GENDER INFLUENCES ON HELP SEEKING AMONG MEN AND WOMEN WITH CHRONIC PAIN

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For those whose suffering is complex and whose strength is unending.

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Sarah J. LaGrange

Gender Influences on Help Seeking among Men and Women with Chronic Pain

Previous research has supported the notion that significantly more women than men seek help for chronic pain. This study aims to understand gender differences in how, when, and from whom individuals seek help for chronic pain. In particular, many aspects of masculinity have been demonstrated to inhibit help seeking. Participants were a sample of patients seeking treatment at a pain treatment facility. It was hypothesized that there would be a greater discrepancy between pain self-reported on paper versus in person by men than would be by women. It was also hypothesized that higher conformity to masculine norms would be positively related to greater self-report discrepancy. Additionally, the author expected to find gender differences in the amount of time between the onset of pain and disclosure of pain as well as medical help seeking. Again, it was anticipated that greater delays in disclosure and medical help seeking would be related to higher conformity to masculine norms. Moreover, conformity to masculine norms was expected to mediate gender differences in help seeking. The author also hypothesized that the type of people to whom pain is first disclosed would differ based on differences in gender and conformity to masculine norms.

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How does gender influence help seeking for chronic pain? This study addresses this question by examining the potential influence of gender on the self-report of pain, delay in medical help seeking and to whom pain is first disclosed. I begin with an overview of key concepts associated with chronic pain, including its definition, prevalence, and correlates. Next, I review the interaction between physical symptoms and psychological factors. I then provide a review of the literature on help seeking and discuss a continuum of help-seeking behaviors. Finally, I explore the literature on help-seeking and gender.

Definition, Prevalence, and Correlates of Chronic Pain

Chronic pain is a condition which encapsulates many different disorders. It is defined by the American Chronic Pain Association (ACPA) as pain that lasts a month or longer past the average recovery period for the particular ailment experienced (Covington, 2012). The ACPA also recognizes the impact of chronic pain as being broad in scope. The way pain is experienced can influence several different areas of functioning (e.g. psychological, physical, occupational, etc.). Turk and Monarch (2002) argued that criteria for chronic pain has many shared features, including (a) physical discomfort ; (b) emotional distress; and (c) limitations of activity; (d) interruption of psychosocial features. Additionally, some researchers have come to the conclusion that chronic pain has the tendency to lack a physical explanation (i.e. a specific injury or illness; Fishbain, et. al., 2009; Konijnenberg, et. al., 2005; Meeus & Nijs, 2007). Gatchel (2004) concluded that chronic pain not only affects a large portion of the population (i.e. over 50 million Americans), but also imposes a large financial burden due to healthcare expenditures and lost productivity exceeding $70 billion each year.

According to a recent poll by Johannes et al., (2010), 30.7% of US adults experience chronic pain. Furthermore, chronic pain is more prevalent in some populations than others. A recent Gallup poll (Brown, 2012) showed that more than one-third of Americans in their mid-50s or older have chronic pain. Additionally, the Gallup poll also revealed a higher prevalence of chronic pain in individuals with lower incomes or obesity.

Chronic pain affects those who suffer from it in several ways. The most obvious way that pain impacts the individual is the physical discomfort associated with pain. Chronic pain is often identified by an individual's expression of subjective pain experience (Gatchel et al., 2007). Chronic pain, though physical is interdependent with social, psychological, and emotional factors (Gatchel et al., 2007). The etiology of pain is one way to determine how pain may be experienced. For instance, arthritic pain tends to be more prevalent in older adult populations (i.e. adults 65 years of age or older) and has a large influence on physical activity limitations (Hootman & Helmick, 2006). Nevertheless, although it may be easy to identify arthritis as one explanation for pain experienced, the many individual-specific factors that interact with the arthritis (e.g., participation in exercise, negative influence on self-concept) will certainly influence *how* the pain is experienced.

Another way to consider how chronic pain is experienced is the psychological impact of the pain. Pain has been found to be comorbid with many psychological symptoms. Many scholars have argued that pain often influences symptoms of depression, anxiety, and pain coping strategies (i.e. catastrophizing) (Dersh, Polatin, & Gatchel, 2002; Haythornthwaite & Benrud-Larson, 2000). In addition, chronic pain has often been found to be comorbid with substance use disorders (Dersh et al. 2002). Fear and avoidance beliefs have also been linked with chronic pain and may provide some insight into the interaction between pain and

psychological symptoms (Boersma & Linton, 2006). Many theories have drawn attention to the connection between physical pain and psychological problems, but the most prominent is the biopsychosocial model.

The biopsychosocial (BPS) model was developed as a means for better understanding how pain is both developed and experienced (Andrasik, Flor, & Turk, 2005; Gatchel, 2004). The BPS model takes into consideration how biological, psychological, and social factors contribute to pain. Unlike previous models, BPS expands on the conceptualization of pain by encouraging a multidimensional study of pain (Gatchel et al., 2007; Gatchel, 2004). Previous approaches relied on a more dualistic concept of mind and body, whereas the BPS model promotes a more interdependent relationship. Many researchers have concluded that it is critical to consider the ways in which biological and psychosocial factors interact in order to understand and treat chronic pain (Gatchel, 2004; Truchon, 2001). One longitudinal study of patients with rheumatoid arthritis found that the BPS model was useful in predicting both pain and depression (Covic, Spencer, & Howe, 2003).

The interaction between physical pain and psychological symptoms has been demonstrated in a number of studies (McLean et al., 2005; Devereux, Vlachonikolis, & Buckle, 2002; Turk & Okifuji, 2002). A review of studies revealed a consistent relationship between acute stress responses to trauma and negative psychosocial consequences after motor vehicle collisions, which often lead to chronic pain (McLean et al., 2005). The authors suggest that models that take these relationships into account as well as other features (e.g. past experience and post-accident behavior) are necessary for understanding how chronic pain develops. Another study indicated that those exposed to physical and psychosocial stressors at work are significantly more likely to report pain symptoms than those exposed to high levels of one or the

other (Devereux, Vlachonikolis, & Buckle, 2002). These interactions between physical pain and psychological stressors are further complicated by their connection with genetic and environmental influences. For instance, Diatchenko et al. (2006) found that not only did pain seem to be amplified by psychological distress, but it was also dependent on dysregulation of the central nervous system (CNS). The regulation of the CNS was found to correlate with specific genetic codes. Given the connection between psychosocial factors and chronic pain, it is also important to examine the help-seeking behavior associated with chronic pain.

Help Seeking

Help Seeking and Chronic Pain

Healthcare and psychological care utilization by individuals with chronic pain has been demonstrated to be broadly similar to non-chronic pain populations. One study found that individuals with recurrent or severe-persistent pain had similar rates of ambulatory care usage as the average population (Von Korff et al., 1991). While some have posited that the amount of chronic pain patients seeking treatment has increased, they have also estimated a relative rise in the prevalence of chronic pain (Freburger et al., 2009). The rates of healthcare utilization for chronic pain patients do not reflect the estimated number of individuals suffering from chronic pain (Breivik et al., 2006). There are several factors that may deter individuals from seeking much needed professional help for chronic pain. One such factor is the high cost of pain management (Turk, 2002). The average annual cost for an individual's chronic pain treatment ranges from $12, 900 to $18,833 (Turk, 2002). Other factors include accessibility and attitudes toward treatment. That is, individuals with poorer attitudes toward treatment are less likely to seek professional help for chronic pain For example, one study looking at ethnic differences in chronic pain healthcare utilization found that African Americans were less likely than Caucasian

Americans to use regular healthcare visits to address their chronic pain (Green, Baker, & Ndao-Brumblay, 2004). The authors found that both access to and attitudes towards treatment influenced this disparity. In this section, I have reviewed help seeking as it relates to chronic pain. In the following section, I address the different types and definitions of help seeking that apply to the chronic pain population.

Formal and informal help seeking. The potential benefits of help seeking for chronic pain are numerous and far-reaching. These benefits include a reduction of pain, decreased emotional distress, improvement in disability status, and decreased healthcare costs (McCracken & Turk, 2002). It is important to consider the different forms of help seeking that can produce such benefits. Help seeking is conceptualized as a series of events that lead to an individual's decision to seek help (Dearing & Twaragowski, 2010). The practice of seeking help can be viewed from both formal and informal definitions. The more formal categories of help seeking include professional methods (i.e. mental health professionals, physicians, licensed physical therapists, etc.). These events may be formal and intentional ways of seeking help. One such event would be consulting with a health professional. Help seeking that fits into less formal categories includes seeking help from laypersons (.e.g., friends, family) and paraprofessionals/semiprofessionals (e.g. religious leaders, clergymen). An individual may also seek help in a much less formal manner. An example of informal help-seeking behavior is disclosing a problem or soliciting advice from family and friends. Regardless of the formality of the behavior, seeking help can be applied to several different problems (Dearing & Twaragowski, 2010). These problems may range from everyday issues like time management to more weighty concerns like major health symptoms. Help seeking is also applied in different settings according to the problem identified. For instance, someone experiencing psychological

symptoms may first seek informal help and then move to a more formal type of help (e.g. mental health professional). Yet, someone experiencing physical symptoms may initially seek more formal types of help. Help-seeking behaviors are influenced by individual characteristics, the information that they already have regarding the problem, and the perceived outcomes of choosing a particular behavior (Greenley & Mechanic, 1976). As such, one must consider the continuum of different help-seeking behaviors.

In sum, there is a broad range of behaviors that can be conceptualized as help seeking. The help-seeking continuum of different ways to obtain help starts with initially disclosing the concern and or symptoms to someone. Several studies have indicated that the individual to whom issues are first disclosed is often someone with a closer relationship status (e.g. a spouse or partner) (Elliot-Schmidt & Strong, 2008; Larzelere & Huston, 1980). Informal help is often spontaneous and tends to flow naturally from the individual's life (Froland, 1980). In fact, some populations (e.g., Chinese Americans) have demonstrated an overall preference for less formal means of help (Kung, 2003; Oliver, Reed, Katz, & Haugh, 1999). For example, a study by Elliot-Schmidt and Strong (2008) indicated that individuals from rural communities often seek help for health concerns from a layperson as opposed to a professional. The study revealed both practical and economical convenience as critical factors influencing help seeking. Another important influence on help seeking is an individual's social network.

Social networks and help seeking. An individual's social network often has an influence on later decisions regarding treatment (Pescosolido, 2006). Many individuals who seek informal help eventually seek more formal treatment from a medical or psychological professional (Thompson, Hunt, Issakidis, 2004; Mumford, Warr, Owen, & Fraser, 1999). Rogler and Cortes (1993) argue that all help-seeking behaviors are dependent on cultural

influences which emanate from social networks. Oftentimes, an individual's decision to seek or not seek professional help results from support or discouragement from closer individuals (Cummings, Becker, & Maile, 1980). There are many factors related to an individual's social network that can influence help-seeking including social network members' knowledge about disease, others' experiences with treatment or anecdotes, and stigma or normative behaviors (Pescosolido, Brooks Gardner, & Lubell, 1998).

A social network is made up of individuals who represent both formal (e.g. family physicians, mental health practitioners) and informal (e.g. friends, siblings) connections (Heaney & Israel, 2002). Oftentimes, individuals do not seek professional help directly (Saunders, 1996). The decision to seek professional help is often preceded by consultation with family members (Saunders, 1996). In fact, a significant increase in utilization of medical services was observed when individuals had increased social support from their spouse/partner (Maulik, Eaton, & Bradshaw, 2011). This finding was demonstrated in similar fashion to a referral from a family member encouraging the individual to seek treatment for a specific problem. In the same vein, individuals who disclose their problems to members of their closer social network (e.g. friends, family) have demonstrated a greater likelihood of seeking professional help for mental health issues (Maulik et al., 2011; Vogel & Wester, 2003). A study of help seeking for health problems found that those with more social network support were more likely to seek professional help (Berkanovic, Telesky, & Reeder, 1981). Overall, these findings suggest that the more an individual reaches out for help from their social network, the more likely they are to seek further help from a professional. Thus, understanding how an individual's social network interacts with help seeking provides a fuller picture of the help seeking process. Given the importance of help seeking, it is useful to identify variables that predict how, when, and from whom individuals seek

help for chronic pain. In the following section, I argue that gender is a salient factor influencing help seeking.

