

MILITARY AND CIVILIAN COLLEGE MALE MENTAL HEALTH STIGMA,
DISCLOSURE, AND TREATMENT EFFICACY BELIEFS

A Dissertation

by

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ABSTRACT

Mental illness continues to be a significant national health burden. The degree to which this burden is experienced is influenced by culture and other societal influences. The mental health status and treatment of college attending men are often overlooked and contribute to this national burden. Both retired and active military male service members are particularly vulnerable to mental health conditions due to their service history (i.e. PTSD and Substance Use Disorder). Both college attending civilian and military men experience cultural influences that serve as barriers to seeking and utilizing mental health services (MHS). Stigma is a likely predictor for the effect that male and military culture have on the utilization of MHS. The effects of stigma are tied to multiple levels of identity; mental illness in general, male gender-role and masculinity scripts, and military culture and training. Efforts have been made on college campuses as well as within the military to de-stigmatize mental illness and its treatment. It is generally supported in the literature that the salience of masculinity-norms predicts utilization rates of MHS. A similar effect is found regarding military service history in a similar and overlapping manner explored in this study. It is hypothesized that there are group-level differences in the relationship between mental health stigma and MHS utilization between the military and civilian sample population. To test this hypothesis, a multigroup-invariance path analysis was conducted. The analysis fails to support invariance of the baseline model but finds non-invariance of path coefficients across groups with a smaller Chi-square contribution from the military population sample. Reasons for and implications of this difference are discussed. Limitations to this study and future directions for research are explored.

DEDICATION

To my son, Hudson Paul, and my daughter, Lucy Faye. I dedicate this work to you two in the hopes that I may inspire you both to do difficult things, challenge yourselves, and be proud of your father.

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CHAPTER I

INTRODUCTION

For men enrolled in college, mental health remains an overlooked health burden. There is an increased onset of mental disorders in early adulthood, age 18-29, and specifically for men, a higher risk of substance abuse and impulse-control disorders (Kessler et al., 2005). The stressors experienced in transitioning to college and adjusting to college life is believed to contribute to this increased propensity for onset of mental disorders, which in turn can affect academic performance (Beiter et al., 2015). It has recently been re-demonstrated that the prevalence of mental health issues and suicide risk continue to rise each year among the college student populations (Lipson et al., 2019). Unfortunately, only about one third of these affected by a mental disorder seek formal treatment (Eisenberg et al., 2011). Mental health service utilization trends have been studied among college students and broken down demographically by university, age, race, etc. (Horwitz et al., 2020) but not as frequently examined in relation to male and military cultural issues.

Men in college generally report greater perceived stigmatization related to seeking mental healthcare than their female counterparts (Horwitz et al., 2020). Men report a greater stigma in relation to mental illness and seeking mental health treatment (Lynch et al., 2018). Men are less likely to engage in self-disclosure, help-seeking, identifying emotional problems, etc. that are conducive of mental health treatment (Heath et al., 2017). Mental health stigma, commonly experienced as threats to masculinity, serve as barriers to seeking mental health services (MHS) for men (Boysen, 2017; Seidler et al., 2020).

United States military service members are a particularly vulnerable group for mental illness, experiencing a significantly higher risk for depression, suicide, alcohol abuse, and

posttraumatic stress disorder (PTSD) than their civilian counterparts (Fortney et al., 2016). Male service members share similar stigma effects to civilian men in relation to dealing with mental illness and seeking mental health treatment, which serve as a barrier to care (Hoge et al., 2004; Kim et al., 2011; Meyer & Wynn, 2018). Male service members who attend college are more likely to screen positive for depression, generalized anxiety disorder, PTSD, alcohol misuse, suicidal ideation, and are more sensitive to public stigma surrounding mental disorders than civilian men on campus (Fortney et al., 2017).

There is an increased risk in college-attending service member and civilian men for the onset of mental health issues (Hunt & Eisenberg, 2010). For these men, there is an increased stigma associated with admitting to mental health issues and attending mental health services (Heath et al., 2017). Given these two issues, this study aims to examine the presence of stigma associated with seeking mental health services and the utilization of those services specifically among male college-attending civilians and service members.

Male College Student Mental Health

For traditional college-aged men, national surveys note a concerning trend in mental health issues. Over 25% of men between the ages of 18-25, experience some form of mental disorder (National Institute of Mental Health; 2017). In 2017, suicide was the second leading cause of death for males age 18-24, accounting for 19.2% of all deaths within this age group (Centers for Disease Control and Prevention, 2019). Suicide for young adult men has been increasing by 1-2% each year from for the last 20 years (Hedegaard et al., 2018; World Health Organization, 2016). Adolescents die by suicide at a rate of 5.4 deaths per 100,000 persons in 2016 (Hedegaard et al., 2018). The rate of death by suicide is staggeringly higher for male service members of the same age cohort at a rate of 44.5 deaths per 100,000 persons (US

Department of Veterans Affairs, 2019). Among college students across the nation in the 2018-2019 academic year, 36% screened positive for depression 31% screened positive for anxiety, and 14% reported suicidal ideation (Eisenberg & Lipson, 2019).

Even with the prevalence of mental illness being so high, less than half of college students utilize campus mental health services (Rafal et al., 2018; Yorgason et al., 2008). Furthermore, male students are less than half as likely to use mental health services than females (Yorgason et al., 2008). Rickwood and colleagues (2015) found that young adult men are less accurate in identifying when they are dealing with mental health issues than women. In their online survey of male college students, Rafal and colleagues (2018) gathered self-report data from undergraduate and graduate students at a large southeastern university. They examined students' attitudes towards utilizing MHS, mental health stigma, and help seeking intentions. Their study found that male participants tended to have poor attitudes about mental health and high self-stigma related to seeking help for mental health issues.

Mental Health Stigma Overview

Stigma denotes a “mark” or an indication that someone is disgraced in some way. It comes originally from the mark that was placed upon Greek slaves which indicated a social status that was inferior to the average citizen (Hinshaw & Stier, 2008). Modern stigma can be defined as a set of prejudicial attitudes, beliefs, negative labels, behaviors, and stereotyping towards members of a group (Corrigan, 2000). Stigma can be experienced in relation to belonging to groups as large as “male” to smaller subsets like “United States veteran.” For male college students, stigma towards acknowledging a mental health problem includes public attitudes including appearing as weak, incompetent, or unmanly (Pederson & Vogel, 2007).

Male college students often shun mental health services to avoid these social consequences (Vogel et al., 2011). Perception of stigma is some indication that a person is in some way disgraceful or socially undesirable (Sadow & Ryder, 2008). For college age men this takes the form of gender role conflict which is traditionally defined as the negative consequence experienced by a man when masculine norms are not met (O'Neil et al., 1986). Mental illness stigma has historically taken the form of devaluing those with mental disorders, marking them as unfit for society and separating them from the group (Hinshaw & Stier, 2008). There are ingroup and outgroup effects and those identified with a mental diagnosis are in the outgroup (Hinshaw & Stier, 2008). Outgroup identification and alienation related to mental illness is an impactful component of mental health stigmatization and has been found to exacerbate depressive symptoms and reduces self-esteem (Ritsher & Phlean, 2004). Certain diagnoses suffer outgroup identification more than others. For example, those with lesser degrees of anxiety or depression are less likely to suffer outgroup identification, with schizophreniform disorders suffering the highest degree of outgroup identification (Crisp et al., 2000). A college age male who acknowledges a mental health issue and seeks counseling places himself at risk of being identified as un-masculine, suffering features that remove him from his male group identity such as femininity, weakness, and vulnerability (O'Neil et al., 1986; Pederson & Vogel, 2007; Vogel et al., 2011).

Stigma has been a stifling force in healthcare everywhere, across countries, cultures, and disciplines. A meta-analysis by Mak and colleagues (2007) identified a strong correlation and medium effect size between experiencing stigma and mental health outcomes across 49 studies that had at least one measure of the relationship between stigma and mental health. Mak and colleagues (2007) gathered data on the strength of the relationship between stigma and mental

health outcomes across these studies and found that the effect that stigma has on mental health is large enough to be observed in real life, and that this effect is primarily a negative effect on recovery and adjustment.

