GRCS-I. The GRCS-I has been heavily utilized in the psychology of men and masculinity literature. More than 300 documented studies have used the instrument, including 19 countries and translation into 14 different languages (O’Neil, 2011). O’Neil (2008) reviewed 25 years of research that correlates the experience of gender role conflict to a wide array of psychological problems, including symptoms of depression, anxiety, relationship problems, low self-esteem, interpersonal and domestic violence, and reduced rates of help-seeking for psychological concerns.

Of note, some research on the GRCS-I has made the recommendation to revise the instrument in order to improve scale psychometrics (Rogers, Abbey-Hines, & Rando, 1997). Wester and colleagues (2012) created the Gender Role Conflict Scale-Short Form (GRCS-SF) in order to alleviate participant response burden and to address these concerns about GRCS-I item content. By removing the weaker loading items from the 37-item instrument, the item pool has been shown to be significantly improved (Wester et al., 2012). As a result of these adjustments, the GRCS-SF more accurately reflects the construct of gender role conflict, has increased the contextual and situational focus of items, and increased potential for clinical use (Wester et al., 2012). While the GRCS-SF is a recently validated instrument, it rests on a very strong foundation of research from the GRCS-I (O’Neil, 2008). In addition, the GRCS-SF has actually demonstrated stronger reliability and validity as a result of eliminating poorer loading items. For these reasons, the GRCS-SF was specifically selected for use in the current study to measure gender role conflict.
How Does Male Socialization Impact Help-Seeking?

Mansfield and colleagues (2003), in the introductory paragraph to their manuscript about men’s help-seeking behavior, describe a joke from a Hallmark card: “A greeting card pictures Moses walking in the desert, looking lost. The caption reads: ‘Why did Moses spend 40 years wandering in the desert? Because he wouldn’t ask for directions.’” Religious mythology aside, humor and truth are not mutually exclusive in this case. The finding that men are consistently less likely than women to seek help for a variety of health and psychological problems has been consistently documented in empirical and theoretical studies (see Addis & Mahalik, 2003). This is true for men across a wide range of ages (Husaini, Moore, & Cain, 1994), nationalities (D’Arcy & Schmitz, 1979; Information Services Division, 2000), and races/ethnicities (Neighbors & Howard, 1987). Men have been shown to be significantly less likely than women to utilize psychological services (Good, Dell, & Mintz, 1989) or attend medical health services such as seeing a primary care physician (Galdas, Cheater, & Marshall, 2004). Men with traditional masculinity ideologies may refuse to seek help for pain, illness, or emotional problems in an effort to avoid being perceived as vulnerable or weak (Kaufman, 1994).

Research has demonstrated a strong relationship between men’s experience of gender role conflict with negative attitudes toward help seeking (Blazina & Marks, 2001; Groeschel, Wester & Sedivy, 2010; Levant et al., 2009). How does gender role conflict relate to help-seeking behavior specifically? The four types of gender role conflict described above can also apply to help-seeking behaviors for physical health concerns. First, a man may identify himself as weak or feminine because he cannot “tough it out” or withstand aches and pains. This concept is commonly discussed as a component of gender socialization for men in both military and sports cultures (Dunivan, 1994; Messner, 1995; Messner & Sabo, 2000). Second, a man may
denigrate others as less masculine for seeking help, as in identifying that a coworker or friend is “being a sissy” when complaining about physical pains. Third, a man may have voiced concerns about physical pains in the past and been minimized or mocked by others when he disclosed them, resulting in avoiding future disclosures and/or feeling shamed or embarrassed (Krugman, 1995). Lastly, events in a man’s life may lead to gender role conflict – for example, reaching the age where prostate cancer screenings are standard care may result in avoidance of screenings due to fear of requiring a digital rectal exam and fears about feeling vulnerable, physically violated, and/or feminized (Parker et al., 2006).

Courtenay (2000b) expressed that choosing not to seek help for physical concerns simultaneously allows men to (a) uphold and embody traditional masculine ideologies, and (b) avoid the psychological and social experience of gender role conflict:

The most powerful men among men are those for whom health and safety are irrelevant. By dismissing their health care needs, men are constructing gender. When a man brags, ‘I haven’t been to a doctor in years’, he is simultaneously describing a health practice and situating himself in a masculine arena. (Courtenay, 2000a, p. 1389)

Hill and Donatelle (2005) explored the relationship between gender role conflict and rates of help-seeking within a sample of older men. In their study, the authors identified that social support was a key moderating factor for actual follow-through with seeking care from a physician. In short, older men demonstrated a need for social support from (a) women to encourage them and assist in planning doctor’s visits, and (b) male peers to challenge the belief that “real men don’t seek medical care,” thereby minimizing gender role conflict and subverting traditional masculine ideologies.

In addition to research on gender role conflict and help-seeking, research has identified that men who score higher on conformity to masculine norms as measured by the CMNI
(Mahalik, Locke, et al., 2003) tend to experience greater negative attitudes toward seeking psychological help (Levant et al., 2011; Mahalik & Rochlen, 2006; Wimer, 2009). Levant and colleagues (2009) found that the 94-item CMNI and Attitudes Toward Seeking Professional Psychological Help (ATSPPH; Fischer & Turner, 1970) were correlated at $r = -0.52$, $p < .001$. Other studies have indicated consistently negative correlations between scores on the CMNI and ATSPPH (Addis & Mahalik, 2003; Mahalik, Locke, et al., 2003). Scores on the CMNI have also been linked to stigma as measured by the Self-Stigma of Seeking Help Scale (SSOSH; Vogel et al., 2006) within samples of college students and male college athletes (Steinfeldt et al., 2009; Vogel, Heimerdinger-Edwards, Hammer, & Hubbard, 2011).

Compared to women’s rates of healthcare access, the tendency for men to avoid consistent medical care is concerning (Courtenay, 2003). Men are significantly less likely than women to visit a general practice physician (Courtenay, McCreary, & Merighi, 2002) or engage in self-directed preventive health practices (Stakelum & Boland, 2001). In fact, men are more than twice as likely to have gone two years or more without direct contact with a physician (Pamuk et al., 1998) and are significantly less likely to maintain continuous relationships with usual care providers (Ettner, 1999; Jarrett, Bellamy, & Adeyemi, 2007). One study showed that gender differences in general practitioner consultations are particularly marked during the reproductive years – women between the ages of 15-44 are more than twice as likely to visit a general practitioner compared to men (Information Services Division, 2000). Of note, there is little research to support the argument that women are “over-consulting” with healthcare providers (Hunt, Ford, Harkins & Wyke, 1999; Wyke, Hunt, & Ford, 1998). Rather, men have been shown to more frequently underreport concerns which could benefit from professional consultation (Adamson, Ben-Shlomo, Chaturvedi & Donovan, 2003). Interestingly, men do not
deny that illness exists (Courtenay & Keeling, 2000), but rather their reluctance to seek help has been attributed to either poorer self-awareness or a lack of willingness to take personal responsibility for their health conditions (Banks, 2001; McKee, 1998). Men often delay seeking help as a result of masculine beliefs, such as “I can handle this on my own” or “I can tough it out” (Davies et al., 2000; White & Johnson, 2000). This reluctance to seek care has been demonstrated for a variety of health conditions, including prostate cancer (Chapple & Ziebland, 2002) and severe chest pain (White, 1999).