Gender and Help Seeking

Gender may be one important factor that influences help seeking for chronic pain. The current literature suggests that women report higher levels of chronic pain than men, but this gender discrepancy is more pronounced in the clinic as opposed to a research lab (Greenspan et al., 2007). This gender discrepancy in the report of pain could be due to under-disclosure by men rather than gender differences in the objective experience of pain. Pain intensity has been shown as a strong predictor of an individual's consultation for pain (Hagen, Bjorndal, Uhlig, & Kvien, 2000). Another study found that men and women both perceived men as being less willing than women to report pain and that men and women believed that men could more easily withstand pain (Robinson et al., 2001). Thus, men may be more reluctant to seek help or may under-report chronic pain if they believe their pain is not as intense as others' pain.

Gender Differences in Help Seeking

Many studies have concluded that women do engage in more professional help-seeking behaviors for chronic pain than men (Cornally & McCarthy, 2011; Miro et al, 2006; Watkins et al, 2006). More broadly, research indicates that men are more reluctant than women to seek help. An extensive review of the literature suggests that many of the behaviors that put men at risk are controllable and related to resistance to seeking help (Courtenay, 2000). Gender differences in help-seeking behaviors are evident in (a) the method of disclosure (verbally vs. in writing), (b) professional help seeking, and (c) help seeking from informal or non-professional sources.

Method of disclosure. First, men may be less likely than women to reveal problems (e.g. pain) in verbal, interpersonal interactions as opposed to in writing. Men are less likely to reveal

negative emotions and problems in a face-to-face, verbal context than in writing (Wong & Rochlen, 2005). Men have also been shown to demonstrate less concern for pain that has an emotional component (Bendelow, 1993). Courtenay (2000) found that when men do seek help from professionals they often ask fewer questions than do women. In contrast, women, in diagnostic interviews, reported more physical symptoms (e.g. stomach pain, headache, etc.) than did men even when controlling for psychiatric comorbidity (Kroenke & Spitzer, 1998). The use of writing as a means to access men's feelings may allow for a more accurate assessment of their pain. A study comparing psychotherapy based on interpersonal interaction and expressive writing showed that men were more likely to display their negative feelings in the writing exercise than in psychotherapy, whereas women were more likely to disclose their negative feelings in psychotherapy than in writing (Donnelly & Murray, 1991). In light of these findings, I surmise that compared to women, men may be less likely to disclose chronic pain in a verbal, face-to-face context than in writing.

Help seeking. Second, compared to women, men are more reluctant to seek professional help for mental and physical illness and are also more likely to delay seeking professional help (Bertakis et al., 2000; Oliver et al., 2006). A review of the research on gender and help seeking shows that men seek professional help for physical and mental health at lower rates than women (see Galdas, Cheater, & Marshall, 2005; Oliver et al., 2006). A qualitative study by Smith, Pope and Botha (2005) revealed such reluctance in men when compared with women to seek professional help for pain related to cancer symptoms. Overall, men have demonstrated lower rates of professional help-seeking behaviors aimed at early treatment for health concerns (Smith, Braunack-Mayer, & Wittert, 2006). Men are less likely to visit physicians regularly (Waldron, 1976; Waldron, 1991), delaying the possibility of early diagnosis. In a study of US veterans

(Kaur et al., 2007), male veterans had significantly lower rates of health appointment visits than did female veterans. Many of these appointments were aimed at addressing pain issues. Considering the relatively high rate of chronic pain in veterans when compared with a civilian population (2007), these findings suggest that the male veterans were delaying treatment. Not only have men demonstrated a reluctance toward and a delay in seeking professional help, similar findings have been found with informal help.

Informal help seeking. Third, men are less likely than women to seek help from more informal sources. A study by Rickwood and Braithwaite (1994) demonstrated this phenomenon, revealing a reluctance of males compared to females to seek informal help including social support. Another study found that girls were more willing than boys to seek help from informal sources such as friend and family (Raviv, Sills, Raviv, & Wilansky, 2000). A third study by Unruh, Ritchie, and Merskey (1999) found that men used fewer informal social resources to cope with their chronic pain than did women. For instance, women tended to use more social support networks (e.g. family, friends, etc.) than men. These findings have been consistent in multiple populations (e.g., African Americans), including those that consider informal support critical (Barker, Morrow, & Mitteness, 1998; Neighbors & Jackson, 1984).

Studies that considered multiple types of help-seeking behaviors (i.e. professional, semi-professional, and non-professional) found that men sought help less than women from all available sources (Bertakis et al., 2000; Greenley & Mechanic, 1976; Kessler, Brown, & Broman, 1981). These patterns are consistent across varying populations (Neighbors & Howard, 1987) and emerge at earlier stages of development. For instance, Boldero and Fallon (1995) found that male adolescents were less likely to ask for help, particularly from peers than were female adolescents. The same study did find that when the boys sought help, it was often from

family members (i.e. parents). Another study focused on a college aged-population (Oliver, Reed, Katz, & Haugh, 1999) found that men were significantly less likely than women to seek help from informal sources. However, the same study revealed a preference for friends over family when seeking support.

To summarize, the research evidence demonstrate that compared to women, men are less likely to disclose their problems in interpersonal, verbal contexts, seek professional help for mental and physical health problems, and seek help from informal sources. These findings lead to the question: Why are there gender differences in help seeking? I propose that conformity to masculine norms may be a mechanism that explains gender differences in help seeking. There is a wealth of literature on masculinity and its impact on health behaviors. In the following section, I review the literature on masculinity constructs and empirical findings related to masculinity and help-seeking.

Masculinity and Help Seeking

There are many constructs related to masculinity, several of which rely on the gender role socialization paradigm. The gender role socialization paradigm proposes that there are social expectations of behaviors and attitudes to which men and women ascribe (Pleck, 1995; Shea & Wong, 2012). These gender expectations are transmitted through families, peers, schools, and the media. For example, men are often socialized to believe they must rely on themselves which may lead to a decrease in seeking help from others. However women and men also vary in the extent to which they internalize and conform to these gender expectations. In this review, I provide a brief explanation of three masculinity constructs that gained prominence in the psychological literature on men and masculinity: (a) gender role conflict, (b) masculinity ideology, and (c) conformity to masculine norms. Before continuing, it is important to distinguish between

masculinity and biological sex; masculinity is relevant to women in that women (similar to men) vary in their levels of gender role conflict, masculinity ideology, and conformity to masculine norms (Whorley & Addis, 2006). Indeed, a recent study found configural and metric invariance on a measure of conformity to masculine norms across women and men, indicating that scores on the measure can be compared across women and men (Parent & Smiler, 2012). This finding suggests that the construct of masculinity as identified by the conformity to masculine norms inventory is measured in the same way with men and women. It also demonstrates that the differences between men and women are reflected in the amount of variability in conformity to masculine norms.

Gender role conflict. Gender role conflict (GRC) is based on the notion that gender role socialization has negative psychological consequences for the individual adhering to gender roles or for others (O'Neil, 2008). GRC often results when gender roles restrict an individual or lead to the devaluation of the self or others. Examples of masculine gender role conflict include restrictive emotionality, success, power and competition, restrictive affective behavior among men, and conflict between work and family. O'Neil identifies four domains of GRC: cognitive, behavioral, affective, and unconscious. These domains are applied to experiences that cause an individual to experience stress related to the demands of gender role definitions. For example, gender role devaluations occur by downgrading the status of the self or someone else. GRC is similar to another construct, masculinity ideology, in that both assert that gender role socialization can create negative outcomes for men (Mansfield, Addis, & Mahalik, 2003).

Masculinity ideology. Masculinity ideology is described as internalization of cultural beliefs and attitudes related to the roles men hold (Levant & Richmond, 2007). A review of research on masculinity ideology (Levant & Richmond, 2007) highlights seven specific

dimensions of masculinity ideology: (a) avoidance of femininity; (b) fear and hatred of homosexuals; (c) self-reliance; (d) aggression; (e) achievement/status; (f) non relational attitudes toward sex; and (g) restrictive emotionality. Research has shown that individuals who are male, younger, single, and living in a more Southern geographic location tended to endorse more traditional masculinity ideology (Levant & Majors, 1997). Additionally, ethnicity was associated with masculinity ideology. Specifically, African Americans endorsed masculinity ideology more than Latino/a Americans who showed greater adherence than European Americans (Levant & Richmond, 2007). These findings suggest that cultural context may influence an individual's masculinity ideology.

Conformity to masculine norms. Based on the social norms literature, Mahalik et al. (2003) proposed that masculine norms are the rules and standards that constrain and guide masculine attitudes and behavior. These norms are often learned when boys or men observe what most men do in certain social scenarios (Mahalik et al., 2003). For example, masculine norms are learned when men observe that other men avoid overt expression of sadness (i.e. crying). Examples of masculine norms include (a) Winning; (b) Emotional Control; (c) Risk-taking; (d) Violence; (e) Dominance; (f) Playboy; (g) Self-reliance; (h) Primacy of Work; (i) Power Over Women; (j) Disdain for Homosexuals; and (k) Pursuit of Status (Mahalik et al., 2003). Men and women vary in the degree to which they conform to masculine norms, and there may also be benefits as well as costs associated with conformity and lack of conformity to these norms (Mahalik et al., 2003). Mahalik et al. developed the Conformity to Masculine Norms Inventory in an attempt to better understand how conformity (or lack thereof) to masculine norms might benefit or create problems for individuals. Conformity to masculine norms not only applied to behavioral conformity, but also to affective and cognitive conformity to masculine norms.

Consideration of each of these dimensions allows for multiple understandings of how one might conform. For instance, one individual may ascribe behaviorally to masculine norms yet not conform cognitively. These individually-specific constellations of conformity may produce varied outcomes for the ways in which an individual is affected by conformity to masculine norms. Not surprisingly, research has shown that men report higher levels of conformity to masculine norms than women (Parent & Smiler, 2012). Collectively, conformity to masculine norms, as well as masculinity ideology and gender role conflict aid in explaining the help-seeking behaviors of men and women.

Influence of masculinity on help seeking. Masculinity has been demonstrated as an important variable in models of help seeking. Specifically, masculine norms including emotional control and self-reliance have been associated with a greater reluctance to seek help (Mahalik, Good, & Englar-Carlson, 2003). For instance, in U.S. society, masculinity means being emotionally inexpressive and tough (Courtenay, 2000). If a man is adhering to such norms, he may avoid revealing pain that could demonstrate weakness. The relationship between masculinity and help seeking for mental health has demonstrated a negative relationship fairly consistently. Berger et al. (2005) found that men with greater traditional masculinity ideologies held more negative attitudes toward psychological help seeking. Another study found that a specific masculinity ideology, self-reliance, was inversely related to mental healthcare utilization (Ortega & Alegria, 2002). In a study using three separate masculinity measures (i.e. Conformity to Masculinity Norms Inventory, Gender Role Conflict Scale, and Male Role Norms Inventory-Revised), higher scores on all three were associated with increased negative attitudes toward psychological help seeking (Levant, Wimer, Williams, & Smalley, 2009). These negative attitudes may be influenced by social psychological processes specifically related to gender.

Addis and Mahalik (2003) argue that there are several social psychological gendered processes affecting help-seeking decisions. One such process is perceived loss of control. It follows that a person with high conformity to masculinity norms may be less likely to seek professional help because treatment often involves giving some control to a practitioner. Similarly, individuals who strongly conform to masculine norms may be more reluctant to disclose problems (e.g., the experience of chronic pain) in an interpersonal, verbal context than in writing because interpersonal disclosures may be associated with being vulnerable or weak, whereas disclosure in writing may promote a greater sense of control (Wong & Rochlen, 2005).