Those with mental illness experience prejudice and discrimination in various ways. Those who experience mental illness are often branded as dangerous to themselves or those around them (Klin & Lemish, 2008; Rowe et al., 2003). Those with a mental health disorder can often be attributed as being personally responsible for their disorder or that their illness is self-inflicted (Rowe et al., 2003). Men and women experience differences in stigma related to mental disorders. For example, paraphilic disorders and antisocial personality disorder are stereotyped to be more masculine (Boysen et al., 2014; Boysen, 2017). Disorders that garner more serious stigma, are perceived as being more dangerous, and evoke more fear from others are predominantly male-stereotyped disorders (Boysen et al., 2014; Boysen, 2017). Therefore, stereotypically masculine mental disorders are disproportionately stigmatized to a greater extent than stereotypically feminine mental disorders (Boysen, 2017).

There exists the notion that a person's mental health status is an issue of volition, the common perception being that internal experiences are a matter of choice and therefore discipline (Rüsch et al., 2010). Those who struggle with mental illness are also likely to struggle with this sense of guilt or self-blame, contributing to the notion that they are the one who is responsible for their own struggles (Rüsch et al., 2010). College and military men who attend mental health services can often internalize a sense that they lack discipline because of their struggle with mental illness (Acosta et al., 2014; Heath et al., 2017; Rafal et al., 2018; Vogel et al., 2011). For instance, in their survey of service members who served in Iraq and screened positive for one or more mental disorder, Stecker and colleagues (2007) found that 65% of

respondents believed that they should be able to handle their mental health problems on their own and 25% reported the belief that family members would rather they “suck it up.”

The reality is that internal experiences or disposition are very difficult for anybody to control. This point is commonly illustrated by the familiar thought experiment; don't think of a piece of chocolate cake (Hayes et al., 1999). Those who engage in such an exercise readily admit that the task is difficult, yet the idea that internal or mental issues are a matter of discipline and control remains present and pervasive in society. For college and military men, struggling to exert control over one's emotional state contributes to the internalization of traits such as being undisciplined, flawed, or unworthy of social engagement (Rüsch et al., 2010).

Stigma toward Mental Health Service Utilization

There are a number of barriers such as self-stigma and the fear of alienation or discrimination that contribute to the gap between the number of college attendees who screen positive for a mental disorder and those who seek MHS (Carrillo et al., 2011; DeBate et al., 2018). Those with mental health diagnoses often experience a negative internalization or self-stigma (Rüsch et al., 2005). Self-stigma is where an individual will apply to themselves negative publicly held stigma, labelling themselves as something socially unacceptable (Vogel et al., 2006; 2007). Vogel and colleagues (2006) found among their study of 470 college students that public stigma and self-stigma are significant predictors of student's intent to seek MHS and their attitudes towards MHS. In their study of 3358 college students who screened positive for elevated suicide risk, Horwitz and colleagues (2020) found that 41.1% of respondents reported that they worry what others may think of them if they use MHS, 31.8% report worries about their parents finding out they use MHS, and 28.6% worry that their utilization of MHS will be documented in a medical record that will follow them.

This negative association between attending services and being seen as crazy or other discriminatory labels contribute to overall stigma regarding mental health services (Ritsher & Phelan, 2004). Public perceptions of mental illness include beliefs that mental illness causes or in some way contributes to dangerousness to themselves or others, likelihood to commit criminal activity, incompetency, and blame, meaning that the individual (or a parent) is personally responsible for their mental illness (Parcesepe & Cabassa, 2013). In a meta-analysis performed by Clement and colleagues (2015), barriers to mental health care were analyzed with 60,036 participants across forty-four studies with 22-23% of participants reporting fear of negative social judgement or workplace discrimination. That number jumps to 23-28% of respondents who are of military status (Clement et al., 2015). What makes engagement with MHS so stigmatizing for men? There are several influences that are likely to play a role including masculinity, gender role conflict, and the interaction of social expectations with disclosure and help-seeking.

Male Gender Role and Masculinity

One way to organize masculinity and behavior linked to the male gender role is via the Social Identity Theory. Tajfel and colleagues (1979) developed Social Identity Theory as a framework to explain the role of group identity in social behaviors like cooperation, conflict, and conforming to group norms. The theory posits that an individual's knowledge of membership within a social category influences their behavior in that the individual will seek to maintain a positive self-concept, and that self-concept is informed by their social identity (Tajfel et al., 1979). Social Identity Theory has been expanded to include group attitudes, beliefs, and behaviors as determinants in positive group identity; how well an individual exhibits these attributes will determine how well they fit within a social group (Hogg, 2016).

Masculinity scripts fit within Social Identity Theory as clearly defined attributes that help to inform self-concept and group identity. For example, men who adhere to the “strong and silent” script expectations (Mahalik et al., 2003) will avoid disclosing personal struggles and try to exemplify stoicism in order to maintain their masculinity. Men who fail to conform to masculinity scripts also fail to maintain a positive group-identity and run the risk of out-group identification, leading to prejudice and social rejection (Barbee et al., 1993; Hogg, 2016; McAllister et al., 2019; Tajfel et al., 1979; Vogel et al., 2011). Men are consistently shown to hold more negative attitudes towards receiving mental health services than women across all racial groups, which impacts their likelihood of utilizing those services (Nam et al., 2010).

Male gender role expectations, also commonly referred to as masculine norms or masculinity scripts, comes from the way that society views men, what they think men “should” do and be like, and primarily how the man was socialized as a child (Garside & Klimes-Dougan, 2002; Lynch et al., 2018). Two masculine ideals in particular appear to be important for determining likelihood for a man to seeking MHS, self-sufficiency and withholding emotional expression (Mahalik et al., 2003).

Such societal views place the expectation on men to be active and self-reliant, meaning solving their own problems without seeking help, which works in direct opposition to seeking MHS (Lynch et al., 2018; Vogel & Heath, 2016). Traditional male roles suggest that men should solve problems without any help, be independent and self-sufficient (Mahalik et al., 2003). Elements of the male gender role, namely self-reliance and control over emotion, make it more difficult for men to ask for help (Barbee et al., 1993) and young men will often report experiencing embarrassment, fear, and shame associated with asking for help (Hernan et al., 2010).

Traditional male roles suggest that men withhold emotional expression (Mahalik et al., 2003; Plant et al., 2000). There is a societal expectation in the United States for men to be in control of their emotions and to express emotion less often (Carlton et al., 2020). Men who conform to traditional gender role scripts report being fearful of social situations where they could potentially lose control over their emotions (Jakupcak, 2003). This fear is not entirely unfounded as the expression of emotion that is stereotyped to be non-masculine can result in social rejection or blatant discrimination (Boysen, 2017; Carlton et al., 2020). Thus, men are expected to not cry and their expression of negative emotionality can be looked upon as a weakness not only by themselves, but societally as well. Although anger is a socially accepted emotional expression for men (Plant et al., 2000), the unrestrained expression of anger is still generally regarded negatively (Mahalik et al., 2003).

Gender Role Conflict

Gender role conflict is a term used to describe where an individual is at odds with social expectations predicated on their gender identity resulting in negative consequences (O'Neil et al., 1986). Male gender roles are often at odds with MHS as the process of mental healthcare often involves intimate self-disclosure of emotional problems and the incorporation of help in the problem-solving process, resulting in gender role conflict (Blazina & Marks, 2001). Gender role conflict is related to interpersonal strain, depression and negative attitudes towards MHS, (Good & Wood, 1995; Heath et al., 2017; Vogel & Heath, 2016).

Particular to masculinity are the traits of competency, reliability, and self-sufficiency, among other things (Deane & Todd, 1996; Heath et al., 2017). Men who require help and ask for it put their masculinity at risk by displaying some degree of incompetence (Heath et al., 2017). Mental health issues are no exception. A man who is unable to resolve internal conflict on their

own puts their masculinity at risk by seeking help and experiences gender role conflict (Heath et al., 2017; Mahalik et al., 2003). Good and Wood (1995) found among their survey of college attending men that those who were experiencing greater male gender role conflict also experienced greater symptoms of depression, reduced emotional expressiveness, and decreased likelihood of seeking MHS. In their sample, male gender role conflict accounted for one fourth of the variance in help-seeking attitudes (Good & Wood, 1995).

