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Examining Help-Seeking Intentions Among Female Veterans With Military Sexual Trauma

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Walden University
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Abstract

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Dissertation Submitted in Partial Fulfillment

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Abstract

An estimated 38.4% of military women have experienced military sexual trauma (MST) at some point in their careers. Because MST experiences can be confounding, navigating beliefs toward treatment resources and seeking help can be challenging. The problem under study was that no literature examined multiple constructs of the health belief model (HBM) together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences. Guided by the HBM, the purpose of this study was to examine the relationship between health motives, perceived severity of emotional or nervous problems, perceived benefits of getting help for emotional and nervous problems, perceived barriers to getting help for emotional and nervous problems, and help-seeking intentions among female veterans who have experienced MST. Using survey data collected from 120 participants, a multiple linear regression showed that the HBM constructs account for 41% of the variation in help-seeking intentions. Results also indicated that health motivation and perceived benefits significantly correlate with increased help-seeking intentions, which informs health professionals about which health constructs should be included in outreach efforts. Additional insights include that perceived barriers did not significantly predict help-seeking intentions. Therefore, it is suggested that health professionals focus less on barriers to seeking help and provide information to female veterans about the benefits of seeking help, which may increase health treatment utilization. Female veterans with MST experiences may benefit from the results of this study by further understanding their help-seeking intentions and having the findings used to inform best practices in health education.

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Dedication

To my husband, for your endless love and support. You taught me that anything is possible with vison, grit, and the belief that quitting is not an option. You are the foundation for our family that lifts us beyond what our dreams could imagine.

To my boys, for your unwavering love. Your smiles and laughter are a guiding light. I could not be prouder of your resilience and strength during this journey as you all grew into fine young men with strong family values.

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I am also thankful for my family, particularly my husband and children. This journey was only possible with your support and celebration as we moved through each milestone. Your belief in me kept my light burning long into the dawn hours. And finally, to my late father.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Military sexual trauma (MST) is a term defined by the Department of Veteran Affairs (VA; 2020c) as sexual harassment or sexual assault that occurred during U.S. military service. MST includes any unwanted sexual activity against a person's desire, including unwelcomed sexual touching, groping, grabbing, threatening sexual language, offensive erotic remarks, or other sexual advances (VA, 2020c). Regardless of gender, MST can occur in various settings under numerous conditions. An estimated 38.4% of military women and 3.9% of military men have experienced MST at some point in their careers (Wilson, 2018). Findings further suggest that MST may occur for more than 1 in 4 women when evaluating data collected through the VA (Wilson, 2018). Although previous researchers have highlighted the importance of obtaining help from support resources for MST (i.e., Holland et al., 2016; Lofgreen et al., 2017), few studies have examined help-seeking intentions among female veterans who experienced MST, particularly examining the perceived severity of emotional and nervous problems as well as perceived benefits of getting help for emotional and nervous problems.

Guided by the health belief model (HBM), I conducted this study to understand essential help-seeking intentions of military women to help identify factors that can be modified to reduce the associated risks of MST. Furthermore, I sought to understand help-seeking intentions and perceptions of emotional and nervous problems that may encourage or discourage female veterans from utilizing health resources. By demonstrating an understanding of these women's perceptions of health beliefs and help-

seeking intentions, the study results can inform best practices in health education, including managing health resources, leading to positive social change.

In Chapter 1, I provide relevant background information on the study topic, summarize evidence related to the research problem, and describe the purpose of the study. Furthermore, Chapter 1 includes the research questions and hypotheses as well as a discussion of the theoretical framework for the study, the nature of the study, definitions of the variables, and assumptions critical to the meaningfulness of the study. Finally, I describe the scope and delimitations, limitations, and significance of the study before completing the chapter with a summary. The following section provides research literature related to the scope of the study topic and describes the knowledge gap.

Background

Several health consequences are associated with MST, including increased risk for suicide; self-directed violence (SDV); suicide ideations; posttraumatic stress disorder (PTSD); depression; negative cognitions; problems with alcohol, drugs, or smoking; physical health problems; behavioral health issues; and homelessness (Blais et al., 2017; Boehler, 2019; Brignone et al., 2016; Gibson et al., 2020; Gilmore et al., 2016; Gross et al., 2020; Kimerling et al., 2016, Lofgreen et al., 2017; Monteith et al., 2019; Seeling et al., 2017; Sexton et al., 2018). Kimerling et al. (2016) conducted one of the first studies documenting MST as a risk factor for completed suicide, finding suicide rates higher among those who screened positive for MST than those who screened negative. In a sample of over 350,000 female veterans receiving services at the Veterans Health

Administration (VHA) between 2007–2011, 21.2% of the women screened positive for MST.

Supporting the literature findings from Kimerling et al. (2016), Gross et al. (2020) also found an association between MST and increased SDV. The definition of SDV is injuries and behaviors directed toward harming oneself, including suicide attempts, complete suicide, and other self-injury that may not result in death (Gross et al., 2020). Out of a study sample of 92,155 female veterans, Gross et al. found that women who have experienced MST are 2.43 times more likely to have an SDV event. Further, MST was an independent predictive variable of SDV, even after adjusting for other mental health diagnoses (Gross et al., 2020). This finding indicated that female veterans exposed to MST might be more likely to harm themselves.

In addition to increased suicide risk, PTSD was the most prevalent mental health diagnosis linked to MST (Boehler, 2019). Boehler (2019) stated that 60% of MST survivors meet the criteria for a PTSD diagnosis. According to Sexton et al. (2018), female veterans with MST can be 5 to 8 times more likely to be diagnosed with PTSD than female veterans without exposure to MST. Furthermore, a history of MST is well-established and associated with an increased risk for other cognitive health disorders, particularly depressive disorders and anxiety (Goldstein et al., 2017). Goldstein et al. (2017) stated that even when you control for different aspects of trauma, MST was associated with increased severity of symptoms of depression.

Substance abuse disorders are also prevalent among veterans and higher in populations that have had exposure to MST (Yalch et al., 2018). Yalch et al. (2018)

reported that those veterans who have experienced MST may use alcohol and drugs as an avenue for unhealthy coping strategies. Gilmore et al. (2016) addressed the relationship between MST, PTSD, depressive disorders, and substance abuse disorders, finding that veterans with a positive MST screening were significantly more likely to have individual and co-occurring diagnoses of PTSD, depressive disorders, and substance use disorders than negative MST screenings. Females exposed to MST are also at a higher risk for heart disease, stroke, high cholesterol, obesity, pelvic pain, menstrual problems, back pain, headaches, hypothyroidism, chronic fatigue, employment difficulties, sexual dysfunction, difficulties with adjustment, emotional dysregulation, disassociation, sleep disorders, insomnia, sleep apnea, gastrointestinal problems, eating disorders, more unsatisfactory family relationships, and homelessness (Blais et al., 2017; Brignone et al., 2016; Gibson et al., 2020; Lofgreen et al., 2017; Schuyler et al., 2017; Sienkiewicz, 2020).

Previous research has highlighted the importance of obtaining help from support resources for MST (Holland et al., 2016; Kelly, 2021; Monteith et al., 2020). For example, receiving behavioral health services reduces suicide ideations and negative cognitions as well as improves emotional regulation, positively affecting daily functioning (Boehler, 2019; Holliday et al., 2018; Lofgreen et al., 2020). Holland et al. (2016) discovered that though many resources are available to veterans who have experienced MST, numerous veterans do not receive the care they need. Furthermore, several sources reported that survivors of MST rarely reveal their experiences, may

postpone treatment, or never seek treatment (Foynes et al., 2018; Holland et al., 2016; Kelly, 2021).

As of 2018, the number of women in the U.S. military has increased significantly, with approximately 16.5% of active service members being female and 10% of the inactive veteran population being female (VA, 2020b). Though resources are available at no cost to veterans identifying with MST experiences, many women delay or forgo treatment as a result of secondary concerns, like institutional betrayal, self-blame, internal and external barriers, and manifested external consequences (Holiday & Monteith, 2019; Monteith et al., 2020). Gilmore et al. (2016) stated that female veterans treated within the VHA have shown unique barriers exclusive to their gender role and require specific and tailored treatment options despite having similar diagnostic profiles as male veterans. Currently, there is no literature examining multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences. Therefore, this study may fill a gap in knowledge by examining the relationship between health motives, perception of severity of emotional or nervous problems, perception of benefits of getting help for emotional or nervous problems, perception of barriers of getting help for emotional or nervous problems, and help-seeking intentions among female veterans who have experienced MST. The current study was needed to help health educators identify perceptions toward seeking help to guide interventional approaches that positively improve policies and strategies to reach female veterans with MST.

Problem Statement

The general problem was that help-seeking intentions needed to be explored further to help minimize associated risks for female veterans with MST experiences. When entering military service, there are common expectations and known risks anticipated. For example, mental traumas and injuries, emotional strain from family separation, and combat stressors are expected (Bell et al., 2018). Experiencing MST is not a projected outcome and can be confusing to comprehend. Because MST experience can be confounding, navigating beliefs toward reporting incidences and seeking help can be challenging. Recognizing barriers to seeking help, exploring the benefits of seeking help, and identifying perceptions about the severity of emotional and nervous problems are essential to investigate and understand.

Kelly (2021) discussed several barriers to female veterans seeking treatment, including the influence of military culture and experiences, ease and response of reporting MST, and perception of resources available to help. In a male-dominant military where females may be one or few, navigating identity can be complicated, with complex gender-biased roles and institutional expectations (Kelly, 2021). According to Kelly, women reported that gender-based violence made military life difficult and traumatic, with institutional expectations that they should not report MST or that the consequences would fall on the service member reporting the incident. As a result, many females endured mental and physical consequences that they carried with them for years before seeking treatment. As the expectation was to “keep quiet,” many women veterans have harbored feelings that lead to emotional withdrawals from society and family, anger,

violent behaviors, isolation, mental health concerns, physical health issues, and other unhealthy coping behaviors (Andersen et al., 2019; Holliday & Monteith, 2019; Kelly, 2021; Monteith et al., 2016; Monteith et al., 2021).

Though the VA has mandated screening for MST, the VA (2020a) reported that MST remains underreported. Since the introduction of the Sexual Assault Prevention and Response (SAPR) program in 2006, which was introduced to improve reporting and response to sexual assault, reporting of MST in the military has quadrupled from 7% in 2006 to 30% in 2018, with an additional increase of 3% from 2018 to 2019 (VA, 2020a). According to a recent report released by the VA, the VHA currently serves 5.25 million veterans, of which 31.9% have screened positive for MST, 30.2% of which are women. Unfortunately, after active-duty service, Lee (2021) found that less than 50% of veterans utilize the VHA for medical and health concerns. Many veterans use non-VA health care resources and services, which raises the concern that veterans' needs may not be met, particularly female veterans hesitant to disclose their veteran status and MST experiences (Lee, 2021). There are more than 19 million veterans in the United States from several generational war eras, and women represent about 10% of that number (VA, 2020b). It is increasingly important to find ways to target the female veteran population, particularly those with MST experiences.

The specific problem was that no literature examined multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences. Additionally, there was minimal literature examining the perceived benefits of getting help for emotional and nervous problems and

the perceived severity of emotional or nervous problems in female veterans, which are essential components when considering the whole health approach to the complexity of MST and individual differences in seeking help.

Purpose of the Study

Guided by the HBM, I conducted this quantitative, nonexperimental, correlational study of female veterans who have experienced MST to (a) examine the relationship between their health motives and help-seeking intentions, (b) examine the relationship between their perceptions of severity of emotional or nervous problems and help-seeking intentions, (c) examine the relationship between their perceptions of benefits of getting help for emotional and nervous problems and help-seeking intentions, and (d) examine the relationship between their perceptions of barriers of getting help for emotional and nervous problems and help-seeking intentions. The dependent variable in the study was help-seeking intentions, and the independent variables were health motives, perceptions of severity of emotional or nervous problems, perceptions of benefits of getting help for emotional and nervous problems, and perceptions of barriers of getting help for emotional and nervous problems. The covariate variables were age, race, ethnicity/origin, relationship status, employment status, education level, geographic location, number of years in the military, the branch of the military service, and service-connected disability rating. The independent variables were measured on an ordinal measurement scale. Multiple linear regression was used as a statistical test to examine the hypotheses.

Research Questions and Hypotheses

The following research questions and hypotheses guided this study:

RQ1: What was the relationship between the health motives and help-seeking intentions among female veterans who have experienced MST?

$H_0$1: There was no relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

H_a1: There was a relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

RQ2: What was the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$2: There was no relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a2: There was a relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

RQ3: What was the relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$3: There was no relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a3: There was a relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

RQ4: What was the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

H_04: There was no relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a4: There was a relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

Theoretical Framework for the Study

I used the HBM as the theoretical framework for this study. The HBM is an individual health model that predicts why people will or will not take action to prevent adverse health behaviors Boslaugh, 2019). The HBM was developed in the 1950s by Godfrey Hochbaum and other social psychologists in the U.S. Public Health Service, seeking to understand and predict health behaviors (Boslaugh, 2019). Originally the model was developed from the need to understand why people would or would not use public health programs to prevent disease (Boslaugh, 2019). The HBM is an established model for identifying behavior correlations and informing health educators about intervention design and evaluation (Anderson, 2004). The HBM is one theory that

includes an individual's perception of behaviors, which was critical in addressing the research questions in this study. In the HBM, it is suggested that a person will or will not engage in a health behavior based on the person's beliefs about health perceptions (Boslaugh, 2019). Key components of the HBM include perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy (Anderson, 2004). Perceived severity refers to an individual's perception of the seriousness of a health issue, including the consequences of an untreated health issue (Boslaugh, 2019). Perceived benefits refer to an individual's belief that positive effects will emerge from seeking help (Boslaugh, 2019). Perceived benefits of seeking help may include physical, emotional, and psychological health benefits as well as tangible benefits (e.g., financial savings) or social benefits (e.g., positive reactions from family members, friends, or coworkers; Anderson, 2004). Perceived barriers refer to the potential adverse costs or perceived obstacles to taking action to improve one's health (Anderson, 2004). Perceived obstacles may hinder or delay engagement in help-seeking intentions. According to Nobiling and Maykrantz (2017), many of the HBM constructs are predictive of behavior, helping to bridge the perception of health motives and behavioral outcomes.

Health perceptions among female veterans with MST are underrepresented in research. The HBM aligned with the current exploration of help-seeking intentions in female veterans with MST experiences because it is used to explore health motives, perception of severity of emotional or nervous problems, perception of benefits of getting help for emotional and nervous problems, and perception of barriers of getting help for emotional and nervous problems. Understanding the perceptions of female veterans with

MST helped link their beliefs and behaviors that may support interventional strategies to prevent adverse outcomes.

Nature of the Study

I employed a quantitative, nonexperimental, correlational design to examine the relationship between perceptions toward health motives and help-seeking intentions among female veterans with MST. In a quantitative, nonexperimental, correlational design, correlational statistics are used to describe the relationship between two or more variables or sets of scores (Lewis-Beck et al., 2004). Using convenience sampling, I recruited veterans through social media platforms, with an invitation to participate in an anonymous survey using SurveyMonkey (2022b). Ordinal data were collected from surveys that used a Likert-type scale. I collected demographic data, or covariate variables, and used descriptive statistics, such as means, standard deviations, and frequencies (i.e., percentages), to present the data. Descriptive and inferential statistics as well as multiple linear regression as a statistical test were used to examine the hypotheses. Multiple linear regression is used when the dependent variable is measured at the continuous level of measurement, given one or more independent variables measured at the continuous level (Salkind, 2007b). To test the hypotheses, I used an association/correlation coefficient test to determine if there was a relationship between health beliefs and help-seeking intentions among female veterans who have experienced MST. The correlation coefficient is a quantitative score measuring the direction and strength of a predictive relationship between variables (Shaughnessy et al., 2015). Results

were interpreted using parameter estimates, confidence intervals set at 95%, and odds ratios. I considered *p* values less than or equal to 0.05 as statistically significant.

The online survey began with a message regarding informed consent that described the study's purpose, procedures, potential risks and benefits, and privacy information. Participants indicated that they consented by clicking on the link to proceed to the participant eligibility questionnaire. To participate in this survey study, participants must have met eligibility criteria. A "yes" response to all questions on the eligibility questionnaire took participants to the demographics questionnaire, followed by the General Help-Seeking Questionnaire (GHSQ) and Health Beliefs About Mental Illness Instrument (HBMI) questions.

The dependent variable, help-seeking intentions, is a person's self-reported intention of seeking help from friends, family, medical professionals, health professionals, religious leaders, intimate partners, or other sources (see Wilson et al., 2005). I measured the dependent variable using the GHSQ, which employs a 7-point, Likert scale.

I measured the independent variables of health motivation, perception of severity of emotional or nervous problems, perception of benefits of getting help for emotional or nervous problems, and perception of barriers of getting help for emotional or nervous problems using the HBMI, which employs a 5-point Likert scale. Health motivation is an individual's belief about their level of concern about health behaviors (Saleeby, 2000). Perception of barriers to getting help for emotional or nervous problems is the perceived negative elements an individual believes hinder their ability to seek help for emotional or

nervous problems (Saleeby, 2000). Perception of benefits of getting help for emotional or nervous problems is the perceived positive rewards an individual believes are received for seeking help for emotional or nervous problems (Saleeby, 2000). Perception of the severity of emotional or nervous problems is the perceived degree of personal threat an individual believes about emotional or nervous problems (Saleeby, 2000).

I used the demographic questionnaire to collect descriptive data from the participants that I identified as covariates. Participants indicated their age, racial background, origin, relationship status, employment status, education level, geographical location, years served in the military, the branch of military service, and a service-connected disability rating in the demographic questionnaire. Support resources, including the Veterans Crisis Line, were provided in the exit message for veterans who may have indicated negative feelings or experienced adverse effects from partaking in the study.

Definitions

Catch a Serial Offender Program (CATCH): A program launched by the Department of Defense (DOD) in 2019 permitting anonymous reporting of sexual assault for military members to protect victims and identify perpetrators (VA, 2020a).

DOD: The largest U.S. government agency providing national protection and defense to aid in conflict resolution and deter war (Salem Press Encyclopedia, 2021).

GHSQ: A survey tool developed by Wilson et al. (2005) to measure intentions to seek help from various sources and different problems.

HBM: An individual behavioral health model that seeks to predict why people will or will not take action to prevent adverse health behaviors (Anderson, 2004).

HBMI: An all-encompassing survey tool developed by Saleeby (2000) to measure constructs of the HBM regarding mental illness.

Health motivation: Beliefs an individual has about their level of concern about health behaviors (Saleeby, 2000).

Help-seeking intentions: A person's self-reported intention of seeking help from friends, family, medical professionals, health professionals, religious leaders, intimate partners, or other sources (Wilson et al., 2005).

Military sexual assault (MSA): Sexual contact against a person's will, versus military harassment, which includes unwanted sexual attention (Schuyler et al., 2017).

MST: Sexual harassment or sexual assault that occurred during U.S. military service (VA, 2020c).

Perception of barriers to getting help for emotional or nervous problems: The perceived negative elements an individual believes hinder their ability to seek help for emotional or nervous problems (Saleeby, 2000).

Perception of benefits of getting help for emotional or nervous problems: The perceived positive rewards an individual believes are received for seeking help for emotional or nervous problems (Saleeby, 2000).

Perception of severity of emotional or nervous problems: The perceived degree of personal threat an individual believes about emotional or nervous problems (Saleeby, 2000).