A growing body of research suggests that masculinity constructs (e.g., masculinity ideology, gender role conflict, and conformity to masculine norms) are negatively related to help-seeking behaviors and attitudes towards help seeking, regardless of their goal (e.g., pain relief, psychological help, etc.) (Levant et al, 2009; O'Neil, 2008; O'Neil, 2011). For instance, one study found that men who scored higher on traditional masculinity ideology and gender role conflict measures had increased negative attitudes towards seeking psychological help (Berger et al., 2005). In addition to mental health settings, the link between masculinity and help seeking has also been studied in health settings. In a qualitative study on men's health care utilization (Noone & Stephens, 2008), men viewed regular healthcare consultations as a more feminine and less masculine behavior. A similar study by Robertson (2003) found that men faced a struggle between appearing masculine by demonstrating unconcerned attitudes about their health and adhering to moral standards which assert that they should be concerned with their health. A study focused on specific healthcare utilization (Pinkhasov et al., 2010) found that men are less likely than women to use many different forms of healthcare (e.g. emergency departments, preventative care, etc.) in part due to several masculinity constructs (i.e. self-reliance, physical toughness, and

emotional control). The theme of masculine self-reliance as a deterrent for seeking medical assistance has appeared in several other empirical studies (Buckley & O Tuama, 2010). Another explanation for the relationship between masculinity and reduced health help-seeking behavior is perceived masculine normativeness. Men reported that they perceived regular health visits to be non-normative for males (Mahalik, Burns, & Syzdek, 2007).

In sum, there is mounting research evidence that masculinity constructs, such as gender role conflict, masculinity ideology, and conformity to masculine norms, negatively impact help seeking across diverse contexts. However, no study has considered conformity to masculinity norms as a mediating factor for gender differences in help-seeking behaviors. This study relies on the Conformity to Masculine Norms Inventory-46 (CMNI-46) in lieu of other masculinity measures because there is evidence for metric invariance in the factor structure of the CMNI-46, making scores comparable across both men and women. Additionally, Levant et al. (2009) found that among three masculinity measures, the CMNI was the only significant predictor of negative attitudes toward seeking professional psychological help.

Research Questions

Against this backdrop, the overall goal of this study is to determine how gender may influence help seeking for chronic pain among male and female patients at a pain treatment facility. My three sets of research questions address how, when and from whom participants seek help for chronic pain. The first set of research questions addresses the "how" of help seeking in terms of discrepancy in self-reported pain. This discrepancy was determined by subtracting verbal self-report pain scores (i.e., verbal disclosure of pain to a medical provider) from written self-report pain scores. I anticipated gender differences in the discrepancy of self-reported pain. Male participants would report greater levels of discrepancy in self-reported pain than women. I

also expected that higher conformity to masculine norms would be positively related to the discrepancy in self-reported pain. I anticipated that gender differences in self-reported pain discrepancy would be mediated by conformity to masculine norms. Men would report higher conformity to masculine norms than women, which would in turn be associated with greater discrepancy in self-reported pain.

The second set of research questions focused on when individuals seek medical help for chronic pain. I expected that there would be gender differences in the delay in help seeking. Specifically, relative to women, men would have longer delays in medical help seeking (based on the time between onset of pain and the first time participants seek medical help). Additionally, I expected to see gender differences in the delay of first disclosure of pain (based on the time between the onset of pain and the first disclosure of pain), with men having longer delays than women in disclosing their pain to someone else for the first time. I also anticipated that conformity to masculine norms would be positively related to the delay in help-seeking. Again, I anticipated that these gender differences in delayed help-seeking would be mediated by conformity to masculine norms.

The third group of research questions deals with the specific types of people to whom participants first disclose their pain. I sought to address the following questions: To whom do participants first disclose their pain (e.g. friend, family member, co-worker)? Are there gender differences in the types of people participants first disclose their pain to? Is the degree of conformity to masculine norms related to the types of individuals whom participants first disclose their pain to? Given the lack of conclusive empirical research in this area, no specific hypotheses were provided.

Method

Participants and Procedures

I recruited 108 participants (48 men), ranging in age from 26 to 79 (*M*= 49). The racial background of participants is as follows: 84% Caucasian/White, 4.6% Black/African American, 3.7% Other, and 2.8% American Indian/Native American. The educational background of participants is as follows: 1.8% 6th Grade or Below, 3.7% Less than 12th Grade, 36.1% Completed High School or GED, 30.4% Some College, 18.5% Bachelor's Degree, 9.3% Graduate or Professional Degree. Participants were patients seeking treatment at a Midwestern integrative pain treatment facility. Patients were recruited when they showed up for their appointments at the treatment facility. Patients who agreed to participate in the study completed an informed consent form and a paper-and-pencil survey, including relevant measures prior to their scheduled clinic appointments. Participants also completed a brief demographic survey including: age, racial background, annual household income, and highest level of education. Once the surveys were completed, I gathered the pain rating that the participants verbally reported to the intake nurse or provider. The pain rating that providers and nurses collected were matched with participant's data provided in the survey prior to the appointment.

Measures

Conformity to Masculine Norms Inventory-46 (CMNI-46) (Appendix A). The CMNI-46 (Parent & Moradi, 2009) is a shortened version of the Conformity to Masculine Norms Inventory (CMNI; Mahalik et al., 2003). It measures respondent's conformity to masculine norms. The CMNI-46 consists of an overall total and nine subscales (Winning, Playboy, Self-reliance, Violence, Heterosexual Self-presentation, Risk-taking, Primacy of Work, Emotional Control and Power over Women). The Chronbach's alpha for the total score was .86. The

Chronbach's alpha for the nine subscales is as follows: Winning (6 items, α =.85), Emotional Control (7 items, α =.88), Risk-taking (5 items, α = .73), Violence (6 items, α =.88), Power over Women (4 items, α =.74), Playboy (4 items, α =.65), Self-reliance (5 items, α =.80), Primacy of Work (4 items, α =.70), and Heterosexual Self-presentation (6 items, α =.89). Statements are assessed on a 4-point Likert scale that ranges from 1 (strongly disagree) to 4 (strongly agree). A sample item is, "I tend to keep my feelings to myself." Higher scores suggest a greater degree of conformity to masculine norms. Concurrent validity evidence for the original CMNI was shown through a positive correlation with a measure of male role norms (Parent & Moradi, 2011). A study by Parent and Smiler (2012) also provided evidence for metric invariance of the factor structure of the CMNI-46, making scores comparable across both male and female respondents. Based on these findings, Parent and Smiler argued that the CMNI-46 can be applied to both female and male samples.

Self-Reported Pain. (Appendix B). Two self-report measures of pain were administered to participants. The first is a 1-item measure that was verbally and routinely administered to all patients by providers at the clinic during patients' appointments. The second measure was identical to the first except that (a) it was part of the paper-and-pencil survey that participants complete before the appointment and (b) it was rated by alphabetical letters (i.e. A through K) that represented different pain levels rather than numbers (i.e. 0 through 10). The same descriptions were used for each level so that the content of the scale remained the same (e.g. A is equal to 0). An example of this would be that both 'A' and '0' represent the following statement: "No pain at all." Discrepancy in self-reported pain was determined by subtracting verbal self-report pain scores from written self-report pain scores. The mean and standard deviation of discrepancy in self-reported pain is reported in Table 1; scores ranged from -6.50 to 8.00,

indicating a full spectrum of participants who under-reported and over-reported their pain scores in written form, relative to their verbal disclosure of pain.

Help-seeking and Disclosure (Appendix C). A set of 4 items regarding participant help-seeking and disclosure behaviors was included. The first two items gathered information about how soon participants sought help after they first noticed their pain. The third item assessed how long it was before participants disclosed their pain to another individual after first discovering the pain. The fourth item addressed the nature of the relationship between the participant and the recipient of the first disclosure (e.g., friend or spouse/partner).

Results

Preliminary Analyses

According to Fritz and MacKinnon's (2007) simulation analyses, a sample size of 71 participants is needed to detect a significant mediation effect using bias-corrected bootstrapping (the method I used for my analyses), assuming power = 0.80 and medium effect sizes (B = 0.39) for the path coefficients from the predictor to the mediator and from the mediator to the outcome. In contrast, a sample of 462 participants is needed if the effect sizes for both path coefficients are small (B = 0.14). Based on these guidelines, my sample size (N =108) was sufficient to identify a significant mediation effect with medium effect sizes, but not with small effect sizes. In order to provide a reference point for written and verbal pain ratings, an independent samples t-test was run. Results showed that there was a significant difference in the verbal pain ratings for women (M=4.74, SD=2.20) and men (M=3.69, SD=2.35) $t(106)$= 2.40, p = .02, d =.46, with women verbally disclosing significantly more pain than men. There was no significant difference between men (M=3.78, SD=2.23) and women (M=4.25, SD=1.95) $t(106)$= 2.40, p = .25, d =-.23

in the written reports of pain. Missing data in this study was imputed using the Expectation Maximization algorithm.

Main Analyses

The first set of research questions was related to the discrepancy in participant's verbal versus written pain ratings. As indicated in the method section, the discrepancy was calculated by subtracting participants' verbally-reported pain score from their written reported pain scores. Although it was anticipated that there would be a gender difference in self-reported pain discrepancies, no significant difference was found. An independent-samples *t*-test showed that there was not a significant difference in the self-reported pain discrepancy for men (M = -.01, SD=2.40) and women (M = -.56, SD=2.28); $t(106)=1.21$, p = .23, d =.24 .

I hypothesized that higher conformity to masculine norms would be positively related to the discrepancy in self-reported pain. To test this, I examined the overall relationship between CMNI-46 total scores (and its nine subscales) and discrepancy in self-reported pain. Given the large number of associations, I used a conservative significance test of $p < .01$ for this hypothesis. As shown in Table 1, the CMNI overall scores and eight out of the nine subscales were not significantly related to discrepancy in self-reported pain. The CMNI Playboy subscale was significantly and positively related to discrepancy in self-reported pain.

I hypothesized that higher conformity to masculine norms would mediate the relationship between gender and discrepancy in self-reported pain. Given that the CMNI Playboy subscale was the only CMNI subscale significantly related to self-reported pain discrepancy, I focused on this subscale as the mediator. It should be noted that to obtain a significant mediation effect, it is not a requirement for the predictor variable (gender) to be significantly related to the outcome variable (discrepancy in self-reported pain) (Hayes, 2009). To test this mediation effect, I used

bias-corrected bootstrapping which was applied using an SPSS macro (Hayes, 2012). The mean of 5,000 indirect effects was derived from 5,000 bootstrap samples. CMNI Playboy was a significant mediator of the relationship between gender and discrepancy in self-reported pain (mean estimate of indirect effect = -.36, *SE* = .20, bias-corrected 95% *CI* = -.9085, -.0848). As shown in Figure 1, there was a negative, significant relationship between gender and the CMNI Playboy subscale with men reporting higher conformity to the masculine norm of Playboy. This finding may be a result of the interpersonal process of taking the verbal pain rating. The CMNI Playboy norm has been associated with being less likely to reach out to others for help (Mahalik & Rochlen, 2006). There was also a positive, significant relationship between CMNI Playboy subscale and discrepancy in self-reported pain. The total effect and direct effect from gender to discrepancy in self-reported pain were both not significant.