Self-Disclosure of Personal Problems

Men experiencing gender role conflict are also more likely to inhibit intimate self-disclosure, predictive of help-seeking behaviors underlying the utilization of MHS (Carlton et al., 2020; Heath et al., 2017; Vogel & Heath, 2016). Men are socialized at a young age not to disclose or express negative emotion exemplified by phrases like “big boys don’t cry” among others (Garside & Klimes-Dougan, 2002; McAllister et al., 2019; Vogel et al., 2011). Endorsement of masculine norms predicts fear of risks and self-stigma associated with self-disclosure; those who endorsed masculine norms perceived more difficulty and discomfort in disclosing and seeking help for personal emotional problems (Heath & Vogel 2017; Pederson & Vogel, 2007). In short, the more a man conforms to male gender roles, the more likely they are to consider seeking counseling services as a threat to their masculinity as psychotherapy appears to be at odds with the attributes of self-reliance and stoicism (Heath et al., 2017; Mahalik et al., 2003).

Masculinity & Mental Health Related Self-Stigma

Men who utilize MHS can sometimes internalize traits such as incompetence, dangerousness, failure, and other ideas that parallel public stigma (Rüsch et al., 2005). In their study of 575 undergraduate men, Pederson and Vogel (2007) found that self-stigma partially

mediated the relationship between gender role conflict and willingness to seek MHS. Heath and colleagues (2017) looked at 248 undergraduate men using self-report measures on self-stigma, self-disclosure risk, and found that conformity to masculinity norms was linked to both higher self-stigma related to seeking MHS and perceived risk of self-disclosure.

Men who seek mental health services can internalize the belief that they are undisciplined or flawed (Deane & Todd, 1996; Mahalik et al., 2003). Masculine traits add upon this issue by presupposing that men are emotional pillars to their families. It is looked upon positively for a man to exhibit self-control, especially in terms of emotion and disposition (Deane & Todd, 1996; Vogel & Heath, 2016). A man with no control over their emotional state runs the risk of social stigma and is looked down upon by traditional societal standards, more so if this person is a husband or father. Emotional stability and self-control are masculine traits that are viewed as critically important when serving in a fatherly role. Men who struggle with anxiety or depression are regarded negatively on these traits, are seen as less masculine and less fit for family life or military service.

Civilian and military men experience several overlaps in what serves as barriers to seeking services. Capability and self-sufficiency are repeatedly identified as the most influential trait related to masculinity that mediate utilization of mental health services (Seidler et al., 2020). Men often report fear of being ridiculed by peers or damage to career as reasons for not seeking mental health services (Lynch et al., 2018; Valenstein et al., 2014). Men report concerns associated with mental healthcare such as loss of autonomy, feelings of weakness or inadequacy, and perceiving oneself as inferior to other men (Hammer et al., 2013). The presence of these fears and attitudes predicted one's willingness to seek services. Some men have been found to

experience a sense of failure or reduced self-worth associated with asking for help (Hammer et al., 2013).

Military Culture

Military members and their families exist within a distinct military cultural identity. Military service informs and significantly shapes a service-member's culture, lived experiences, and has major implications for their mental health treatment (Hall, 2011; Hoge, 2011). Significant to mental health stigma and service utilization within the military culture are values within the warrior mindset, perceived threats to military career, a mission-first mentality, and re-framing of mental health issues as job-related risks.

Although there are many specific differences between the different branches of the armed forces, all service members are taught to embody the warrior mindset as a cultural script very similar to masculinity scripts (Hall, 2011). The warrior mindset, also referred to as the warrior ethos, is a set of distinct characteristics that a warrior must live and exemplify in their duty and personal life. Such characteristics include being self-disciplined, self-sufficient, stoic, duty-oriented, selflessness, physical and moral strength, and many others (Buckingham, 1999). The idea of self-sufficiency serves as the most prominent barrier to seeking mental health services among military members (Acosta et al., 2014; Valenstein et al., 2014). Those who embody the warrior mindset tend to believe that, even if mental or emotional struggles do occur, they should be able to handle these struggles on their own (Acosta et al., 2014). Those who believe that mental and emotional conflicts should be resolved internally without the help of a professional are significantly less likely to seek services (Deane & Todd, 1996; Vogel et al., 2007).

Several features of military culture appear to interfere with mental healthcare, self-compassion and help-seeking behaviors. Hall (2011) describes three of these features; secrecy,

stoicism, and denial. Hall (2011) described the trait of secrecy as the importance of keeping personal problems at home rather than take them to work, noting that this psychological stonewalling occurs even between the spouses and children of the service members. Overlapping with masculinity norms is a more profound version of stoicism within military culture, what Hall (2011) described as the importance of appearing stable and competent in times of stress or crisis. The last of these important features is denial, or the need to keep a soldier's feelings and fears to themselves (Hall, 2011). Military families live with the constant stress of the potential for sudden significant change, such as deployment, getting assigned to a new job, or getting relocated overseas, often without warning. To manage these stressors and succeed in their careers, service members often see these three traits as necessary for success during and after their military service (Hoge, 2010).

There is a pervasive fear among every branch of the armed forces that those who receive a lasting mental health diagnosis, like depression, will be removed from their duty and potentially transferred to another assignment (Meyer & Wynn, 2018). Stecker and colleagues (2007) found in their survey of combat veterans that 55% of respondents feared that seeking MHS would be harmful to their career. This fear is not entirely unfounded as commanders sometimes view a mental health diagnosis as a sign of risk or insufficiency for that soldier's assignment (Meyer & Wynn, 2018). Officers must demonstrate competence on many aspects of their duties, not only their specific jobs on base but their general wellbeing as well (Hall, 2011). Higher-ranking officers suffer greater self-stigma related to mental health issues and are more resistant to seeking MHS due to additional fears that it will negatively impact their hard-earned reputation (Reger et al., 2008). High-ranking officers who do attend MHS will often appear for

treatment in civilian clothing in an effort to hide their rank and protect their reputation (Reger et al., 2008).

Serious medical or mental problems can, and often do, prevent promotion or admission into desirable position. Within military culture exists a general sense that mental health issues are damaging to a member's career, even more so for higher-ranking officers (Acosta et al., 2014). These fears are often legitimized in highly competent or skilled military ranks as these positions are sometimes lost due to being disqualified for medical reasons (Meyer & Wynn, 2018). These fears contribute to a trend of minimizing mental health issues, underreporting to medical professionals, and reverse-malingering where soldiers desperately try and hide whatever medical or mental issues may exist to prevent themselves from being disqualified for their work (Acosta et al., 2014; Hall, 2011). Even soldiers who believe they may benefit from MHS often intentionally delay seeking MHS due to the fear that it may negatively interfere with their career and professional relationships (Reger et al., 2008).

Each service member is trained to understand and value each role of every personnel within a mission (Hall, 2011). The inter-dependency of the jobs within a military installation are understood by everyone and no resource is wasted. Those who fail to fulfill their responsibilities, approach their work lazily, or do not perform their job well are looked down upon and disrespected by other service members (Acosta et al., 2014). Mental health issues fall prey to this stigma, as those who require services are often seen by their peers and likewise see themselves as underperforming in their duty, taking a toll on resources and time, and ultimately compromising the mission (Acosta et al., 2014). This is confounded by the realized toll taken on work-duties as depression and anxiety often do diminish a person's quality of work. For these reasons, service members often minimize their mental issues or avoid disclosing any issues they are having to

medical personnel in lieu of taking time and resources to attend mental health services (Hoge, 2010). Within military culture, it is generally thought of by service-members to simply “push through” the problems you may be experiencing, holding it together for the sake of the mission and then dealing with it afterwards (Hall, 2011; Valenstein et al, 2014).

A popular re-framing of mental health issues within military culture is that mental or emotional symptoms are seen as “part of the job” as opposed to a health problem (Meyer & Wynn, 2018). Anxiety, distress, loss of sleep, etc. are symptoms that can be seen as occupational hazards and that they are a normal side-effect of doing your job. The unfortunate truth to this view is that mental symptoms such as these are indeed a common side effect of military service (Hoge et al., 2004). Viewing symptoms of mental health issues as just part of the job, rather than health-related, serves to prevent military members from seeking services (Hall, 2011). This trend exists more so for jobs within the military that are mentally strenuous. Certain training schools and jobs within the military include training in a ‘center for mental fitness’ where the concept of mental toughness is supported by psychological skills training much like a sports psychologist may employ in professional sports. The primary function of these trainings is focus and performance as opposed to health and wellbeing. Although many of these skills do indeed serve to the benefit of working a mentally strenuous job, it further illustrates the dynamic of task oriented mental health, the idea that “as long as I am able to do my job, everything I am experiencing is part of my work.” Many in the military consider the ability to keep doing their job, or the mission, as more important than personal health and safety (Meyer & Wynn, 2018). This self-sacrifice, among most other elements of the warrior mindset, persist long after their mission is complete and the service member re-enters civilian life (Hoge, 2010).