PTSD: A psychiatric disorder that occurs in individuals that have experienced trauma, such as combat events, natural disasters, sexual trauma, injury, death threats, terrorist attacks, and other acts of violence (Boehler, 2019).

SDV: Injuries and behaviors directed toward harming oneself, including suicide attempts, complete suicide, and other self-injury that may not result in death (Gross et al., 2020).

SAPR: The representing official department that handles sexual assault policies, responsibilities associated with reporting and protection, and resources available to help veterans with MST experiences (Holland et al., 2016).

VA: A federal agency directed to provide benefits and care and implement policies for veterans of the U.S. military forces (VA, 2021a).

VHA: The largest health care network in the United States serving military veterans by providing various medical services (VA, 2021a).

Assumptions

Assumptions critical to the meaningfulness of this study included this being an objective study, free from bias, in which I, as the researcher, was independent of what was being researched. An objective research study is a study wherein the researcher is unbiased or impartial to the study outcome, and thus, the researcher honestly carries out all steps needed to truthfully answer the research questions, including data collection, data analyses, and reporting accurate results (Ketokivi, 2019). In the current study, I had no personal incentives or conflicts of interest that threatened the study's validity.

Other assumptions included using reliable and valid instruments, minimal respondent bias, and a level of truthfulness in self-reporting. Instruments used to measure the study's variables have been evaluated as reliable and valid, assuming that previous researchers' findings are reported truthfully and accurately (see O'Connor et al., 2014; Tesfaye et al., 2020). Finally, self-reporting surveys pose some risk of social desirability bias or personal bias. Social desirability bias can occur when a participant gives an answer they feel is acceptable or desired because they may be embarrassed to reveal intimate details about themselves (Ketokivi, 2019). The current study included an anonymous survey with no identifying markers to the participant, minimizing the need for them to give untruthful answers. Participant personal bias can occur if a participant chooses to provide untruthful answers due to incentives based on their answers or personal desire to appear healthier than is accurate. However, in this study I offered no personal incentives to participants, so I assumed participants were truthful in the answers reported on the online survey.

Scope and Delimitations

I sought to investigate help-seeking intentions and perceptions of emotional and nervous problems to help identify factors that could be modified to reduce associated risks of MST in female veterans. Furthermore, I sought to understand help-seeking intentions and perceptions of emotional and nervous problems that may encourage or discourage female veterans from utilizing health resources. This study was conducted to address the identified gap in the literature regarding the examination of multiple constructs of the HBM together as a foundational tool to identify perceptions of help-

seeking intentions among female veterans with MST experiences. Additionally, there was minimal literature examining the perceived benefits of getting help for emotional and nervous problems and the perceived severity of emotional or nervous problems in female veterans with MST.

I chose the HBM as the theoretical framework because it helps to predict why people may or may not take action to prevent adverse health behaviors. Because the HBM includes a focus on an individual's perception of behaviors, it was the most suitable for addressing the research questions in this study. Understanding participants' perceptions helps provide a link between beliefs and behaviors that may support interventional strategies to prevent adverse outcomes.

The generalizability of the study is limited by how well the study can represent the broader population of female veterans with MST experiences. The ability to generalize the results was limited by the sample size, variance of geographical location, and respondent bias.

Limitations

An adequate sample size was needed to improve the study's generalizability. In addition, a minimum of 85 participants was needed to meet the power requirements for the study design. A larger sample size of 100–400 participants was desired; however, the study sample size was 120. Furthermore, one criticism of using a convenience sample was its limitation to generalizing to an entire population. Convenience samples may not represent the entire population, resulting in lower external validity. Though I used a convenience sample, a larger sample size can mitigate this threat to external validity.

Respondent bias was another potential variable that could influence the study outcome. Respondent bias occurs when a response from a participant is untruthful due to various circumstances that may influence their answer (Ketokivi, 2019). Various circumstances that can influence a respondent's answer include the setting of a survey, the participant's current attitude or mood at the time of taking the survey, participant motivation to complete the survey, the potential relationship between the researcher and participant, question bias, level of understanding of what a question is asking, and social desirability bias. Due to the nature of some questions, an environment can influence a participant's answer to a question. If participants are not alone or in a public setting, they may answer differently than alone in a private setting. Furthermore, if participants are not feeling well or in a negative mindset, their answers may reflect a more negative outcome. Similarly, if a person is in a positive mindset, their answer may be more positive.

Participant motivation refers to the likelihood that a participant is motivated to take a survey or participate in a research study (Ketokivi, 2019). Because the current study was a voluntary online survey of a convenience sample, the participants volunteering may not represent the population compared to participants who do not choose to volunteer. Furthermore, since the participants took the survey online and unassisted, their answers may vary if a participant does not understand a question.

Finally, social desirability could have influenced the responses of a participant. Though respondent bias is considered lower in anonymous surveys (Ketokivi, 2019), not all biases can be controlled and should be considered when generalizing the study results.

Significance

Understanding female veterans' help-seeking behaviors is essential to help identify factors that can be modified to reduce the associated risks of MST. This study filled a gap in knowledge by developing an understanding of the help-seeking intentions and perceptions of emotional and nervous problems of female veterans with MST experiences to explore why this population may be encouraged or discouraged from utilizing health services. Furthermore, identifying which constructs of the HBM correlate with seeking help can be used to inform educators of which health constructs should be emphasized. According to Langley et al. (2018), health professionals need to use targeted health promotional strategies to increase the perceived need to seek help, particularly for behavioral and mental health services. Insights from this study may help guide health services with understanding female veterans' perceptions of health beliefs and the relationship to help-seeking intentions. This study results may also help inform best practices in health education, including managing health resources and outreach to female veterans. A better understanding of the relationship between health motives, perceived severity, perceived benefits, perceived barriers, and help-seeking intentions may help improve outcomes for female veterans with MST, leading to positive social change.

Summary

In Chapter 1, I described the topic of the study, provided background information on the research problem, and explained the gap in the literature to support why this study was needed. According to Wilson (2018), an estimated 38.4% of military women have experienced MST at some point in their careers. Findings further suggest that MST may

be experienced by more than 1 in 4 women when evaluating data collected through the VA. Although previous researchers have highlighted the importance of obtaining help from support resources for MST, many women delay or forgo treatment due to secondary concerns, like institutional betrayal, self-blame, internal and external barriers, and manifested external consequences (Holland et al., 2016; Kelly, 2021; Monteith et al., 2020). Few studies have examined help-seeking intentions among female veterans who experienced MST, particularly the perceived severity of emotional and nervous problems and the perceived benefits of getting help for emotional and nervous problems.

Several health consequences are associated with MST, including increased risk for suicide, self-directed violence, suicide ideations, PTSD, depression, negative cognitions, problems with alcohol, drugs, or smoking, physical health problems, behavioral health issues, and homelessness (Blais et al., 2017; Boehler, 2019; Brignone et al., 2016; Gibson et al., 2020; Gilmore et al., 2016; Gross et al., 2020; Kimerling et al., 2016, Lofgreen et al., 2017; Monteith et al., 2019; Seeling et al., 2017; Sexton et al., 2018). The general problem was that help-seeking intentions needed to be explored further to help minimize associated risks for female veterans with MST experiences. The specific problem was that there was no literature examining multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences, which are essential components when considering the whole health approach to the complexity of MST and individual differences in seeking help.

Guided by the HBM, the purpose of this quantitative correlational study was to (a) examine the relationship between health motives and help-seeking intentions, (b) examine the relationship between perceptions of severity of emotional or nervous problems and help-seeking intentions, (c) examine the relationship between perceptions of benefits of getting help for emotional and nervous problems and help-seeking intentions, and (d) examine the relationship between perceptions of barriers of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST. I chose the HBM as the theoretical framework because it helps to predict why people may or may not take action to prevent adverse health behaviors. Because the HBM includes an individual's perception of behaviors, it was the most suitable for addressing the research questions in this study. Understanding the perceptions of female veterans with MST helps provide a link between beliefs and behaviors that may support interventional strategies to prevent adverse outcomes. In Chapter 2, I will provide the literature review related to key variables in this study, including search strategies used to exhaust the literature and the theoretical foundation used to support this study.

Chapter 2: Literature Review

MST is prevalent within the U.S. military, with an estimated 38.4% of military women and 3.9% of military men having experienced MST at some point in their careers (Wilson, 2018). Although previous researchers have highlighted the importance of obtaining help from support resources for MST (e.g., Holland et al., 2016; Lofgreen et al., 2017), few studies have examined help-seeking intentions among female veterans who experienced MST, particularly examining the perceived severity of emotional and nervous problems and the perceived benefits of getting help for emotional and nervous problems. Guided by the HBM, the purpose of this study was to examine the health motives, perceived severity of emotional or nervous problems, perceived benefits of getting help for emotional and nervous problems, and perceived barriers to getting help for emotional and nervous problems among female veterans who have experienced MST. Understanding female veterans' help-seeking behaviors are essential to identify modifiable actions to reduce the associated risks of MST. Using the HBM as a guide, this study filled a gap in knowledge by developing a further understanding of help-seeking intentions and perceptions of health motives that encourage or discourage female veterans with MST from utilizing behavioral health services.

In Chapter 2, I provide a comprehensive literature review of the related key variables of the research questions. The chapter begins with a description of the literature search strategies, followed by a summary of the HBM, which was used as the theoretical framework. I then present a synthesis of the key concepts, including defining concepts and trends of MST, risks of MST, consequences of MST, behavioral health services for

female veterans, health beliefs, and help-seeking behaviors in female veterans. The chapter concludes with a summary. The following section examines peer-reviewed sources to address the gap in the current literature and describes the literature search strategies.

Literature Search Strategy

To locate literature for this review, I searched for peer-reviewed sources using the Walden University Library and Google Scholar. In the Walden University Library, I conducted Thoreau Multidatabase searches of the military and government collection, psychology databases, and health sciences databases. The scholarly health sciences and psychology databases searched were APA PsycInfo, APA PsycArticles, Complementary Index, CINAHL Plus, PubMed, SAGE Journals, SAGE Knowledge, SAGE Stats, and ScienceDirect.

The literature included in this study were scholarly, peer-reviewed sources published primarily between 2016 and 2021, along with some seminal sources used to validate the theoretical foundation, historical context, and defining MST. Keyword search terms and phrases used included *military sexual trauma or military sexual assault or military sexual harassment, veterans or military or soldiers or service members, sexual trauma or sexual abuse or sexual violence or sexual assault, female or women or woman or females, mental health or mental illness or mental disorder or psychiatric illness, help-seeking or treatment-seeking, benefits or advantages or positive effects, barriers or obstacles or challenges, severity, stigma,* and *health belief model*. Criteria used for inclusion included female subjects; MST as a central theme/topic; and help-seeking for

those with MST experiences versus those that only screened positive for PTSD, depression, or substance abuse disorders. Saturation was reached when I used a combination of the key concepts and the search generated no new relevant current literature. I used database software to collect, organize, and cite research articles. The following section begins the review of relevant literature with an exploration of the theoretical foundation.

Theoretical Foundation

HBM

The HBM guided this study as the theoretical foundation. The HBM is an individual health model that predicts why people will or will not take action to prevent adverse health behaviors (Boslaugh, 2019). The HBM was developed in the 1950s by Godfrey Hochbaum and other social psychologists in the U.S. Public Health Service, seeking to understand and predict health behaviors (Boslaugh, 2019). Originally, the model developed from a need to understand why people would or would not use public health programs to prevent disease (Boslaugh, 2019). The HBM is an established model for identifying behavior correlations and informing health educators about intervention design and evaluation (Anderson, 2004). The HBM includes the concept of an individual's perception of behavior, which was critical in addressing the research questions in this study. In the HBM, it is suggested that a person will or will not engage in a health behavior based on the person's beliefs about a health issue (Boslaugh, 2019). The key components of the HBM are perceived threat, perceived benefits, perceived barriers, cues to action, and self-efficacy (Anderson, 2004).

Perceived Threat

Perceived threat is a combination of perceived susceptibility and perceived severity (Boslaugh, 2019). Perceived susceptibility refers to an individual's perception of the risk of developing a disease or complications of a disease (Boslaugh, 2019). For example, a U.S. military veteran may need to believe they are at risk for developing a condition like PTSD before they are likely to seek help or take action to prevent PTSD. Similarly, veterans may need to anticipate that PTSD will worsen before seeking help.

Perceived severity refers to an individual's perception of the seriousness of a health issue, including the consequences of an untreated health issue (Boslaugh, 2019). Outcomes of an untreated disease may include physical consequences (e.g., death, pain, fatigue, disability), social consequences (e.g., stigma, preserving relationships with others, ability to work or go to school, social judgment), and psychological consequences (e.g., anger, fear, anxiety, depression; Anderson, 2004).

Perceived Benefits

Perceived benefits refer to an individual's belief that positive characteristics will emerge from seeking help (Boslaugh, 2019). Perceived benefits of seeking help may include physical, emotional, and psychological health benefits as well as nonhealth benefits like tangible benefits (e.g., financial savings) or social benefits (e.g., positive reactions from family members, friends, or coworkers; Anderson, 2004). For example, in theory, the perception that seeking help may improve anxiety or improve relationships with spouses and children may drive behavior change.

Perceived Barriers

Perceived barriers refer to the potential adverse costs or perceived obstacles to taking action to improve one's health (Anderson, 2004). Perceived obstacles may hinder or delay engagement in help-seeking behaviors. Barriers may include costs, access to health care services, time off work, transportation, childcare issues, and fears about physical or emotional harm. One example is veterans delaying health services for trauma because they do not have access to convenient health care services or have internalized stigma toward treatment (Murray-Swank et al., 2018). Sexton et al. (2018) stated that MST survivors have higher levels of negative cognitions about self and higher levels of self-blame, and these negative cognitions may exaggerate the actual level of external barriers.

Cues to Action

Initially, cues to action are formed to represent that signals or reminders can trigger behavior change (Anderson, 2004). Cues to action are the least defined component of the HBM due to the lack of systematic research on them. Originally, Hochbaum proposed that perceived susceptibility and perceived severity were only applicable when activated by a cue that prompts changes in behavior (Anderson, 2004). For example, a conversation with a friend about the social consequences of PTSD increases perceived severity, inevitably increasing the perceived threat that signals a person to act. Furthermore, support for the concept of cues to action derives from examples, such as reminder emails from a doctor about health screenings, media advertisements, or a

positive diagnosis of a friend or relative (Anderson, 2004). Cues to action were not evaluated in this study.

Perceived Self-Efficacy

In 1977, Albert Bandura developed the concept of self-efficacy, which became a late addition to the HBM in 1988 (Anderson, 2004). Perceived self-efficacy alludes to the belief that a person feels confident in executing a behavior (Anderson, 2004). Bandura stated that several contributing factors can influence a person's sense of self-efficacy (Boslaugh, 2019). Predicting or impacting a person's behavior requires understanding their sense of self-efficacy to perform a health task (Boslaugh, 2019). For example, confidence that a person can successfully engage in a behavioral treatment plan may be essential to managing trauma. Perceived self-efficacy was not evaluated in this study.

The HBM Related to Behavioral Health Intentions

The HBM has been used in various studies to investigate veterans' perceptions of mental health and using behavioral health resources to improve well-being. Nobiling and Maykrantz (2017) discussed that many HBM constructs could predict behavior, providing a bridge between the perception of using behavioral health resources and behavioral outcomes. Evidence of the constructs of the HBM is established, with the strongest predictors of mental health behaviors being perceived barriers, perceived severity, and perceived benefit, followed by perceived susceptibility (Fortney et al., 2017; Graziano & Elbogen, 2017; Johnson & Possemato, 2021; Keeling et al., 2020; Langley et al., 2021; Nobiling & Maykrantz, 2017). There is limited research on the role of self-efficacy in help-seeking for mental health. However, Keeling et al. (2020) found that

increased self-efficacy was associated with a decreased likelihood of seeking behavioral health treatment in military veterans. Though many studies have supported that managing a disease requires a higher level of confidence in a person's ability to self-manage symptoms, military culture may encourage self-reliance, creating a perceived lack of need for external help (Keeling et al., 2020).

In addition to exploring self-efficacy, Keeling et al. (2020) used the HBM to examine the role of perceived severity in decisions to seek behavioral health treatment among U.S. military veterans. Keeling et al. hypothesized that higher levels of perceived severity would correlate with increased help-seeking behaviors. Using a final sample of 525 veterans, the authors found that perceived PTSD symptom severity positively affected treatment-seeking behaviors for veterans. The implications of their study support that connecting behavioral health resources and reducing perceived severity may improve help-seeking intentions. With the current study, I sought to build on Keeling et al.'s findings by exploring the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions, specifically among female veterans with MST.

Fortney et al. (2017) used the HBM to investigate the relationship between perceived barriers and treatment-seeking behaviors for mental health care in veterans. To measure perceived barriers, the researchers used the perceived need for treatment services and the perceived effectiveness of behavioral health treatment. Using a sample of veteran and civilian community college students, Fortney et al. hypothesized that students with a greater perceived need for treatment and a greater perception that treatment is effective

would be more likely to seek help. The findings from their study revealed that perceived treatment need and perceptions of the effectiveness of treatment were predictive of psychotropic medication use but not predictive of psychotherapy use. However, the researchers noted that the low rate of psychotherapy use among those surveyed reduced the statistical power to detect meaningful results. Further investigation is needed to examine the relationship between perceived barriers and behavioral health treatment-seeking practices.

Furthermore, Graziano and Elbogen (2017) used the HBM to examine the relationship between perceived barriers and mental health treatment utilization among veterans identified with PTSD. In their study, perceived barriers were determined by the perceived need for treatment and perceived social support. Many veterans believe they need to handle their own problems, creating a barrier to external help-seeking. Graziano and Elbogen supported the claim of needing to handle one's own problems with findings that veterans who believed they could manage their problems were less likely to seek help, creating a barrier to behavioral health support. However, veterans who reported needing help were more likely to use behavioral health treatment resources. The authors theorized that treatment expectations and prior negative experiences from the military health system may have influenced the relationship, and future research should investigate the affiliation further.

Graziano and Elbogen (2017) also found that social support influenced treatment-seeking behaviors. Contrary to some research findings, Graziano and Elbogen found that increased social support lowered treatment-seeking behaviors in veterans. The authors

discussed the relationship between social support and treatment-seeking behaviors, stating that veterans with a well-built support system have better mental health, thus decreasing the need for behavioral health resources. Implications indicated that improving social support networks within veterans' lives should be incorporated into treatment strategies. Additionally, health professionals should focus on the common belief that veterans need to handle their own problems to minimize obstacles or barriers affecting treatment-seeking behaviors.

Johnson and Possemato (2021) researched veterans in a primary care setting to examine the relationship between health beliefs and the use of behavioral health resources. The purpose of their study was to discover what perceptions influenced decision making in veterans with a focus on mental illness and treatment. Johnson and Possemato found that mental health concerns (i.e., perceived susceptibility and severity) and perceived need (i.e., benefits) for treatment had the strongest relationship with treatment utilization, indicating that health professionals should focus on these variables. Similar to the previous research discussed, I built on these findings in the current study by exploring perceived severity and the perceptions of benefits among female veterans with MST.