Even when men are able to access treatment, they have been shown to be less effective at utilizing physical and mental health services. Men are more likely to minimize symptoms of health problems through the use of masculinity scripts that define themselves as the “tough guy” (Mahalik, Good, & Englar-Carlson, 2003), and men have been shown to ask fewer questions of their treatment provider than women (Courtenay, 2000a). For many men, gender role socialization has taught them that there is a distinction between being “hurt” and being “injured”, with the former being a simple nuisance that should be ignored or treated as a challenge to be overcome (Nixon, 1996). The result is often under-assessed and undiagnosed ailments in male patients. For example, the theory of masked depression asserts that traditionally masculine patients will minimize stereotypically feminine symptoms (e.g. crying, sadness, anhedonia), but may demonstrate more externalizing behaviors (e.g. substance abuse, increased risk-taking) or somatization (e.g. muscle pain, headaches) resulting in clinical difficulty in accurately diagnosing clinical symptoms (Addis, 2008).

The result of masculine socialization is that men are taught to be self-reliant, control their emotions and not express pain, and show courage in the face of adversity. At the same time, men are taught that maintaining one’s physical self through accessing healthcare is a feminine
behavior. As such, many traditionally masculine men experience significant psychological and social barriers to accessing health care services (Vogel, Wester, & Larson, 2007). Tudiver and Talbot (1999) conducted focus groups with family practice physicians and identified that men experience many barriers to seeking help for physical concerns. These included: (a) barriers related to men’s traditional role characteristics, such as a sense of immunity and immortality, difficulty relinquishing control, a belief that seeking help is unacceptable, and belief that men are not interested in prevention; (b) systemic barriers due to time and access; (c) difficulty disclosing concerns and having to state the reason for their medical visit; and (d) the lack of available male providers. The focus groups identified that men perceived vulnerability, fear, and denial as important influences on whether men seek help, and they reported that men tend to look for specific problems to be resolved rather than general health concerns (Tudiver & Talbot, 1999).

In order to operationalize and study men’s perception of barriers to help seeking, Mansfield and colleagues (2005) validated a survey instrument called the Barriers to Help Seeking Scale (BHHS). The BHSS was designed in connection with the Health Belief Model (HBM; Hochbaum, 1958) and includes five subscales: Need for Control and Self-Reliance (NCSR), Minimizing the Problem and Resignation (MPR), Concrete Barriers and Distrust of Caregivers (CBDC), Privacy (P) and Emotional Control (EC). In creating this instrument, the authors conducted two studies to investigate scale reliability and validity. Exploratory factor analysis with data collected from 537 undergraduate males identified the five factor solution described above. Internal consistency scores (Cronbach’s α) ranged from .75-.93 for the subscales, and two-week retest with a small sample of nine undergraduates revealed acceptable full-scale test-retest reliability ($r = .73, p < .05$). However, test-retest reliability on subscales ranged widely, from the MPR subscale indicating poor reliability ($r = .34, p > .05$) to the CBDC
subscale indicating excellent reliability \( r = .95, p < .05 \) (Mansfield et al., 2005). Since these initial validation studies, Boman and Walker (2010) studied a mediational model of Australian men’s health seeking behavior using the BHSS and indicated a Cronbach’s \( \alpha \) value of .93 for full-scale internal consistency.

Importantly, concrete barriers to health care (e.g. lack of health insurance or transportation to physician’s office) contribute significantly to men’s ability to access appropriate care. Individuals that live below the poverty line are five times more likely to have “poor or fair” health than individuals above the poverty line (Sebelius et al., 2010). Studies have demonstrated that free outreach clinics or health fairs in the community (Berwick, 1985) or in the workplace (RAND Corporation, 2013) have been quite effective at reaching at-risk individuals. It must be noted, however, that the removal of concrete barriers may not necessarily be sufficient for some men because of continued psychological barriers to accessing services (e.g., gender role conflict). In effect, even for those men that do not experience monetary pressure and have sufficient time to attend a physician’s appointment (i.e. low score on CBDC), there may still exist significant psychological barriers to accessing health care (i.e., the remaining four subscales of the BHSS).

Currently, the BHSS has been used in a small number of research studies. That said, results from two published articles have positioned the scale within the literature on the Health Belief Model and noted associations between the BHSS and masculinity measures. Mansfield and colleagues (2005) reported correlations between full-scale scores on the BHSS and GRCS-I at \( r = .58 \) \((p < .01)\) and \( r = .43 \) \((p < .01)\) in two studies. In the first study, BHSS full-scale scores correlated with GRCS-I subscales ranging from \( r = .25 \) to .51 \((p < .01\) in all cases), with Conflict between Work and Family having the smallest correlation and Restrictive Emotionality the
largest. In the second study, the BHSS was significantly correlated with only the Success, Power, and Competition subscale of the GRCS-I ($r = .40, p < .01$). In opposite direction, subscales of the BHSS correlated with GRCS-I full-scale scores at a range of $r = .28$ to $.87 (p < .01$ in all cases), with the strongest correlation identified with Minimizing the Problem and Resignation subscale. In the second study, BHSS subscales ranged from $r = .25$ to $.46$, with all correlations statistically significant at $p < .05$ except for GRCS-I and Privacy.

Boman and Walker (2010) conducted a mediational study examining the relationship between conformity to masculine norms, perception of barriers to help-seeking, and general self-efficacy. In their research manuscript, they reported a correlation matrix which included CMNI full-scale and BHSS subscale scores. Need for Control and Self-Reliance ($r = .42$), Minimizing Problems and Resignation ($r = .24$), and Emotional Control ($r = -.34$) were statistically significant at $p < .01$. In contrast, scores on Concrete Barriers and Distrust of Caregivers ($r = .15$) and Privacy ($r = -.11$) were non-significant at $p > .05$. While a non-significant CBDC makes theoretical sense (i.e. lacking insurance or transportation should not necessarily be correlated with masculinity unless moderated or mediated by socioeconomic status), the correlation between CMNI and the Privacy subscale of the BHSS was not only non-significant but actually demonstrated a negative correlation (i.e., higher masculinity scores were correlated with less desire for privacy). These findings are difficult to make sense of given the relative dearth of information about the relationships between these instruments. As such, the current study was designed in order to expand knowledge about how these instruments correlate with one another.

What Other Factors Impact Men’s Help Seeking?
Men’s rates of help-seeking are determined by a wide array of factors, including masculine gender role socialization and beliefs about masculinity, perceptions of social normativeness, and ego centrality (Addis & Mahalik, 2003). Galdas, Cheater, and Marshall (2004), in their review of the men’s help-seeking literature for physical concerns, reported that men delay seeking help for a wide variety of psychological reasons. For example, in a study with men currently in treatment for testicular cancer, patients reported delaying help-seeking because they did not recognize symptoms, feared appearing weak or like a hypochondriac, or did not want to be perceived as lacking manliness (Chapple, Ziebland & McPherson, 2004). A similar study on prostate cancer detection identified that barriers to help-seeking include perceived threat to masculinity, embarrassment, fear of what treatment would involve, and perceived guilt at using an often under-resourced health service (George & Fleming, 2004). In short, men tend to regard physical problems initially as something that can cure themselves (i.e., a problem to be solved independently) and view seeking help from medical experts as a last resort. As a result, men often minimize the impact of health concerns and devalue the potential impact of help-seeking until it might be too late to receive the full benefit of medical assessment, diagnosis, and treatment (Sanden, Larsson, & Eriksson, 2000).