Assimilation into Military Culture

Service members are trained and indoctrinated into the warrior mindset as part of entering into the military, whether intentional or as a byproduct of becoming culturally assimilated into service (Acosta et al., 2014). Assimilation into military culture can vastly change a person's worldview in a short amount of time. These changes in worldview have been shown to be among the most lasting cultural shifts of any cultural assimilation that people experience (Acosta et al., 2014). Those who served in the military for even a short duration expressed a deep identification with the culture long after their service had ended (Hoge, 2010; Kim et al., 2011). This combines with the societal transition from active duty military to veteran, not civilian, and the common notion of "once a warrior always a warrior" (Hoge, 2010).

Reintegration into civilian life is one of the primary goals of mental health advancement for the military, and many veterans never fully consider themselves to be civilians like those who have never served (Hoge, 2010; McCormick et al., 2019). Within the military perspective of civilian mental health workers, there is a subtle distrust or precaution towards those who have not had the same training and experience as they have (Cheney et al., 2018; McCormick et al., 2019; Valenstein et al., 2014). This can present itself as the notion that service members are misunderstood by the public, or that they have experiences that feasibly separate them from being fully understood by their civilian peers and especially by a civilian mental health provider (McCormick et al., 2019). There can sometimes be a mistrust of civilian providers in that they do not hold the same competency standards, loyalty towards their country, or dedication to the mission or success as held by other service members (McCormick et al., 2019; Valenstein et al., 2014). These can serve as a barrier to seeking care and sometimes interfere with the beginning stages of therapy and rapport building (Cheney et al., 2018).

Barriers to MHS within Military Culture

There are many barriers to seeking mental health care that stem from military culture. Many come from negative perceptions that surround a mental health diagnosis or treatment (Valenstein et al., 2014). There is a range of negative perceptions from being seen by others as broken or weak, to internalizing feelings of insufficiency or incompetence (Hoge et al., 2004). Hoge et al., (2004) found that after serving in Afghanistan or Iraq, soldiers were twice as likely to endorse negative beliefs about attending mental health services such as “it would be too embarrassing” when compared to pre-deployment. In military training, soldiers begin to adopt a utility-oriented view on health, viewing those with physical or mental debilitation as “broken” or “useless.” These views are often internalized as soldiers return from combat zones with PTSD and view themselves in these terms (Kim et al., 2011).

Military members are trained to respond to traumatic events and will not typically see their response to trauma as pathological (Hoge 2010; 2011). Many symptoms of mental illness are found to be perceived very differently within the lens of military culture; for example, hypervigilance, emotional numbing, and functioning on very little sleep are seen as positive and adaptive within the military culture (Hoge, 2010). A negative bias in perceptions of mental illness and its treatment are deeply embedded within military culture and is one of the greatest predictors in whether a service-member will utilize mental health services (Cheney et al., 2019; Kim et al., 2011).

Beliefs about Mental Health Treatment Efficacy

Mental health treatment efficacy beliefs as investigated by this study is the degree to which an individual believes that mental health services, either medication or psychotherapy, is likely to be effective in palliating suffering or resolving problems stemming from a mental health

condition like depression, anxiety, and PTSD. Pietrzak and colleagues (2009) found that negative beliefs about mental healthcare are associated with decrease likelihood of utilizing MHS among service members. Hoge and colleagues (2004) found that 4-17% of service members report the belief that mental health treatment is ineffective and 52-64% report the belief that it would work better to handle their problems on their own. In their review of the literature, Hom and colleagues (2017) found that such attitudes towards MHS result in lower interest in receiving care and that service members generally prefer self-management over MHS.

Purpose of the Study

Given that college attending males and male veterans experience a complex array of cultural expectations, such as masculinity norms or the warrior ethos, this study sought to examine the relationship between mental health stigma, disclosure of mental health concerns, and mental health treatment efficacy beliefs. Based on the review of the literature the question that guides this study is: Is there a significant difference in the strength of the MHS utilization stigma – MHS utilization history relationship between two groups, military and civilian?

Hypotheses

Based on the review of the literature explored in this study, it can be theorized that the perception of mental health stigma predicts MHS utilization, and that this relationship is likely to be stronger for individuals with military history when compared to the civilian population. It is also theorized that the mental health stigma and MHS utilization relationship is mediated by both willingness to disclose personal problems and beliefs about the effectiveness of treatment. The theoretical model illustrates these relationships and represents the following hypotheses.

1. There is a significant relationship between Stigma towards MHS utilization and MHS utilization history in the pooled sample population.

-
2. There is a significant difference in the mental health stigma-MHS utilization relationship between the military and civilian sample populations.

CHAPTER II

METHODS

Participants and Procedures

The data used in this study were taken from the Healthy Minds Study (HMS) survey lead by Dr. Daniel Eisenberg and Dr. Sarah Ketchen Lipson (2019). The HMS survey was a web-based survey designed to collect information regarding mental health and related issues in college student populations. Responses were collected annually from participating universities. Each year of the survey contained data from the last 12 months of the academic year, (i.e., Fall 2018 to Spring 2019 on the academic calendar is contained in the 2019 dataset). The survey was delivered through an email invitation. Respondents were randomly selected from currently enrolled university undergraduate and graduate students ages 18 and older.

Only data from the 2018-2019 academic year was used. In the 2018-2019 parent study, there were 79 participating universities and 62,171 college student participants with a response rate of 16%. The mean age of participating students in the survey was 23. The number of participants who identified as female was 40,900, as male was 19,758, and as other gender identity was 1,275.

For this dissertation study, only those who indicated a male gender identity were used. Out of the 19,758 male participants, only 17,419 responded to the necessary survey items used in this study. This sample was divided into two groups for the purpose of this study, male participants who have a history of military service and male participants with no military service, which is referred to as “civilian” in this study. The number of male participants who served in the military in this sample was 921 with a mean age of 29.24 with a range of 18 to 79. The

number of male participants who are civilian in this sample was 16,498 with a mean age of 22.83 with a range of 18 to 73.

Measures

Seventeen items were taken from the parent survey to assess for study variables: MHS utilization history, stigma towards using MHS, willingness to disclose personal struggles, and beliefs about treatment efficacy. The items are listed in Appendix A.

Mental Health Service Utilization History

MHS utilization was measured using four questions from the parent survey. Using these questions, a participant indicates if they have (1) used psychopharmacological medications or (2) participated in psychotherapy for the purpose of treatment for emotional or mental health concerns within the last year. Affirmative answers indicate that the participant has utilized MHS within the last year resulting in a binary value (0=No MHS utilized, 1=Has utilized MHS within the last year).

Stigma Towards Mental Health Service Utilization

Stigma towards utilizing MHS was measured using six items from the survey. Questions asked about perceptions of public stigma (most people think less of a person who has received mental health treatment) and personal stigma (I would think less of a person who has received mental health treatment). These are measured using a six-point Likert-scale ranging from 1 (Strongly Agree) to 6 (Strongly Disagree). Two items were reverse-scored to maintain consistency with low numbers representing more stigma and high numbers representing less stigma. Responses to these six questions were summed and divided by the number of questions answered for each participant, yielding an average stigma score. This was done to prevent potential error in the value of stigma if some participants were to not answer one or more of the

six questions related to stigma. If a sum score were taken, a smaller value in stigma may suggest the participant endorsing fewer stigmatizing beliefs when, in fact, they had simply not answered a few of the stigma-related questions. An average score with the denominator dependent on the number of questions answered corrects for this issue. Throughout this study, this variable may also be referred to in short as “stigma.”

Willingness to Disclose Personal Struggles

Willingness to talk to someone else about personal emotional struggles was measured using one item from the survey regarding how willing a participant would be to talk to others about those concerns (when I feel depressed or sad, I tend to keep those feelings to myself). This item is measured using a six-point Likert-scale from 1 (Strongly Agree) to 6 (Strongly Disagree) with a higher number representing greater willingness to disclose personal problems. Throughout this study, this variable may also be referred to in short as “disclosure.”