Langley et al. (2021) and Lilly et al. (2020) explored the relationship between perceived benefits and treatment-seeking practices in subjects with cognitive health issues. Both studies used the HBM as a guiding theoretical model to link health beliefs and help-seeking intentions. Langley et al. studied a group of adults with depression and found that 49% of the variance in intention to seek help was associated with the

components of the HBM. Similarly, in a study of a group of Australian young adults with anxiety, Langley et al. (2018) found that 51% of the variance in seeking help was associated with the components of the HBM. In both studies, perceived benefits were the strongest predictor of treatment-seeking behaviors. Contrary to the findings of Langley et al. (2021), Lilly et al. surveyed a sample of 5,343 U.S. college students that screened positive for depression and found conflicting results with perceived benefits. Lilly et al. revealed that help-seeking behaviors are linked significantly with all components of the HBM; however, higher perceived severity, higher self-efficacy, and cues to action resulted in increased treatment-seeking behaviors. In contrast, higher perceived benefits were associated with decreased treatment-seeking behaviors. The unexpected association of perceived benefit and less treatment-seeking intentions left the researchers wondering why the results differed from many other studies.

Fundamentally, the purpose of the HBM is to inform practice. In the current study, I sought additional support for using the HBM to predict behaviors among female veterans and guide practices for health professionals. Furthermore, I wanted to understand the relationship between female veterans' perceived severity of emotional or nervous problems, perceived benefits of behavioral health resources, and perceived barriers toward receiving behavioral health resources to identify their decision-making process related to seeking treatment. Finally, in an exhaustive search of the literature, I found that the perceptions of emotional and nervous problems and their relationship toward behavioral health resource utilization are lacking among female U.S. military veterans with MST experiences. Thus, I conducted the current study to fill the gap in the

existing literature by exploring the relationship between health motives and help-seeking intentions among female veterans who have experienced MST.

Literature Review Related to Key Variables

The following section will provide an overview of the literature review related to key variables. The section will define MST, including historical context and current trends. Next, a discussion of the consequences of MST is presented, followed by the available behavioral health services for female victims of MST. Finally, the literature review of key variables will discuss veterans' health beliefs and help-seeking intentions in female veterans.

Military Sexual Trauma

The Department of VA defines MST as sexual harassment or sexual assault that occurred during U.S. military service (VA, 2020c). MST includes unwanted sexual activity against a person's desire, including unwelcomed sexual touching, groping, grabbing, threatening sexual language, offensive erotic remarks, or other sexual advances (VA, 2020c). Regardless of gender, MST can occur in various settings under numerous conditions and includes non consensual sex when a person is sleeping or intoxicated, promises of preferential treatment for sexual favors, and using a position of power to pressure a person to engage in sexual deeds (VA, 2020c). According to Brownstone et al. (2018), a common theme among women veterans is that MST occurs earlier in a victim's career. MST is more likely to occur when a victim is weak or powerless and in vulnerable roles, like basic training, advanced individual training, and a veteran's first deployment (Brownstone et al., 2018).

Historical Events of MST

Attention to the issues of MST became more prevalent in the 1990s as a series of scandals emerged. In 1991 the Tailhook scandal drew national attention to a male dominant military culture when reports of a female lieutenant, 80 other women, and seven men reported being sexually assaulted or harassed at a Navy aviation convention (Salem Press Encyclopedia, 2021). The wrongdoing resulted in the resignation of two admirals and the Secretary of the Navy (Salem Press Encyclopedia, 2021). In 1992, under the direction of Congress, the VA implemented the Veterans Health Care Act of 1992, which began counseling female veterans (Suris & Lind, 2008). In 1994 counseling services were extended to male veterans (VA, 2020a).

In 1996 an investigation occurred at an Army basic training facility in Maryland, finding an organized abuse of female recruits by drill instructors (Salem Press Encyclopedia, 2021). The scandal resulted in three drill sergeants, a commanding officer being sentenced to prison, and eight others dishonorably discharged or receiving nonjudicial punishment (Salem Press Encyclopedia, 2021). As an outcome, the Army established the DOD Safe Helpline to report sexual assault, resulting in thousands of calls from other Army facilities (Salem Press Encyclopedia, 2021). In 1999 Congress extended services at the VHA from counseling to include all appropriate services related to MST, including physical and mental health services (Kimerling et al., 2007). Additionally, in 2002 the VA mandated a voluntary screening of MST nationally for all veterans receiving care at the VHA (Gibson et al., 2020).

Research efforts began to increase to shed light on the encumbering issues of MST. In 2002 a survey of Iraq and Kuwait female veterans revealed that 3% of women service members reported being sexually assaulted (Salem Press Encyclopedia, 2021). In 2003 another survey revealed that 12% of Air Force cadets reported being sexually assaulted, with most of the victims not reporting the incident out of fear of retaliation (Salem Press Encyclopedia, 2021). Consequently, in 2003 the Secretary of Defense ordered an investigation into the handling of reported sexual assault cases, explicitly involving cases of women serving in Iraq and Kuwait (Salem Press Encyclopedia, 2021). The investigation resulted in establishment of the SAPR program in 2005 (Salem Press Encyclopedia, 2021).

The SAPR office serves as the representing office that handles sexual assault policies, responsibilities associated with reporting and protection, and resources available to help veterans with MST experiences (Holland et al., 2016). Despite the availability of the SAPR program, a report by the U.S. Government Accountability Office revealed that the implementation of policies and procedures surrounding MST were inconsistently employed across all military branches (Salem Press Encyclopedia, 2021).

In 2013 further scandals intensified the controversy over the SAPR program. At Fort Hood, the SAPR coordinator was found guilty of assaulting a female soldier and organizing a prostitution ring (Salem Press Encyclopedia, 2021). At Fort Campbell, a lieutenant colonel in charge of the SAPR program was dismissed for stalking his ex-wife (Salem Press Encyclopedia, 2021). Furthermore, an Air Force lieutenant colonel in charge of the SAPR program went to trial for groping a woman, though found not guilty

(Salem Press Encyclopedia, 2021). Finally, a commanding officer of the Third Air Force decided to overturn a court-martial conviction of a fighter pilot, stating he could not believe a decorated officer and father could be guilty of rape (Salem Press Encyclopedia, 2021). As a result of the ensuing controversy, the Secretary of Defense removed the ability of commanding officers to reverse a court-marshal verdict (Salem Press Encyclopedia, 2021).

In 2014 the establishment of Congressional reforms focused on protecting MST victims. The National Defense Authorization Act for 2014 contained amendments including the following: the removal of the statute of limitation for sexual assault; making it a criminal offense to retaliate against a victim of MST; a civilian authority must review all cases when commanding officers decide not to refer a reported assault for prosecution; commanding officers cannot reverse a court-martial conviction; and service members convicted of sexual assault must be dishonorably discharged (Salem Press Encyclopedia, 2021).

Current Trends of MST

Wilson (2018) estimated that 38.4% of military women and 3.9% of military men experience MST at some point in their careers. In 2020 the VA stated that 1 in 3 women and 1 in 50 men seen in the VHA have reported experiencing MST at some time in their military career (VA, 2020c). The prevalence of MST in research varies by the study sample, active-duty versus inactive veterans, or help-seeking versus non-help-seeking populations. It also varies by how researchers collect data, such as through surveys or interviews, the environment where researchers collect data, and VA facilities versus non-

VA facilities (Sadeh et al., 2017). Boehler (2019) reviewed the prevalence of MST across several studies and found that an average of 20%–68% of females are victims of MST at some point in their military career. Despite differences in various reporting sources, according to the DOD 2019 Annual Report on Sexual Assault in the Military, reports of MST have continuously risen since the early 2000s (VA, 2020a). The number of sexual assaults reported by military members increased by 13% from 2016 to 2018 and increased an additional 3% in 2019 compared to 2018 (VA, 2020a).

Despite recognizing that MST continues to be an issue, identifying MST victims presents a significant barrier to professionals attempting to provide services to veterans. Over the last decade, the VA has made MST one of its highest priorities (Wilson, 2018). In 1994 legislation mandated that the VA screen all veterans leaving active service for MST. In 2002 the VA mandated the screening for MST for all veterans receiving care at the VHA. Through screening efforts, Wolff and Mills (2016) reported a higher prevalence of MST among women serving between 1979 and 1992. Between 1979 and 1992 was a period of integration for women, and policy reforms primarily occurred after this period. Gibson et al. (2020) also found that MST was common among older women, with associated risks for mental and health issues.

By 2004 most VA facilities nationally had begun screening for MST. By 2010, an estimated 97% of veterans receiving care at the VHA had gone through voluntary screening for MST (Gibson et al., 2020; VA, 2020c). Though screening efforts have improved, significant discrepancies exist between military service reporting and the identification of MST post-military service. Gundlapalli et al. (2017) stated that

preliminary reporting of MST does not accurately reflect the number of veterans with MST experiences due to the stigma associated with reporting MST. In one instance, an initial account of MST cases from 10,000 female veterans revealed a positive screening rate of 15.4%; however, the number of victims changed to a positive screening rate of 24.5% in the same population after additional investigation and outreach by health care providers (Gundlapalli et al., 2017). The change occurred after veterans initially reported a negative screening but later confided to their health care provider that MST had occurred during active service (Gundlapalli et al., 2017). The collective effort within the VHA, by providing additional opportunities to disclose incidences after an initial intake report, helps accurately reflect the number of victims within the VHA that have experienced MST. However, this does not account for approximately 38% of veterans who never use the VHA for services (VA, 2020a).

In 2019 there were several ways in which the VA and DOD worked to improve and implement programs to protect and identify those affected by MST. One focus area was the improvement of assessment tools to identify MST. Catch a serial offender program launched in August 2019 to permit anonymous reporting (VA, 2020a). Further, the DOD improved its process of hiring qualified individuals to assist and support victims of MST and boosted the awareness of the DOD Safe Helpline to report an incident securely through call or text (VA, 2020a). Currently, all VHA facilities have an MST coordinator to assist victims with services. MST coordinators connect MST victims to related care and services, support policies for MST care, serve as a point of contact for MST care issues, provide MST training and education to the staff at VA facilities, and

direct outreach activities and partnerships with community allies (VA, 2020a). Education and training are provided and required for all mental health and other health care providers that work for the VHA (Kelly, 2021).

Additionally, new legislation has led to essential changes expanding outreach to different types of veterans (gender and sexual orientation), changes in the inclusion of MST to include various time frames of when MST occurred (active duty, active-duty training, and inactive training), and improved the types of free MST services the VHA could provide including treating physical and mental health conditions (Foynes et al., 2018). Furthermore, as part of the VA Mission Act of 2018, MST survivors have better access to care that may include a community provider rather than a VA provider if it is in the patient's best medical interest (VA, 2020a). Finally, the DOD is continuing to work using the resources of the 2020 National Defense Authorization Act to support MST survivors by addressing the collateral misconduct immunity policy and reintroducing H.R. 1092, as well as the Servicemember and Veterans Empowerment and Support Act, which helps to improve health benefits and disability benefit claims for victims of MST (VA, 2020a).

Understanding Risks Factors Associated with MST

As the prevalence of MST continues to be an issue for the U.S. armed forces, one area of concern is identifying and defining populations at higher risk for experiencing MST. Common identified risks include younger age, female, lower enlisted rank, incidences occurring earlier in service members career, childhood trauma, prior sexual victimization, sexual orientation, lower education, identifying as lesbian, gay, bisexual, or

transgender, racial minorities, and women who are not married (Bell et al., 2018; Lofgreen et al., 2017; Sadeh et al., 2017; Stander & Thomsen, 2016). Environmental risk factors include basic training and other training duty stations that occur earlier in a service member's career (Bell et al., 2018; Stander & Thomsen, 2016). Across service branches, the Marines and Navy have the highest rates of MST, and the Air Force has the lowest rates (Lofgreen et al., 2017).

In 80% of reported MST cases, Lofgreen et al. (2017) highlighted that the victim's age is between 17 and 24. MST tends to occur earlier in a service member's career and increases the likelihood of revictimization (Bell et al., 2018). Further, Bell et al. (2018) reported that prior childhood trauma and prior sexual victimization had been strongly associated with MST experiences. Regarding gender, Bell et al. discussed the increased risk of women experiencing MST due to sociocultural power. Women would be easier physical targets, unable to overpower their perpetrators.

Furthermore, women may be less likely to retaliate against their perpetrators (Bell et al., 2018). However, Sadeh et al. (2018) highlighted that given a higher percentage of males versus females in the military, the actual number of MST cases reported yearly may be similar. Further studies have found that MST is also linked to socioeconomic power, including younger age, less education, and not being married (Bell et al., 2018).

Literature is lacking for the lesbian, gay, bisexual, and transgender populations. Some literature supports that this population may be at higher risk for MST (Sadeh et al., 2017). Unfortunately, given the "Don't Ask, Don't Tell" policies from 1994 to 2011 and bans, until recently, on transgender individuals serving in the military, data on this

population is lacking. Sadeh et al. (2018) highlighted a study from 2013 showing higher rates of MST among lesbian and bisexual women compared to heterosexual women. Further, a study from 2011 surveyed 445 lesbian, gay, bisexual, and transgender veterans, with 8% of the subjects reporting sexual assault in the military (Sadeh et al., 2018).

Consequences of MST

Several health consequences are associated with MST, including increased risk for suicide, self-directed violence, suicide ideations, PTSD, depression, negative cognitions, problems with alcohol, drugs, or smoking, physical health problems, behavioral health issues, and homelessness (Blais et al., 2017; Boehler, 2019; Brignone et al., 2016; Gibson et al., 2020; Gilmore et al., 2016; Gross et al., 2020; Kimerling et al., 2016, Lofgreen et al., 2017; Monteith et al., 2019; Seeling et al., 2017; Sexton et al., 2018).

Suicide, Self-Directed Violence, and Suicide Ideations

In 2016 Kimerling et al. (2016) conducted one of the first studies documenting MST as a risk factor for completed suicide. In a sample of over 350,000 female veterans receiving services at the VHA between 2007-2011, 21.2% of the women screened positive for MST. The researchers assessed suicide mortality until 2011, finding suicide rates higher among those who screened positive for MST than those screened negative (Kimerling et al., 2016). Even when adjusting for other health morbidities and mental health conditions, MST remained a significant risk factor for suicide. Building on the study by Kimerling et al., Livingston et al. (2020) sought to learn more about the relationship between PTSD, depressive disorders, or a combination of PTSD and

depression diagnoses and how they mediated the relationship between MST and suicide. The authors found that veterans with a history of MST had a significantly higher probability of suicide and self-injury if they had comorbid PTSD and depressive disorders (Livingston et al., 2020). Veterans with PTSD-only or depressive disorder-only were also found to be significantly at risk for suicide or self-injury. However, combining the two suggested the highest risk probability (Livingston et al., 2020).

In addition to completed suicide, understanding the relationship between suicide ideations, suicide attempts, and non suicidal self-injury may help provide insight into interventional strategies and an understanding of the consequences of MST. In a study by Monteith et al. (2019), the results found that 75% of MST survivors experience suicidal ideations, and 40.7% have attempted suicide following an MST event. Further, Blais and Monteith (2019) found that female veterans identifying with MST as their primary basis for PTSD versus combat-related events were twice as likely to report past suicide ideations and 3 times as likely to report current suicide ideations. Holliday et al. (2018) also provide evidence that non suicidal self-injuries are an issue among survivors of MST. In a study of 112 veterans screening positive for MST, 25.23% reported at least one non suicidal self-injury event, with most veterans stating the event occurred after an MST incident. Monteith et al. (2019) reported that following MST, cognitions about oneself are a significant driving factor for suicidal ideations and suicide attempts. The results highlight the importance of addressing negative thoughts and beliefs about self, particularly after sexual trauma.

Supporting the literature findings from Kimerling et al. (2016) and Monteith et al. (2019), Gross et al. (2020) also found an association between MST and increased self-directed violence. The definition of SDV is injuries and behaviors directed toward harming oneself, including suicide attempts, complete suicide, and other self-injury that may not result in death (Gross et al., 2020). Out of a study sample of 92,155 female veterans, Gross et al. found that women who have experienced MST are 2.43 times more likely to have an SDV event. Further, MST was an independent predictive variable of SDV, even after adjusting for other mental health diagnoses (Gross et al., 2020). This finding indicates that female veterans exposed to MST may be at a higher risk for harming themselves, even if comorbid diagnoses do not exist. Therefore, it shows to be essential to include surveys and tools to help detect experiences of MST in veterans reporting harmful behaviors. Likewise, it may be beneficial to provide surveys to ask veterans who already have identified with MST if they have destructive thoughts, intent, or other ideations to harm themselves. Though MST may stand alone as an independent predictor of suicide risk, Livingston et al. (2020) suggested that it is critical to also treat comorbid conditions concurrently since PTSD and depressive disorders, if present, also mediate suicide risks.

PTSD, Depression, and Negative Cognitions

PTSD is the most prevalent mental health diagnosis linked to MST (Boehler, 2019). Boehler highlighted that 60% of MST survivors meet the criteria for a PTSD diagnosis. According to Sexton et al. (2018), female veterans with MST can be 5 to 8 times more likely to be diagnosed with PTSD than female veterans without exposure to

MST. Gilmore et al. (2016) reported that in a group of 10,469 veteran women screening positive for MST, 32.4% had a diagnosis of PTSD. In contrast, only 10.7% of subjects were positive for PTSD in the group (n = 51,485) screening negative for MST (Gilmore et al., 2016). Likewise, Gilmore et al. reported that 24.4% of female veterans with MST had a diagnosis of depressive disorder, compared to 12.6% in the group screening negative for MST.

A history of MST is well-established and associated with an increased risk for other cognitive health disorders, particularly depressive disorders. Goldstein et al. (2017) stated that even when you control for different aspects of trauma, MST is associated with increased severity of symptoms of depression. Out of a survey of 403 female veterans, Goldstein et al. (2017) found that sexual assault and sexual harassment had the most robust relationship with PTSD and depression, aligning with previous research associating MST with depressive disorders. Gilmore et al. (2016) stated that MST was a significant main effect when depressive disorders were present in veterans. For example, Gilmore et al. reported that veterans were more likely to screen positive for MST if they had a depressive disorder with PTSD, a depressive disorder with substance abuse disorder, or a combination of depressive disorder, PTSD, and substance abuse disorder.

In addition to PTSD and depressive disorders, MST survivors report an increased intensity of trauma-related negative cognitions. Holliday et al. (2018) found that MST survivors who proclaimed a non suicidal self-injury event also had severe suicide-related and trauma-related cognitions, significantly higher than veterans screening negative for MST. Further, increased negative cognitions were associated with more suicide attempts

among MST survivors (Holliday et al., 2018). Sexton et al. (2018) also highlighted that severe negative related cognitions about the self provide a barrier to coping with trauma, impede healing, and advance the development of PTSD.

To provide additional insight into the effect of negative cognitions, Carroll et al. (2018) studied a sample of treatment-seeking veterans to determine if specific cognitions were associated with veterans diagnosed with PTSD who experienced an MST event against those with PTSD screening negative for MST. The survey examined four-items: negative cognitions about the self, negative cognitions about the world/environment, negative cognitions related to self-blame, and cognitions about coping competence. The authors found that veterans that had experienced MST were more likely to report cognitions related to self-blame and personal fault even when controlling for the severity of PTSD and symptoms of depression (Carroll et al., 2018). The findings indicate that negative cognitions related to self-blame may be driven by the actual event of MST rather than the cognitive disorders resulting from the effect of MST, providing support for treatment differences specific to MST (Carroll et al., 2018).

Sexton et al. (2018) also supported the association of negative cognitions and MST finding that veterans reporting exposure to MST had higher total scores for negative cognitions toward self, environment, self-blame, and coping competence compared to veterans reporting only military combat trauma. However, Carroll et al. (2018) only found higher negative cognition related to self-blame in veterans with MST, stating that negative cognitions about self, environment, and ability to cope are similar in veterans diagnosed with PTSD regardless of whether they have experienced MST or not.