The second set of research questions was related to the onset of pain and when participants sought help for that pain. The delay in help seeking was computed by subtracting the date of reported first treatment from the date of reported onset of pain to obtain the number of months between the reported onset of pain and reported first treatment. I hypothesized that men would have longer delays in medical help seeking. The delays in help seeking produced significant skew (3.90) and kurtosis (17.35); therefore, Rankit's Formula (Bishara & Hittner, 2012) was applied to reduce the effects, resulting in reduced skew (.67) and kurtosis (-.46). The Rankit transformation, which uses a rank-based transposed normal transformation, has been demonstrated to be most effective in reducing both Type I and Type II errors as compared to other methods of transforming non-normal data (Bishara & Hittner, 2012). An independent samples *t*-test showed that there was not a significant difference in the delay in help seeking for women (*M*=.08, *SD*=.91) and men (*M*=.01, *SD*=.85) *t*(106)= -.40, *p* = .69, *d* =.08. I also

anticipated that men would delay disclosing their pain to others for a longer period time than would women. Delay in disclosure was computed by subtracting the reported date of first disclosure of pain to another person from the reported date of onset of pain to obtain the number of months between the reported onset of pain and reported first disclosure of pain. Female participants did not differ in the amount of time between onset of pain and disclosure of pain (M =.05, SD = .73) from male participants' delay in disclosure (M =.11, SD =.78) $t(106)$= .44, p = .66, d =-.08 .

I anticipated that higher conformity to masculine norms would be positively related to the delay in help seeking. To test this, I examined the overall relationship between CMNI-46 total scores (and its nine subscales) and delay in help seeking. Given the large number of associations, I used a conservative significance test of $p < .01$ for this hypothesis. As shown in Table 1, the CMNI overall scores and seven out of the nine subscales were not significantly related to delay in help seeking. The CMNI Violence subscale was significantly and negatively related to delay in help seeking. The CMNI Emotional Control subscale was significantly and positively related to delay in help seeking.

I anticipated that gender differences in delayed help seeking would be mediated by conformity to masculine norms. Given that CMNI Violence and Emotional Control were the only two subscales that were significantly related to delay in help seeking, I focused on these two subscales as mediators. CMNI Violence was a significant mediator of the relationship between gender and delay in help seeking (mean estimate of indirect effect = .18, SE = .10, bias-corrected 95% CI = -.0264, .4047). As shown in Figure 2, there was a significant negative relationship between gender and CMNI Violence. There was also a significant negative relationship between CMNI Violence and delay in help seeking.

Emotional Control was not a significant mediator of the relationship between gender and delay in help seeking (mean estimate of indirect effect = -.07, *SE* = .05, bias-corrected 95% *CI* = -.2081, .0162). As shown in Figure 3, there was not a significant relationship between gender and CMNI Emotional Control. There was a significant positive relationship between CMNI Emotional Control and delay in help seeking.

The third set of research questions addressed the types of people to whom participants first disclosed their pain. Table 2 presents the rates at which participants first disclosed their pain to different groups of individuals. There were 4 participants who did not respond to these questions; therefore, they were omitted from the analysis of this portion. The most common group first disclosed to were spouses/partners (43.5%). To assess gender differences in the type of people to whom participants first disclosed their pain, responses were classified into "family" (i.e. parents, children, siblings, partners/spouses) and "non-family" (i.e. all other responses) categorized. One participant who selected the "Other" category and wrote in "son" was included in the family category. A chi-square test was performed and a marginally significant relationship was found between gender and disclosing pain to a family member first, χ^2 (1, N = 108) = 3.74, *p* =.05. Male and female participants reported their pain at higher rates to family members (60.2%) than non-family members (39.8%); however, women disclosed their pain to family members at significantly higher rates than did men. As shown in Table 1, the CMNI overall scores were significantly negatively related to first disclosure to a family member. Therefore, individuals who reported higher conformity to masculine norms were less likely to first disclose their pain to a family member than were individuals who reported lower conformity to masculine norms. The nine individual CMNI subscales were not significantly related to first disclosure to a family member.

Discussion

This study aimed to explore the relationship between chronic pain, gender and help seeking behaviors through the mediating variable of conformity to masculine norms. I did not find support for the hypothesis that there would be gender differences in self-reported pain discrepancy. As mentioned before, no significant difference between male and female participants was discovered in the discrepancy between written and verbal self-reported pain which was calculated by subtracting the verbally-reported pain level from the written pain level. This is contrary to previous research showing that significantly more women report chronic pain than do men and that this discrepancy is more pronounced in the clinic as opposed to a research lab (Greenspan et al., 2007). The lack of gender differences in self-reported pain discrepancy in this study may be because both male and female participants were equally invested in disclosing their pain to obtain their desired medical treatment.

I also hypothesized that higher conformity to masculine norms would be positively related to discrepancy in self-reported pain. However, the overall scores on the CMNI-46 as well as eight of the nine CMNI-46 subscales were not positively related to the discrepancy in self-reported pain. Still, participants who scored higher on the playboy subscale tended to have greater discrepancies in their self-reported pain. This means that participants who conformed more to the masculine norm of playboy were more likely to underreport their pain verbally relative to a written disclosure of their pain. In light of this finding, I recommend that providers assessing patients for chronic pain utilize a written report of pain in addition to a verbal report of pain. Moreover, conformity to the masculine norm of playboy was a significant mediator of gender differences in discrepancy in self-reported pain. Men reported higher endorsement of masculine norm of playboy, which in turn, was associated with greater discrepancy in self-

reported pain. Others have found the playboy subscale to be negatively related with health behaviors. In a study aimed at the relationship between health behaviors, masculinity and attitudes toward seeking psychological help, the CMNI subscale Playboy was negatively related to health behavior measures (Levant et al., 2011). Specifically, those who ascribed to the playboy norm were more likely to engage in substance use and less likely to engage in proper use of health care resources (e.g., getting blood pressure checked every year; (Levant et al., 2011; Levant & Wimer, 2014).

The hypotheses related to delays in help seeking relied on subtracting the amount of time in months from when participants' reported first experiencing pain and when they reported seeking treatment for that pain. Although I anticipated that men would have longer delays in help seeking, no significant difference was found. This finding is inconsistent with the findings of previous studies that found men were more resistant to help seeking than women (Galdas, Cheater, & Marshall, 2005; Oliver et al., 2006). However, previous studies have focused on attitudes towards help seeking and whether or not individuals sought help. In this study, I focused instead on the length of time it took for participants to seek help following the initial experience of pain.

Although the relationship between gender and delay in help seeking was not significant, I looked at the hypothesized relationship between conformity to masculine norms and delay in help seeking. The total CMNI-46 score and eight of the nine CMNI-46 subscales were not found to be significantly related to delay in help seeking. However, 2 of the 9 subscales were found to be significantly related to delay in help seeking. As shown in Table 1, the CMNI Violence subscale was significantly negatively correlated to delay in help seeking. This means that

individuals who reported greater endorsement of violence sought help for their pain sooner than those who endorsed violence less.

The CMNI Emotional control subscale was significantly positively related to delay in help seeking. Addis and Mahalik (2003) reviewed theory and research regarding limitations of help seeking in individuals who conform to masculine norms and identified emotional control as a barrier to services. Another study found that emotional control was significantly positively related to minimizing problems and barriers to help seeking (Boman & Walker, 2010).

Violence, but not emotional control, was demonstrated as a significant mediator between gender and delay in help seeking. Men were more likely than women to endorse the masculine norm of violence, which was in turn associated with less delay in help seeking. These findings on conformity to the masculine norm of violence are counterintuitive. I speculate on two possible reasons. The CMNI Violence scale is intended to assess an individual's belief that violence is sometimes necessary and appropriate as well as the respondent's tendency to engage in or value violence (Schopp, et al., 2007). In order to engage in violence with the expectation of a positive result, one might consider strength and subsequently physical health more important than others. As a result, seeking treatment to improve health or strength may be a means of ensuring one's ability to engage in violence as it is necessary. Another possible reason can be found in the results of a recent study on conformity to masculine norms. In a latent class regression analysis, Wong, Owen, and Shea (2012) found that among a subgroup of men, lower conformity to the masculine norm of violence was positively related to psychological distress. The authors argued that low conformity to the masculine norm of violence may be related to insecurities regarding physical abilities, thus, creating distress related to these insecurities. Similarly, low conformity to

the masculine norm of violence in this study may potentially reflect insecurities about one's physical abilities, resulting in greater stigma about and longer delays in medical help seeking.

In an effort to better understand the sources of help participants' sought with regard to their pain, I looked at the nature of the relationship with whom participants first disclosed their pain. The types of people were presented as individual options and then combined to create two categories for analysis: family and non-family. The family category consisted of "Parent or Caregiver (Mother, Father, Step-parent, Adoptive parent)," "Sibling," and "Spouse or partner." The findings suggest that in general, participants (especially women relative to men), tended to report their pain to family members first rather than non-family members. This is consistent with findings from several studies that suggest that individual soften talk with family members prior to seeking treatment from a health care professional (Sheppard, et al., 2008). Pescosolido found that individuals with more chronic illness as opposed to acute are more likely to rely on a pathway to treatment that is inclusive of family *and* medical providers (1992). Men may have disclosed to family members at lower rates than women due to the intimate nature of family relationships. Another study focused on disclosure of feelings, thoughts, experiences and beliefs found that men reported disclosing less overall within intimate relationships (Consedine, Sabag-Cohen, & Krivoshekova, 2007).

Participants who reported higher conformity to masculine norms (based on overall CMNI-46 scores) also first reported their pain to family members at lower rates. This finding may be a function of poorer relationship satisfaction among individuals who strongly conform to masculine norms. Burn and Ward (2005) found that conformity to masculine norms was negatively related to relationship satisfaction with their romantic partners, particularly for men.

Limitations and Future Research

The limitations in this study were derived from a number of sources. One major limitation was the relatively small sample of the current study, which limited statistical power. The Midwestern pain clinic allowed for data collection in their lobby and in conjunction with providers; however, several patients declined participation. Many of those who declined participation cited their physical distress as their reason for not participating. Others cited their decline was due to the length of the survey, discomfort with CMNI items and concern with the authorization for release of protected health information. Additionally, many surveys were distributed and not returned. It is possible that potential participants began the survey and were unable to complete it due to physical distress, focusing on appointment, or other reasons. Another limitation was related to the reporting of pain. Pain ratings, both verbal and written, were self-reported. There are a number of factors that may have influenced the direction of the discrepancy in self-reported pain. One study found that participants who scored higher on a social desirability scale reported fewer symptoms of anxiety and depression (Logan, Lewis Claar, and Scharff, 2008). Participants who had concern over appearing as demanding may have reported lower verbal pain ratings in order to maintain positive interaction with clinic staff. Conversely, participants who were seeking medication or additional attention may have reported higher verbal pain ratings for secondary gain.

There was also some difficulty presented by issues that are specific to the chronic pain population. The presence of pain potentially limited participants' responses to the questionnaires. Many participants asked for clarification of CMNI-46 items, particularly those that were reverse-worded. Although these clarification questions may be relevant to any population, it is possible that the chronic pain population experiences difficulties specific to their pain. Some participants

reported that they did not complete the full survey due to pain creating difficulties with concentration. Participants were also representative of a homogenous sample.

Another limitation is that the delay in help seeking and first disclosure was computed based on participants' recollection. It is possible that some participants did not remember the dates of disclosure and the onset of their pain accurately. Some participants commented to the researcher on knowing the exact date and time of their onset of pain and subsequent disclosure due to a specific event, usually an accident. Others, however, may have struggled to recall the dates accurately.

The participants in this study were all actively seeking treatment for their pain. Therefore, the participants may not be representative of the population of individuals experiencing chronic pain because they probably had favorable attitudes toward medical help seeking. Additionally, participant backgrounds were similar as well. The vast majority of participants identified as Caucasian (84%), completed at least a High School diploma or GED (94.3%) and were all seeking treatment in a Midwestern pain clinic. These factors may have influenced participants' willingness to engage in the study, creating a greater likelihood of representation of a cultural majority. In addition, these factors may have influenced participants' responses to the CMNI-46 as well as their willingness or perceived ability to seek help for pain.

As noted in previous studies, a need for further research on gender differences in chronic pain is needed (Greenspan, et al., 2007). This study found that participants who endorsed the masculine norm of violence and the masculine norm of emotional control reported shorter delays and greater delays in seeking treatment, respectively. Future research is needed to understand how the norms of violence and emotional control may impact help seeking as current research indicates that delays in treatment may produce further problems (Cornally & McCarthy, 2011).