So what has been shown to help reduce the delay that men experience in seeking care? Several studies identify the importance of social support in helping men access health care for physical concerns. Cameron, Leventhal, and Leventhal (1993) found that 92% of those who sought medical care reported talking to at least one person about his or her problem before seeking professional medical help, and that 50% of those who sought services were prompted to do so by their significant other. In research on men’s prostate cancer screening, the primary factors men identified as motivation to engage in screenings included fear of having cancer and
valuing early detection, media attention to prostate cancer, and encouragement by key women in their lives (George & Fleming, 2004). Hill and Donatelle (2005), in their study of older men, found that gender role conflict was inversely related to emotional/informational support, affective support, and positive social interaction as measured by the Medical Outcomes Study of Social Support Survey (Sherbourne & Stewart, 1991). In short, social support and encouragement to attend to one’s health is a significant factor for men to engage in healthcare. As such, the single item “Resistance” was included in this study as a very brief measure of men’s resistance to encouragement from others to seek-help for medical concerns.

A second important factor that has been identified in the literature is previous experience of significant health events or conditions (e.g. heart attack, stroke, diabetes). Several studies have shown that individuals who have had sought treatment for physical and psychological concerns previously tend to be more willing to access additional services in the future (Blazina & Marks, 2001; Fischer & Farina, 1995). Individuals with prior history of treatment may be less resistant to the idea of help-seeking as a result of familiarity with services and previous personal connection with treatment providers (Cantazaro, 2009). As such, individuals with a history of medical treatment for concerns appear likely to have reduced psychological barriers to accessing medical care in the future. As such, history of healthcare access was included in this study in several ways, including whether the individual attends annual doctor’s visits and estimates of total medical appointments during the last year and five years.

In addition, current overall physical health has been shown to predict perception of barriers to help-seeking and actual health care access. Many instruments have been validated to measure current medical concerns and quality of life as it relates to physical and mental health conditions (see Coons, Rao, Keininger & Hays, 2000, for a review). Of the available measures,
the most widely validated is the SF-36 which has been documented in nearly 4,000 publications (Turner-Bowker, Bartley, & Ware, 2002). In creating the SF-36, the authors narrowed down forty health concepts identified in the Medical Outcomes Study (Stewart & Ware, 1992) to eight domains: Physical Functioning (PF), Role-Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (V), Social Functioning (SF), Role-Emotional (RE), and Mental Health (MH). The instrument measures functional health and subjective well-being by assessing overall functioning across these eight domains. The SF-36 has displayed good internal consistency at Cronbach’s α > .80 across a majority of studies (Gandek & Ware, 1998; Ware, Kosinski, & Keller, 1994), and trends for reliability coefficients have been replicated across twenty-four patient groups (Ware & Gandek, 1998). The SF-36 has been shown to correlate significantly with measures of general health concepts as well as specific symptoms (see Ware & Gandek, 1998, for a review).

Abbreviated versions of the SF-36 have been designed to minimize response burden for research participants and clinical patients while continuing to maintain strong empirical reliability and validity. These instruments include the SF-12 (Ware, Kosinski, & Keller, 1996) and SF-8 (Ware, Kosinski, Dewey, & Gandek, 2001). The SF-12 has been shown to provide the greatest cost-benefit balance for reducing response fatigue while maintaining full and subscale validity and reliability when compared to the SF-36. The SF-12 has been used to measure the health status of medical patients with specific diagnoses, such as chronic back pain (Luo et al., 2003), rheumatoid arthritis (Maurischat, Ehlebracht-König, Kühn, & Bullinger, 2006), and severe mental illness (Salyers, Bosworth, Swanson, Lamb-Pagone, & Osher, 2000). The SF-12 has also been used with samples of the general population across different cultures (e.g. Russian, Chinese), including specific demographics in the United States (e.g. Veterans, older adults).
Scores on the SF-12 have been shown to correlate at $r = .96$ with the SF-36 counterpart (Jenkinson et al., 1997), and the 12 items selected for inclusion in the SF-12 have reproduced 90% of the variance in the physical and mental health subscales of the SF-36 (Ware, Kosinski, & Keller, 1994, 1995).

An updated second version of the SF-12 was published by Ware, Kosinski, and Dewey (2000) with improvements in wording, item layout, greater comparability for language translations, and adjustments in Likert scale values on six items (Medical Outcomes Trust, 2012). Cheak-Zamora and colleagues (2009) evaluated the reliability of the SF-12v2 using a large sample drawn from previous medical patients ($n = 20,661$). The authors found that both the Mental Component and Physical Component Summary scores demonstrated high internal consistency (Cronbach’s $\alpha > .80$ for both) and test-retest reliability after one year was in the moderate to high range (Cronbach’s $\alpha = .60$ and .78 respectively). Scores on the instrument also showed moderate convergence with scores on the Euro Quality of Life-5 Dimensions (EQOL; Brooks, 1996) for both the Physical and Mental components (except for items regarding self-care), with correlations of $r > .56$ and $r > .38$ respectively. Saris-Balagma and colleagues (2009) conducted web-based data collection with the SF-12v2 and indicated that the factor structure was upheld, internal consistency was acceptable ($r > .40$), and the instrument was able to differentiate between three clusters of kidney disease patients with regards to severity of health concerns and correlating quality of life. This study indicated that web-based test administration is a viable option for data collection using the SF12v2.

At this time, a review of the extant research revealed only one dissertation study that has explored the relationship between masculinity and beliefs about health using the SF-12. Duck
(2005) collected data from 120 African American men as a part of his research methodology, but identified masculinity values by coding qualitative data using a Consensual Qualitative Research approach (Hill, Knox, Thompson, Williams & Hess, 2005) rather than using a validated instrument such as the CMNI (Mahalik et al., 2003). Hopkins and colleagues (1999) collected health data using the SF-36 and the Faschingbauer Short Form Minnesota Multiphasic Personality Inventory (FAM; Faschingbauer, 1974), but did not report significance in the relationship between scores on the Masculinity-Femininity subscale of the FAM and SF-36. No relationships between scores on the BHSS and Short Form Health Surveys have been explored at this time; however, several studies have identified a relationship between SF-12 scores and barriers to behaviors such as engagement in exercise (Resnick & Jenkins, 2000), attending treatment at a community mental health center (Miller, Druss, Dombrowski, & Rosenheck, 2003), and attending HIV screenings and services (Skovdal et al., 2011).

**What Theories Help to Explain Men’s Health Care Engagement?**

Given the primary focus in this study on the impact of masculine ideologies and gender role conflict on help-seeking for physical health concerns, this review has thus far focused on extant research pertaining to the psychology of men and masculinity. However, it is important to identify that there are several well-researched theoretical models that have been developed to explain individuals’ health care engagement from other theoretical frameworks (i.e., health promotion, epidemiology). It is noteworthy that these models do not directly include or address masculinity, but rather are likely impacted by masculinity in an indirect way as internalized multicultural variable. For example, the Health Belief model identifies that perceived severity of a concern is a key component in predicting intentions and actual follow-through with help-seeking (Janz, Champion, & Stretcher, 2002). In research on perception of symptom severity,
studies have shown that men who identify with having a high pain-tolerance as a desirable trait will minimize subjective pain during experimental testing using ice as a stimulus, and that minimization of severity is correlated with longer delays in help-seeking until physical or psychological symptoms become unbearable (O’Brien et al., 2005). Of course, demonstrating a lack of response to symptoms and minimizing pain by responding with indifference is one way of actively constructing a traditionally masculine identity (Courtenay, 2000b). As such, masculinity and theories of health care engagement are intertwined, though relatively few studies outside of the psychology of men and masculinity have incorporated both approaches.