Understanding negative cognitions specific to MST survivors is critical to distinguish as it builds support for the need to provide direct treatment interventions specific to veterans exposed to MST. Compared to veterans who screen negative for MST, veterans with MST experiences are more likely to have single and coexisting disorders, including PTSD, depressive disorders, negative cognitions, and substance abuse disorders. Further, Gilmore et al. (2016) supported that the strength of association is highest between MST and PTSD compared to other diagnosed conditions among veterans.

Problems With Alcohol, Drugs, and Smoking

In addition to PTSD and other cognitive conditions, substance abuse disorders are prevalent among veterans and higher in populations that have had exposure to MST. Yalch et al. (2018) highlighted that veterans who have experienced MST may use alcohol and drugs as an avenue for unhealthy coping strategies. The study by Gilmore et al. (2016) sought to address the relationship between MST, PTSD, depressive disorders, and substance abuse disorders. The researchers found that veterans with a positive MST screening were significantly more likely to have individual and co-occurring diagnoses of PTSD, depressive disorders, and substance use disorders than negative MST screenings (Gilmore et al., 2016). Further, Goldberg et al. (2019) also found that positive MST screenings were significantly associated with higher rates of alcohol and drug use disorders. Among female veterans, alcohol use disorders were 10.2% for females screening positive for MST compared to 4.7% for females screening negative for MST (Goldberg et al., 2019). Similarly, among female veterans, drug use disorders were 11.0%

for females screening positive for MST compared to 4.5% for females screening negative for MST (Goldberg et al., 2019).

In 2017 Seelig et al. (2017) performed a longitudinal study looking at 200,620 veterans comparing risk for alcohol and smoking relapse and unhealthy patterns of substance use. The authors found that female veterans who had reported sexual trauma were twice as likely to have a risk for alcohol relapse (Seelig et al., 2017). Additionally, Yalch et al. (2018) sought to build on the knowledge of MST and the association between substance use disorders and PTSD by examining 407 female veterans recruited from the VHA. The authors found that 33% of the population sampled had experienced MST, and 70% had experienced some traumatic military stressor. The authors found that MST significantly affected the prevalence of drug use problems when controlling for other stressors (Yalch et al., 2018). Furthermore, women considered to be high exposure (exposure to both MST and other combat stressors) were more likely to have substance use disorders (alcohol or drug), PTSD, or co-occurring substance use disorder with PTSD (Yalch et al., 2018).

Other Physical Health Problems, Behavioral Problems, and Homelessness

Females exposed to MST are also at a higher risk for heart disease, stroke, high cholesterol, obesity, pelvic pain, menstrual problems, back pain, headaches, hypothyroidism, chronic fatigue, employment difficulties, sexual dysfunction, difficulties with adjustment, emotional dysregulation, disassociation, sleep disorders, insomnia, sleep apnea, gastrointestinal problems, eating disorders, more unsatisfactory family

relationships, and homelessness (Blais et al., 2017; Brignone et al., 2016; Gibson et al., 2020; Lofgreen et al., 2017; Schuyler et al., 2017; Sienkiewicz, 2020).

In a study by Schuyler et al. (2017), they aimed to determine the relationships between MST and physical health problems, PTSD symptoms, depressive disorders, and various other risk behaviors. The authors separated MST victims by the type of MST experience focusing on military sexual assault, which includes sexual contact against a person's will, versus military harassment, which includes unwanted sexual attention. The researchers surveyed 2,535 veterans, with 40.6% screening positive for MSA. The researchers found veterans with MSA had higher odds of negative physical health symptoms, a higher probability of PTSD, increased severity of depression, problematic alcohol use, taking unnecessary risks to health and life, increased risk of getting an STD, drove while intoxicated, and had higher odds of using tobacco products (Schuyler et al., 2017). The authors highlighted that veterans reported negative physical and psychological symptoms, and effects are maintained even years after MST (Schuyler et al., 2017). Stander and Thomsen (2016) also highlighted evidence that long-term effects can be detrimental, leading to additional consequences emphasizing chronic pain, obesity, PTSD, depression, employment difficulties, and relationship problems.

Gibson et al. (2020) conducted an extensive study examining the associations between MST and physical and mental health diagnoses. In a population of 70,864 female veterans, 13% with a positive MST screening, the authors found that several physical and cognitive health issues were associated with MST, even while controlling for other comorbidities (Gibson et al., 2020). Stroke, congestive heart failure, obesity,

chronic pain conditions, back pain, insomnia, and sleep apneas were all found to be significantly associated with MST, with female veterans having the highest odds ratio of chronic pain (1.58), back pain (1.40), insomnia (1.61), and sleep apnea (1.48) adjusting for demographic variables (Gibson et al., 2020). Additionally, female veterans with MST were found to have a significantly higher odds ratio of PTSD (7.25), suicide ideations (2.42), depressive disorders (2.39), anxiety (1.99), substance use disorder (1.88), opioid use disorder (1.77), and alcohol use disorder (1.71) compared to those screening negative for MST (Gibson et al., 2020). Though many of the physical and mental health issues listed are well documented to have an association with MST, sleep apnea and opioid use disorders have been less recognized within the literature and highlight the need for further research.

Lofgreen et al. (2017) reviewed the association of MST with mental, physical, sexual, and relational health. The authors feature several findings from numerous articles highlighting strong associations for adverse mental health outcomes, unhealthy physical health consequences, sexual dissatisfaction, and more unsatisfactory family relationships. Though mental health associations are established with MST, Lofgreen et al. strengthened the literature by stating that MST is an independent predictor of PTSD severity, an independent predictor of alcohol problems, and increases suicidal behaviors. Additionally, MST survivors have an increased feeling of betrayal and disassociation from the comradery of the military unit, increasing the odds of suicide attempts among this population (Lofgreen et al., 2017).

In addition to adverse mental health outcomes, unhealthy physical health consequences are present with MST. Lofgreen et al. (2017) stated that MST is related to chronic tension, which increases stress hormones. Stress hormones accompany harmful coping strategies, like unhealthy eating patterns, substance use disorders, and risky sexual behaviors (Lofgreen et al., 2017). Common medical issues documented for patients with MST include pelvic pain, menstruation issues, back pain, headaches, chronic fatigue, gastrointestinal problems, and hypothyroidism (Lofgreen et al., 2017). Further, in reviewing the literature, Lofgreen et al. found that MST survivors are at a higher risk for chronic pelvic pain, musculoskeletal problems, and irritable bowel syndrome. Chronic pelvic pain is attributed to the high tone in the muscles within the pelvic girdle and genital area in patients with MST (Lofgreen et al., 2017). Chronic tension, high-tone musculature, emotional health, and increased stress hormones are linked to decreased sexual satisfaction (Lofgreen et al., 2017). Lofgreen et al. called attention to the need for health professionals to be informed of MST experiences, as pain, fear, and humiliation may occur during pelvic examinations and discussions regarding the pelvic area.

Lofgreen et al. (2017) documented that survivors of MST also struggle with a sense of safety and trust, and isolate themselves from others. The combination of distrust and isolated behaviors makes it difficult to form social and intimate relationships (Lofgreen et al., 2017). Further, women who have experienced MST are less likely to desire children and more likely to have more than one marriage (Lofgreen et al., 2017). Smith et al. (2017) also supported an association between MST and family relationships. Whereas men were found to have a direct relationship between MST and dysfunction in

both intimate and parenting relationships, women were found to have an association through an indirect relationship with PTSD and depression (Smith et al., 2017). Though not well documented for MST, Lofgreen et al. mentioned that a higher association between PTSD and parenting dissatisfaction is found and should be studied further, specifically for MST.

Employment difficulties are also present in female veterans reporting MST and sexually violent experiences. Sienkiewicz et al. (2020) found that military sexual assault, a component of MST, is associated with decreased occupational functioning. Similarly, with other comorbidities, PTSD mediated the association between military sexual assault and work performance (Sienkiewicz et al., 2020). Maskin et al. (2019) found that the emotional consequences of sexual violence included the inability to focus, shame, and perceived helplessness, directly affecting work performance outcomes. In addition, physical consequences of sexual violence, including injuries, sexually transmitted diseases, and pregnancy, can hinder the physical abilities to complete the tasks required for occupational duties (Maskin et al., 2019).

In a study by Blais et al. (2017), they sought to determine if veterans exposed to MST had a higher likelihood of eating disorders, particularly while controlling for PTSD, depressive disorders, alcohol abuse, and substance abuse disorders. As discussed by Blais et al. and Breland et al. (2018), eating disorders have been linked to several health consequences, such as higher mortality and obesity-related outcomes. Blais et al. found that veterans with a history of MST were associated with an increased likelihood of eating disorders, regardless of other comorbidities. Additionally, Blais et al. stated that

eating disorders were highest in veterans who screened positive for MST with additional diagnoses of PTSD, depressive disorders, or substance abuse disorders. Similarly, Breland et al. (2018) found that MST was an independent predictor of eating disorders. In a sample of 407 female veterans, 66% identified MST exposure, and 32% identified with only combat trauma; they found that MST, but not combat trauma, was independently linked to an eating disorder (Breland et al., 2018). Further, Breland et al. reported that female veterans with MST were twice as likely to have an eating disorder than females without MST.

In a large study examining 601,892 veterans recently separated from the military, Brignone et al. (2016) aimed to evaluate MST as a risk factor for homelessness. The researchers found that veterans with a positive screening for MST were twice as likely to become homeless than those without MST experiences. Among veterans screening positive for MST, homelessness results were 1.6% within 30 days, 4.4% within 1 year, and 9.6% within 5 years (Brignone et al., 2016). Even when adjusting for mental health conditions and substance abuse disorders, MST was still an independent and significant predictor of homelessness (Brignone et al., 2016). Overall, 86% of the veterans indicating homelessness screened positive for MST (Brignone et al., 2016). The outcomes of this study shed light on the possible effects of MST and emphasize the importance of identifying MST early. Montgomery et al. (2018) also highlight that women veterans are at an increased risk for housing instability if they have a background of sexually violent experiences or intimate partner violence. Past exposure to MST and recent intimate

partner violence can significantly increase the risk of housing insecurities (Montgomery et al., 2018).

The results of the reviewed studies highlight the importance of a collaborative effort between health professionals, including mental health experts, medical providers, suicide prevention specialists, health educators, and other behavioral health services, to improve methods to identify risk factors and provide specific resources for MST survivors.

Behavioral Health Services for Female Victims of MST

Previous research has highlighted the importance of obtaining help from support resources for MST (Holland et al., 2016; Kelly, 2021; Monteith et al., 2020). For example, receiving behavioral health services reduces suicide ideations and negative cognitions, and improves emotional regulation, positively affecting daily functioning (Boehler, 2019; Holliday et al., 2018; Lofgreen et al., 2020). Holland et al. (2016) highlighted that though many resources are available to veterans who have experienced MST, numerous veterans do not receive the care they need. Further, several sources report that survivors of MST rarely reveal their experiences, may postpone treatment, or never seek treatment (Foynes et al., 2018; Holland et al., 2016; Kelly, 2021).

As of 2018, the number of women in the U.S. military has increased significantly, with approximately 16.5% of active service members female and 10% of the inactive veteran population female (VA, 2020b). In addition to the increase in women serving, the number of females using VHA services has doubled from the early 2000s to 2018 (VA, 2020b). According to a review by Monteith et al. (2021), the VHA has screened

approximately 5.25 million veterans for MST, with a positive rate of 30.2% for females and 1.7% for males. Given the high percentages of veterans with MST experiences, it is a top priority for the VHA to provide services and resources for this population.

When veterans discharge from activity duty service, they must undergo an exit interview that includes a screening for MST. The purpose of the MST screening is early detection to identify veterans that may benefit from or want services related to their trauma. In 2000 a universal screening program was implemented in the VHA, prompting providers to ask veterans currently receiving care at the VHA to answer the MST two-question detection survey (Foynes et al., 2018). If veterans decline to respond, they may be prompted again in the future. However, because social stigma, shame, and avoidance are associated with MST, veterans may be reluctant to truthfully share their responses (Barth et al., 2016).

Resources for survivors of MST are provided for free by the VHA. In 1992 the VHA was authorized to provide counseling to MST survivors, and in 1995 congress approved additional care and services, with universal screening for MST mandated in 2000 (Kelly, 2021; Kimerling et al., 2007). In the early 2000s, laws were implemented to support permanent resources available for veterans experiencing MST, regardless if they reported the incident while on active duty or had a service-connected disability rating. In a recent study by Braun et al. (2021), the authors noted that the DOD is becoming more interested in complementary and integrative health solutions as treatment modalities for MST. Modalities include mindfulness practices, trauma-informed yoga, breathing techniques, and meditation (Braun et al., 2021). Each VA medical facility has a

coordinator to manage MST screening and care (VA, 2021b). Services for MST have been extended to include treatment for both mental and physical health conditions related to MST. Counseling services are also available with community-based partners to help address access issues for veterans (VA, 2020a). Additionally, inpatient settings are available to address acute treatment and support (VA, 2020c).

Though resources are available at no cost to veterans identifying with MST experiences, many women delay or forgo treatment as a result of secondary concerns, like institutional betrayal, self-blame, internal and external barriers, and manifested external consequences (Holiday & Monteith, 2019; Monteith et al., 2020). Gilmore et al. (2016) stated that female veterans treated within the VHA have shown unique barriers exclusive to their gender role and require specific and tailored treatment options, despite having similar diagnostic profiles as male veterans. Currently, some VA facilities offer gender-specific locations to accommodate apprehension and distress that may arise within the VHA setting for female veterans (VA, 2020c).

Reporting MST

The DOD encourages service members and veterans to provide accurate reporting to help target and increase help-seeking behaviors (VA, 2020a). When in-service, active-duty service members have two options for reporting MST, restricted and unrestricted. Restricted includes a confidential reporting method in which the military member can receive treatment services but does not have to reveal any details about the perpetrator. In contrast, unrestricted initiates a formal investigation by the DOD about the incident, including investigating all involved parties. In 2019 the DOD implemented the CATCH

program, which allows a service member to confidentially report a restricted claim about an alleged offender or incident (VA, 2020a). If a pattern matches another restricted claim or incidence, service members are contacted and allowed to convert their claim to an unrestricted file, and the incidences are investigated through the military justice process (VA, 2020a). When the CATCH program first launched in August 2019-April 2020, 239 restricted MST reports were made over 8 months with five matches. The goal of the CATCH program is to reduce barriers to reporting MST, allowing service members to confidentially report an incidence while also allowing for participation in the justice system, should a pattern arise for the perpetrator.

In addition to the CATCH program, the DOD offers a Safe Helpline providing 24/7 anonymous support, including help reporting incidents and recovery resources (VA, 2020a). Further, an anonymous online group chat, Safe Help Room, provides peer connection, support, and connection to MST resources (VA, 2020a). An online self-paced educational course is also available through the VA (VA, 2020a). Finally, veterans who have experienced MST, regardless of how long the incident occurred, can contact a VA health care provider, contact an MST coordinator at the VHA, or contact a local veterans center for more information and connection to resources (VA, 2020c).

Health Beliefs and Help-Seeking Intentions in Female Veterans

When entering into military service, shared expectations and known risks are anticipated. For example, mental traumas and injuries, emotional strain from family separation, and combat stressors are expected (Bell et al., 2018). Experiencing MST is not a projected outcome and can be confusing to comprehend. Because MST experience

can be confounding, navigating beliefs toward reporting incidences and seeking help can be challenging. Recognizing barriers to seeking help, exploring the benefits of seeking help, and identifying perceptions about the severity of emotional and nervous problems are essential to investigate and understand.

Barriers to Help-Seeking

Kelly (2021) highlighted several barriers to seeking treatment in female veterans, including the influence of military culture and experiences, ease and response of reporting MST, and perception of resources available to help. In a male-dominant military where females may be one or few, navigating identity can be complicated, with complex gender-biased roles and institutional expectations. In the study by Kelly, 14 female veterans with an average age of 50 years told their stories about the experiences and barriers of MST. The women reported that gender-based violence made military life difficult and traumatic, with institutional expectations that they should not report MST or the consequences would fall on the service member reporting the incident (Kelly, 2021). As a result, many females endured mental and physical consequences they would carry with them for many years before seeking treatment. As the expectation was to "keep quiet," many women veterans have harbored feelings, developing emotional withdrawals from society and family, anger, violent behaviors, isolation, mental health concerns, physical health issues, and other unhealthy coping behaviors, partially stemming from betrayal trauma and institutional betrayal (Andersen et al., 2019; Holliday & Monteith, 2019; Kelly, 2021; Monteith et al., 2016; Monteith et al., 2021).

Institutional Betrayal as a Barrier to Treatment. Institutional betrayal stems from distrust and compromised safety in the environment. When trust is compromised, and safety is no longer available, a person could disengage emotionally or mentally from their environment. For many females, the expectation that the "military family" will care for and protect them is a common theme (Burns et al., 2014). When you no longer feel safe from other service members or commanding officers, a feeling of betrayal can consume the victim. Betrayal trauma is associated with several health consequences, including mental health issues like PTSD and depressive disorders, anxiety disorders, physical health issues, sleeping disorders, increased substance abuse, losing trust in others, sexual dysfunction disorders, and other emotional health issues (Anderson et al., 2019; Holliday & Monteith, 2019; Monteith et al., 2016, Monteith et al., 2021).

Institutional betrayal carries beyond active-duty military service. Many female victims of MST believe the VA is a place they cannot trust or feel safe, creating a barrier to care (Kelly, 2021; Holliday & Monteith, 2019). Monteith et al. (2020) described the perceptions of MST survivors stating that they believe the VHA to be an extension of the military, and providers may discriminate against them or treat them poorly based on misbelief or blame. Negative institutional responses may reinforce shame, guilt, fear, embarrassment, and self-blame (Holliday & Monteith, 2019). Negative institutional responses may include unsupportive behaviors, blaming, invalidating the victim's experiences, and a lack of compassion. Unsupportive behaviors can discourage MST survivors from receiving care and create a treatment barrier (Holliday & Monteith, 2019). Anderson et al. (2019) and Monteith et al. (2016) highlighted the importance of health

professionals assessing perceptions of institutional betrayal as it may help predict help-seeking behaviors.

In a sample of 242 female veterans with positive MST screenings, institutional betrayal discouraged women from using the VHA and increased the consideration of using outside services away from the VHA first (Monteith et al., 2021). Andersen et al. (2019) found that veterans who suffered institutional betrayal from MST experienced more severe symptoms of PTSD, depressive disorders, negative cognitions, mood disorders, avoidance behaviors, and dissatisfaction. Although the VA offers free health care for MST survivors, institutional betrayal trauma increases the desire to use non-VHA services for medical and mental health care (Holliday & Monteith, 2019; Monteith et al., 2020; Monteith et al., 2021). Using non-VHA services is a concern, as Monteith et al. (2021) highlighted that 98% of providers at the VHA have completed MST training. MST training helps professionals understand the unique needs of MST victims. In addition, free services through the VA include outreach coordination, awareness education, and other educational opportunities (VA, 2021c). Other providers may not fully understand the unique needs of MST victims and may not include a comprehensive effort between services. Further, if non-VHA providers are unaware of MST experiences, they may unintentionally trigger traumatization, possibly leading to care avoidance (Monteith et al., 2021).