Beliefs About the Efficacy of Mental Health Treatment

Beliefs about the effectiveness of mental health treatment was measured using four items. These items gauge how effective the participant believes that mental health services (psychotherapy or medications) are for treating mental health or emotional concerns for themselves or others (i.e. How helpful on average do you think counseling is, when provided competently, for people your age who are clinically depressed?). These items are measured using a four-point Likert-Scale ranging from 1 (Very Helpful) to 4 (Not Helpful). All four items are reverse-scored and summed with a higher total score representing greater belief that MHS are effective. For the same reasons that an average score was created for stigma, items indicating beliefs about treatment efficacy were summed and divided by the number of questions answered for each participant, yielding an average efficacy beliefs score.

Military Status

Military status was measured by the following item: “Have you ever served in the United States Armed Forces, military Reserves, or National Guard?” Participants who affirm a history of service in any capacity throughout their lives are considered to have military history for the purpose of this study (0 = Civilian, 1 = Military).

Gender

Gender was measured using one question regarding the participant’s reported gender (1 = Male, 2 and higher = Female and all other answers). Only responses submitted by those who identified as male were analyzed in this study.

CHAPTER III

RESULTS

Preliminary Analysis

A final sample of 16,498 civilian college students and 921 military college students from across 79 participating universities within the United States were analyzed. The total combined sample size of 17,419 observations was large for the model and was adequate to continue with the analysis. Table 1 summarizes bivariate correlations as well as means and standard errors of each variable for both groups, military and civilian.

Table 1
Correlation Matrix, Mean, and Standard Error Among Questionnaire Responses for Both Military and Civilian Populations

Variable	1	2	3	4	Mean (Civilian)	S.E. (Civilian)
1. Mental Health Stigma	--	0.153*	0.127*	-0.065*	2.777	0.007
2. Disclosure	0.214*	--	0.019*	-0.117*	2.778	0.021
3. Treatment Efficacy Beliefs	0.055	0.013	--	-0.119*	2.201	0.006
4. MHS Utilization	0.039	-0.244*	-0.217*	--	0.366	0.050
Mean (Military)	2.907	2.916	2.323	0.375	--	--
S.E. (Military)	0.028	0.090	0.025	0.231	--	--

Note. Correlations for military responses appear in the lower left of this matrix while civilian responses appear in the upper right. * $p < .05$. S.E. = Standard Error

In order to analyze the data, necessary assumptions must be met, those being multicollinearity, normality, outliers, homoscedasticity, the theoretical model must be identified and be unidirectional (Schreiber et al., 2006). The following assumptions were tested with the exception of utilization of MHS as this variable was dichotomous. In examining multicollinearity, Table 1 demonstrates that no indicators were correlated above $r = .85$, therefore there was no multicollinearity among variables. SPSS v26 was used to evaluate assumptions of normality, linearity, and homoscedasticity using Quantile-Quantile (Q-Q) plot. The Q-Q plot

revealed apparent straightness and linearity among variables with small variations at the tail ends of stigma towards MHS, suggesting normality and homoscedasticity. The generation of box-plots revealed no apparent outliers in the data, likely due to the limited nature of the Likert-scale questions in the questionnaire (questions ranging from 1-6). All models had greater than or equal to zero degrees of freedom, thus all models were identified. There were no recursive relationships within the models in this study, thus satisfying the need for unidirectional relationships.

Main Analysis

Due to the binary/categorical nature of the outcome variable (utilization of MHS) this study followed the recommendations of Finney and DiStefano (2013) to use weighted least square mean and variance adjusted (WLSMV) estimation for all tests. Mplus 8.6 statistical software was used to calculate the estimations. Procedure for this multigroup invariance analysis followed the work of Milfont and Fischer (2015) with additional guidance from Chen and colleagues (2010) as well as Teo and colleagues (2009). Fit indices were evaluated using guidelines consistent with this estimation method from Rhemtulla and colleagues (2012) as well as Asparouhov and Muthén (2010; 2019). The objective of this multigroup invariance analysis was to find non-invariance of path coefficients across groups, which means that the strength of the relationships between observed variables is different enough that path coefficient invariance between groups cannot be supported, thus supporting hypothesis 2 and the main research question of this dissertation. In order for path coefficient non-invariance to be meaningfully tested, a number of other conditions should first be met (Milfont & Fischer, 2015).

First, the theoretical model fit to the data was tested for each group independently and in a pooled sample with both groups combined. This provided an opportunity for hypothesis 1 to be

addressed. Then, a baseline model was established where all paths were free to be estimated across groups. Nested within the baseline model is a model where all paths are constrained to be equal across groups, which was called the equality model. A Chi-square difference test between the fit of the baseline model and the equality model was used to evaluate invariance of path coefficients across groups. Failing to support path invariance may suggest that the strength of the theorized relationships were different for each group.

The theoretical model, shown in Figure 1, represents the hypothesized relationships between the variables measured in this study. The theoretical model shows a direct relationship from stigma towards MHS utilization to MHS utilization history with partial mediation of that relationship from beliefs about the efficacy of treatment and also from willingness to disclose personal struggles. Correlations for item responses for both groups are shown in Table 1.

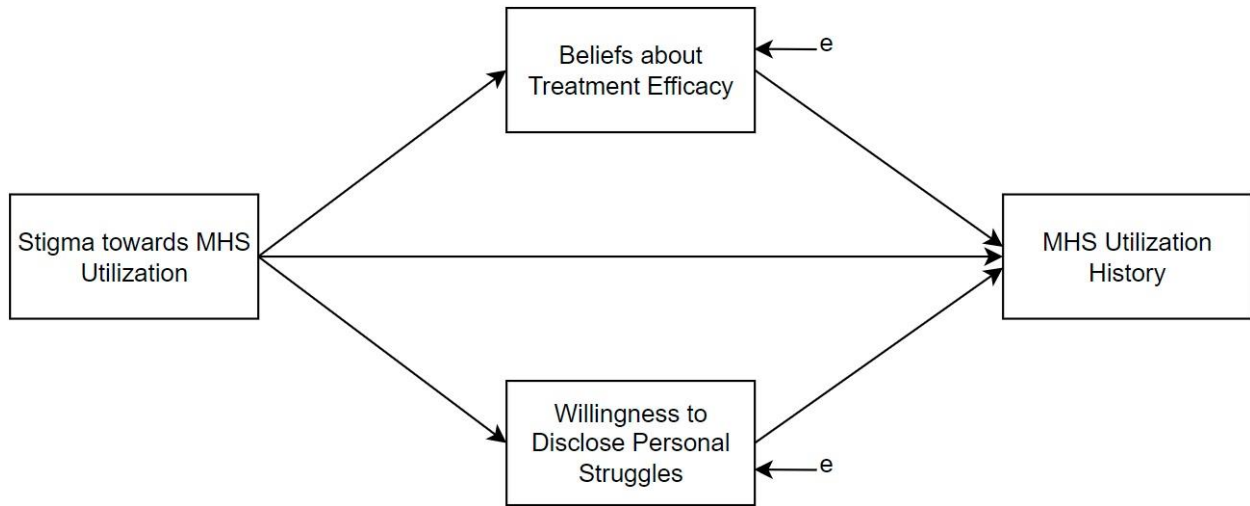


Figure 1. Theoretical Model representing the expected relationships between variables.

Prior to testing for invariance, model fit was tested for each sample independently as well as the pooled or combined sample to help ensure that the groups could be meaningfully compared (Milfont & Fischer, 2015). First, Model 1 was established as a pooled model whereby both sample populations, military and civilian, were evaluated as a combined sample. The fit

indices of Model 1 can be found in Table 2 and path estimates can be found in Figure 2. The pooled or combined sample Model 1 shows poor fit indices ($\chi^2 = 122.192$, $p < .001$, CFI = .849, RMSEA = .083, SRMR = 0.033). As Model 1 appears to have poor fit, group comparisons revealed by the multigroup invariance analysis were not likely to imply meaningful difference between groups at a statistical level due to the inability to establish the theoretical model as having comparable fit between the two groups. Regardless, the analysis was attempted in order to further investigate what, if anything, could be revealed by a comparison of groups.