While there are several robust theories explaining engagement and perception of barriers to health care, two particularly well-researched models are of particular relevance to this study. First, the Health Belief Model (HBM; Hochbaum, 1958) was developed as a research paradigm in hospital settings in order to better facilitate patient access to preventive services such as chest X-rays for tuberculosis screening (Rosenstock, 1974; National Cancer Institute, 2005). HBM theorists most commonly utilize this theoretical approach to examine individuals’ motivation to engage in health-related behaviors. Specifically, the HBM asserts that health-related behaviors are positively or negatively predicted by subjective perception of five psychological variables: (a) susceptibility of vulnerability to a particular concern, (b) severity of the specific condition, (c) benefits of seeking treatment, (d) barriers to seeking treatment, and (e) cues to take action, such as a physical discomfort or pain (Janz, Champion, & Stretcher, 2002). In recent research, social learning theory has supplemented the HBM through the addition of a sixth variable: (f) self-efficacy. Self-efficacy here refers to the individual’s personal belief about whether they can successfully perform a required action in response to a concern. Actions in this context include a range of responses, including effectively communicating with medical professionals to,
alternatively, handling the medical concern on one’s own. Self-efficacy has been shown to
determine whether the individual decides to initiate coping behaviors, how much effort they
expend for self-care, and how ready, willing, and able they are to sustain effort in the face of
obstacles and aversive experiences (Rosenstock, Stretcher, & Becker, 1988). Some recent
research has explored the relationship between self-efficacy, masculinity, and barriers to help-
seeking. Boman and Walker (2010) found that scores on the General Self-Efficacy Scale
(Schwarzer & Jerusalem, 1995) moderated the relationship between conformity to masculinity
and perceived barriers to help-seeking for a physical health problem as measured by the CMNI-
94 (Mahalik, Locke, et al., 2003) and BHSS (Mansfield et al., 2005). That is, masculine
ideology impacted perception of barriers differently depending upon men’s self-efficacy in
handling problems on their own. In this way, attitudinal components of the HBM interact with
one another in compelling and important ways.

The HBM is currently the most commonly used theory in the health promotion literature
and has been used to analyze help-seeking behavior across a wide variety of health-related
conditions (see Glanz, Rimer, & Lewis, 2002, for a review). Studies using HBM have included
promotion of safe sex practices to prevent Hepatitis B (de Wit et al., 2005) and HIV infection
(Belcher et al., 2005), creating interventions to increase motivation for influenza vaccination
(Chen et al., 2007), supporting maintenance of healthy food practices to reduce risk of foodborne
illness (Gerba, Row, & Haas, 1996), and self-management of health body mass index to prevent
diabetes (Forsyth, 1997). Of specific interest to the current study, the HBM has been widely
studied with a focus on male-specific samples. For example, Weinrich and colleagues (1998)
studied moderating factors for African American men’s attendance at prostate cancer education
programs with attention to the five HBM factors and noted the importance of subjective perception of barriers to healthcare access.

The HBM is important to this study because of its particular focus on individuals’ perception of barriers to seeking treatment in the context of a specific cue to take action (e.g., persistent physical discomfort). In addition, the HBM variables of perceived susceptibility and condition severity are highly variable across individuals and relevant to the BHSS instrument. Men who value physical toughness and self-reliance often minimize the likelihood of contracting and severity of physical health concerns (e.g. ignoring a nagging pain or injury). As such, the HBM allows for research to account for the impact of masculine ideology and gender-role conflict within a research model while remaining focused on the individual’s subjective perceptions and decision-making.

Mansfield, Addis, and Courtenay (2005) validated the Barriers to Help Seeking Scale (BHSS) using the HBM with the specific intention of measuring men’s perception of barriers to help-seeking for a physical health concern. As such, the instrument identifies a specific context for help-seeking by presenting the respondent with a narrative prompt resulting in within-subject variance across potential barriers. For example, a man may experience psychological barriers to seeking professional help because: (a) he believes it is not practical or necessary and that the nature of the problem doesn’t warrant medical attention; (b) he believes that a “real man” would not seek help and decides that choosing not to seek help reinforces his identity as a man; (c) he believes that he can tolerate or resolve the concern on his own without any help, (d) he is embarrassed about having to discuss his concern with others and/or worries that he might be judged for having sought help; and/or (e) he may have positive intentions to seek help, but worries that it may too expensive or impractical to pursue that option (e.g., transportation
difficulties, time away from other obligations). By measuring men’s perception of barriers to help-seeking using this instrument, we can tap into their behavioral planning process and identify sticking points which contribute to reduced likelihood of seeking access to care.

While the HBM is a highly robust approach which allows for incorporation of masculine ideologies and gender role conflict, a second approach is considered in this study to add additional theoretical strength. The Theory of Planned Behavior (TPB; Ajzen, 1985) was developed from self-efficacy theory (Bandura, 1977) and emerged from the Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975). The TPB expanded upon the TRA by examining relationships between individuals’ beliefs, attitudes, behavioral intentions, and actual behavior (Armitage & Conner, 2001). According to the Theory of Planned Behavior, behavioral intention is the most important determinant of behavior (National Cancer Institute, 2005). Within this approach, behavioral intention is influenced by three factors: (a) the person’s attitude toward the behavior, (b) beliefs about subjective norms regarding the behavior, and (c) perceived behavioral control (Azjen, 2011). In short, this theory is examined in this study because of its focus on how behavioral attitudes correspond with intentions and actual follow-through for healthcare access.

Research using the TPB has shown explanatory power for a number of behaviors related to health decisions, including nutrition and exercise habits (Nguyen, Otis, & Potvin, 1996) and prophylactic use during sexual intercourse (Albarracinn, Johnson, Fishbein, & Muellerleile, 2001). Previous TPB research demonstrated good model fit for traditional masculine ideology predicting attitudes and intentions to seek help for psychological concerns (Smith, Tran, & Thompson, 2008). In addition, the TPB has been used to explore relationships between general attitudes and beliefs toward help-seeking (Fischer & Turner, 1970), men’s normative perceptions about health behaviors and help-seeking (Hamilton & Mahalik, 2009), and men’s actual
intentions to seek help from healthcare professionals (Vogel, Wade, & Hackler, 2007). For example, Smith, Tran, and Thompson (2008) found that attitudes toward psychological help-seeking mediate the relationship between men’s conformity to traditionally masculine ideologies and their intentions to seek help for psychological problems. This implies that interventions targeting an increase in men’s intentions to access psychotherapy must address their beliefs and attitudes toward the behavior, as in the case of the Real Men, Real Depression campaign (National Institute of Mental Health, 2009a).

Extending the TPB to the current study of men’s help-seeking for physical health concerns, an individual’s intentions to seek medical care are predicted by (a) his evaluation of whether seeking medical care would likely resolve his concern, (b) his beliefs about whether key people in his life would approve or disapprove of his decision to visit a medical professional, and (c) the extent to which he has a sense of agency to decide whether to access care. For example, a man in a great deal of pain may identify that medical attention is required and that there is no alternative, thereby reducing his sense of choice in this situation. Of course, these three factors can lead to quite complex scenarios. For example, a man may experience social shaming from peers but simultaneously receive strong support from family members, resulting in conflicting feelings about what it means to seek help (O’Brien et al., 2005). On the one hand, some men are socialized to view help-seeking as a sign of weakness and a signal of lacking willpower (Vogel, Wade, & Haake, 2006), some avoidance of help-seeking may actually function to maintain masculine social status amongst their peers (Newland, 2006). On the other hand, some men view attending to their health as a means of ensuring that their ability to perform as a provider is intact (Kiselica & Englar-Carlson, 2010). Still others may desire to seek care but decide against doing so because financial concerns reduce the viability of medical treatment as an option. In short, the
TPB accounts for aspects of help-seeking that are related to internalized masculine beliefs and external social influence. Given this study’s attention to actual health behavior in the past (i.e., attending annual check-ups, number of medical appointments attended during the past one/five years) and social exchanges that impact actual behavior (i.e., resistance to encouragement to seek help), the TPB is highly useful in understanding and interpreting results.