Reporting MST, Secondary Victimization, and Self-Stigma. Burns et al. (2014) highlight that many female veterans feel that reporting MST is discouraged, and disciplinary actions will result if they report an incident. In a review of the literature,

Monteith et al. (2021) stated that in 2014 the RAND National Defense Research Institute conducted a study in the military workplace, finding that 52% of active-duty military women who report MST suffered social or professional consequences. In addition, survivors of MST have found that reporting an incident would not be confidential, leading to stigma, embarrassment, negative actions against their career, self-blame, and their perpetrators would not suffer any consequences for their actions (Burns et al., 2014). In an interview of seven women who experienced MST on deployment, common themes why the women did not report MST included: adverse reactions of disbelief, blame, criticism, and lack of support; lack of confidentiality due to the low number of possible victims because of a disproportionate number of females; the need for unit collaboration in times of war; and the belief it would be better to wait and report the incident once the service member returned to the United States from deployment (Burns et al., 2014). Within the literature, VA (2020b) found that the most significant barriers for active-duty service members to reporting MST were confidentiality, retaliation, blame, discomfort, and punishment.

Monteith et al. (2021) also highlighted the concept of secondary retaliation, stating that female veterans have reported discouragement to report MST from the military legal systems. Wolff and Mills (2016) also stated that women may be discouraged from reporting MST due to evidence from their peers who state, "it would not do any good pg. 845," "it is better to keep your mouth shut pg.845," and "there are consequences to reporting pg 845." Brownstone et al. (2018) also confirmed that veterans reported disempowerment and encouragement to be silent. Other barriers for veterans

seeking help included a belief that MST experiences were "normal," they had diminished self-esteem, lower self-worth, and practiced avoidance (Brownstone et al., 2018). Furthermore, victims internalize MST by blaming themselves. Brownstone et al. highlighted several shared views, including victims believing it was their fault because of their physical appearance, drinking before an incident, and being naïve or ignorant about recognizing a potential victimizing situation. Victimization resulted in changes to appearance, feelings of shame, and embarrassment from the belief that they could have allowed the incident to occur (Brownstone et al., 2018).

Self-stigma may also create a barrier to care as victims may internalize negative attitudes toward receiving treatment. Stigma can include concerns about how others perceive the victim, feelings of shame, and implications about self. Andersen and Blais (2019) found that female veterans with higher levels of self-stigma were less likely to disclose their MST experiences. Further, Andersen and Blais found that veterans seeking help for MST had higher levels of self-stigma stemming from negative views of themselves for receiving treatment versus their level of interest in how others would view them. Murray-Swank et al. (2018) also found that self-stigma toward treatment was a significant predictor of help-seeking behaviors; however, in the study of 101 female veterans, 25% revealed how others would view them as a primary deterrent for help-seeking.

Identification of MST as a Barrier. Though the VA has mandated screening for MST, the VA reports that MST remains underreported (VA, 2020a). Since the introduction of the SAPR program, which was introduced to improve reporting and

response to sexual assault, reporting of MST in the military has quadrupled from 7% in 2006 to 30% in 2018, with an additional increase of 3% from 2018 to 2019 (VA, 2020a). Unfortunately, after active-duty service Lee (2021) stated that less than 50% of veterans utilize the VHA for medical and health concerns; many veterans use non-VA health care resources and services. With veterans using non-VA resources, it raises the concern that veteran's needs are not met, particularly female veterans hesitant to disclose veteran status and MST experiences. There are more than 19 million veterans in the United States from several generational war eras, and women represent about 10% (VA, 2020b). It is increasingly important to find ways to target the female veteran population. Lee (2021) highlights the need for non-VA health care services and resources to invest an increased interest in identifying veteran patients and providing screening for MST. However, identifying MST may remain difficult as research highlights that MST victims feel a high level of shame, desire privacy, and strive to "move on" past the experience (VA, 2020a).

Perceptions About the VHA. According to a recent report released by the VA, the VHA currently serves 5.25 million veterans, of which 31.9% have screened positive for MST, 30.2% women (VA, 2020a). In a study by Monteith et al. (2020), many MST survivors reported positive experiences with the staff at the VHA. Similarly, Street et al. (2021) stated that many veterans report positive patient-provider interactions when disclosing MST. However, according to Kelly (2021), female veterans report that the perception of seeking help in the VHA would be similar to the barriers to seeking help during military service. Burns et al. (2014) also add that some female veterans feel it would be better to receive care outside of the military to maintain confidentiality and not

jeopardize future career opportunities. Some common barriers emerging from female veterans using care within the VHA include confidentiality concerns, lack of knowledge of services provided, shame, absence of support, safety concerns, and distrust (Burns et al., 2014; Kelly, 2021; Lofgreen et al., 2017). Female veterans with MST experiences have also found that the VHA is triggering, reminding them of military service and a male-dominated environment (Lofgreen et al., 2017).

Further, concerns about using VHA care include overall distrust of the VHA, distrust of providers, lack of provider compassion, concerns about confidentiality and privacy, perceived shame, continuity of care, and gender-related distress (Monteith et al., 2020). Some veterans believe the VHA is vastly relatable to military service; thus, initial distrust of the VHA as an institute presents a barrier. In addition to overall distrust as an institution, a hesitancy to trust VA providers exists. Some veterans expressed concerns that VHA care will be similar to negative experiences in health care facilities while on active duty or believe providers want to overmedicate their patients (Monteith et al., 2020). Additionally, confidentiality is a rising concern. Veterans report that all VA providers have access to their records, so they are hesitant to disclose intimate details because providers in another specialty can see details in another area of care (Monteith et al., 2020). Finally, gender-related distress arises from female MST survivors who report that VHA facilities are predominantly male, creating a sense of fear and vulnerability (Monteith et al., 2020).

Physical and Other External Barriers to Seeking Help. When seeking care, many female veterans have reported common barriers to include transportation issues,

accessibility to facilities, availability of appointments, negative cognitions, internalized stigma, childcare, fears of harming careers, time off work, and not knowing where to seek help (Carroll et al., 2018; Murray-Swank et al., 2018). In a study of 101 female veterans, 68% reported MST; it was found that the most frequently reported external barriers to seeking help for MST survivors included difficulty scheduling appointments, finding facilities within close proximity, cost of care was too much, and it would be too difficult to get time off work (Murray-Swank et al., 2018). Additional reported concerns included finding childcare for appointments, the embarrassment of asking for help, and uncertainty about what services were available or where to receive care (Murray-Swank et al., 2018).

According to Carroll et al. (2018), a military culture can create a self-sufficient attitude that drives service members to become self-reliant, urging a tendency to take personal responsibility. Sexton et al. (2018) stated that MST survivors have higher negative cognitions about self and the environment, higher levels of self-blame, and a lower ability to cope with trauma than veterans with combat trauma only. Creating negative cognitions about the environment may exaggerate the actual level of external barriers (Murray-Swank et al., 2018). Coupled with negative cognitions about the environment, MST survivors view victimization as a personal failure leading to an even greater stigma toward seeking help (Carrol et al., 2018). Lastly, MST involves interpersonal betrayal that can deter a person's ability to trust others, accept help from others, and develop a reliable support network (Lofgreen et al., 2017; McManus et al., 2018). MST survivors have a difficult time trusting others and feeling safe. A common reaction is becoming a recluse, isolating themselves from others, and establishing a self-

reliant identity (Lofgreen et al., 2017). One study examining help-seeking behaviors for MST revealed that many participants preferred to be alone, avoided social gatherings, and had difficulties with interpersonal relationships (McManus et al., 2018). Social avoidance and the failure to develop healthy relationships can hinder the ability to establish supportive networks to promote help-seeking behaviors.

Summary and Conclusions

In Chapter 2, I reviewed the literature by identifying current and historical trends of MST, providing a dialogue on risk factors associated with MST, discussing the consequences of MST, highlighting behavioral health resources available for MST victims, and recognizing health beliefs and beliefs help-seeking intentions in female veterans with MST experiences. Previous research on help-seeking behaviors has primarily focused on the barriers to help-seeking. The literature review in this chapter provided evidence of institutional betrayal as a primary barrier, with additional barriers including reporting difficulties, self-stigma, secondary victimization, perceptions about the VHA, and other external barriers. In the context of the health belief model, barriers to seeking help is a necessary construct. However, there was minimal literature examining the perceived benefits of getting help for emotional and nervous problems and the perceived severity of emotional or nervous problems in female veterans, which are essential components when considering the whole health approach to the complexity of MST and individual differences in seeking help.

Further, there was no literature examining multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among

female veterans with MST experiences. Thus, this study filled a gap in knowledge by examining the relationship between health motives, perception of severity, perception of benefits, perceptions of barriers, and help-seeking intentions among female veterans who have experienced MST. Using the HBM as the theoretical foundation, Chapter 3 provides an overview of the quantitative research design and rationale, methodology, threats to validity, and ethical procedures.

Chapter 3: Research Method

Guided by the HBM, I conducted this quantitative, nonexperimental, correlational study to examine the relationship between health beliefs and help-seeking intentions among female veterans who have experienced MST. I sought to understand female veterans' essential help-seeking intentions to help identify factors that can be modified to reduce the associated risks of MST. The study was also conducted to develop an understanding of help-seeking behaviors and perceptions of MST that may encourage or discourage female veterans from utilizing behavioral health resources. By understanding female veterans' help-seeking intentions and perceptions of health beliefs, the results can inform best practices in health education, including managing behavioral health resources, leading to positive social change.

In Chapter 3, I provide a detailed outline of the research methods highlighting the research variables and analytical procedures. The chapter begins with a discussion of the research design and rationale before moving on to a comprehensive description of the methodology, including details about the population, sampling and sampling procedures, recruitment, participation, data collection, instrumentation, operationalization of constructs, and data analysis plan. Following the methodology, I present the threats to validity and ethical procedures followed in the study. The chapter concludes with a summary of the research methods. The following section examines the study variables and rationale for the research design.

Research Design and Rationale

I used a quantitative, nonexperimental, correlational design to examine the relationship between health beliefs and help-seeking intentions among female veterans who have experienced MST. In a quantitative, nonexperimental, correlational design, correlational statistics are used to describe the relationship between two or more variables or sets of scores (Lewis-Beck et al., 2004). I chose a correlational design as the most appropriate for answering the research questions because the data was used to understand relationships between variables without manipulating the variables.

I chose the research design and method to help health educators understand the help-seeking intentions of female veterans with MST, guide educational interventions to reach female veterans, and promote positive social change. Using a quantitative design allowed for primary data collection relevant to the independent and dependent variables. The study design aimed to answer the following research questions:

RQ1: What was the relationship between the health motives and help-seeking intentions among female veterans who have experienced MST?

RQ2: What was the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST?

RQ3: What was the relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

RQ4: What was the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

Thus, the primary purpose of this study was to examine the relationship between health beliefs and help-seeking intentions among female veterans who have experienced MST.

I decided to use a nonexperimental, correlational design and a survey method due to time constraints, the ability to collect a large amount of data at a low cost, the potential turnaround in data collection, anonymity/privacy, and ease of data collection. Ordinal data were collected from surveys that used a Likert-type scale. I determined that multiple linear regression was an appropriate statistical analysis to address the research questions because multiple linear regression is used to predict a relationship of an ordinal dependent variable, measured at the continuous level, with one or more independent variables, measured at the continuous level (see Salkind, 2007b). The survey method employed allowed for a cross-sectional data collection, meaning the data were collected at one time (see Lavrakas, 2008).

To recruit participants, individuals were notified about the anonymous online survey through social media platforms, military affiliation groups, and email. I used an internet survey for the ability to collect data through various methods to increase sample size, quicker and cost-effective data collection, no interviewer effect, ability to adapt sequence of questions based on responses to previous questions (i.e., identifying respondents with no incident of MST), increased anonymity and privacy, and quicker respondent selection (see Kupis-Fijałkowska, 2020). Potential weaknesses in using an

internet survey include low response rates, technical errors, sample selection limitations, multiple participation, access to an online device to complete the survey, and triggers that could cause respondents to discontinue answering (Kupis-Fijałkowska, 2020).

The dependent variable for this study was help-seeking intentions, which was assessed on an ordinal scale and measured at the continuous level. The independent variables were health beliefs, identified as health motivation, perceptions of severity of emotional or nervous problems, perceptions of benefits of getting help for emotional or nervous problems, and perceptions of barriers of getting help for emotional or nervous problems. I assessed the independent variables on an ordinal scale and measured them at the continuous level. The covariates in the study included age, race, ethnicity/origin, relationship status, employment status, education level, geographic location, number of years in the military, the branch of the military service, and service-connected disability rating. Covariates were measured on nominal and ordinal scales of measurement.

Methodology

Population

The target population for this study included non-active-duty, female, U.S. military veterans between 18–65 years of age who self-identified with at least one incident of MST. Inclusion criteria consisted of identifying as a female at birth, being between the ages of 18–65 years old and a U.S. military veteran, self-identifying with at least one incident of MST, and being willing to provide informed consent. Exclusion criteria included being under the age of 18 or over the age of 65, having an active-duty military status, not experiencing at least one incident of MST, or not providing consent.

The estimated sample size included a minimum of 85 participants to meet the study design's sample size and power requirements.

Sampling and Sampling Procedures

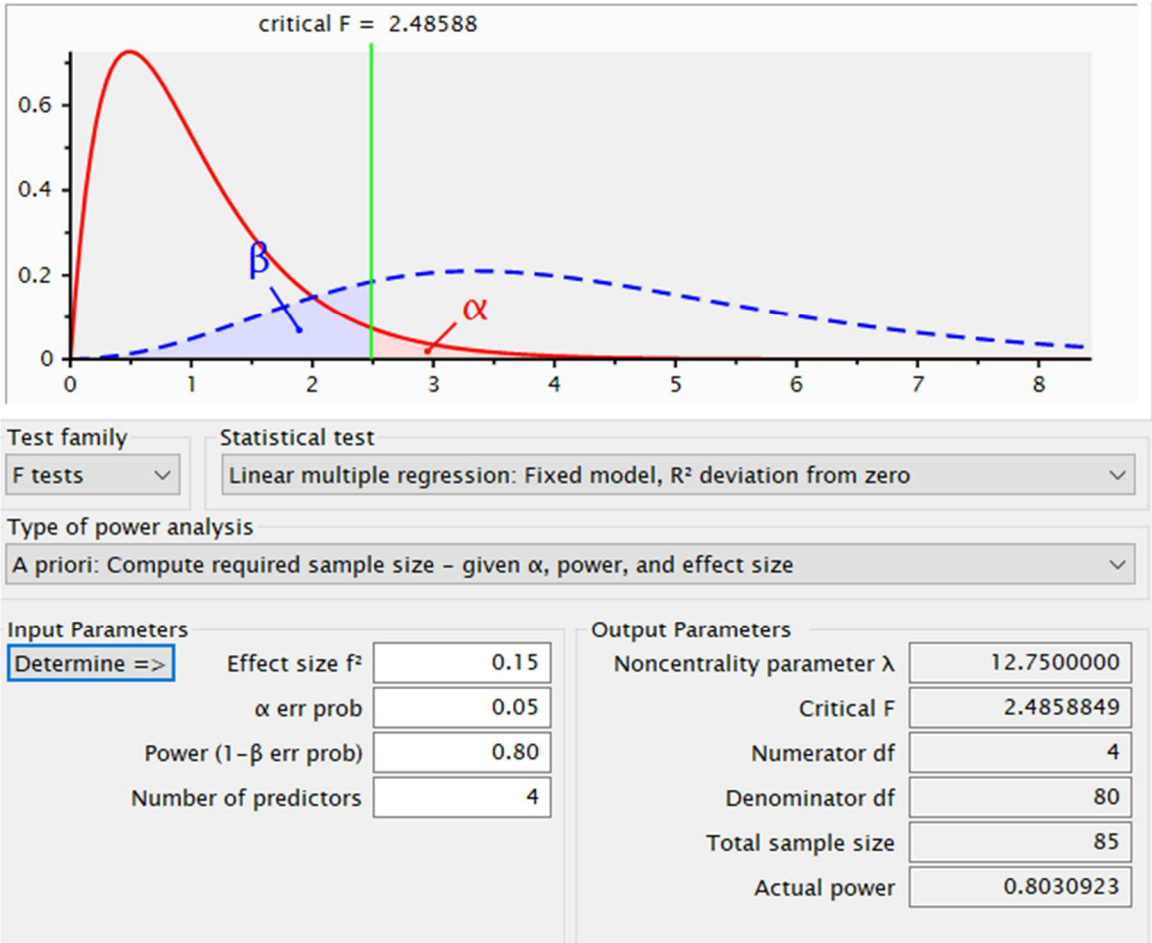
In this study, I used the convenience sampling method with a multistage sampling design. Using a multistage sampling design, I first contacted veteran affiliation groups or organizations to obtain the contact information of individuals within the chosen population (see Lavrakas, 2008). Convenience sampling allowed for the inclusion of participants that were easiest to access through social media platforms, veteran affiliation groups and organizations, and email lists. Due to time constraints, ease of access, and cost, I chose the convenience sampling strategy. Weaknesses of this sampling strategy include possible sampling error, sampling bias, and the ability to generalize to a larger population (Lavrakas, 2008). To be included in the study, participants must have identified as a female at birth, be between the ages of 18-65 years, be a U.S. military veteran, self-identified with at least one incident of MST, and be willing to provide informed consent.

A minimum of 85 participants was required to meet the sample size and power requirements. I determined the sample size using the G*Power 3.1 for power analysis (see Faul et al., 2009). G*Power 3.1 is a statistical power analysis tool used to determine sample size, providing numerical and graphical data (Faul et al., 2009). To compute the required sample size, I used an a priori analysis to provide significance for the alpha level (level α), the statistical power level, and the population effect size (see Faul et al., 2009). The determined analysis (displayed in Figure 1) included an alpha error probability or

probability of a Type I error = 0.05, the statistical power level (1 – β error probability) = 0.80, effect size $f^2 = 0.15$, and a total sample size estimated as 85.

Figure 1

A Priori Power Analysis of Calculations for Total Sample Size



Note. α = probability of Type I error, β = probability of Type II error.

Justification for the effect size ($f^2 = 0.15$) was based on the priori power analysis, including alpha and power levels. I used an alpha value (α) of 0.05 to assess the risk of saying a correlational effect exists when a significant effect does not exist or stating a false positive effect (i.e., Type I error). An acceptable alpha level is 0.05, which indicates

a 5% probability of a Type I error (Salkind, 2007c). A beta value (β) of 0.20 was used to decrease the risk of saying that there is not a correlational effect when there is a significant effect or stating a false negative effect (Type II error). An acceptable beta value was 0.20, which calculates the power level $(1 - \beta) = 0.80$ and balances the risk of making Type I versus Type II errors (Salkind, 2007c).

Procedures for Recruitment, Participation, and Data Collection

Using convenience sampling, I recruited veterans through email from military affiliation groups or organizations or through social media platforms. These veterans were provided with an invitation to participate in an anonymous survey using SurveyMonkey (2022b). SurveyMonkey, currently known as Momentive Inc., is an online software company specializing in online survey development, allowing researchers to create surveys, gather feedback, analyze results, and export survey results to external statistical software platforms, such as IBM SPSS Statistics (SPSS). Data collected from SurveyMonkey are securely stored at SOC 2 accredited data centers, with physical security controls including visitor logs, entry restrictions, and 24x7 live camera monitoring (SurveyMonkey, 2022a). Further, collected data were encrypted and transmitted over a secure Hypertext Transfer Protocol Secure connection, and my login information was protected through Transport Layer Security. The survey was provided in English and began with four eligibility questions.