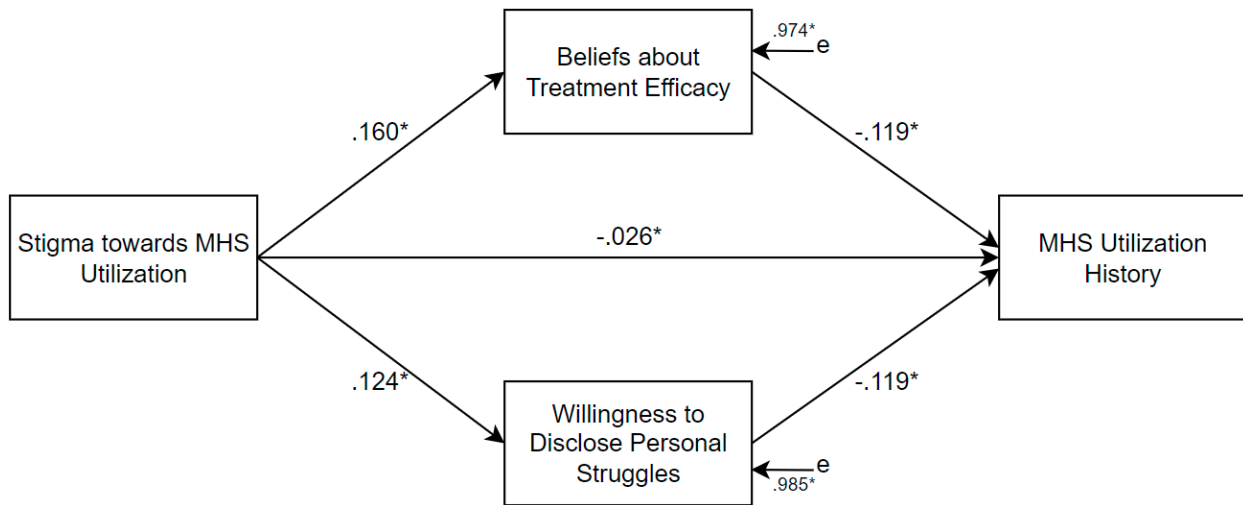


Figure 2. Pooled sample path analysis (Model 1) with standardized estimates. * $p < .05$.

Table 2

Fit Indices of All Models, including Chi-Squared Difference Test (N = 16587)

Model	χ^2	df	$\Delta\chi^2$	Δdf	CFI	RMSEA (90% CI)	SRMR
Model 1 (Pooled)	122.192**	1	--	--	.849	.083 (.071, .096)	.033
Model 2 (Civilian)	127.986**	1	--	--	.834	.088 (.075, .101)	.035
Model 3 (Military)	.518	1	--	--	1	0.0 (0.0, .078)	.008
Model 4 (Baseline)	128.831**	2	--	--	.843	.085 (.073, .098)	.034
Model 5 (Equality)	143.698**	7	14.867*	5	.831	.047 (.041, .054)	.036

Note. df = degrees of freedom; CFI = comparative fit index; RMSEA = root-mean-square error of approximation; CI = confidence interval; SRMR = standardized root-mean-square residual. * $p < .05$, ** $p < .001$

Second, each sample group was evaluated separately. The civilian population is represented by Model 2 with fit indices shown in Table 1 and standardized path estimates shown in Figure 3. Fit indices for the civilian population yielded a significant Chi-Squared value ($\chi^2 = 127.986$, $p < .001$, CFI = 0.834, RMSEA = 0.088, SRMR = 0.035) with other fit indices for the civilian model demonstrating poor fit. Due to non-significance, the path estimates were not able to be interpreted with confidence and were likely significant due to the large sample size.

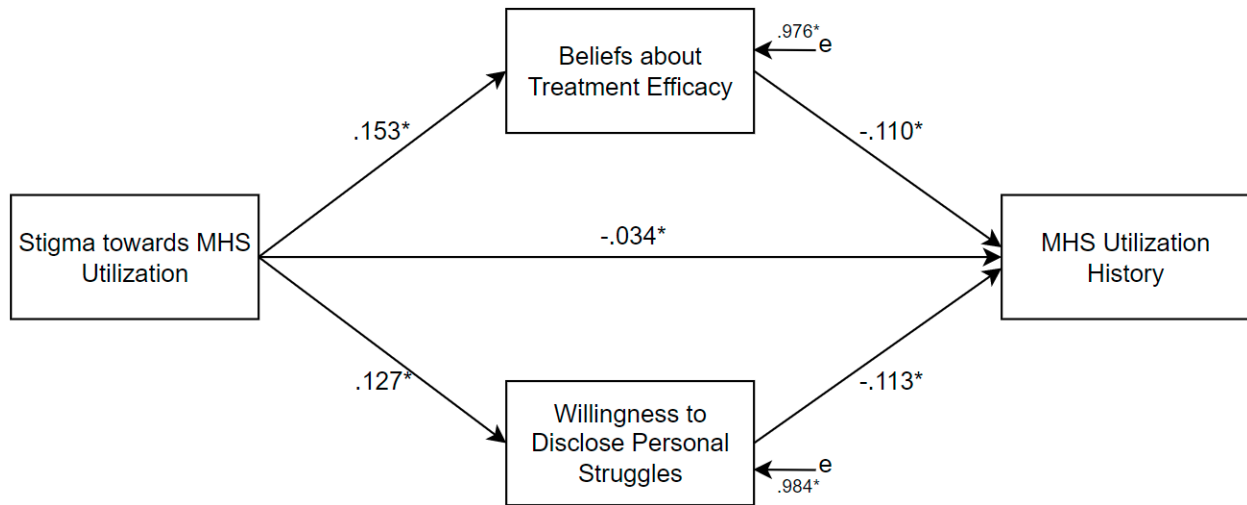


Figure 3. Civilian sample population (Model 2) with standardized estimates. * $p < .05$

Figure 4 represents Model 3 (military sample) with standardized path estimates. Fit indices for the military population yielded a non-significant Chi-Squared value ($\chi^2 = 0.518$, $p = 0.472$, CFI = 1, RMSEA = 0.000, SRMR = 0.008) with other fit indices supportive of good model fit. All paths were significant at the .05 level with the exception of the path from stigma to disclosure. There appeared to be a significant but small positive relationship from MHS stigma to MHS utilization in the military population sample meaning that, as an individual endorsed fewer stigmatizing beliefs regarding the use of MHS, their endorsement of having used MHS in the past year increased. Model 3 also supported a significant partial mediation effect in the MHS stigma-MHS utilization relationship from beliefs about treatment efficacy. As the path from

stigma to disclosure did not show significance, this partial mediation relationship could not be supported. Good fit indices for Model 3 supported the relationships hypothesized in the theoretical model to the military population data.

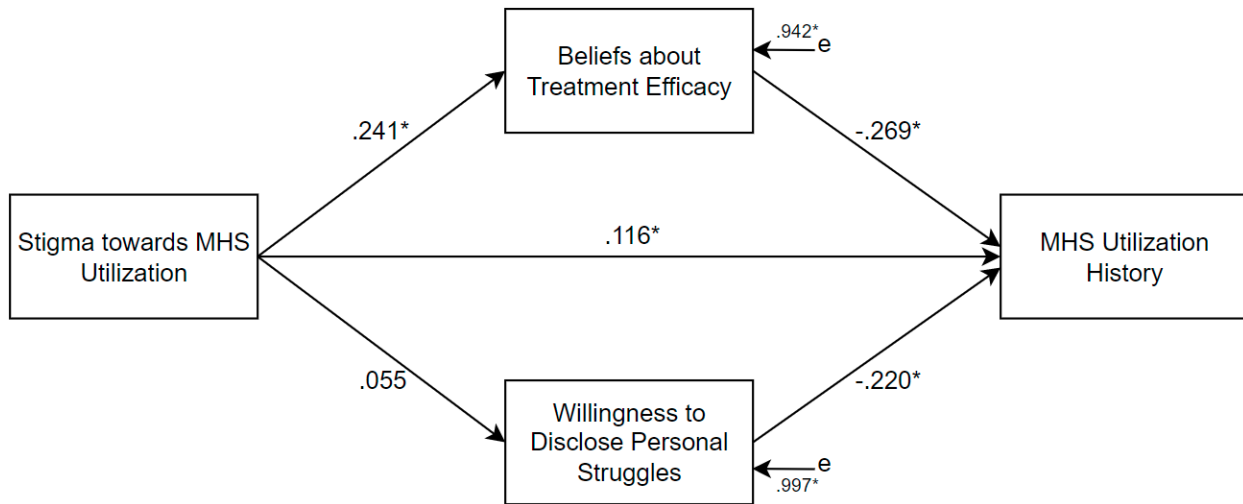


Figure 4. Military sample population (Model 3) with standardized estimates. *p < .05.