In sum, by combining the explanatory power of gender role socialization (Connell, 1987), gender role strain theory (Pleck, 1995), the Health Belief Model (Hochbaum, 1958), and the Theory of Planned Behavior (Ajzen, 1985), research can better identify the psychosocial impact of masculine ideologies as it impacts men’s decisions about their healthcare. The HBM and TPB theorize that men who express negative attitudes toward help-seeking are significantly less likely to demonstrate positive intentions and follow-through for attending medical services or preventive health screenings. As a result, these theories combine to provide power in explaining how men’s “masculinity scripts” function to predict attitudes, beliefs, intentions, and perception of barriers to seeking healthcare services (Mahalik, Good, & Englar-Carlson, 2003).

What Current Efforts Are Being Taken to Improve Men’s Health Engagement?

As a result of increasing attention to the disparity in mortality rates between the sexes (Sebelius et al., 2010), as well as men’s generally poor rates of preventive and reactive medical treatment (Addis & Mahalik, 2003), many unique efforts have been made to improve men’s healthcare engagement. It is not possible to review all male-specific outreach programming and interventions in this literature review. Rather, several approaches that are specifically relevant to this study are reviewed here in order to describe (a) the methods and approach used to increase men’s health engagement, and (b) how each intervention aims to subvert men’s experience of gender role conflict in facilitating men’s decision to actively participate in healthcare.
One intervention approach is to provide psychoeducation in order to impact men’s beliefs about help-seeking to decrease perception of subjective barriers to treatment. Given increased rates of successful suicide for middle-aged adult males over the last decade, men’s mental health has been a particular focus for government sponsored research and interventions (Center for Disease Control and Prevention, 2013). For example, the Real Men, Real Depression campaign (RMRD) was sponsored by the National Institute of Mental Health (NIMH) in order to raise public awareness about depression among men and to address the idea that “men are less likely than women to recognize, acknowledge, and seek treatment for their depression” (National Institute of Mental Health, 2009a). RMRD utilized first-person testimonials in print publications, television, and radio public service announcements, as well as an interactive website. According to NIMH, RMRD public service announcements reached 34 million individuals, as well as 8 million unique visitors to the website (Rochlen, Whilde, & Hoyer, 2005). The RMRD campaign used an approach that provided psychoeducation about symptoms, normalized men’s experience of depression symptoms, and promoted the idea that “it takes courage to ask for help” (National Institute of Mental Health, 2009b). Because depression has been historically perceived as a “female disease” (Real, 2000), this campaign functioned to reduce men’s experience of shame and increase their ability to accurately identify common symptoms of depression in men. In effect, the RMRD campaign counters the link between femininity and help-seeking by providing a traditionally masculine peer reference group (Rochlen et al., 2005). Since this initial effort, additional research has aimed to further this effort by developing more male-sensitive brochures to decrease stigma for help-seeking and sensitively address masculine presentation of depression (Hammer & Vogel, 2010). In sum, this approach
provides psychoeducation to improve self-assessment of mental health symptoms in order to promote help-seeking, as well as reduce self- and social-stigma for help-seeking.

Beyond impacting beliefs about care, other initiatives have been directly aimed at increasing men’s engagement in healthcare. After the United Kingdom’s Chief Medical Officer devoted an entire chapter of his annual public health report to men’s health issues (Department of Health, 1992), National Health Services made a significant effort toward reduction of financial costs for health screenings (Barton, 2000). Marketed as “Well Man Check-ups”, public health agencies were financially sponsored to offered full medical screenings which included information gathering about prior medical history, measurement of body mass index, and tests for hearing, vision, blood pressure and cholesterol, testicular examination, prostate cancer (if 50 years old), urinalysis for diabetes or kidney infection, lung function testing, ECG for heart problems, a chest x-ray (if tobacco smoker), and discussion about lifestyle and health concerns (Marie Stopes International, 2012; National Health Services Choices, 2011). Clinics that provided “Well Man Check-ups” provided an affordable “one-stop-shop” for convenient screening and intervention. This approach not of using paraprofessionals and nurses in clinic settings not only provided low-cost or free care, but also reduced demands on medical practitioners and overall cost for consumers (Fielder, 2003). While these interventions do not directly address psychological stigma in seeking help from one’s physician, they function to significantly reduce concrete barriers such as cost, time, and transportation that restricts many men in attending to health concerns.

In Australia, Gascoyne Public Health provided free health screenings at a variety of public events including an automobile drag-racing competition (Hall & Alston, 2001). Given the predominantly male clientele at the event, staff members adapted the presentation of the health
screening to be consistent with the mechanical theme of the event. As such, health screenings were reframed to their mechanical parallels – exams were referred to as “inspections” and involved checking “oil levels” (i.e., blood pressure), “exhaust system” (i.e., tobacco use and lung health), and “spark plugs” (i.e., testicular cancer). Referrals for additional care were printed onto “work order sheets”, and registration stickers and “male maintenance kits” were provided to participants following the screening. Staff members were dressed in coveralls and referred to one another as crew members, and mechanical equipment was prominently on display. This approach goes well beyond the “well man screenings” previously described in the United Kingdom in that the organizers’ design is intentionally directed at reduction of men’s gender role conflict. That is, by reframing engagement in healthcare (i.e. a traditionally feminine behavior) as a parallel process to vehicle maintenance (i.e. a traditionally masculine behavior), social and self-stigma could be subverted and participants were more likely to actively engage with healthcare providers. This gender-sensitive approach to health screening operated on two levels by (a) reducing psychological barriers and stigma related to accessing healthcare, and (b) eliminating practical barriers (e.g., finances, transportation) as staff provided the free intervention in a setting where men were already gathered.

Lastly, several institutional interventions have been initiated to increase men’s healthcare engagement with general practitioners, specialists, and behavioral health providers by marketing services specifically to men. Men’s Health Clinics and Men’s Wellness Centers have been founded in many cities across the United States. While many of the centers focus on treatment of male-specific health concerns (e.g., prostate health, sexual dysfunction, vasectomy/reversal, infertility, low testosterone), a majority of centers also provide holistic care including general health assessment and behavioral health interventions. By virtue of branding these healthcare
locations as focused on the treatment of men, they position themselves as male-friendly venues for treatment of health and wellness concerns to potential consumers. As a result, men may feel more comfortable bringing their physical and mental health concerns to treatment providers given that they can trust their concerns will be taken seriously and treated with respect.

In sum, a variety of gender-sensitive interventions have been created to reduce stigma and barriers to accessing care in several ways, including helping men better identify symptoms in themselves, providing gender-sensitive assessment of concerns by healthcare professionals, reframing preventive health screenings in male-friendly ways, and creating facilities that are designated for treatment of men’s concerns. These approaches are sensitive to men’s internalization of gender role norms and reduce potential for gender role conflict in different ways. Male-friendly adjustments to healthcare provision also included reduction of practical and psychological barriers to help-seeking for psychological and physical concerns. It is important to note that many of these interventions and systemic adaptations to promote men’s healthcare engagement have been based on clinical intuition and demonstrated need. Additional research to measure effectiveness of these interventions in reducing men’s subjective experience of gender role conflict, self-stigma, and social-stigma is necessary to continue development of interventions to reduce men’s perception of barriers to help-seeking and fostering actual follow-through with access to services.