To participate in this survey study, participants had to meet the eligibility criteria. Appendix A includes the participant's eligibility questionnaire. The questionnaire was completed using "yes" or "no" responses, with a "no" response excluding the participant

from the survey. If an individual answered "no," they were taken to the survey exit message for ineligible participants. Appendix F includes the survey exit message. A "yes" response to all questions took participants to the informed consent form describing the study's purpose, procedures, potential risks and benefits, and privacy information. Participants consented by clicking on the link to proceed to the demographic's questionnaire, followed by the GHSQ and HBMI Instrument questions. Appendix B includes the demographics questionnaire, Appendix C includes the GHSQ, and Appendix E includes the HBMI. In addition, Appendix D includes the permission to use the HBMI instrument from the original author. The survey concluded with an exit message for eligible participants (see Appendix F), thanking them for their time and providing support resources if participants experienced any adverse effects from partaking in the study. No follow-up procedures were required. Upon completing data collection from participants, I exported the data collected in SurveyMonkey to SPSS for further data analysis.

Instrumentation

I used one validated instrument, the GHSQ, to measure the dependent variable of help-seeking intentions. The GHSQ was developed to measure intentions to seek help from various sources and for different problems (Wilson et al., 2005). Wilson et al. (2005) developed the survey in 2005 to provide a reliable and consistent measurement tool with clear construct definitions to measure help-seeking intentions. The GHSQ can be modified to match specific target populations, and permission to use the survey in research is granted for public usage. The scale can be measured as a two-item scale or separated into two scale items or subscales used individually (Wilson et al., 2005). I used

the instrument as an individual scale item in the current study, with 10 items, using Question 1 that measures personal or emotional problems. With personal or emotional problems as the target problem, the GHSQ uses a 7-point Likert scale ranging from *extremely unlikely* = 1 to *extremely likely* = 7 to seek help from nine different sources (Items A–H and Item J), such as intimate partners, friends, parents, other family members, mental health professionals or other health professionals, phone helpline, medical practitioners, religious leaders, and others. The scoring range was 16–64, with a higher score indicating a higher intention of seeking help. One item (i.e., Item I) was reversed scored and stated, "I would not seek help from anyone." The reliability is good when tested as a single instrument, using both problem items, with a Cronbach's alpha = 0.85 and test-retest reliability assessed over 3 weeks = 0.92 (Wilson et al., 2005). When measured as a single-item scale, Question 1, which measures personal or emotional problems, is moderately reliable with a Cronbach's alpha = 0.70 and test-retest reliability assessed over 3 weeks = 0.86 (Wilson et al., 2005). Further research by Tesfaye et al. (2020), looking at public attitudes and help-seeking intentions toward mental health problems, found good internal consistency with a Cronbach alpha score = 0.78. According to Wilson et al., predictive and construct validity were supported if intentions to seek help correlated with future help-seeking behaviors. Using the personal or emotional item questionnaire, Wilson et al. found a moderate correlation for several sources, including intimate partner with $r_s(181) = .48$, $p < .001$; friend $r_s(218) = .31$, $p < .001$; parent $r_s(218) = .23$, $p < .05$; nonparent family $r_s(218) = .42$, $p < .001$; mental health professional $r_s(218) = .17$, $p < .05$; and other support $r_s(218) = .26$, $p < .05$.

One validated instrument was used to measure the independent variables, health motivation, perceived severity of emotional or nervous problems, perceived benefits of help-seeking for emotional or nervous problems, and perceived barriers to help-seeking for emotional or nervous problems. The HBMI, see Appendix E, was developed to measure health beliefs about mental illness (Saleeby, 2000). Saleeby developed the survey in 2000 to provide an all-encompassing instrument that can measure constructs of the health belief model concerning mental illness. The HBMI was adapted with permission from the Champion's Health Belief Model Scale, which examined perceived susceptibility, perceived seriousness, perceived benefits, perceived barriers, and general health motivation toward breast cancer screening (see Saleeby 2000). The HMBI uses five sub scales measuring the HBM constructs, including health motivation, perceived susceptibility, perceived severity, perceived benefit, and perceived barriers. For the current study, the following four subscales were used: health motivation, perceived severity, perceived benefit, and perceived barriers. Each subscale used a 5-point Likert scale ranging from *Strongly Disagree* = 1 to *Strongly Agree* = 5. A total of 21 items were used. The Health Motivation subscale consisted of six items with a scoring range of 6-30, with a higher score indicating positive beliefs related to one's health (Saleeby, 2000). The Perceived Severity subscale consisted of six items with a scoring range of 6-30, with a higher score indicating a strong degree of personal threat related to emotional or nervous problems (Saleeby, 2000). The Perceived Benefits subscale consisted of four items with a scoring range of 4-20, with a higher score indicating a strong perceived benefit of seeking help for either emotional or nervous problems (Saleeby, 2000). The Perceived Barriers

subscale consisted of five items with a score of 5-25, with a higher score indicating a strong negative component for seeking help for either emotional or nervous problems (Saleeby, 2000). According to Saleeby, there is not a total score for all subscales of the HBMI instrument, and each subscale should be surveyed separately. Saleeby used Cronbach's alpha coefficients to calculate the reliability of the HBMI instrument using 123 subjects. The Health Motivation subscale showed good reliability with Cronbach's alpha = 0.80 and test-retest reliability = 0.75 (Saleeby, 2000). The Perceived Severity subscale showed good reliability with Cronbach's alpha = 0.81 and a test-retest reliability = 0.80 (Saleeby, 2000). The Perceived Benefits subscale showed moderate reliability with Cronbach's alpha = 0.67 and a test-retest reliability = 0.69 (Saleeby, 2000). The Perceived Barriers subscale showed good reliability with Cronbach's alpha = 0.80 and test-retest reliability = 0.78 (Saleeby, 2000). Further research by O'Connor et al. (2014) examining mental health help-seeking behaviors found moderate reliability with a Cronbach alpha score = 0.70 for health motivation, moderate reliability with a Cronbach alpha score = 0.74 for perceived severity, good reliability with a Cronbach alpha score = 0.78 for perceived benefits, and good reliability with a Cronbach alpha score = 0.81 for perceived barriers. According to Saleeby, the construct validity of the HBMI tool was evaluated and supported by factor analysis.

Operationalization of Constructs

Appendix A provides the participant eligibility questionnaire. In the eligibility questionnaire, participants were asked the following questions with a response of "yes" or "no":

1. Was your gender at birth female?

2. Are you between the ages of 18-65 years?

3. Are you a U.S. military veteran, not on active duty?

4. When you were in the military, did you ever receive unwanted, threatening, or repeated sexual attention (for example, touching, cornering, pressure for sexual favors, inappropriate verbal remarks, etc.)?

OR

When you were in the military, did you have sexual contact against your will, or were you unable to say no (for example, after being forced or threatened or to avoid other consequences)?

Question 4 included the two-item VA MST screener used to assess MST during active-duty military service (Brownstone et al., 2018). The two items assess sexual assault or rape and sexual harassment or abuse. Answering yes to either or both questions indicate a positive screening for MST, meeting the eligibility criteria to participate in the study. Participants must have answered yes to all four questions to meet the eligibility criteria to participate in the study survey.

Covariate Variables

Questions from the demographic questionnaire were used to collect descriptive data from the participants. Demographic variables were measured as nominal and ordinal variables. Appendix B provides the demographic questionnaire to be given to participants. Participants indicated age, racial background, origin, relationship status, employment status, education level, geographical location, years served in the military,

the branch of military service, and a possible service-connected disability rating in the demographic questionnaire.

Age was categorical and measured as an ordinal variable. Participants were asked to answer the following question: What is your age? Age was classified and coded as 18-20 (0), 21-25 (1), 26-30 (2), 31-35 (3), 36-40 (4), 41-45 (5), 46-50 (6), 51-55 (7), 56-60 (8), and 61-65 (9).

Racial background was categorical and measured as a nominal variable. Participants were asked to answer the following question: What is your racial background? The racial background was classified and coded as American Indian or Alaska Native (1), Asian (2), Black or African American (3), Native Hawaiian or Other Pacific Islander (4), White or Caucasian (5), Multiple (6) Other (7).

Ethnicity was categorical and measured as a nominal variable. Participants were asked to respond to the following question: Which ethnicity do you identify with? Ethnicity was classified and coded as Hispanic, Latino, or Spanish Origin (1), Not Hispanic, Latino, or Spanish Origin (2), Other (3).

Relationship status was categorical and measured as a nominal variable. Participants were asked to answer the following question: What is your relationship status? Relationship status was classified and coded as single, never married (1), committed partner (2), cohabitating (3), married (4), divorced, once (5), divorced, multiple (6), widowed (7).

Employment status was categorical and measured as a nominal variable. Participants were asked to answer the following question: What is your employment

status? Employment status was classified and coded as unemployed (1), employed part-time (2), employed full-time (3), underemployed (4), self-employed (5).

Education level was categorical and measured as an ordinal variable. Participants were asked to respond to the following question: What is your current education level completed? Education level was classified and coded as No high school diploma/general education degree (1), high school diploma/general education degree (2), Some college, but no degree (3), Certificate program (4), Associate's (5), Bachelor's (6), Master's (7), Doctoral or beyond (8).

Geographical location was categorical and measured as a nominal variable. Participants were asked to respond to the following question: What is your current geographical location? Geographical location was classified and coded from a dropdown menu as Outside of United States (1), (U.S.) state (2-51).

Years served in the military was categorical and measured as an ordinal variable. Participants were asked to respond to the following question: How many years did you actively serve in the military? Years served in the military was classified and coded as Less than 1 (1), 1-4 (2), 5-8 (3), 9-14 (4), 15-19 (5), 20+ (6).

The branch of military service was categorically measured as a nominal variable. Participants were asked to respond to the following question: What branch of the Armed Forces did you serve? The branch of military service was classified and coded as Army (1), Marine Corps (2), Navy (3), Air Force (4), Coast Guard (5), Space Force (6), Other (7).

A service-connected disability rating was categorical and measured as an ordinal variable. Participants were asked to respond to the following question: What is your current, if any, service-connected disability rating? Service-connected disability rating was classified and coded as no rating (1), 0% (2), 10-30% (3), 40-70% (4), 80-100% (5).

Dependent Variable

The dependent variable, help-seeking intentions, was measured using the GHSQ found in Appendix C. The GHSQ used a 7-point Likert scale ranging from *Extremely Unlikely* (1), *Unlikely* (3), *Likely* (5), to *Extremely likely* (7). The study instrument used the following question prompt: If you were having a personal or emotional problem, how likely is it that you would seek help from the following people? Participants were asked to indicate their response by selecting the number that best described their intention to seek help from each listed help source. Nine different help sources were included: (a) Intimate partner (girlfriend, boyfriend, husband, wife, significant other), (b) Friend (not related to you), (c) Parent, (d) Other relative/family member, (e) Mental health professional (psychologist, social worker, counselors) or Other health professional (health educator, other health professional), (f) Phone helpline (Lifeline, Veterans Crisis Line), (g) Doctor (medical doctor, general practitioner, naturopathic doctor), (h) Minister or religious leader (Priest, Rabbi, Chaplain), (i) I would not seek help from anyone, (j) I would seek help from another not listed above (such as a coworker, another veteran, or a neighbor). The total scoring range is 16-64, with a higher score indicating a higher intention of seeking help. Item "i" is reversed scored. The scoring measuring the dependent variable was measured as a continuous variable.

Independent Variables

The independent variables, health motivation, perception of severity of emotional or nervous problems, perception of benefits of getting help for emotional or nervous problems, and perception of barriers of getting help for emotional or nervous problems, were measured using the HBMI found in Appendix E. The HBMI used a 5-point Likert scale ranging from *Strongly Disagree* (1), *Somewhat Disagree* (2), *Neither Agree nor Disagree* (3), *Somewhat Agree* (4), to *Strongly Agree* (5). Participants were asked to indicate their response by selecting the number that best described their response to each statement. A total of 21 statement items from four sub scales were used. Each sub scale was measured separately. The Health Motivation subscale consisted of six items with a scoring range of 6-30, with a higher score indicating positive beliefs related to one's health (Saleeby, 2000). An example question included: I feel it is important to carry out activities that improve my emotional health. The Perceived Severity subscale consisted of six items with a scoring range of 6-30, with a higher score indicating a strong degree of personal threat related to emotional or nervous problems (Saleeby, 2000). An example question included: Having emotional or nervous problems would threaten my relationship with family or friends. The Perceived Benefits subscale consisted of four items with a scoring range of 4-20, with a higher score indicating a strong perceived benefit of seeking help for either emotional or nervous problems (Saleeby, 2000). An example question included: Getting help for emotional or nervous problems would increase my ability to function at home and work. The Perceived Barriers subscale consisted of five items with a score of 5-25, with a higher score indicating a strong negative component for seeking

help for either emotional or nervous problems (Saleeby, 2000). An example question included: Getting help for emotional or nervous problems would cost too much money. The scoring measuring the independent variables was measured as continuous variables.

Data Analysis Plan

Data analyses were conducted using the IBM SPSS Statistics Version 28. Data were collected through SurveyMonkey on a secured Wi-Fi network, downloaded to a password-protected computer, and saved to an encrypted USB flash drive. To address nonresponses and missing data, survey responses missing more than 20% were omitted from statistical analyses.

Statistical significance was considered for all tests using the standard alpha value ($\alpha = 0.05$). The value states that there will be a 5% probability of incorrectly rejecting the null hypothesis. Therefore, the alternate hypothesis was accepted if the *p* value was less than or equal to 0.05. The following includes the four research questions and hypotheses used in this study:

RQ1: What was the relationship between the health motives and help-seeking intentions among female veterans who have experienced MST?

$H_0$1: There was no relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

H_a1: There was a relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

RQ2: What was the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$2: There was no relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a2: There was a relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

RQ3: What was the relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$3: There was no relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a3: There was a relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

RQ4: What was the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$4: There was no relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a4: There was a relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

Demographic data, covariate variables, used descriptive statistics such as means, standard deviations, and frequencies (percentages) to present data. Descriptive and inferential statistics were used to examine the hypotheses. Multiple linear regression was used as a statistical test to examine the hypotheses. Multiple linear regression is used when the dependent variable is measured at the continuous level, given two or more independent variables measured at the continuous level. According to Laerd Statistics (2018), eight assumptions exist for multiple linear regression to be an appropriate statistical analysis.

The first assumption is that the dependent variable should be measured at a continuous level of measurement. The second assumption is that two or more independent variables should be measured at the continuous level. The third assumption states that there should be independence of residuals. An independence of residuals helps to determine that adjacent observations are correlated and not independent (Laerd Statistics, 2018). The fourth assumption states that there needs to be a linear relationship between the dependent variable and all of the independent variables individually and a linear relationship between the dependent variable and independent variables collectively

(Laerd Statistics, 2018). The fifth assumption states that the data needs to show the homoscedasticity of residuals (Laerd Statistics, 2018). The assumption of homoscedasticity requires no underlying relationship between the residuals and the fitted values, meaning residuals are equal for the dependent variable (Laerd Statistics, 2018). The sixth assumption states that there should be no multicollinearity. Multicollinearity occurs when two or more independent variables are related too closely to each other (Laerd Statistics, 2018). The seventh assumption states that there should not be any significant outliers. The eighth assumption states that the residuals need to be normally distributed.

As the researcher I determined Assumptions 1 and 2. Assumption 3 was tested in SPSS Statistics using the Durbin-Watson statistic (Laerd Statistics, 2018). Assumption 4 was tested in SPSS Statistics, establishing a relationship between the dependent variable and independent variables collectively using a scatterplot and independently using partial regression plots (Laerd Statistics, 2018). Assumption 5 was tested in SPSS Statistics with a scatterplot of the residuals and the fitted values (Laerd Statistics, 2018). Assumption 6 was tested in SPSS Statistics using variance inflation factors (Laerd Statistics, 2018). Assumption 7 was tested in SPSS Statistics using Mahalanobis distances to determine if there were any outliers (Laerd Statistics, 2018). Assumption 8 was tested in SPSS Statistics using a P-P scatterplot (Laerd Statistics, 2018). Results were interpreted using parameter estimates, confidence intervals set at 95%, and odds ratios. P-values less than or equal to 0.05 were considered statistically significant.

Threats to Validity

Threats to External Validity

Threats to external validity occur when researchers draw conclusions about the sample data and generalize the results beyond the study population (Lavrakas, 2008). For example, generalizing results to populations that do not share similar study sample characteristics. In addition, researchers should not generalize results to past or future situations (Lavrakas, 2008). One criticism of using a convivence sample is its limitation to generalizing to an entire population. Convivence samples may not represent the entire population resulting in lower external validity.

Threats to Internal Validity

Threats to internal validity occur when something interferes with a researcher's ability to draw correct interpretations about their research data (Salkind, 2007a). Threats to internal validity in the current study may include participant selection and construct validity. Participant selection for this study included convivence sampling; thus, participants were not randomly selected and may not represent a larger population. Construct validity questions whether a statistical test measures what it intends to measure (Salkind, 2007a). Threats to construct validity were minimized by providing explicit definitions of constructs and providing valid and reliable support for each measurement tool used. Another way to decrease threats to internal and external validity would have been to increase the sample size.

Ethical Procedures

Institutional Review Board (IRB) review and approval by Walden University were obtained prior to any research, recruitment, or data collection for this study. Walden University's approval number for this study was 07-26-22-0725368. Once a participant was recruited to join the anonymous internet survey, they were provided with a consent form to confirm agreement and understanding of the study. The consent form described the voluntary nature of the study, with the assurance that participants may stop the survey at any time without penalty. Further, the risks and benefits were described with some minor discomforts that could be encountered from sharing sensitive information. However, the study posed minimal risk to well-being. If a participant experienced any adverse effects from participating in the study, the consent form provided the Veterans Crisis Line contact information. Additionally, the Veterans Crisis Line information was provided in the exit message for eligible participants.

Data were collected from a third-party online software company secured by encryptions and privacy-protected safeguards. Surveys were anonymous; therefore, no private information that could lead back to the participant was available. I will store and keep data collected secured by password protection and data encryption. As Walden University requires, data will be kept for at least 5 years. No conflicts of interest or personal incentives existed for this study.

Summary

In Chapter 3, I reviewed the research methods used for this study by providing a detailed outline of the research variables and analytical procedures. A quantitative non

experimental correlational design was used to collect primary data appropriate to examine the relationship between health beliefs and help-seeking intentions among female veterans who have experienced MST. The research design and method helped health educators understand help-seeking intentions, guiding educational interventions to reach female veterans with MST and promote positive social change. A survey was used to collect ordinal data from Likert-type scales that measure the dependent and independent variables. Convenience sampling was used to access the sample population through social media platforms, veteran affiliation groups and organizations, and e mail lists, with an invitation to participate in an anonymous survey using SurveyMonkey.

The dependent variable, help-seeking intentions, was measured with the GHSQ using a 7-point Likert scale. The independent variables, health motivation, perception of severity of emotional or nervous problems, perception of benefits of getting help for emotional or nervous problems, and perception of barriers of getting help for emotional or nervous problems, were measured with the HBMI using a 5-point Likert scale. Descriptive and inferential statistics were used to examine the study variables. Multiple linear regression was used as a statistical test to examine the hypotheses. Chapter 3 concluded with an examination of threats to validity, followed by a description of the ethical procedures to consider. Chapter 4 describes the data collection procedures, descriptive statistics, and statistical analysis results of the study's findings.