Previous research has indicated that individuals with personality disorders may use treatment more frequently than those without personality disorders (Bender, et al., 2001). Moreover, a review of related literature found that individuals with personality disorder (specifically antisocial, and borderline personality disorder) have tendencies toward violent behaviors (Cooke, 2010). Therefore, one possibility to explore in future research is whether the link between endorsement of violence and shorter delays in help seeking might reflect traits associated with personality disorders.

The authors of the Conformity to Masculine Norms Inventory called for future research to consider its relationship to medical help seeking (Mahalik et al., 2003). While this study has investigated this relationship, future studies should further investigate how conformity to the masculine norm of playboy might relate to verbally under-reporting pain. I would expect that higher conformity to the playboy norm would be negatively related to open-discussions of pain with a medical provider. Another area for further study is understanding what influences individuals to choose to first disclose their pain to a family member. I would expect that the perceived quality of the family relationship (satisfactory or not) would be positively related to first disclosure to family.

Strengths of the Current Study

By accessing a clinical sample of patients who were seeking medical treatment for chronic pain, the findings in this study may have greater external validity than previous studies that were based merely on participants' attitudes toward help seeking (R□sch, et al., 2011). An additional strength is found within the use of the pain scales. I used two different versions of the pain scale (written and verbal) as a means to determine discrepancy in self-reported pain. Although descriptions were identical, the scales were labeled differently so as to encourage

participants to focus on the description of the pain level rather than the representative number or letter. This method allowed for a better assessment of the difference in how individuals reported their pain verbally versus how they reported it in written form.

Another strength of this study was the assessment of mediating variables. While previous studies have looked at gender as a factor influencing chronic pain (Cornally & McCarthy, 2011; Miro et al, 2006; Watkins et al, 2006; Robinson et al., 2001), this study identified various dimensions of conformity to masculine norms as a possible explanation for gender's impact on help seeking. Through this consideration, identified mediating variables may be further studied in order to better understand gender differences in help seeking. The findings of this study may be applied to a clinical setting as they were derived from a clinical population.

Practical Implications

The findings of this study can be applied in a clinical setting to benefit individuals experiencing chronic pain. One such application is the use of a written pain scale when assessing pain. It was evident that some participants in this study did report differing pain levels when asked to report both written and verbal ratings. In written form, some individuals underreported their pain, whereas others over-reported their pain, relative to their verbal disclosure of pain. Therefore, health care providers may be able to better gauge clients' pain levels by using a combination of written and verbal or relying on written reports. In turn, having more accurate information about clients' pain levels may lead to more accurate care and reduce unnecessary or insufficient treatment.

With regard to help seeking, conformity to the masculine norm, Violence, was associated with shorter delays in help seeking, whereas, the norm of Emotional Control was associated with longer delays in help seeking. Health care professionals should educate the public on the possible

consequences of delaying help seeking for pain. Additionally, psychoeducation should be provided to address possible hindrances to treatment (e.g., one's tendency to be emotionally controlled).

In conjunction, the findings of this study suggest that such educational and preventative efforts may reach individuals with chronic pain indirectly through family members to whom they disclose their pain. The higher rates at which participants disclosed their pain to family members suggests that they may play an important role in the continuation of treatment. Health care providers should incorporate family members in the treatment of chronic pain patients as much as possible. The high rates of first disclosure of pain to family members may indicate an influential relationship which could be used to encourage continued compliance with treatment. Overall, it seems that education of both individuals suffering from chronic pain as well as their family members plays an important role in connecting patients with the treatment that they need.

References

Addis, M.E., & Mahalik, J.R. (2003). Men, masculinity, and the contexts of help seeking. *American Psychologist*, *58*, 5-14. doi: 10.1037/0003-066X.58.1.5

Andrasik, F., Flor, H., & Turk, D.C. (2005). An expanded view of psychological aspects in head pain: the biopsychosocial model. *Neurological Sciences*, *26*, 87-91.

Barker, J.C., Morrow, J., & Mitteness, L.S. (1998). Gender, informal social support networks, and elderly urban African Americans. *Journal of Aging Studies*, *12*, 199-123.

Bendelow, G. (1993). Pain perceptions, emotions, and gender. *Sociology of Health & Illness*, *15*, 273-294.

Bender, D.S., Dolan, R.T., Skodol, A.E., Sanislow, C.A., Dyck, I.R., McGlashan, T.H., Shea, T., Zanarini, M.C., Oldham, J.M., & Gunderson, J.G. (2001). Treatment utilization by patients with personality disorders. *American Journal of Psychiatry*, *158*, 295-302.

Berger, J.M., Levant, R., McMillan, K.K., Kelleher, W., & Sellers, A. (2005). Impact of gender role conflict, traditional masculinity ideology, alexithymia, and age on men's attitudes toward psychological help seeking. *Psychology of Men & Masculinity*, *6*, 73-78. doi: 10.1037/1524-9220.6.1.73.

Berkanovic, E., Telesky, C., & Reeder, S. (1981). Structural and social psychological facors in the decision to seek medical care for symptoms. *Medical Care*, 9, 693-709.

Bertakis, K.D., Rahman, A., Helms, J., Callahan, E.J., & Robbins, J.A. (2000). Gender differences in the utilization of health care services. *The Journal of Family Practice*, *49*, 147-152.

Bishara, A.J., & Hittner, J.B. (2012). Testing the significance of a correlation with non-normal data: Comparison of Pearson, Spearman, transformation, and resampling approaches. *Psychological Methods*, *17*, 399-417. Doi:10.1037/a0028087.

Boersma, K., & Linton, S.J. (2006). Psychological processes underlying the development of a chronic pain problem: A prospective study of the relationship between profiles of psychological variables in the fear-avoidance model and disability. *The Clinical Journal of Pain*, *22*, 160-166. Boldero, J., & Fallon, B. (1995). Adolescent help-seeking: What do they get help for and from whom? *Journal of Adolescence*, *18*, 193-209.

Boman, E.K.O., & Walker, G.A. (2010). Predictors of men's health care utilization. *Psychology of Men and Masculinity*, *11*, 113-122.

Breivik, H., Collett, B., Ventafridda, V., Cohen, R., & Callacher, D. (2006). Surey of chronic pain in Europe: Prevalence, impact on daily life, and treatment. *European Journal of Pain*, *10*, 287-333.

Brown, A. (2012, April 27). Chronic pain rates shoot up until Americans reach late 50s. General format. Retrieved from http://www.gallup.com/poll/154169/chronic-pain-rates-shoot-until-americans-reach-late-50s.aspx

Buckley, J., & O Tuama, S. (2010). 'I send the wife to the doctor' – Men's behavior as health consumers. *International Journal of Consumer Studies*, *34*, 587-595. doi: 10.1111/j.1470-6431.2010.00908.x.

Burn, S.M., & Ward, A.Z. (2005). Men's conformity to traditional masculinity and relationship satisfaction. *Psychology of Men & Masculinity*,*6*, 254-263.

Consedine, N.S., Sabag-Cohen, S., & Krivoshekova, Y.S. (2007). Ethnic, gender, and socioeconomic differences in young adults' self-disclosure: who discloses what and to whom? *Cultural Diversity and Ethnic Minority Psychology*, *13*, 254-263.

Cornally, N., & McCarthy, G. (2011). Help-seeking behavior for the treatment of chronic pain. *British Journal of Community Nursing*, *16*, 90-98.

Cooke, D.J. (2010). Personality disorder and violence: understand violence risk: an introduction to the special section personality disorder and violence. *Journal of Personality Disorders*, *24*, 539-550.

Courtenay, W.H. (2000). Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Social Science & Medicine*, *50*, 1385-1401.

Covic, T., Adamson, B., Spencer, D., & Howe, G. (2003). A biopsychosocial model of pain and depression in rheumatoid arthritis: a 12-month longitudinal study. *Rheumatology*, *42*, 1287-1294. doi: 10.1093/rheumatology/keg369

Covington, E. (2012, August 28). General format. Retrieved from http://theacpa.org/videoPlayer.aspx?id=5

Cummings, K.M., Becker, M.H., & Maile, M.C. (1980). Brining the models together: An empirical approach to combining variables used to explain health actions. *Journal of Behavioral Medicine*, *3*, 123-145.

Dearing, R. L. & Twaragowski, C. (2010). The social psychology of help seeking. In J. E. Maddux & J.P. Tangney (Eds.) *Social Psychological Foundations of Clinical Psychology* (pp. 395-415). New York: The Guilford Press.

Dersh, J., Polatin, P., & Gatchel, R.J. (2002). Chronic pain and psychopathology: Research findings and theoretical considerations. *Psychosomatic Medicine*, *64*, 773-786.

Devereux, J.J., Vlachonikolis, I.G., & Buckle, P.W. (2002). Epidemiological study to investigate potential interaction between physical and psychosocial factors at work that may increase the risk of symptoms of musculoskeletal disorder of the neck and upper limb. *Occupational & Environmental Medicine*, *59*, 269-277.

Diatchenko, L., Nackley, A.G., Slade, G.D., Filingim, R.B., & Maixner, W. (2006). Idiopathic pain disorders – Pathways of vulnerability. *Pain*, *123*, 226-230.

Donnelly, D.A., & Murray, E.J. (1991). Cognitive and emotional changes in written essay and therapy interviews. *Journal of Social and Clinical Psychology*, *10*, 334-350.

Elliot-Schmidt, R. & Strong, J. (1997). The concept of well-being in a rural setting: Understanding health and illness. *Australian Journal of Rural Health*, *5*, 59-63.

Fillingim, R.B., King, C.D., Riberio-Dasilva, M.C., Rahim-Williams, B., & Riley III, R.L. (2009). Sex, gender, and pain: A review of recent clinical and experimental findings. *The Journal of Pain*, *10*, 447-485. doi: 10.1016/j.jpain.2008.12.001

Fishbain, D.A., Lewis, J.E., Gao, J., Cole, B., & Rosomoff, R.S. (2009). Is chronic pain associated with somatization/hypochondriasis? An evidence-based structured review. *Pain Practice*, *9*, 449-467.

Freburger, J.K., Holmes, G.M., Agans, R.P., Jackman, A.M., Darter, J.D., Wallace, A.S., Castel, L.D., Kalsbeek, W.D., Carey, T.S. (2009). The rising prevalence of chronic low back pain. *Archives of Internal Medicine*, *169*, 251-258.

Fritz, M.S., & MacKinnon, D.P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, *18*, 233-239.

Froland, C. (1980). Formal and informal care: Discontinuities in a continuum. *Social Service Review*, *54*, 572-587.

Galdas, P.M., Cheater, F., & Marshall, P. (2005). Men and health help-seeking behavior: literature review. *Journal of Advanced Nursing*, *49*, 616-623.

Gatchel, R.J., & Okifuji, A. (2006). Evidence-based scientific data documenting the treatment and cost-effectiveness of comprehensive pain programs for chronic nonmalignant pain. *The Journal of Pain*, *7*, 779-793.

Gatchel, R.J., Bo Peng, Y., Peters, M.L., Fuchs, P.N., & Turk, D.C. (2007). The biopsychosocial approach to chronic pain: Scientific advances and future directions. *Psychological Bulletin*, *133*, 581-624.

Gatchel, R.J. (2004). Comorbidity of chronic pain and mental health disorders: The biopsychosocial perspective. *American Psychologist*, *59*, 795-805. doi: 10.1037/0003-066X.59.8.795

Glajchen, M. (2001). Chronic pain: Treatment barriers and strategies for clinical practice. *The Journal of the American Board of Family Practice*, *14*, 211-218.

Green, C.R., Baker, T.A., & Ndao-Brumblay, S.K. (2004). Patient attitudes regarding healthcare utilization and referral: A descriptive comparison in African- and Caucasian Americans with chronic pain. *Journal of the National Medical Association*, *96*, 31-42.

Greenley, J.R., & Mechanic, D. (1976). Social selection in seeking help for psychological problems. *Journal of Health and Social Behavior*, *17*, 249-262.