**How Does This Research Study Translate to Improve Men’s Help-Seeking?**

The purpose of the current study was to examine how several variables predict, and interact with one another to predict, men’s perception of barriers to help-seeking for a hypothetical physical health concern. These variables included conformity to masculine ideologies, experience of gender role conflict, age, socioeconomic status, current physical health,
and history of healthcare engagement (as measured by three single-item variables). The current study used hierarchical multiple regression to examine how much variance these constructs predicted independently of one another in order to directly compare their predictive power. In addition, several interaction terms were added at step two in order to identify whether they predicted a significant proportion of variance in men’s perception of barriers to help-seeking beyond the individual variables.

As described above, researchers, clinicians, and healthcare practitioners have utilized a variety of theoretical and intuitive approaches to de-stigmatize help-seeking and create more male-sensitive treatment approaches to enhance provision of care for physical and psychological concerns. This research study is intended to identify which variables function as the best predictors for perception of barriers to accessing care. As a result of knowing which variables contribute the greatest variance, this allows for hypotheses to subsequent questions: How should effort and resources be allocated to result in the greatest impact on decreasing men’s perception of barriers to healthcare access? For example, should resources be designated toward planning a male-friendly event to reduce gender role conflict? Or would it make more sense to use funds to decorate office spaces in a way that makes male clients feel welcome (e.g. magazines, artwork) because it fits with masculine ideologies? Is partnering with employers to provide convenient health screenings in the workplace most effective because it reduces concrete barriers? Or would focusing medical training to promote gender-sensitive doctor-patient communication help men feel more in control of their medical and behavioral health choices? Alternatively, if age or socioeconomic status is the greatest contributor to variance, does it make more sense to invest resources toward targeting specific age groups or demographics of men? The current study aims
to answer these questions in part by identifying which theoretical and epidemiological variables predict the greatest variance in perception of barriers to help-seeking.

Of course, researchers and clinicians can focus effort and energy on designing and adapting interventions specifically to (a) decrease men’s sense of stigma toward help-seeking, such as in the RMRD campaign, by adapting the mental health model to fit with physical health care concerns (e.g., prostate cancer), or (b) improve physician skills in communicating effectively with male patients to increase effectiveness in accurate assessment, diagnosis, and treatment of concerns. In short, through improved understanding of the culture of masculinity and related variables, better targeted interventions can be developed to address specific barriers that men experience in a more sensitive and nuanced way. In sum, this study may be useful in developing future designs for interventions that promote men’s healthcare engagement.
APPENDIX IV:

MATERIALS AND MEASURES
Study Advertisement

**Website:** [http://www.reddit.com](http://www.reddit.com)

Posted in the following subreddits: /r/MensRights; /r/health; /r/OneY; /r/AskMen; /r/daddit; /r/malefashionadvice; /r/beards; /r/MMA; /r/SampleSize

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**Posting Title:** Men's Health Survey: 20-30 minutes, raffle prize drawing for 1-year reddit gold.

My name is Chris Mackowiak, M.Ed. I’m a PhD candidate in Counseling Psychology at the University of Missouri, working on my **doctoral dissertation**. I can really use your help. I’m interested in **men’s health, masculinity, and men’s use of healthcare**. As such, I’m looking for a sample of **adult males (e.g., 18 years or older)** to take part in a one-time survey. The survey will take **approximately 20-30 minutes**. I intend to solicit **approximately 200 participants** for this study. The purpose of this study is to examine how strongly specific variables and interactions between variables predict men’s access to care for physical health concerns.

Upon completion of the study, you are eligible to enter your information for a raffle prize drawing. When data collection is complete, I will randomly select fifteen participants who will win a 12-month subscription to Reddit Gold (a $29.99 value). So you’d be supporting scientific research about men’s health and wellness, while I support Reddit by gifting you special access to the website. It’s a win-win.

No identifying information will be collected at any time during this anonymous survey – though you will be asked to include your reddit username if you would like to be considered for the raffle prize drawing. If you have any questions or concerns about this study, please contact me via this Reddit account (throwaway_research) or by email at ccmh36@mail.missouri.edu. Also, you can contact the University of Missouri Institutional Review Board (IRB) at (573) 882-9585 or umcresearchcirb@missouri.edu should you have any additional concerns.

If you’re interested in participating, please click this link to be sent to my survey hosted by the University of Missouri Qualtrics website.

Thanks (in advance) for your help!!
Informed Consent to Participate in Research

You are being asked to participate in a research study. This form provides you with information about the study. The Principal Investigator (the person in charge of this research) or his/her representative is available to answer all your questions. Please read the information below and ask questions about anything you don’t understand before deciding whether or not to take part. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

Title of Research Study:
Masculinity, Physical Health, & Barriers to Help-Seeking

Principal Investigator(s), university affiliation, and telephone number(s):
Primary Investigator: Christopher Mackowiak, M.Ed.  University of Missouri, (774) 230-4541; ccmh36@mail.missouri.edu

Dissertation Chair: Puncky P. Heppner, Ph.D.  University of Missouri, (573) 882-3523; heppnerp@missouri.edu

What is the purpose of this study?
You will be one of approximately 200 participants in this study. The purpose of the study is to examine various factors and interactions that contribute to adult men's experience of psychological barriers to accessing care for a hypothetical physical health concern.

What will be done if you take part in this research study?
This study consists of an online survey, which requires approximately 20-30 minutes of participation to complete a series of questionnaires. Afterwards, you will be debriefed in writing. All aspects of the study will be conducted on a computer through a web browser.

What are the possible discomforts and risks?
We do not identify any significant risks to participating in the study. It is possible that some participants may experience disclosure of information about their health or masculinity to be uncomfortable or stressful. If you wish to discuss the information above or any other risks you may experience, you may email or call the principal investigator(s) listed on this form. If you experience undue distress at any point during the study, you may withdraw at any time. You will receive a thorough debriefing (explaining what the study was about) after you finish the study.

What are the possible benefits to you or to others?
Your honest responses will be used to contribute to an important area of research on the psychology of men and masculinity and men's health. Subsequent research may provide more targeted interventions to reduce the psychological barriers to help-seeking for men.

Will you receive compensation for your participation in this study?
All participants will be entered into a drawing upon completion of data collection. Prizes include fifteen (15) twelve-month subscriptions to Reddit Gold for the account of your choice.
If you do not want to take part in this study, what other options are available to you? Participation in this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with the University of Missouri.

How can you withdraw from this research study? You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits for which you may be entitled. In addition, if you have questions about your rights as a research participant, please contact the University of Missouri Campus Institutional Review Board at (573) 882-9585 or email umcresearchcirb@missouri.edu

How will your privacy and the confidentiality of your research records be protected? Your name will not be solicited at any time in this research project, and IP addresses or any other identifying host information are not collected.

If the results of this research are published or presented at scientific meetings, your identity or identifiable information will not be disclosed.

Will the researchers benefit from your participation in this study? Besides opportunities for professional publication or presentation of the study results, the researchers will not benefit from your participation in this study.

By clicking YES below, you are indicating that you ARE AN ADULT MALE 18 YEARS OR OLDER, have read and understand the information presented above, and are stating that you are willing to participate in this research study.

Yes □ No □
Debriefing Form

Researchers have argued that more traditionally masculine men experience stigma toward seeking help for various health concerns (Addis & Mahalik, 2003). During the last decade, research has begun to examine specific barriers to accessing physical healthcare (Mansfield, Addis, & Courtenay, 2005) and identifying specific factors that predict negative attitudes toward help-seeking (Garfield, Isacco, & Rogers, 2008). However, men’s health research has not compared factors to identify the strongest predictors, nor explored the interaction between factors in predicting men’s experience of psychological barriers to help-seeking for physical health concerns. The study you just completed aims to add to this area of research by comparing individual factors and examining interaction effects in predicting barriers to help-seeking. By initiating this project, we hope to better understand the factors that predict barriers to help seeking. Factors examined in the present study included beliefs about masculinity, gender role conflict, current health concerns, history of healthcare access, age, and social class.