Chapter 4: Results

In this quantitative correlational study, I examined the relationship between health beliefs and help-seeking intentions among female veterans who have experienced MST. The goal of the study was to develop an understanding of female veterans' essential help-seeking intentions to help identify possible factors that can be modified to reduce the associated risks of MST. I also sought to understand the relationship between perceptions toward emotional and nervous problems and help-seeking behaviors. The following research questions and hypotheses guided this study:

RQ1: What was the relationship between the health motives and help-seeking intentions among female veterans who have experienced MST?

$H_0$1: There was no relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

H_a1: There was a relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

RQ2: What was the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$2: There was no relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a2: There was a relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

RQ3: What was the relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

H_03: There was no relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a3: There was a relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

RQ4: What was the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

H_04: There was no relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a4: There was a relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

In Chapter 4, I summarize the research questions and present the study's findings. Chapter 4 begins with a description of the time frame for data collection, the descriptive characteristics of the sample, and how the sample may represent a larger sample. I also present the results with appropriate statistical tests that analyze the findings of the hypotheses. The chapter concludes with a summary of the results. The following section examines the data collection methods.

Data Collection

Data collection and recruitment occurred between August 3rd and October 29th of 2022. I posted the survey on SurveyMonkey and shared it through the following web link: https://www.surveymonkey.com/r/7PHWTGN. Using a drafted social media message for recruitment, an invitation with the web link was shared with veteran-based social media groups.

One hundred and twenty-eight veterans completed the survey with a completion rate of 94%. The average time participants spent completing the survey was 6 minutes. To address nonresponses and missing data, I omitted survey responses missing more than 20% of the responses from statistical analyses. Eight surveys were excluded due to incomplete survey responses; therefore, a total of 120 completed surveys were included in the data analysis. A minimum of 85 participants were needed to meet the sample size and power requirements. I conducted data analyses using the IBM SPSS, Version 28. Data were collected through SurveyMonkey on a secured Wi-Fi network, downloaded to a password-protected computer, and saved to an encrypted USB flash drive. Statistical significance was considered for all tests using the standard alpha value ($\alpha = 0.05$).

I measured the dependent variable, help-seeking intentions, using the GHSQ. The total scoring range was 16–64, with a higher score indicating a higher intention of seeking help. The dependent variable was measured as a continuous variable. The independent variables of health motivation, perceived severity of emotional or nervous problems, perceived benefits of getting help for emotional or nervous problems, and perceived barriers to getting help for emotional or nervous problems were measured using the HBMI. A total of 21 statement items from four subscales were used. I measured each subscale separately. The Health Motivation subscale consisted of six items with a scoring range of 6–30, with a higher score indicating positive beliefs related to one's health (Saleeby, 2000). The Perceived Severity subscale consisted of six items with a scoring range of 6–30, with a higher score indicating a strong degree of personal threat related to emotional or nervous problems (Saleeby, 2000). The Perceived Benefits subscale consisted of four items with a scoring range of 4–20, with a higher score indicating a strong perceived benefit of seeking help for either emotional or nervous problems (Saleeby, 2000). The Perceived Barriers subscale consisted of five items with a score of 5–25, with a higher score indicating a strong negative component for seeking help for either emotional or nervous problems (Saleeby, 2000). The independent variables were measured as continuous variables.

I used 10 covariate variables to collect descriptive data from the participants: age, racial background, origin, relationship status, employment status, education level, geographical location, years served in the military, the branch of military service, and

service-connected disability rating. The baseline descriptive and demographic characteristics of the sample are provided in Table 1.

Table 1

Descriptive Statistics

Variable	Category	*n* (Total N=120)	Percentage (%)
Age	18–25	0	0
	26–30	6	5.0
	31–35	7	5.8
	36–40	14	11.7
	41–45	20	16.7
	46–50	15	12.5
	51–55	21	17.5
	56–60	21	17.5
	61–65	16	13.3
Racial background	White or Caucasian	64	53.3
	Black or African American	32	26.7
	Biracial	13	10.8
	American Indian or Alaska Native	5	4.2
	Native Hawaiian or Pacific Islander	4	3.3
	Asian	2	1.7
Ethnicity	Not Hispanic, Latino, or Spanish	84	70.0
	Hispanic, Latino, or Spanish	21	17.5
	Other	15	12.5
Relationship status	Married	58	48.3
	Divorced, once	26	21.7
	Divorced, multiple	15	12.5
	Committed partner	7	5.8
	Single, never married	10	8.3
	Cohabitating	2	1.7
	Widowed	2	1.7
Employment status	Unemployed	50	41.7
	Employed full-time	48	40.0
	Employed part-time	17	14.2
	Self-employed	4	3.3
	Underemployed	1	0.8
Education level	High school diploma/GED	2	1.7
	Some college, but no degree	24	20.0
	Certificate program	4	3.3
	Associate’s	8	6.7
	Bachelor’s	39	32.5
	Master’s	38	31.7
	Doctoral or beyond	5	4.2

Variable	Category	*n* (Total N=120)	Percentage (%)
Geographic location	Alabama	2	1.7
	Alaska	2	1.7
	Arizona	7	5.8
	California	11	9.2
	Colorado	7	5.8
	Florida	15	12.5
	Georgia	5	4.2
	Hawaii	1	0.8
	Illinois	2	1.7
	Indiana	2	1.7
	Maine	1	0.8
	Maryland	5	4.2
	Michigan	2	1.7
	Minnesota	1	0.8
	Nevada	1	0.8
	New Hampshire	2	1.7
	New Mexico	4	3.3
	New York	4	3.3
	North Carolina	2	1.7
	Ohio	2	1.7
	Oregon	4	3.3
	South Carolina	2	1.7
	Tennessee	2	1.7
	Texas	12	10.0
	Utah	5	4.2
	Virginia	9	7.5
	Washington	8	6.7
Years served in military	1–4	36	30.0
	5–9	34	28.3
	10–14	21	17.5
	15–19	9	7.5
	20+	20	16.7
Branch of service	Army	54	45.0
	Navy	34	28.3
	Air Force	21	17.5
	Marine Corps	10	8.3
	Coast Guard	1	0.8

Note. $N = 120$.

As shown in Table 1, the majority of the participants were White or Caucasian (53.3%), followed by Black or African American (26.7%), then Biracial (10.8%). Furthermore, 70.0% of the participants were not Hispanic, Latino, or Spanish origin, whereas 17.5% reported an origin of Hispanic, Latino, or Spanish. A large percentage (89.2%) of the participant's ages ranged from 36–65 years, with 11.7% of the participants being between 36–40 years old, 16.7% between 41–45 years old, 12.5% between 46–50 years old, 17.5% between 51–55 years old, 17.5% between 56–60 years old, and 13.3% between the ages of 61–65. Additionally, 48.3% of the participants reported a relationship status of married, and 34.2% reported being divorced at least once. The majority of participants were from the West region of the United States (33.3%), while 30.0% were from the Southeast region, 19.2% from the Southwest region, 10.0% from the Northwest region, and 7.5% from the Midwest region. Further demographic information from Table 1 showed 54.2% of participants as employed either full-time (40.0%) or part-time (14.2%), and 41.7% of participants as unemployed. A large majority (98.3%) of participants had at least some college education, with 32.5% with bachelor's degrees, 31.7% with master's degrees, and 20.0% with some college but no degree. Finally, of the 120 participants, 45.0% served in the Army, 28.3% served in the Navy, 17.5% served in the Air Force, 8.3% served in the Marine Corps, and 0.8% served in the Coast Guard. With years served in the military are as follows: 30.0% of participants served 1–4 years, 28.3% served 5–9 years, 17.5% served 10–14 years, 16.7% served 20+ years, and 7.5% served 15–19 years.

Descriptive statistics of the demographic variables show that the sample collected may represent a larger population in the U.S. across several variables. According to the VA (2022), female veterans are represented across all military branches at the following percentages: Army 47.9%, Navy 21.4%, Air Force 24.2%, and Marine Corps 6.5%. Similar to the current study, a recent study by the Wounded Warrior Project (WWP; 2021) in 2020 surveying 4,871 women veterans found that ethnicity across women veterans is represented as the following: 49% White or Caucasian; 27% Black or African American; and 17% of female veterans are of Hispanic, Latino, or Spanish descent. The U.S. Department of Labor stated that in 2020, employment rates of women veterans were 54% (VA, 2022). The WWP study also found that the relationship status of women veterans was 44% currently married, 19% divorced, and 19% single and that average age of women veterans is 41 years old. Additionally, a survey of the education level of female veterans revealed that 97% have some college education, with 30% having a bachelor's degree, 24% having a master's degree, and 20% with some college credit but no degree (WWP, 2021). According to the VA, the total women's veteran population in the United States in 2019 was 1,909,841, with the most significant number of women veterans located in Texas, Georgia, Florida, California, and Virginia. Regionally, women veterans are represented in the current study because the majority of female veterans are from the Southeast region of the United States (35.1%), while 18.4% are from the West region, 16.8% are from the Midwest region, 15.0% are from the Northeast region, and 14.6% are from the Southwest region (VA, 2022). When comparing regional similarities to the current study, the West region is represented at a higher rate, the Southwest,

Southeast, and Northeast regions are represented at a slightly lower rate, and the Midwest region is represented at a lower rate. When comparing by state, similar to findings by the VA (2022), the current sample population shows that the most significant number of women veterans are located in Texas, Florida, California, and Virginia.

Results

Aside from some regional disparities, which the number of participants may explain, the study population is similar to the general population of female veterans in the United States. Though a smaller convenience sample was used for the current study, I believe the sample data can be generalized beyond the study sample. In the following subsections, I present the study findings by evaluating the statistical assumptions and providing the analytical findings according to the four research questions.

Statistical Assumptions

I conducted the data analysis using the IBM SPSS, Version 28. Data were reviewed for missing data, accuracy, and violations of the testing assumptions. To address nonresponses and missing data, I omitted survey responses missing more than 20% of the responses from statistical analyses. Eight surveys were excluded due to incomplete survey responses. I found the data to be accurate, and eight assumptions were checked.

For Assumption 1, I measured the scoring of the dependent variable at the continuous level and referred to it as a scale variable in the SPSS statistical analysis, meeting the assumption. For Assumption 2, the scoring of the independent variables was measured at the continuous level and referred to as scale variables in the SPSS statistical

analysis, meeting the assumption. According to Assumption 3, there should be independence of residuals (Laerd Statistics, 2018). In SPSS, the independence of residuals is checked using the Durbin-Watson statistic, which can range from 0–4, with a number close to 2 representing no correlation between residuals (Laerd Statistics, 2018). Table 2 displays the model summary with the Durbin-Watson statistic, which was run as part of the multiple linear regression testing. The Durbin-Watson statistic for the current analysis was 2.149, which is close to 2, so it could be accepted that the residuals are independent, showing the assumption was met.

Table 2

Model Summary

Model Summary[b]					
Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Durbin-Watson
1	.639[a]	.409	.388	5.161	2.149

[a] Predictors: (Constant), perceived barriers, perceived benefits, perceived severity, health motivation.
[b] Dependent variable: help-seeking intentions.

For Assumption 4, there needs to be a linear relationship between the dependent variable and all the independent variables collectively, and a linear relationship between the dependent variable and independent variables individually (Laerd Statistics, 2018). A collective linear relationship between the dependent and independent variables can be established by plotting a scatterplot (Laerd Statistics, 2018). Figure 2 displays the linear relationship between the dependent and independent variables, showing that the assumption was met. Furthermore, an individual linear relationship between the dependent and independent variables can be established using partial regression plots

(Laerd Statistics, 2018). Figures 3–6 display the individual linear relationship between the dependent and independent variables using partial regression plots, showing that the assumption was met.

Figure 2

Scatterplot Between Dependent Variable and Independent Variables Collectively

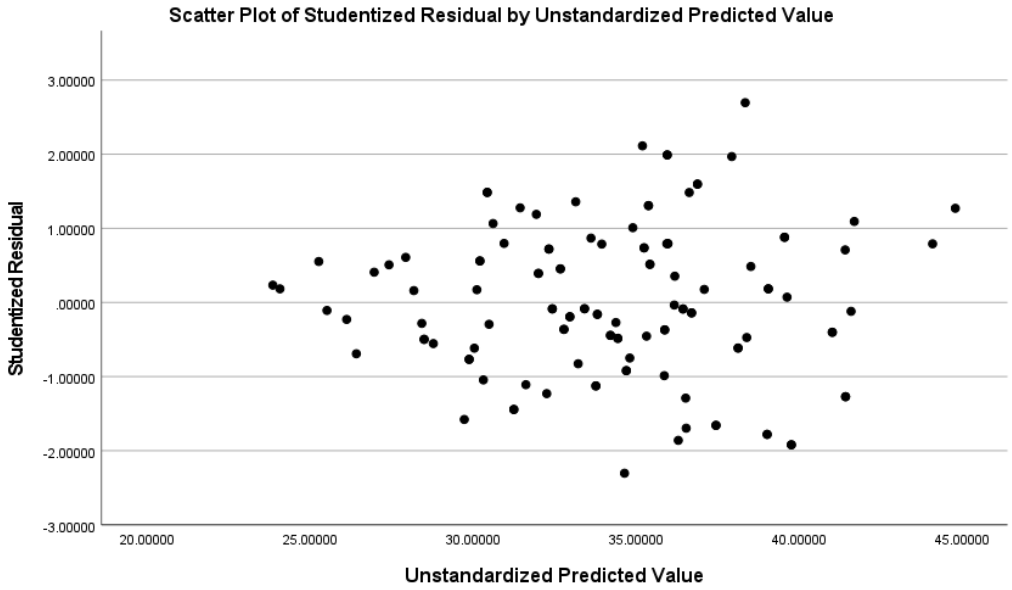


Figure 3

Partial Regression Plot Between Help-Seeking Intentions and Health Motivation

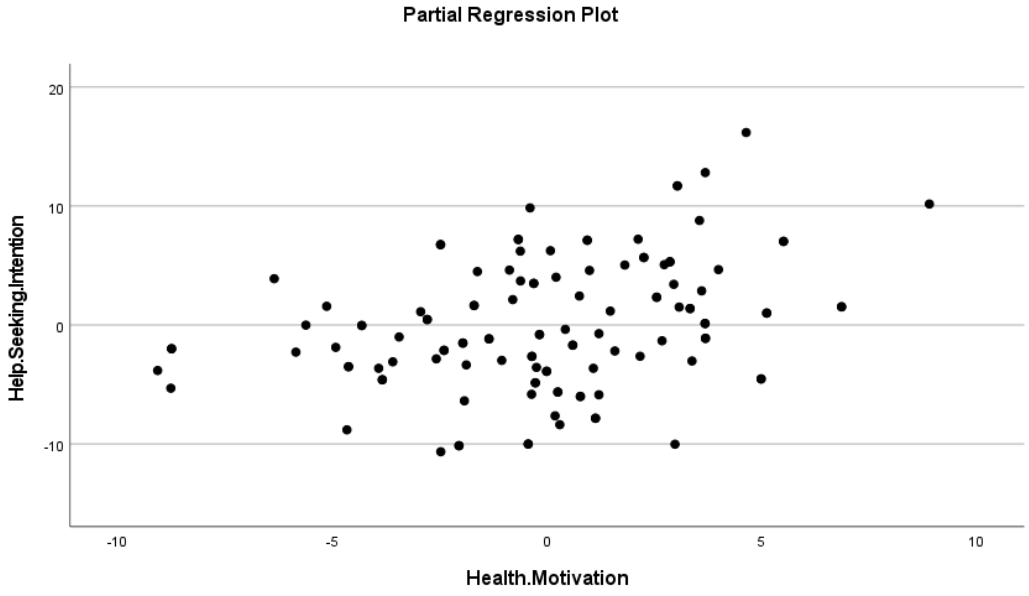


Figure 4

Partial Regression Plot Between Help-Seeking Intentions and Perceived Severity

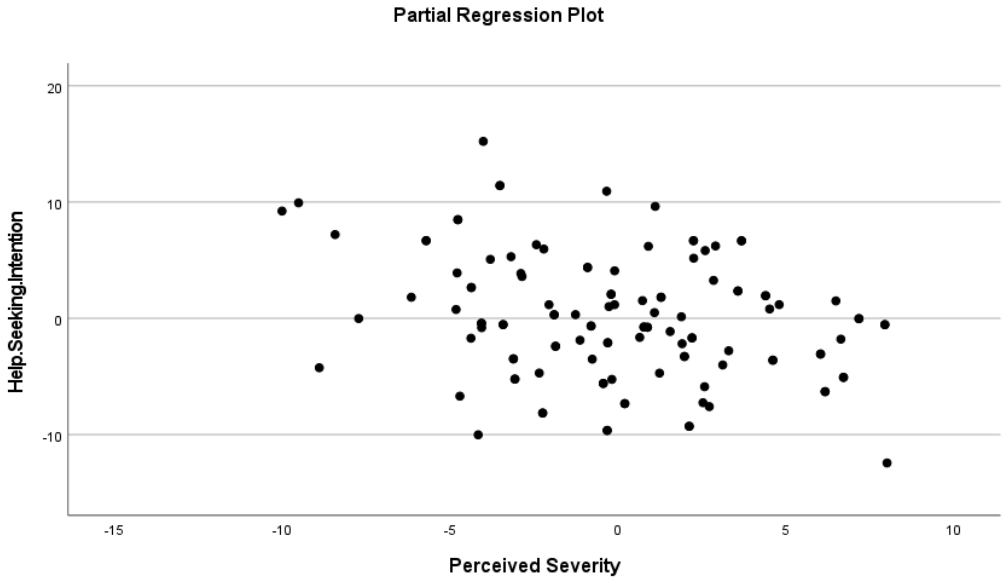


Figure 5

Partial Regression Plot Between Help-Seeking Intentions and Perceived Benefits

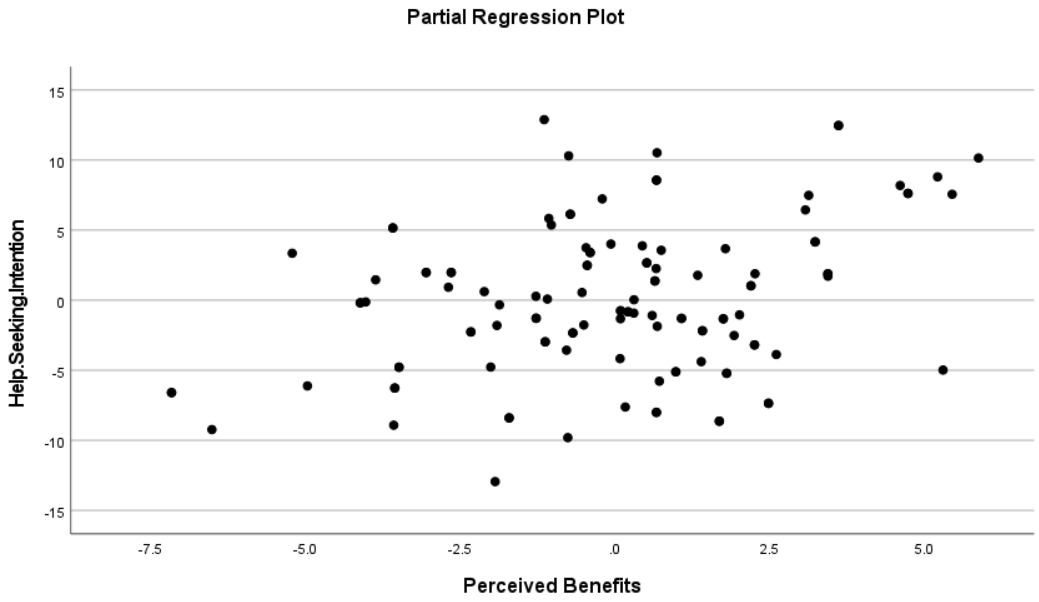
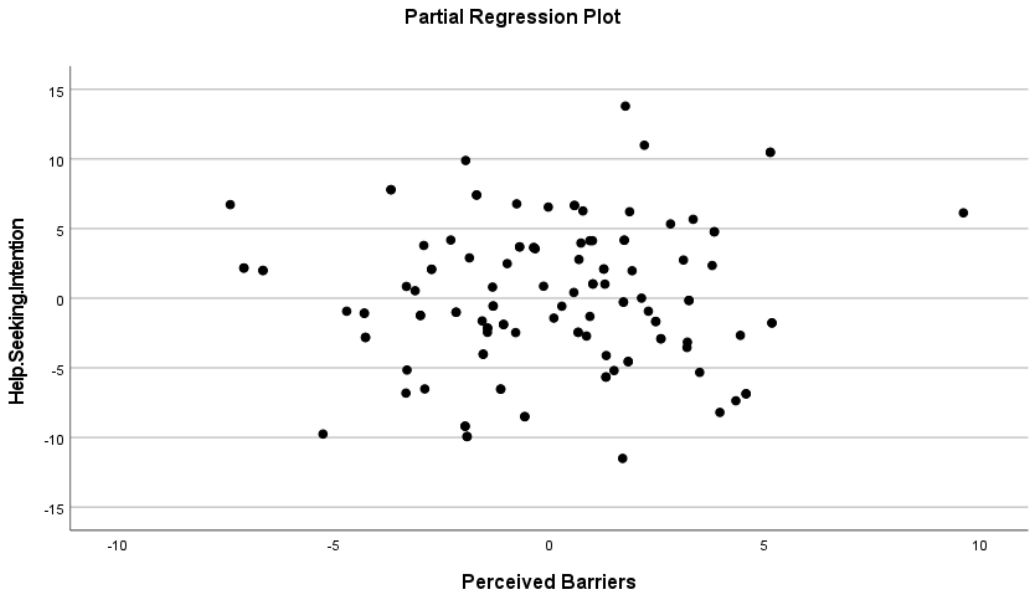


Figure 6

Partial Regression Plot Between Help-Seeking Intentions and Perceived Barriers



For Assumption 5, the data needs to show the homoscedasticity of residuals. Meaning there is no underlying relationship between the residuals and the fitted values, and it can be examined using a scatterplot of the residuals and the fitted values (Laerd Statistics, 2018). Figure 2 displays the scatterplot for homoscedasticity, showing that the points are randomly distributed with no apparent curvature, thus, there was homoscedasticity, and the assumption was met.