Greenspan, J.D., Craft, R.M., LeResche, L., Arendt-Nielsen, L., Berkley, K.J., Fillingim, R.B., Gold, M.S., Holdcroft, A., Lautenbacher, S., Mayer, E.A., Mogil, J.S., Murphy, A.Z., & Traub, R.J. (2007). Studying sex and gender differences in pain and analgesia: A consensus report. *Pain*, *132*, S26-S45.

Hagen, K.B., Bjorndal, A., Uhlig, T., Kvien, T.K. (2000). A population study of factors associated with general practitioners consultation for non-inflammatory musculoskeletal pain. A*nnals of Rheumatic Disease*, *59*: 788-93.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*, 408-420.

Hayes, A.F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. Retrieved from http://www.afhayes.com/public/process2012.pdf.

Haythornthwaite, J.A., & Benrud-Larson, L.M. (2000). Psychological aspects of neuropathic pain. *The Clinical Journal of Pain*, *16*, S101-S105.

Heaney, C.A., & Israel, B.A. (2002). Social networks and social support in health education. In Glanz, K., Lewis, F.M., & Rimer, B.K. (Eds.). *Health Behavior and Health Educatio*n (4^{th} Ed.). San Francisco: Jossey-Bass.

Hoffman, B.M., Papas, R.K., Chatkoff, D.K., & Kerns, R.D. (2007). Meta-analysis of psychological interventions for chronic low back pain. *Health Psychology*, *26*, 1-9. doi: 10.1037/0278-6133.26.1.1.

Hoffmann, D.E., & Tarzian, A.J. (2001). The girl who cried pain: A bias against women in the treatment of pain. *Journal of Law, Medicine, & Ethics*, *29*, 13-27.

Hootman, J.M., & Helmick, C.G. (2006). Projections of US prevalence of arthritis and associated activity limitations. *Arthritis and Rheumatism*, *54*, 226-229.

Johannes, C.B., Le, T.K., Zhou, X., Johnston, J.A., & Dworkin, R.H. (2010). The prevalence of chronic pain in United States adults: results of an internet-based survey. *Journal of Pain*, *11*, 1230-1239.

Kaur, S., Stechuchak, K.M., Coffman, C.J., Allen, K.D., & Bastian, L.A. (2007). Gender differences in health care utilization among veterans with chronic pain. *Journal of General Internal Medicine*, *22*, 228-233. doi: 10.1007/s11606-006-0048-5.

Keefe, K.J., Lefebvre, J.C., Egert, J.R., Affleck, G., Sullivan, M.J., & Caldwell, D.S. (2000). The relationship of gender to pain, pain behavior, and disability in osteoarthritis patients: the role of catastrophizing. *Pain*, *78*, 325-334.

Kerns, R.D., Sellinger, J., & Goodin, B.R. (2011). Psychological treatment of chronic pain. *Annual Review of Clinical Psychology*, *7*, 411-434. doi: 10.1146/annurev-clinpsy-090310-120430.

Kessler, R.C., Brown, R.L., & Broman, C.L. (1981). Sex differences in psychiatric help-seeking: Evidence from four lage-scale surveys. *Journal of Health and Social Behavior*, *22*, 49-64.

Konijnenberg, A.Y., Uiterwaal, C.S.P.M., Kimpen, J.L.L., van der Hoeven, J., Buitelaar, J.K., & de Graeff-Meeder, E.R. (2005). Children with unexplained chronic pain: substantial impairment in everyday life. *Archives of Disease in Childhood*, *90*, 680-696. doi: 10.1136/adc.2004.056820

Kroenke, K., & Spitzer, R.L. (1998). Gender differences in the reporting of physical and somatoform symptoms. *Psychosomatic Medicine*, *60*, 150-155.

Kung, W.W. (2003). Chinese Americans' help seeking for emotional distress. *Social Service Review*, *77*, 110-. doi: 10.1086/345707.

Larzelere, R.E., & Huston, T.L. (1980). The dyadic trust scale: Toward understanding interpersonal trust in close relationships. *Journal of Marriage and Family*, *42*, 595-604.

Levant, R. F., and R. G. Majors. (1997).An investigation into variations in the construction of the male gender role among young African American and European American women and men. *Journal of Gender, Culture and Health, 2*, 33-43.

Levant,R.F., & Richmond, K. (2007). A review of research on masculinity ideologies using the male role norms inventory. Journal of Men's Studies, 15, 130-146.

Levant, R.F., Wimer, D.J., Williams, C.M., Smalley, K.B., & Noronha, D. (2009). The relationships between masculinity variables, health risk behaviors and attitudes toward seeking psychological help. *International Journal of Men's Health*, *8*, 3-21.doi: 10.3149/jmh.0801.3.

Levant, R. F., Wimer, D. J., & Williams, C. M. (2011). An evaluation of the psychometric properties of the Health Behavior Inventory-20 (HBI-20) and its relationships to masculinity and attitudes towards seeking psychological help among college men. *Psychology of Men & Masculinity*, *11*, 26-41.

Levant, R.F., & WImer, D.J. (2014). Masculinity constructs as protective buffers and risk factors for men's health. *American Journal of Men's Health*, *8*, 110-120.

Lew, H.L., Otis, J.D., Tun, C., Kerns, R.D., Clark, M.E., & Cifu, D.X. (2009). Prevalence of chronic pain, posttraumatic stress disorder, and persistent postconcussive symptoms in OIF/OEF veterans: Polytrauma clinical triad. *Journal of Rehabilitation Research & Development*, *46*, 697-702. doi: 10.1682/JRRD.2009.01.0006Mahalik, J.R., Burns, S.M., & Syzdek, M. (2007). Masculinity and perceived normative heath behaviors as predictors of men's health behaviors. *Social Science & Medicine*, *64*, 2201-2209.

Logan, D.E., Lewis Claar, R., & Scharff, L. (2008). Social desirability response bias and self-report of psychological distress in pediatric chronic pain patiences. *Pain*, *136*(*3*), 366-372.

Mahalik, J.R., Good, G.E., & Englar-Carlson, M. (2003). Masculinity scripts, presenting concerns, and help seeking: Implications for practice and training. *Professional Psychology: Research and Practice*, *34,*123-131. doi: 10.1037/0735-7028.34.2.123.

Mahalik, J.R., Locke, B.D., Ludlow, L.H., Diemer, M.A., Gottfried, M., Scott, R.P.J., & Freitas, G. (2003). Development of the Conformity to Masculine Norms Inventory. *Psychology of Men and Masculinity*, *4*, 3-25.Mansfield, A.K., Addis, M.E., & Mahalik, J.R. (2005). "Why won't he go to the doctor?:" The psychology of men's help seeking. *International Journal of Men's Heath*, *2*, 93-109.

Mahalik, J.R., & Rochlen, A.B.(2006). Men's likely responses to clinical depression: What are they and do masculine norms predict them? *Sex Roles*, *55*, 659-667.

Maulik, P. K., Eaton, W. W., & Bradshaw, C. P. (2011). The effect of social networks and social support on mental health services use, following a life event, among the Baltimore epidemiologic catchment area cohort. *The Journal of Behavioral Health Services & Research*, *38*, 29-50. doi: 10.1007/s11414-009-9205-z

McCracken, L.M., & Eccleston, C. (2005). A prospective study of acceptance of pain and patient functioning with chronic pain. *Pain*, *118*, 164-169.

McCracken, L.M., & Turk, D.C. (2002). Behavioral and cognitive-behavioral treatment for chronic pain. *SPINE*, *7*, 2564-2573.

McLean, S.A., Claw, D.J., Abelson, J.L., & Liberzon, I. (2005). The development of persistent pain and psychological morbidity after motor vehicle collision: Integrating the potential

role of stress response systems into a biopsychosocial model. *Psychosomatic Medicine*, *67*, 783-790.

Meeus, M., & Nijs, J. (2007). Central sensitization: a biopsychosocial explanation for chronic widespread pain in patients with fibromyalgia and chronic fatigue syndrome. *Clinical Rheumatology*, *26*, 465-473. doi: 10.1007/s10067-006-0433-9

Miro J., Paredes S., Rull M., Queral R., Miralles R., Neito R., Huguet A., Baos J.(2007). Pain in older adults: A prevalence study in the Mediterranean region of Catalonia. *European Journal of Pain*, *11*, 83-92.

Mumford, A.D., Warr, K.V., Owen, S.J., & Fraser, A.G. (1999). Delays by patients in seeking treatment for acute chest pain: implications for achieving earlier thrombolysis. *Postgraduate Medicine Journal*, *75*, 90-95.

Neighbors, H.W., & Jackson, J.S. (1984). The use of informal and formal help: Four patterns of illness behavior in the Black community. *American Journal of Community Psychology*, *12*, 629-645.

Neighbors, H.W., & Howard, C.S. (1987). Sex differences in professional help seeking among adult Black Americans. American Journal of Community Psychology, 15(4), 403-41.

Nielson, W., Weir, R., Smith, B., Gribbin, M. (2001). Biopsychosocial approaches to the treatment of chronic pain. *The Clinical Journal of Pain*, *17*, S114-S127.

Noone, J.H., & Stephens, C. (2008). Men, masculine identities, and health care utilization. *Sociology of Health & Illness*, *30*, 711-725. doi: 10.1111/j.1467-9566.2008.01095.x

Oliver, M.I., Pearson, N., Coe, N., & Gunnell, D. (2006). Help-seeking behavior in men and women with common mental health problems: cross-sectional study. *The British Journal of Psychiatry*, *186*, 297-301. doi: 10.1192/bjp.186.4.297.

Oliver, J.M., Reed, C.K..S., Katz, B.M., & Haugh, J.A. (1999). Students' self-reports of help-seeking: The impact of psychological problems, stress, and demographic variables on utilization of formal and informal support. *Social Behavior and Personality*, *27*, 109-128.

O'Neil. (2008). Summarizing 25 years of research on men's gender role conflict using the gender role conflict scale: New research paradigms and clinical implications. *The Counseling Psychologist*, *36*, 358-445.doi: 10.1177/001100008317057.

O'Neil, J.M. (2011). The psychology of men. In E. Altmaier & J. Hansen (Eds.). *Oxford Handbook of Counseling Psychology* (pp. 375-408). New York: Oxford University Press.

Parent, M.C., & Moradi, C. (2011). An abbreviated tool for assessing conformity to masculine norms: Psychometric properties of the Conformity to Masculine Norms Inventory-46. *Psychology of Men & Masculinity*, *12*, 339-353. doi: 10.1037/a0021904.

Parent, M.C., & Smiler, A.P. (2012). Metric invariance of the Conformity to Masculine Norms Inventory-46 among women and men. *Psychology of Men & Masculinity*. Advance online publication. doi: 10.1037/a0027642.

Pescosolido, B.A. (2006). Of pride and prejudice: The role of sociology and social network in integrating the health sciences. *Journal of Health and Social Behavior*, *47*, 189-208.

Pescosolido, B.A. (1992). Beyond rational choice: The social dynamics of how people seek help. *The American Journal of Sociology*, *97*, 1096-1138.

Pescosolido, B.A., Brooks Gardener, C., & Lubell (1998). How people get into mental health services: Stories of choice, coercion, and "muddling through" from "first-timers." *Social Scientific Medicine*, *46*, 275-286.

Pinkhasov, R.M., Wong, J., Kashanian, J., Lee, M., Samadi, B., Pinkhasov, M.M., & Shabsigh, R. (2010). Are men shortchanged on health? Perspective on health care utilization and

health risk behavior in men and women in the United States. *The International Journal of Clinical Practice*, *64*, 475-487. doi: 10.1111/j.1742-1241.2009.02290.x.

Preacher. K.J., & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*, 717-731.

Raviv, A., Sills, R., Raviv, A., & Wilansky, P. (2000). Adolescents' help-seeking behavior: the difference between self- and other-referral. *Journal of Adolescence*, *23*, 721-740. doi: 10.1006/jado.2000.035.