Although the pooled Model 1 showed poor fit, there appeared to be a difference in model fit between the separate groups as shown in Models 2 (civilian) and 3 (military). This study sought to further test non-invariance in the strength of the path coefficients between the two groups. No re-specification could be theoretically supported in this analysis, and this study sought to maintain a confirmatory approach, therefore, no adjustment was made to the paths in either group.

To test for multigroup invariance, a hierarchical series of nested models was conducted. $\Delta\chi^2$ between models in the series was used to test invariance needed to address the hypotheses. The first of these was evaluated by performing a multigroup analysis with the theoretical model using both sample groups combined with all paths free to be estimated, which was called the baseline model and is represented as Model 4 in this analysis. This was used to determine how well the theoretical model represented the relationships hypothesized to exist in the data. It is

noted that the degrees of freedom in the multigroup model is expected to be 2 in this case or double the number of degrees of freedom in the pooled model, as the pooled model treats the entire sample as a single group and the multigroup model treats the combined sample as two groups.

The fit indices of Model 4 (baseline) are shown in Table 2 and demonstrate poor model fit ($\chi^2 = 128.831$, $p < .001$, CFI = .843, RMSEA = .085, SRMR = 0.034). This was expected, as the pooled Model 1 and the civilian Model 2 have similar fit indices. As model fit is quite different for the two groups from each other and to the pooled model, and the baseline Model 4 does not support good fit to the data, invariance cannot be asserted. This may be because the military population think about the questions in this survey in a different way, or interpreted the survey differently, as to suggest that there may be differences in how the underlying constructs are perceived or something unknown about the test. At this point in the procedure for testing invariance, failing to support invariance of the baseline model (finding non-invariance) would end the procedure (Milfont & Fischer, 2015). However, the procedure was continued in this case to hypothetically investigate non-invariance of the path coefficients between groups in the following step.

Invariance was further considered with a test for invariance of path coefficients across groups. This was done in two steps, the first of which was to establish another model by constraining all path coefficients to be equal across groups. In this study, this model is called the equality model and it is represented as Model 5. Because Model 5 (equality model) is nested within Model 4 (baseline model), a $\Delta\chi^2$ was used to compare model fit. Model 5 fit indices, shown in Table 2, revealed poor model fit. Difference testing in model fit between the baseline Model 4 and the equality Model 5 revealed differences comparing the theoretical model with all

paths constrained versus unconstrained. Noted in Table 2 was that the degrees of freedom increased to 7 in the equality Model 5. This is because when parameters were constrained to be equal across groups, those parameters were no longer being estimated which increased total degrees of freedom as $df = \text{total observations} - \text{parameters estimated}$.

The chi-squared difference test of model fit between the baseline and equality models revealed a significant difference between the constrained and unconstrained models ($\Delta\chi^2 = 14.867, p = .011$), with a much lower Chi-Square contribution from the military population ($\chi^2 = 0.518$) when compared to the contribution from the civilian population ($\chi^2 = 128.313$). Due to the significance of the chi-square difference test, equality of path coefficients across groups was not supported which suggested non-invariance or inequality of the strength of the theorized relationships across groups. Theoretically, this suggested that there were differences in how each group's perceptions of stigma and the other variables related to their MHS utilization history due to factors belonging to their group. At this point in the procedure, finding non-invariance ended the analysis. The results were to be interpreted with a high degree of caution and with the caveat that this analysis failed to establish the baseline model in a hierarchical nested-model approach, thus rendering interpretation of the nested Model 5 (equality model) and the $\Delta\chi^2$ test of nested models non-meaningful.

CHAPTER IV

DISCUSSION

The current literature on the relationship between stigma and MHS utilization is well established (Hom et al., 2017; Kim et al., 2011; Michalopoulou et al., 2017; Pietrzak et al., 2009), and that military service members are at elevated risk to experience stigma related to utilizing MHS and for experiencing mental health problems (Acosta et al., 2014). It is also theoretically supported that willingness to self-disclose and treatment efficacy beliefs plays a role in this relationship (Carlton et al., 2020; Heath et al., 2017; Vogel & Heath, 2016). This study sought to add to this literature by answering the research question: Is there a significant difference in the strength of the MHS utilization stigma – MHS utilization history relationship between two groups, military and civilian? The analysis sought to address the following hypotheses:

1. There is a significant relationship between stigma towards MHS utilization and MHS utilization history in the pooled sample population.
2. There is a significant difference in the mental health stigma-MHS utilization relationship between the military and civilian sample populations.

The fit indices for the pooled sample were poor and, therefore, hypothesis 1 cannot be supported. However, fit indices were good for the military sample, meaning that support for the relationships expected by hypothesis 1 can be found in the military sample even if it cannot be supported by the civilian sample. The data in this study support that, within the military population sample, there is a directional relationship between the perception of stigma related to using MHS and MHS utilization history within the last year. Within the military sample population this relationship is significant and positive. This means that as stigma regarding mental health treatment improves (i.e., the perception is that they would be less stigmatized for

seeking MHS), a participant in the military sample population is more likely to engage with MHS. This direction is intuitive and supported by the literature (Cheney et al., 2019; Heath et al., 2017; Kim et al., 2011; Pederson & Vogel, 2007). Confusingly, the direction of this relationship appears to change in the civilian sample population. Within the civilian sample, as stigma towards seeking MHS improved, the likelihood that a participant in the sample endorsed utilizing MHS in the last year decreased. This reversal of the relationship is not consistent with what is found generally in the literature and may most likely be due to an error in the study (Vogel et al., 2006; 2007). The most likely limitation accounting for this reversal is that the sample size is large enough (civilian $n = 16,498$) to render a very small relationship significant ($r = -0.065$, $p < .05$), even though the relationship is likely due to random error and not meaningful to interpret. The path estimates for the civilian population are not considered meaningful as the model fit to the data was poor and therefore should not be interpreted.

As model fit indices for the military sample support good fit, the mediation effect of treatment efficacy beliefs can be supported. This finding, although small, is consistent with the literature (Carlton et al., 2020; Heath et al., 2017; Vogel & Heath, 2016) with many studies investigating the effects of barriers to seeking MHS identifying beliefs about treatment efficacy to be a notable predictor of help-seeking intentions or behaviors. It should be noted that the relationship is vary small, as indicated in Table 1, and may also be significant only due to the large sample size and therefore, these findings should be interpreted with caution.

The key finding in this study and result of greatest interest to its purpose is the between-groups comparison of model fit. The a-priori procedure was followed to completion in spite of several failed elements of the model including poor fit of the baseline model in a hierarchical analysis. In the case of this study, we fail to support baseline invariance (Model 4), and the test

of interest in this study, non-invariance of path estimates (equality Model 5), is nested within Model 4. Since we fail to properly establish the baseline model in a hierarchical analysis, the models nested within that baseline model are not able to be interpreted. Nonetheless, we evaluated all steps of invariance of interest in this study to evaluate what, if anything, can be meaningfully interpreted or is of interest in the case of this discussion.

The comparison of model fit between military and civilian groups appears to suggest that a difference exists between the answers provided by each group. However, failing to support invariance means that we are unable to further determine if these differences exist due to measurement error, differences in how each group interpreted or understood the test itself, or if there are actual differences in the strength of the relationships between the underlying constructs due to factors related to group identity. The latter is theoretically revealed in the following nested test of path-coefficient invariance. If we were to hypothetically assume baseline invariance and continue with the procedure, the data would suggest that there is a difference in the strength in the relationships with a stronger MHS stigma-MHS utilization history relationship found in the military sample. This may be informally implied due to there being a much better model fit, or much smaller chi-square contribution to the multigroup analysis, for the military population. This appears consistent with the theory that there exists an additional influence upon the perception of stigma for seeking MHS and its relationship to MHS utilization that is explainable, at least in part, by a person's military history.

Although much of the strength of the relationships revealed in this analysis appears to be too small to find meaningful, the difference between groups appears consistent and in support of similar investigations within the current literature (Clement et al., 2015). In their review of the literature on the relationship between stigma and MHS utilization in military personnel,

Michalopoulou and colleagues (2017) find mixed results with some studies suggesting that the endorsement of public stigma in service members did not predict MHS utilization while others did and found that service members who were active duty were more likely to experience this relationship than those who were not on active-duty status.