Importantly, this study is the first to examine the relationships between these factors and barriers to help seeking with an adult male population, and it stands to make a contribution to the scholarly literature. Additionally, the study will hopefully provide useful information toward targeting specific interventions to decrease men’s experience of significant barriers to help-seeking and to improve men’s ability to access healthcare.

The article and topic stands to contribute to several broad areas of research relevant to gender studies, men and masculinity, and health. We plan to submit a manuscript based on the findings of this study for publication in the American Psychological Association-sponsored journal *Psychology of Men and Masculinity*.

Individuals interested in learning more about the psychology of men and masculinity may opt to visit the website of the Society for the Psychological Study of Men and Masculinity (Division 51 of APA). The society advances knowledge in the new psychology of men through research, education, training, public policy, and improved clinical services for men. SPSMM provides a forum for members to discuss the critical issues facing men of all races, classes, ethnicities, sexual orientations, and nationalities. The SPSMM website is located at [http://www.apa.org/about/division/div51.html](http://www.apa.org/about/division/div51.html)

If you have questions about the study, the primary investigators Christopher Mackowiak, M.Ed., can be contacted at ccmh36@mail.missouri.edu and Puncky Heppner, Ph.D., can be contacted at HeppnerP@missouri.edu to answer any questions or concerns. If at any time you have questions or concerns about your rights as a participant, please contact the University of Missouri-Columbia Campus Institutional Review Board at (573) 882-9585 or e-mail at umcresearchcirb@missouri.edu.

Thank you very much for your participation in the study!!
Raffle Prize Drawing Form

If you would like to enter the raffle to win one of 15 twelve-month subscriptions to Reddit Gold, please click the YES button below.

My first name:

My preferred Reddit account username:

My email address (in case of difficulties donating reddit gold ONLY):
Barriers to Help-Seeking Scale (Mansfield, Addis, & Mahalik, 2005)

There are a variety of reasons why people choose to seek help or not seek help from doctors, nurses, or other medical professionals. We’re interested in the sorts of reasons why you might choose not to seek help for a particular problem.

Imagine that you begin to experience some pain in your body. The pain is not so overwhelming that you can’t function. However, it continues for more than a few days and you notice it regularly. You consider seeking help from a medical doctor or professional health care provider in your area.

How likely would you be to seek help for this health problem? (Please circle a number to indicate your answer).

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all likely</td>
<td>Somewhat likely</td>
<td>Extremely likely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Below are some reasons why you might not seek help. Please read each reason and decide how important it is in keeping you from seeking help. If you think that a reason is very important in keeping you from seeking help, you should circle a 4. If you think that a reason is not at all important, you should circle a zero. You can also circle any number in between to indicate how important a reason is for not seeking help.

<table>
<thead>
<tr>
<th>Not at all a reason</th>
<th>Very important reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

1. I would think less of myself for needing help.  
2. The problem wouldn’t seem worth getting help for.  
3. People typically expect something in return when they provide help.  
4. Privacy is important to me, and I don’t want other people to know about my problems.
5. I don’t like to get emotional about things. 0 1 2 3 4
6. I don’t like other people telling me what to do. 0 1 2 3 4
7. The problem wouldn’t be a big deal; it would go away in time. 0 1 2 3 4
8. I would have real difficulty finding transportation to a place where I can get help. 0 1 2 3 4
9. This problem is embarrassing. 0 1 2 3 4
10. I don’t like to talk about feelings. 0 1 2 3 4
11. Nobody knows more about my problems than I do. 0 1 2 3 4
12. I wouldn’t want to overreact to a problem that wasn’t serious. 0 1 2 3 4
13. I wouldn’t know what sort of help was available. 0 1 2 3 4
14. I don’t want some stranger touching me in ways I’m not comfortable with. 0 1 2 3 4
15. I’d rather not show people what I’m feeling. 0 1 2 3 4
16. I’d feel better about myself knowing I didn’t need help from others. 0 1 2 3 4
17. Problems like this are part of life; they’re just something you have to deal with. 0 1 2 3 4
18. Financial difficulties would be an obstacle to getting help. 0 1 2 3 4
19. I don’t like taking off my clothes in front of other people. 0 1 2 3 4
20. I wouldn’t want to look stupid for not knowing how to figure this problem out. 0 1 2 3 4
21. I don’t like feeling controlled by other people. 0 1 2 3 4
22. I’d prefer just to suck it up rather than dwell on my problems. 0 1 2 3 4
23. I don’t trust doctors and other health professionals. 0 1 2 3 4
24. I wouldn’t want someone of the same sex touching my body. 0 1 2 3 4
25. It would seem weak to ask for help. 0 1 2 3 4
26. I would prefer to wait until I’m sure the health problem is a serious one. 0 1 2 3 4

27. A lack of health insurance would keep me from seeking help. 0 1 2 3 4

28. I like to make my own decisions and not be too influenced by others. 0 1 2 3 4

29. I like to be in charge of everything in my life. 0 1 2 3 4

30. Asking for help is like surrendering authority over my life. 0 1 2 3 4

31. I do not want to appear weaker than my peers. 0 1 2 3 4
Gender Role Conflict Scale-Short Form (Wester, Vogel, O'Neil, & Danforth, 2012)

Instructions: In the space to the left of each sentence below, write the number that most closely represents the degree that you Agree or Disagree with the statement. There is no right or wrong answer to each statement; your own reaction is what is asked for.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
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<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

1.  __ Finding time to relax is difficult for me.

2.  __ Winning is a measure of my value and personal worth

3.  __ Affection with other men makes me tense.

4.  __ I like to feel superior to other people.

5.  __ Talking about my feelings during sexual relations is difficult for me.

6.  __ I have difficulty expressing my emotional needs to my partner.

7.  __ Men who touch other men make me uncomfortable.

8.  __ I have difficulty expressing my tender feelings.

9.  __ Hugging other men is difficult for me.

10. __ My needs to work or study keep me from my family or leisure more than I would like.

11. __ I strive to be more successful than others.

12. __ I do not like to show my emotions to other people.

13. __ My work or school often disrupts other parts of my life (home, family, health, leisure).

14. __ Being very personal with other men makes me feel uncomfortable.

15. __ Being smarter or physically stronger than other men is important to me.

16. __ Overwork and stress caused by a need to achieve on the job or in school, affects/hurts my life.
Conformity to Masculine Norms Inventory-46 (Parent & Moradi, 2009)

The following pages contain a series of statements about how men might think, feel or behave. The statements are designed to measure attitudes, beliefs, and behaviors associated with both traditional and non-traditional masculine gender roles.

**Thinking about your own actions, feelings and beliefs**, please indicate how much you **personally agree or disagree with each statement** by circling SD for "Strongly Disagree", D for "Disagree", A for "Agree," or SA for "Strongly agree" to the left of the statement. There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering.