Rickwood, D.J., & Braithwaite, V.A. (1994). Social-psychological factors affecting help-seeking for emotional problems. *Social Science & Medicine*, *39*, 563-572.

Robertson, S. (2003) Men managing health, *Men's Health Journal*, *2*, 111–13.

Robinson, M.E., Riley 3rd, J.L., Myers, C.D., Papas, R.K., Wise, E.A., Waxenberg, L.B., & Fillingim, R.B. (2001). Gender role expectations of pain: relationship to sex differences in pain. *Journal of Pain*, *2*, 251-257.

Rogler, L.H., & Cortes, D.E. (1993). Help-seeking pathways: A unifying concept in mental health care. *American Journal of Psychiatry*, *150*, 554-561.

R□sch, N., Evans-Lacko, S.E., Henderson, C., Flach, C., & Thornicroft, G. (2011). Knowledge and attitudes as predictors of intentions to seek help for and disclose a mental illness. *Psychiatric Services*, *62*, 675-678.

Saunders, S. M. (1996). Applicants' experience of social support in the process of seeking psychotherapy. *Psychotherapy*, *33*, 617-627. doi: 10.1037/0033-3204.33.4.617.

Schopp, L.H., Good, G.E., Mazurek, M.O., Barker, K.B., & Stucky, R.C. (2007). Masculine role variables and outcome among men with spinal cord injury. *Disability and Rehabilitation*, *29*, 625-633.

Shea, M., & Wong, Y. J. (2012). Femininity and women's psychological well-being. In P. Lundberg-Love, K. L., Nadal, M. A. Paludi. (Eds.). *Women and Mental Disorders* (pp. 17-36). Santa Barbara, CA: Praeger Publishers.

Sheppard, J., Kumar, K., Buckley, C.D., Shaw K.L., & Raza, K. (2008). 'I just thought it was normal aches and pains': a qualitative study of decision-making processes in patients with early rheumatoid arthritis. *Rheumatology*, *47*, 1577-1582.

Smith, J.A., Braunack-Mayer, A., & Wittert, G. (2006). What do we know about men's help-seeking and health service use? *The Medical Journal of Australia*, *184*, 81-83.

Smith, L.K., Pope,C. & Botha, J.L. (2005). Patients' help-seeking experiences and delay in cancer presentation: a qualitative synthesis. *Lancet*, *366*, 825-831.

Thompson, A., Hung, C., & Issakids, C. (2004) Why wait? Reasons for delay and prompts o seek help for mental health problems in an Australian clinical sample. *Social Psychiatry & Psychiatric Epidemiology*, *39*, 810-817. Doi: 10.100/s00127-00400816-7.

Truchon, M. (2001). Determinants of chronic disability related to low back pain: Towards an integrative biopsychosocial model. *Disability & Rehabilitation*, *23*, 758- 767.

Turk, D.C. (2002) Clinical effectiveness and cost-effectiveness of treatments for patients with chronic pain. *The Clinical Journal of Pain*, *18*, 355-365.

Turk, D.C., & Monarch, E.S. (2002). Biopsychosocial perspective on chronic pain. In Turk, D.C., & Gatchel, R.J. (eds.), Psychological Approaches to Pain Management: A Practitioner's Handbook, 2nd Ed (3-29). New York, NY: The Guilford Press.

Turk, D.C., & Okifuji, A. (2002). Psychological factors in chronic pain: Evolution and revolution. *Journal of Consulting and Clinical Psychology*, *70*, 678-690. doi: 10.1037//022-006X.70.3.678.Unruh, A.M., Ritchie, J., & Merskey, H. (1999). Does gender affect appraisal of pain and pain coping strategies? *Clinical Journal of Pain*, *15*, 31-40.

Vogel, D. L., Wade, N. G., Wester, S. R., Larson, L. & Hackler, A. H. (2007). Seeking help from a mental health professional: The influence of one's social network. *Journal of Clinical Psychology*, *63*, 233–245. doi: 10.1002/jclp.20345.

Vogel, D.L., & Wester, S.R. (2003). To seek help or not to seek help: The risks of self-disclosure. *Journal of Counseling Psychology*, *50*, 351-361. doi: 10.1037/0022-0167.50.3.351.

Von Korff, M., Wagner, E.G., Dworkin, S.F., & Saunders, K.W. (1991). Chronic pain and use of ambulatory health care. *Psychosomatic Medicine*, *23*, 1-79.

Waldron, I. (1976).Why do women live longer than men? *Social Scientific Medicine*, *10*, 349-362.

Waldron, I. (1991). Patterns and causes of gender differences in smoking. S*ocial Scientific Medicine*, *32*, 989-1005.

Watkins E., Wollan P.C., Melton J., Yawn B.P. (2006). Silent Pain Sufferers. *Mayo Clinic Protocol*, *81*, 167-71.

Whorley, M., & Addis, M.E. (2006). Ten years of psychological research on men and masculinity in the United States: Dominant methodological trends. *Sex Roles*, *55*, 649-658. doi: 10.1007/s11199-00609120-1.

Wong. Y.J., Owen, J., & Shea, M. (2012). A latent class regression analysis of men's conformity to masculine norms and psychological distress. *Journal of Counseling Psychology*, *59*, 176-183.

Wong, Y.J., & Rochlen, A.B. (2005). Demystifying men's emotional behavior: New directions and implications for counseling and research. *Psychology of Men & Masculinity*, *6*, 62-72. doi: 10.1037/1524-9220.6.1.62.

Appendix A

Pain Scale

A – No Pain

B – Unpleasant Sensation – An occasional uncomfortable feeling.

C – Mild – Pain frequently brought to one's attention but acceptable. Able to engage in pleasures of life with some interference.

D – Limiting – Tolerable, but unsettling and constantly on one's mind. Constantly interferes with pleasures of life.

E – Distressing- Only short intervals of comfortable function; occasional interference with Activities of Daily Living, such as bathing, clothing, job performance, etc.

F – Moderate – Pain constantly on one's mind; decrease in concentration, job performance and noticeably decreased appreciation of life. Cannot perform many tasks without an increase in pain.

G – Moderate to Severe – Significant limitations of Activities of Daily Living and impairment of job performance. Hard to do anything, but think of pain.

H – Severe – Constant pain, difficulty doing more than basic chores, prevents productive activity. Frequent crying; pain is impossible to tolerate for any prolonged period of time without going to ER.

I – Debilitating – Causes uncontrollable moaning and distress and completely impairs productive activity; natural childbirth pain magnitude. Cannot be still, can't maintain a reasonable conversation. It is impossible to "put on a good face."

J – Agonizing – Individual cannot function; uncontrolled screaming and tearfulness. Emergency medical attention ***is required!***

K – Worst Imaginable – Paralyzing; person is near death as a result of the pain.

Emergency medical attention ***is required!***

Appendix B

Conformity to Masculine Norms Inventory – 46
Strongly Disagree = SD, Disagree = D, Agree = A, Strongly Agree = SA

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. There are 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
23 I don't like giving all my attention to work	SD D A SA
24 It would be awful if people thought I was gay	SD D A SA
25 I like to talk about my feelings	SD D A SA
26 I never ask for help	SD D A SA
27 More often than not, losing does not bother me	SD D A SA
28 I frequently put myself in risky situations	SD D A SA
29 Women should be subservient to men	SD D A SA
30 I am willing to get into a physical fight if necessary	SD D A SA
31 I feel good when work is my first priority	SD D A SA
32 I tend to keep my feelings to myself	SD D A SA
33 Winning is not important to me	SD D A SA
34 Violence is almost never justified	SD D A SA

35 I am happiest when I'm risking danger	SD D A SA
36 It would be enjoyable to date more than one person at a time	SD D A SA
37 I would feel uncomfortable if someone thought I was gay	SD D A SA
38 I am not ashamed to ask for help	SD D A SA
39 Work comes first	SD D A SA
40 I tend to share my feelings	SD D A SA
41 No matter what the situation I would never act violently	SD D A SA
42 Things tend to be better when men are in charge	SD D A SA
43 It bothers me when I have to ask for help	SD D A SA
44 I love it when men are in charge of women	SD D A SA
45 I hate it when people ask me to talk about my feelings	SD D A SA
46 I try to avoid being perceived as gay	SD D A SA

Appendix C

Pain and Disclosure

The following questions refer to your experience of the pain that brought you to Meridian Health Group.

Please respond to the next set of questions with the most accurate response you can. If you cannot remember specific dates, please give your closest estimate.

1. When did you first start experiencing pain? Month_____ , Year_____
2. When did you first seek medical treatment for pain? Month_____ , Year_____
3. When did you first tell someone about your pain? Month_____ , Year_____
4. To whom did you first tell about your pain? _____

    a. Parent or Caregiver (Mother, Father, Step-parent, Adoptive parent)
    b. Sibling
    c. Spouse or partner
    d. Friend
    e. Colleague
    f. Clergy (Pastor, Priest, Preacher)
    g. Medical provider (Physician, Nurse, Psychologist, Therapist)
    h. Other (please specify): _____

Appendix D

Demographics

1. What is your age (years in numeric form)? _____

2. What is your race/racial background (please circle)?

1 American Indian/Native American;

2 Asian/Asian American

3 Black or African American;

4 Latina/Latino/Hispanic

5 Pacific Islander

6 White/Caucasian

7 Others, please specify: _____

3. What is your annual household income in U.S. dollars (enter in numeric form)?

_____

4. What is your highest level of education (please circle)?

1 6th grade or below

2 Less than 12th grade

3 Completed high school or GED

4 Some college

5 Bachelor's degree

6 Graduate or professional degree

5. What is your disability status (please circle one)?

1 Disabled

2 Short-term disability

3 Non-disabled

4 In the process of applying

Table 1

Means, Standard Deviations, and Correlations between CMNI Total Score and subscales the Main Study Measures

Measure	*M*	*SD*	*Delay Help Seeking*	*Discrep Disclose*	*Dicrep Pain*	*Discl Fam*
CMNIWin	2.26	.61	-.12	-.10	-.04	-.15
CMNIEmo	2.35	.58	.29*	.26*	.17	-.19
CMNIRisk	1.99	.46	-.04	-.17	.21	-.23
CMNIViolence	2.29	.62	-.25*	-.18	.06	-.14
CMNIPower	1.55	.42	-.10	.01	.02	-.07
CMNIPlay	1.59	.49	-.05	-.13	.30*	-.16
CMNISelf	2.42	.56	.11	.15	.02	-.18
CMNIWork	2.05	.54	.13	.17	-.11	-.25
CMNIHetero	2.30	.80	-.10	-.05	-.12	-.02
CMNITotal	2.13	.29	-.04	-.02	.08	-.29*
M			.05	.08	-.31	.60
SD			.88	.75	2.34	.49

CMNIWin=CMNI Win Subscale, CMNIEmo=CMNI Emotional Control Subscale, CMNIRisk=CMNI Risk-taking Subscale, CMNIViolence=CMNI Violence Subscale, CMNIPower=CMNI Power over Women Subscale, CMNIPlay=CMNI Playboy Subscale, CMNISelf=CMNI Self-reliance Subscale, CMNIWork=CMNI Primacy of Work Subscale, CMNIHetero=CMNI Heterosexual Self-Presentation Subscale, CMNITotal=CMNI combined subscales, Delay Help Seeking=Delay in help seeking, Discrep Disclose=Delay in Disclosure, Discrep Pain=Discrepancy in Self-Reported Pain, Dicl Fam=First Disclosure to Family.
*$p<.01$

Table 2

Individuals to Whom Participants First Disclosed their Pain

Individual	Frequency
Parent or Caregiver (Mother, Father, Step-parent, Adoptive parent)	14.8%
Sibling	1.9%
Spouse or partner	43.5%
Friend	6.5%
Colleague	0.9%
Clergy (Pastor, Priest, Preacher)	0.9%
Medical provider (Physician, Nurse, Psychologist, Therapist)	15.7%

Figure 1

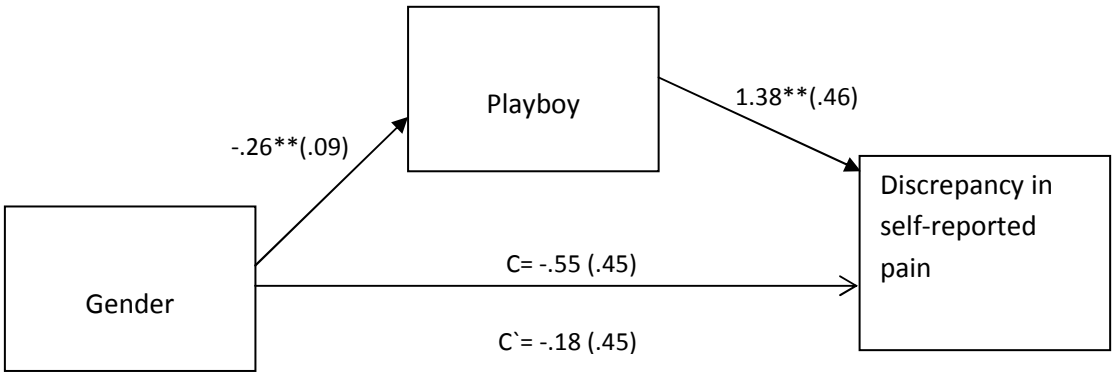

Figure 1. Results of the mediation model of discrepancy in self-reported pain. Females = 1, Males = 0. C = total effect; C` = direct effect. Numbers outside the parentheses represent coefficients for specific paths; numbers inside the parentheses represent standard errors.