Limitations

There are a number of notable limitations within this study. The use of a pre-existing survey has both advantages and disadvantages. The Healthy Minds Survey itself has already been validated, expanded, and improved upon with several iterations since its conception (Eisenberg & Lipson, 2019; Eisenberg et al., 2007), allowing this study to focus more primarily on the differences between the populations of interest rather than on the psychometric properties of the survey itself. The nation-wide reach of the Healthy Minds Survey also bolsters the generalizability of survey results as regional diversity is high (Eisenberg & Lipson, 2019; Eisenberg et al., 2007). The limitations stemming from these features is that the sample size is very large for the scope of this study and the model therein, leading to a high potential of finding statistical significance in the results but not yielding meaningful effects as evidenced by low correlations found in Table 1. This severely limits the ability for this study to make meaningful implications on the nature, strength, or direction of the relationships of interest in the general population.

Another limitation in the validity of this study is that the Healthy Minds Survey participants are engaged as a traditional college attendee at the time of their participation. Those who have a military history are likely not full-time active-duty personnel as they may be at a traditional military academy, which were not participating universities in this study. Military participants in this survey are likely in a reserve component, in-between service commitments, or

retired, meaning that they are not presently subject to the environmental or social concomitants of military service to the same degree as someone who is presently active-duty or attending a traditional military academy. The theoretical underpinnings of this study rest upon the social, cultural, and operant influences of a military environment, which is not equivalent to the environment of most military survey participants at the time of their participation.

Clinical Implications and Suggestions for Future Research

To this point, a recommendation for future research improving upon the design of this study is to incorporate survey responses from traditional military academies where the entire student body is inculcated in military culture, norms, and social influence. A comparison at the university level which incorporates traditional military schools is a potential avenue for meaningful investigation of differences between military and civilian perceptions of stigma, MHS utilization, beliefs about mental health treatment, and willingness to disclose emotional difficulties. Rather than suggest elements of military training *history* influence these relationships, one could further suggest that *present* engagement with a military environment may have substantial influence in the relationships of interest.

Future research seeking to investigate these concepts may benefit from creating a new survey utilizing insights from previous surveys on stigma (Brohan et al., 2010). The literature shows a longstanding struggle in the scientific community to understand how to measure stigma and lack full agreement on the mechanisms of stigma and how it can be investigated (Link et al., 2004). The items used in this study were extracted from a much larger set of items that were not expressly designed for the purposes of population comparison as conducted in this study. This study would likely have benefitted from additional validated questions on willingness to self-disclose, beliefs about mental health treatment, and concise measurement of MHS utilization. In

future research, such improvements in test items may contribute to an increase in response reliability which may have been a limitation in this study contributing to lack of meaningful correlations. One such example of a survey this study may have benefitted from is the measure of Self-Stigma of Seeking Help from Vogel and colleagues (2006) who developed and validated a 10 item Liker-scale questionnaire to measure stigma secondary to help-seeking prospects. Other studies have also found that there is a meaningful distinction that can be drawn between self-stigma and public stigma, and that self-stigma is consistently demonstrated as a better predictor of MHS utilization (Michalopoulou et al., 2017), a distinction that this study does not make in its measures.

Similarly, the outcome variable in this study, the utilization of mental health services, may also be improved upon by instead creating a measure of expected usage or estimated likelihood of using mental health services. This may improve the theoretical consistency as attitudes in the survey are not necessarily concurrent with the usage of mental health services in theory. For example, a person's attitudes towards MHS may have changed as a consequence of prior usage, or a person's attitudes have changed recently (since arriving to college or entering the military) and their prior use history does not suggest their current likelihood to use MHS. A more theoretically consistent outcome variable would be a measure of attitudes towards seeking MHS. One potential measure of this would be one developed by Fischer and Farina (1995) called the Attitudes Towards Seeking Professional Psychological Help Scale which is a validated 10 item Likert-scale questionnaire.

The results of this study are likely most interesting and applicable to a military healthcare system such as the Defense Health Agency. The results of this study support the theory that the relationship between mental health stigma and MHS utilization is related to an individual's

military history which is subject to policy-level change. A policy-conscious and powerful administrative entity such as the Defense Health Agency may use research findings like those in this study to inform policy changes with the aim of reducing the perception of mental health stigma and increase the utilization of healthcare services. University counseling centers may also benefit from this and similar study's findings in the creation of mental health outreach programs. Such entities often seek to generate MHS recruitment materials for students that appeal to the sensibilities of a service member in the aims of reducing stigma and increasing MHS utilization rates. A meta-analysis performed by Xu and colleagues (2018) demonstrates with an analysis of 98 studies containing 69,208 participants revealed reliable effectiveness of improving formal help-seeking behaviors via public outreach interventions in targeted populations both in the short and long term.

The data in this study are unable to suggest what may be causing the difference between the civilian and military sample populations, only that a difference exists. There are a few likely theoretical candidates for what may be causing this difference that merit additional investigation in future studies. It is supported in the literature that a significant barrier to MHS utilization in the military is the perception of threats to career (Clary et al., 2021; Hoge et al., 2004; Valenstein et al., 2014). The perception of threats to career are substantiated by a number of vulnerabilities that accompany mental health treatment in a military healthcare system. For example, many mental health diagnoses are disqualifying for general military service and require the approval of a waiver from the Surgeon General to be retained according to the Department of Defense Medical Standards instruction (Office of the Under Secretary of Defense for Personnel and Readiness [SDPR], 2020), resulting in the potential for duty limitations, temporary loss of ability to do one's job or even being separated from service. The message that service members often

take from such standards is that participating in mental health treatment implies that a service member is “broken”, a detriment to the mission, a failure to maintain fitness, and a cost to the military (Clary et al., 2021). The existence of such standards is not necessarily flexible from a military readiness perspective; however, the severity of the consequences for participating in treatment is a tremendously meaningful point of policy-level intervention that this and future similar studies may aim to influence. An understanding of how these messages are perceived by service members and what influence they have on help-seeking behavior is an important step toward informing changes that de-stigmatize and increase the utilization of MHS in our military population.

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APPENDIX A

SURVEY ITEMS

**indicates reverse score*

[Gender] What is your gender identity?	1=Male 2+=Female and all other options
[Military] Have you ever served in the United States Armed Forces, military Reserves, or National Guard?	1=No, never served in the military 2=Yes, (in any capacity, past, present, any component)
[U1] Have you ever received counseling or therapy for mental health concerns?	1=No 2+=Affirmative
[U2] How many total visits or sessions for counseling or therapy have you had in the past 12 months?	0=0 1+=At least once
[U3] In the past 12 months have you taken any of the following types of prescription medications?	1-7=Affirmative 8+=Negative
[U4] For what purpose(s) have you taken the medication(s) you just indicated?	1=Mental or Emotional Health 2+=Other Reasons
*[S1] How much do you agree with the following statement?: Most people would willingly accept someone who has received mental health treatment as a close friend.	6=Strongly agree 5=Agree 4=Somewhat agree 3=Somewhat disagree 2=Disagree 1=Strongly disagree
[S2] How much do you agree with the following statement?: Most people feel that receiving mental health treatment is a sign of personal failure.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree
[S3] How much do you agree with the following statement?: Most people think less of a person who has received mental health treatment.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree
*[S4] How much do you agree with the following statement?: I would willingly accept someone who has received mental health treatment as a close friend.	6=Strongly agree 5=Agree 4=Somewhat agree 3=Somewhat disagree 2=Disagree 1=Strongly disagree

[S5] How much do you agree with the following statement?: I feel that receiving mental health treatment is a sign of personal failure.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree
[S6] How much do you agree with the following statement?: I would think less of a person who has received mental health treatment.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree
[D1] How much do you agree with the following statement?: When I feel sad or depressed, I tend to keep those feelings to myself.	1=Strongly agree 2=Agree 3=Somewhat agree 4=Somewhat disagree 5=Disagree 6=Strongly disagree
*[E1] How helpful on average do you think medication is, when provided competently, for people your age who are clinically depressed?	1=Very Helpful 2=Helpful 3=Somewhat Helpful 4=Not Helpful
*[E2] How helpful on average do you think medication would be for you if you were having mental or emotional health problems?	1=Very Helpful 2=Helpful 3=Somewhat Helpful 4=Not Helpful
*[E3] How helpful on average do you think counseling is, when provided competently, for people your age who are clinically depressed?	1=Very Helpful 2=Helpful 3=Somewhat Helpful 4=Not Helpful
*[E4] How helpful on average do you think counseling would be for you if you were having mental or emotional health problems?	1=Very Helpful 2=Helpful 3=Somewhat Helpful 4=Not Helpful