1. In general, I will do anything to win  SD D A SA
2. If I could, I would frequently change sexual partners  SD D A SA
3. I hate asking for help  SD D A SA
4. I believe that violence is never justified  SD D A SA
5. Being thought of as gay is not a bad thing  SD D A SA
6. In general, I do not like risky situations  SD D A SA
7. Winning is not my first priority  SD D A SA
8. I enjoy taking risks  SD D A SA
9. I am disgusted by any kind of violence  SD D A SA
10. I ask for help when I need it  SD D A SA
11. My work is the most important part of my life  SD D A SA
12. I would only have sex if I was in a committed relationship  SD D A SA
13. I bring up my feelings when talking to others  SD D A SA
14. I would be furious if someone thought I was gay  SD D A SA
15. I don't mind losing  SD D A SA
16. I take risks  SD D A SA
17. It would not bother me at all if someone thought I was gay  SD D A SA
18. I never share my feelings  SD D A SA
19. Sometimes violent action is necessary  SD D A SA
20. In general, I control the women in my life  SD D A SA
21. I would feel good if I had many sexual partners  SD D A SA
22. It is important for me to win  SD D A SA
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>23.</td>
<td>I don't like giving all my attention to work</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>24.</td>
<td>It would be awful if people thought I was gay</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>25.</td>
<td>I like to talk about my feelings</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>26.</td>
<td>I never ask for help</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>27.</td>
<td>More often than not, losing does not bother me</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>28.</td>
<td>I frequently put myself in risky situations</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>29.</td>
<td>Women should be subservient to men</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>30.</td>
<td>I am willing to get into a physical fight if necessary</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>31.</td>
<td>I feel good when work is my first priority</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>32.</td>
<td>I tend to keep my feelings to myself</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>33.</td>
<td>Winning is not important to me</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>34.</td>
<td>Violence is almost never justified</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>35.</td>
<td>I am happiest when I'm risking danger</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>36.</td>
<td>It would be enjoyable to date more than one person at a time</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>37.</td>
<td>I would feel uncomfortable if someone thought I was gay</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>38.</td>
<td>I am not ashamed to ask for help</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>39.</td>
<td>Work comes first</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>40.</td>
<td>I tend to share my feelings</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>41.</td>
<td>No matter what the situation I would never act violently</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>42.</td>
<td>Things tend to be better when men are in charge</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>43.</td>
<td>It bothers me when I have to ask for help</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>44.</td>
<td>I love it when men are in charge of women</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>45.</td>
<td>I hate it when people ask me to talk about my feelings</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
<tr>
<td>46.</td>
<td>I try to avoid being perceived as gay</td>
<td>SD</td>
<td>D</td>
<td>A</td>
</tr>
</tbody>
</table>
Short Form -12v2 (Ware, Kosinski, & Keller, 1996)

Your Health and Well-Being

This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities. Thank you for completing this survey!

For each of the following questions, please mark an X in the one box that best describes your answer.

1. In general, would you say your health is:

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>5</td>
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</tbody>
</table>

2. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

Yes, limited a lot Yes, limited a little No, not limited at all

| 1 | 2 | 3 |

a. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf.

b. Climbing several flights of stairs.

3. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

<table>
<thead>
<tr>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
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<td>5</td>
</tr>
</tbody>
</table>

a. Accomplished less than you would like.

b. Were limited in the kind of work or other activities.

4. During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

<table>
<thead>
<tr>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

a. Accomplished less than you would like.

b. Did work or other activities less carefully than usual.
5. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

6. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks...

<table>
<thead>
<tr>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

a. Have you felt calm and peaceful? .........................1……2……3……4……5

b. Did you have a lot of energy? .............................1……2……3……4……5

c. Have you felt downhearted and depressed? ...............1……2……3……4……5

7. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

<table>
<thead>
<tr>
<th>All of the time</th>
<th>Most of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
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<td>5</td>
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</tbody>
</table>

Thank you for completing these questions!
History of Medical Care/Health Concerns

1. **How many times in the past year** have you sought help from a health care professional (e.g., nurse, doctor)?
   Response = Continuous variable

2. Roughly **how many times in the past five years** have you sought help from a health care professional (e.g., nurse, doctor)?
   Response = Continuous variable

3. Roughly how many times in the **past year** has **someone suggested** you seek medical assistance, but you **decided not to** seek medical advice?
   Response = Continuous variable

4. How many times **in your lifetime** have you been **admitted for inpatient care at a hospital**?
   Response = Continuous variable

5. How many times **in the past five years** have you sought help from an **emergency health center** (e.g., urgent care, emergency room services)?
   Response = Continuous variable

6. Do you have “**annual check-ups**” with a health care professional? If so, for roughly how many years have you done this?
   Yes (1) or No (0) – follow-up response = continuous variable

7. Do you seek advice from a **family member/friend** in the medical field (e.g. nurse, physician’s assistant)?
   Yes (1) or No (0)

8. Are you **yourself employed** in the medical profession (e.g., nurse, doctor, radiologist)?
   Yes (1) or No (0)
Demographics

1. Sex: Male___ Female___ Transgender___ Prefer not to answer___
2. Age: __________
3. Educational level (highest level that fits you):
   - Some high school___ High School Diploma/Equivalent___ Some College___ Bachelor’s Degree___ Master’s Degree___ PhD___
   - Other education: __________ Prefer not to answer___
4. Race:
   - Caucasian/European Descent___ Black/African Descent___ Latino/a/Hispanic___
   - Asian Descent___ Biracial/Multiracial___ Other race/ethnicity: ____________
   - Prefer not to answer___
5. Estimated annual household income (Total amount without $, e.g. 40000): __________
6. Current Employment Status:
   - Full-time___ Part-time___ Not Employed, But Seeking___
   - Not Employed, Not Seeking___ Full-Time Student___ Part-Time Student___
   - Other: ____________ Prefer not to answer___
7. Think of this slide scale as representing where people stand in society. At the top of the scale (100) are the people who are best off—those who have the most money, most education and best jobs. At the bottom (0) are the people who are worst off—who have the least money, least education and the worst jobs or no job. The higher up you are on this ladder, the closer you are to people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the slide scale? Please click where you think you stand.
Response = Sliding bar, 0-100.

8. Do You Have Insurance coverage?: Yes____ No____ Not sure____
   Other:_____________ Prefer not to answer___

9. Present Marital Status: Married___ Single___ Divorced___ Remarried___
   Other:_______________ Prefer not to answer___

10. Sexual orientation:
    Heterosexual___ Mostly heterosexual___ Bisexual___ Mostly
    Homosexual___ Homosexual___ Other:____________
    Prefer not to answer___

11. Religious affiliation:
    Christian___ Jewish___ Buddhist___ Muslim___ Hindu___ Atheist___
    Agnostic___ Other:______________ Prefer not to answer___

Open-Ended Questions

1. What (if anything) don’t you like about visiting a primary care physician?

2. What (if anything) do you like about visiting a primary care physician?

3. What advice do you have for health professionals trying to help men access healthcare?

4. Critical/supportive feedback for this study is welcome!
Christopher Mackowiak was born in Worcester, Massachusetts, on February 29, 1984. He was raised in Dudley, Massachusetts, and graduated from Shepherd Hill Regional High School in 2002. Chris earned a Bachelor of Arts in Psychology and Sociology from Clark University in 2006, graduating with honors, Summa Cum Laude. During 2006-2007, he worked for Youth Opportunities Upheld, Inc., as a Clinical Counselor I at the Joy and Robert Wetzel Center for Children and continuing with research at Clark University. Chris began the APA-accredited Counseling Psychology doctoral program in the Department of Educational, School, & Counseling Psychology at the University of Missouri during Fall 2007. He completed a Master of Education in Counseling Psychology in May 2009 and has continued his doctoral coursework. He will complete his APA-accredited predoctoral internship in the Psychosocial Rehabilitation track at the Edith Nourse Rogers Memorial Veterans Hospital in Bedford, Massachusetts, and will fulfill all requirements for a Doctorate of Philosophy by August 29, 2014. To date, Chris is an author on two published research articles featured in *Psychology of Men & Masculinity* and *Journal of Counseling Psychology*. He hopes to pursue a career which focuses on clinical practice and clinical outcomes research with emphasis on training and supervision of psychology trainees.