*p<.05, ** *p* < .01.

Figure 2

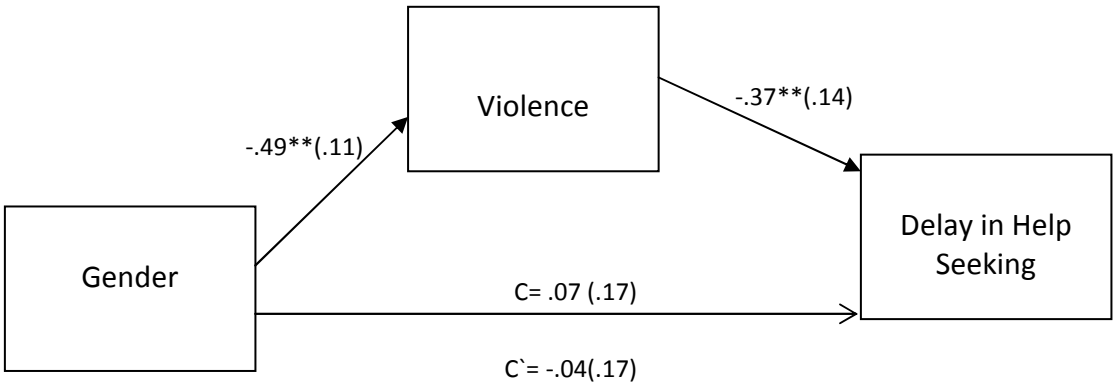

Figure 2. Results of the mediation model of delay in help seeking. Females = 1, Males = 0. C = total effect; C` = direct effect. Numbers outside the parentheses represent coefficients for specific paths; numbers inside the parentheses represent standard errors.

**p<.05, ** p* < .01

Figure 3

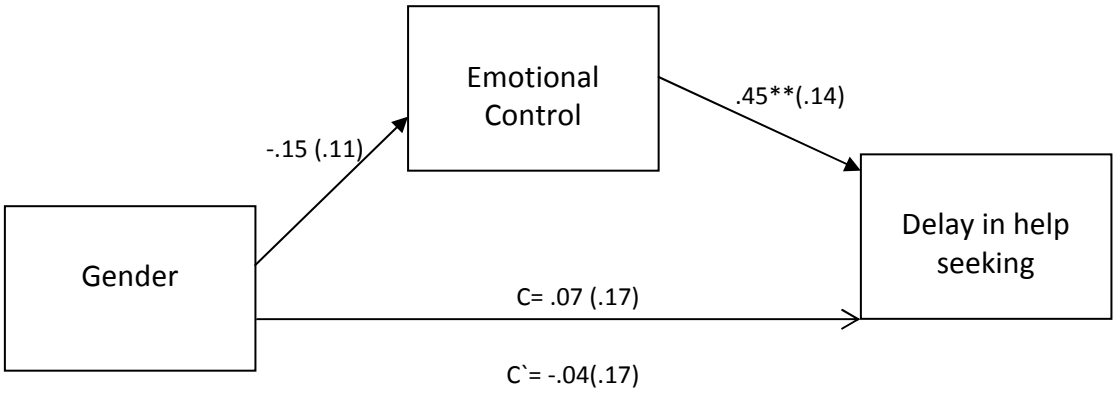

Figure 3. Results of the mediation model of delay in help seeking. Females = 1, Males = 0. C = total effect; C` = direct effect. Numbers outside the parentheses represent coefficients for specific paths; numbers inside the parentheses represent standard errors.

**p<.05, ** p* < .01

SARAH JANE LAGRANGE (HICKMAN)

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Education

Doctor of Philosophy in Counseling Psychology August 2014

Indiana University, Wright School of Education; Bloomington, IN

Master of Science in Counseling and Counselor Education May 2009

Indiana University, Wright School of Education; Bloomington, IN

- Concentration: Community Counseling

Bachelor of Arts May 2007

Hanover College, Bloomington, IN

- Major: Psychology; Minor: English

Related Employment

Predoctoral Intern July 2013– June 2014

Wabash Valley Correctional Facility, Corizon Health; Carlisle, IN

- Provided individual and group therapy for male, maximum security offenders
- Collaborated with several multidisciplinary teams to ensure safety and security of facility while advocating for client needs
- Completed training in Moral Reconation Therapy (MRT) and facilitated two separate MRT groups
- Conducted training for facility staff regarding suicide prevention and adolescent development
- Initiated property review committee to advocate for Special Needs Unit (SNU) offenders

Associate Instructor, Counseling and Educational Psychology August 2011–May 2013

Indiana University; Bloomington, IN

- Provided instruction to undergraduate students in Adolescent Development
- Created course learning materials and lectures to meet the needs of diverse learners and to foster critical thinking

Practicum Counselor, Ivy Tech Counseling and Outreach August 2012– December 2012

Center for Human Growth, Ivy Tech; Bloomington, IN

- Provided counseling and outreach services to community college students
- Addressed crisis situation as they arise on campus

Psychology Practicum Student September 2011– May 2012

Meridian Health Group; Carmel, IN

- Provided individual therapy within a behavioral health model
- Developed multidisciplinary treatment plans for patients suffering from chronic pain
- Collaborated with interdisciplinary treatment team to address biopsychosocial components of pain

Therapy Intern September 2010– May 2011

Larue D. Carter Memorial Hospital, Substance Abuse Treatment; Indianapolis, IN

- Provided individual and group therapy to individuals with comorbid psychiatric disorders and substance abuse
- Conducted substance abuse assessments in order to screen for substance use history and determine need for services
- Maintained up-to-date records and communicated with treatment team members in order to provide continuous care

Graduate Resident Assistant, Deluxe August 2010-May 2011
Indiana University, Residential Programs and Services; Bloomington, IN

- Contributed to a leadership team of five other individuals in order to support and advise 18 resident assistants
- Provided assistance and supported to a community educator in order to develop diversity-related programming to encourage extracurricular learning and engagement in multiculturalism

Graduate Resident Assistant, Deluxe August 2009-May 2010
Indiana University, Residential Programs and Services; Bloomington, IN

- Coordinated with a leadership team of four other staff members to develop a well-balanced staff of 16 resident assistants
- Fostered community in a residence hall by developing relevant programming and encouraging meaningful dialogue amongst residents
- Completed administrative tasks in order to ensure that communication between staff members is efficient

Therapist (Part-time) May 2009-August 2012
Bloomington Meadows Hospital, Acute Care; Bloomington, IN

- Facilitated group therapy with patient groups including children, adolescents, and adults
- Conducted psychosocial assessments and communicated with other treatment team members to ensure comprehensive patient care
- Communicated with patient families regarding treatment progress and discharge plans
- Completed documentation of all treatment activities

Therapy Intern September 2008– May 2009

Bloomington Meadows Hospital, Adolescent Residential Treatment Center; Bloomington, IN

- Provided individual, family, and group therapy to a unit of approximately fifteen adolescents
- Collaborated with a treatment team including mental health technicians, nurses, therapists, and psychiatrists in order to ensure that patient care was comprehensive

- Ensured that documentation of patient work is thorough and that all information was kept confidential

Therapist (Part-time) May 2009-August 2012

Bloomington Meadows Hospital, Acute Care; Bloomington, IN

- Facilitated group therapy with patient groups including children, adolescents, and adults
- Conducted psychosocial assessments and communicate with other treatment team members to ensure comprehensive patient care
- Communicated with patient families regarding treatment progress and discharge plans
- Completed documentation of all treatment activities

Therapy Intern May 2008– August 2008

Bloomington Meadows Hospital, Adult Acute Unit; Bloomington, IN

- Provided individual and group therapy for adult residents with issues ranging from substance abuse to patterns of psychosis
- Conducted psychosocial assessments in order to provide staff members with sufficient information regarding patients' backgrounds and previous treatment attempts

Career Counselor October 2007– May 2009

Undergraduate Career Services Office, Kelley School of Business; Bloomington, IN

- Provided undergraduate students with feedback on resume creation
- Evaluated student interview progress by conducting mock-interviews in preparation for internships
- Worked in conjunction with course lecturers to provide students with guidance on career development

Presentations/Publications

Shea, M., Wong, Y. J., Wang, S., Wang, S., Jimenez, V., Hickman, S.J., & LaFollette, J.R. (2013). Toward a Constructionist Perspective of Examining Femininity Experience: The Development and Psychometric Properties of the Subjective Femininity Stress Scale. *Psychology of Women Quarterly, November 6, 2013*.

Wong, Y. J., Shea, M., Hickman, S. J., LaFollette, J. R., Cruz, N., & Boghokian, T. (2012). The Subjective Masculinity Stress Scale: Scale development and psychometric properties. *Psychology of Men and Masculinity, March 5, 2012.*

Wong, Y. J., Shea, M., LaFollette, J. R., Hickman, S. J., Cruz, N., & Boghokian, T. (2012). The Inventory of Subjective Masculinity Experiences: Development and psychometric properties. *Journal of Men's Studies, 19,* 236-355.

Hickman, S. J., & Wong, Y. J. (2011, April). *The effects of religious priming on subjective femininity experiences.* Poster session presented at the annual Great Lakes Conference, Bloomington, IN.

Wong, Y. J., Steinfeldt, J. A., Speight, Q. L., & Hickman, S. J. (2010). Content analysis of Psychology of Men & Masculinity (2000 – 2008). *Psychology of Men and Masculinity, 11,* 170-181.

Shea, M., Wong, Y. J., Jimmez, V., Castro, M., Wang, S., LaFollette, J. R., & Hickman, S. J. (2010, August). *Development of a Femininity Meaning-Making Test-Stress.* Poster session presented at the annual meeting of the American Psychological Association, San Diego, CA.

Wong, Y. J., Shea, M., Hickman, S.J., LaFollette, J.R., Cruz, N., & Boghokian, T. (2010, August). *Development of the Masculinity Meaning-Making Test-Stress.* Poster session presented at annual meeting of the American Psychological Association, San Diego, CA.

Hickman, S. J., & Steinfeldt, J. A. (2009, August). *Systematic review of a decade of PMM scholarship.* Symposium presentation at American Psychological Association Annual Convention, Toronto, Canada.

Broady, E. F., & Hickman, S. J. (2007, April). *Gender differences in relationships: Comparing stereotypes to self-reports.* Paper presented at the Butler Conference for Undergraduate Research, Indianapolis, IN