Assumption 6 states there should be no multicollinearity. The assumption implies that the independent variables are not highly correlated with one another and were assessed using the VIF displayed in Table 3. VIF values over 10 suggest the presence of multicollinearity (Laerd Statistics, 2018). Table 3 shows that all of the VIF values for the predictor variables are smaller than 10, so the assumption was met.

Table 3

VIF Values for the Predictor Variables

Variable	VIF
Health motivation	2.41
Perceived severity	2.44
Perceived benefits	1.95
Perceived barriers	3.29

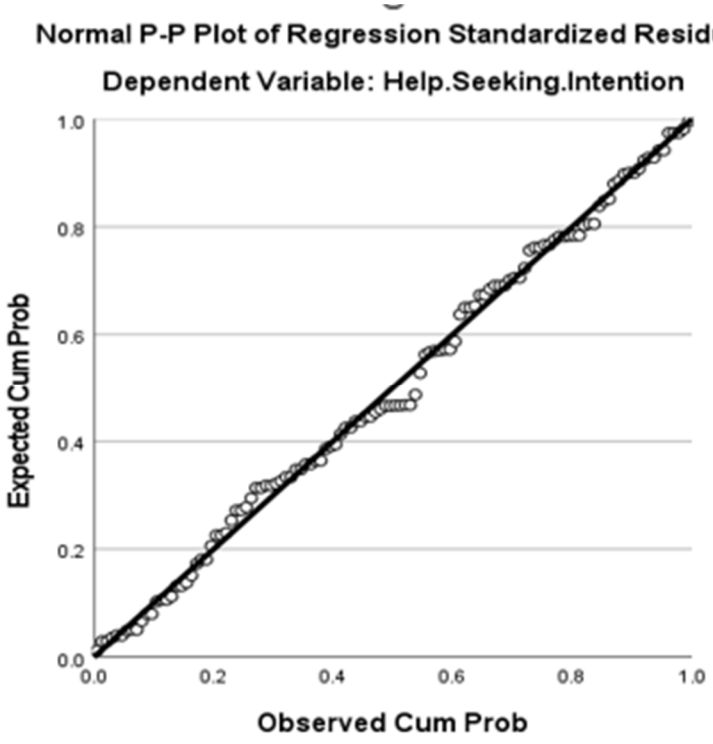
Assumption 7 states that there should not be any significant outliers. In addition to outliers, two other data points can be undesirable to the generalization of multiple regression, high leverage points and highly influential points (Laerd Statistics, 2018). Leverage points and influential points will also be discussed. The Casewise Diagnostic was used to determine if there were any outliers. An outlier was defined as any value

greater than ±3 (Laerd Statistics, 2018). No outliers were present in the data, as no Casewise Diagnostic table was produced, and the assumption was met. Next, leverage values were determined by selecting leverage value in the original multiple linear regression analysis. Leverage values less than 0.2 are considered safe (Laerd Statistics, 2018). The leverage values for the current data values ranged from a minimum of 0.002 to a maximum of 0.109, indicating there were no high leverage points. Finally, the original multiple linear regression analysis determined influential points by selecting Cook's Distance. Cook's Distance values above one are considered influential and should be investigated further (Laerd Statistics, 2018). The Cook's Distance values for the current data values ranged from a minimum of 0.000 to a maximum of 0.057, indicating no significant influential points.

Lastly, Assumption 8 states that the variables in the regression must follow a normal distribution. To check the assumption of normality, a P-P scatterplot was used. For the assumption of normality to be met, the values must not strongly deviate from a straight line (Laerd Statistics, 2018). Figure 7 displays the P-P scatterplot showing that the residuals are normally distributed, and the assumption was met.

Figure 7

P-P Scatterplot of Normality



Statistical Analysis

Multiple linear regression was used as the best statistical test to examine the research questions in this study. To determine whether multiple linear regression was a good fit for the data, we can examine the model summary in Table 2. Table 2 shows that R^2 for the overall model was .409 (40.9%) with an adjusted R^2 of .388 (38.8%), indicating a small-size effect according to Cohen's classifications (Laerd Statistics, 2018). This suggests that 40.9% of the variance in help-seeking intentions can be explained collectively by health motivation, perceived severity, perceived benefits, and perceived barriers. Further, the results of the multiple linear regression were significant,

$F(4, 115) = 19.86$, $p < .001$, indicating that the predictor variables, health motivation, perceived severity, perceived benefits, and perceived barriers combined significantly predicted help-seeking intentions, as shown in the ANOVA in Table 4. Next, each research question will be explored to examine the linear regression results, associated probability values, and confidence intervals.

Table 4

Analysis of Variance With Health Motivation, Perceived Severity, Perceived Benefits, and Perceived Barriers Predicting Help-Seeking Intentions

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
	Regression	2115.46	4	528.87	19.86	<.001[b]
	Residual	3062.90	115	26.63		
	Total	5178.37	119			

Research Question 1

RQ1: What was the relationship between the health motives and help-seeking intentions among female veterans who have experienced MST?

$H_0$1: There was no relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

H_a1: There was a relationship between the health motives and help-seeking intentions among female veterans who have experienced MST.

Multiple linear regression was run to predict help-seeking intentions from health motivation. The multiple linear regression model in Table 5 shows that health motivation significantly predicted help-seeking intentions, $B = 0.55$, $t(115) = 3.92$, $p < .001$. This indicates that as participants health motivation scores increased by one point, help-

seeking intentions increased by 0.55 units. Further, Table 5 shows $sr^2 = 0.22$, representing the amount of variance that health motivation had on help-seeking intentions. This suggests that 22% of the variance in help-seeking intentions can be explained individually by health motivation. In addition, Table 5 displays the 95% CI for health motivation showing the CI does not cross the number zero, indicating a statistically significant slope coefficient ($p < .05$), thus a statistically significant result. As the researcher I rejected the null hypothesis. Therefore, I accepted the alternative hypothesis that there was a relationship between health motives and help-seeking intentions among female veterans who have experienced MST.

Table 5

Results for Linear Regression With Health Motivation, Perceived Severity, Perceived Benefits, and Perceived Barriers Predicting Help-Seeking Intentions

						95% CI for *B*		
Variable	*B*	SE *B*	β	*t*	*Sig.*	*LL*	*UL*	sr^2
(Constant)	18.39	4.69		3.92	<.001	9.09	27.68	
Health Motivation	0.55	0.14	0.44	3.92	<.001	0.27	0.82	0.22*
Perceived Severity	-0.39	0.12	-0.37	-3.28	.001	-0.63	-0.16	-0.19*
Perceived Benefits	0.67	0.18	0.37	3.73	<.001	0.31	1.03	0.24**
Perceived Barriers	0.09	0.16	0.07	.55	.585	-0.23	0.99	0.03

Note. $N = 120$. *$p < .05$ **$p < .01$

Research Question 2

RQ2: What was the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$2: There was no relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a2: There was a relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

Multiple linear regression was run to predict help-seeking intentions from the perceived severity of emotional or nervous problems. The multiple linear regression model in Table 5 shows that perceived severity significantly predicted help-seeking intentions, B = -0.39, $t(115)$ = -3.28, p = .001. This indicates that as participants perceived severity scores increased by one point, help-seeking intentions decreased by 0.39 units. Further, Table 5 shows sr^2 = -0.19, representing the variance that perceived severity had on help-seeking intentions. This suggests that 19% of the variance in help-seeking intentions can be explained individually by perceived severity. In addition, Table 5 displays the 95% CI for perceived severity showing the CI does not cross the number zero, indicating a statistically significant slope coefficient (p <.05), thus a statistically significant result. As the researcher I rejected the null hypothesis. Therefore, I accepted the alternative hypothesis that there was a relationship between perception of severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST.

Research Question 3

RQ3: What was the relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$3: There was no relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a3: There was a relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

Multiple linear regression was run to predict help-seeking intentions from perceived benefits of getting help for emotional and nervous problems. The multiple linear regression model in Table 5 shows that perception of benefits significantly predicted help-seeking intentions, $B = 0.67$, $t(115) = 3.73$, $p < .001$. This indicates that as participants' perception of benefits scores increased by one point, help-seeking intentions increased by 0.67 units. Further, Table 5 shows $sr^2 = 0.24$, representing the variance that perceived benefits had on help-seeking intentions. This suggests that 24% of the variance in help-seeking intentions can be explained individually by perceived benefits. In addition, Table 5 displays the 95% CI for perceived benefits showing the CI does not cross the number zero, indicating a statistically significant slope coefficient ($p <.05$), thus, a statistically significant result. As the researcher I rejected the null hypothesis. Therefore, I accepted the alternative hypothesis that there was a relationship between

perception of benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

Research Question 4

RQ4: What was the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST?

$H_0$4: There was no relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

H_a4: There was a relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

Multiple linear regression was run to predict help-seeking intentions from perceived barriers to getting help for emotional and nervous problems. The multiple linear regression model in Table 5 shows that perception of barriers did not significantly predict help-seeking intentions, $B = 0.086$, $t(115) = 0.55$, $p = .585$. This indicates that perceived barriers did not significantly affect help-seeking intentions. As the researcher I failed to reject the null hypothesis. Consequently, I accepted the null hypothesis that there was no relationship between perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

Summary

In Chapter 4, I reviewed the research questions and presented the findings for the study's data analysis. The chapter began with the data collection procedures and provided the descriptive statistics for the ten covariate variables in the study. Descriptive statistics show that the sample may represent a larger population of female veterans in the United States. A total of 120 female veterans participated in taking the survey for this study. After all statistical assumptions were assessed and met, the research variables were examined collectively and individually. The results of the multiple linear regression were significant, finding that 40.9% of the variance in help-seeking intentions could be explained collectively by health motivation, perceived severity, perceived benefits, and perceived barriers. Next, each research question was analyzed individually.

The first research question found that the statistical analysis confirmed that health motivation significantly predicted help-seeking intentions. The results indicated that as participants health motivation scores increased by 1 point, help-seeking intentions increased by 0.55 units. As the researcher I accepted the alternative hypothesis that there was a relationship between health motives and help-seeking intentions among female veterans who have experienced MST. The second research question found that the statistical analysis confirmed that perceived severity significantly predicted help-seeking intentions. This indicated that as participants perceived severity scores increased by 1 point, help-seeking intentions decreased by 0.39 units. As the researcher I accepted the alternative hypothesis that there was a relationship between perception of severity of emotional or nervous problems and help-seeking intentions among female veterans who

have experienced MST. The third research question found that the statistical analysis confirmed that perception of benefits significantly predicted help-seeking intentions. This indicated that as participants' perceived benefits scores increased by 1 point, help-seeking intentions increased by 0.67 units. As the researcher I accepted the alternative hypothesis that there was a relationship between perception of benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST. The fourth research question found that the statistical analysis confirmed that perceived barriers did not significantly predict help-seeking intentions. This indicated that perceived barriers did not significantly affect help-seeking intentions. As the researcher I accepted the null hypothesis that there was no relationship between perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST.

In the final chapter of this dissertation, Chapter 5 will provide an interpretation of the findings, state the study's limitations, including generalizability, validity, and reliability, offer recommendations for further research, and describe the potential impact of positive social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Guided by the HBM, in this quantitative correlational study, I aimed to (a) examine the relationship between the health motives and help-seeking intentions, (b) examine the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions, (c) examine the relationship between the the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions, and (d) examine the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST. The purpose of the HBM is to inform practice. I sought additional support for using the HBM to predict behaviors among female veterans with MST and guiding outreach practices for health professionals.

The general problem was that help-seeking intentions needed to be explored further to help minimize associated risks for female veterans with MST experiences. When entering military service, there are common expectations and known risks anticipated. For example, mental traumas and injuries, emotional strain from family separation, and combat stressors are expected (Bell et al., 2018). Experiencing MST is not a projected outcome and can be confusing to comprehend. Because MST experience can be confounding, navigating beliefs toward treatment resources and seeking help can be challenging. Identifying health beliefs, recognizing barriers to seeking help, exploring the benefits of seeking help, and identifying perceptions about the severity of emotional and nervous problems are essential to investigate and understand.

According to a recent report released by the VA (2020a), the VHA currently serves 5.25 million veterans, of which 31.9% have screened positive for MST, and 30.2% are women. Lee (2021) stated that less than 50% of veterans utilize the VHA for medical and health concerns after active-duty service. Many veterans use non-VA health care resources and services, and since there are more than 19 million veterans in the United States from several generational war eras, and women represent about 10% of this population (VA, 2020b), it is increasingly important to find ways to target the veteran female population, particularly those with MST experiences.

The specific problem was that no previous literature examined multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences. Additionally, there was minimal literature examining the perceived benefits of getting help for emotional and nervous problems and the perceived severity of emotional or nervous problems in female veterans, which are essential components when considering the whole health approach to the complexity of MST and individual differences in seeking help.

In the current study, I conducted a multiple linear regression analysis to examine the help-seeking intentions and health motives, perceived severity of emotional or nervous problems, perceived benefits of getting help for emotional and nervous problems, and perceived barriers to getting help for emotional and nervous problems of female veterans with MST. The R^2 value of 0.41 associated with this regression model suggests that, collectively, health motivation, perceived severity, perceived benefits, and perceived barriers account for 41% of the variation in help-seeking intentions, which

means that 59% of the variation in help-seeking intention cannot be explained by these factors.

Research Question 1

Research Question 1 was: What was the relationship between the health motives and help-seeking intentions among female veterans who have experienced MST? The multiple linear regression analysis revealed a statistically significant association between help-seeking intention and health motivation ($p < 0.001$). The regression coefficient, $B = 0.55$, 95% CI [0.27, 0.82], associated with health motives suggests that as participants health motivation scores increased by 1 point, help-seeking intentions increased by 0.55 units. Furthermore, the result of $sr^2 = 0.22$ suggests that 22% of the variance in help-seeking intentions can be explained individually by health motivation. The confidence interval associated with the regression analysis does not contain 0, which means the null hypothesis, there was no relationship between the health motives and help-seeking intentions among female veterans who have experienced MST, was rejected.

Research Question 2

Research Question 2 was: What was the relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST? The multiple linear regression analysis revealed a statistically significant association between help-seeking intention and perceived severity of emotional or nervous problems ($p = 0.001$). The regression coefficient, $B = -0.39$, 95% C.I. [-0.63, -0.16], associated with the perceived severity of emotional or nervous problems suggests that as participants perceived severity of emotional or nervous

problems scores increased by 1 point, help-seeking intentions decreased by 0.39 units. Furthermore, the result of $sr^2 = 0.19$ suggests that 19% of the variance in help-seeking intentions can be explained individually by perceived severity. The confidence interval associated with the regression analysis does not contain 0, which means the null hypothesis, there was no relationship between the perceived severity of emotional or nervous problems and help-seeking intentions among female veterans who have experienced MST, was rejected.

Research Question 3

Research Question 3 was: What was the relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST? The multiple linear regression analysis revealed a statistically significant association between help-seeking intention and perceived benefits of getting help for emotional and nervous problems ($p < 0.001$). The regression coefficient, $B = 0.67$, 95% C.I. [0.31, 1.03], associated with perceived benefits of getting help for emotional and nervous problems suggests that as participants perceived benefits of getting help for emotional and nervous problems scores increased by 1 point, help-seeking intentions increased by 0.67 units. The confidence interval associated with the regression analysis does not contain 0, which means the null hypothesis, there was no relationship between the perceived benefits of getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST, was rejected.

Research Question 4

Research Question 4 was: What was the relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST? The multiple linear regression analysis revealed that perceived barriers to getting help for emotional and nervous problems did not significantly predict help-seeking intentions ($p = 0.585$). The regression coefficient, $B = 0..09$, 95% C.I. [-0.23, 0.99], associated with perceived barriers to getting help for emotional and nervous problems suggests that perceived barriers did not significantly affect help-seeking intentions. The confidence interval associated with the regression analysis does contain 0, which means the null hypothesis, there was no relationship between the perceived barriers to getting help for emotional and nervous problems and help-seeking intentions among female veterans who have experienced MST, failed to be rejected.

In the following sections, I continue to examine the research questions and results by interpreting the findings in the context of the theoretical framework, reviewing the generalizability of the study, discussing the real-world applications, and describing the impact on the potential for positive social change.

Interpretation of the Findings

The HBMI is an all-encompassing instrument that can measure constructs of the HBM concerning emotional and nervous problems (Saleeby, 2000). The HBM is an established model for identifying behavior correlations and informing health educators about intervention design and evaluation (Anderson, 2004). The HBM is a theory that

includes an individual's perception of behavior, which was critical in addressing the research questions in this study. In the HBM, it is suggested that a person will or will not engage in a health behavior based on their beliefs about a health issue (Anderson, 2004). When describing the relationship of the constructs of the HBMI collectively to predict help-seeking intentions, I found that a significant 41% of the variation in help-seeking intentions was associated with health motivation, perceived severity, perceived benefits, and perceived barriers. According to Langley et al. (2021), it is not uncommon to consider a model that explains 41% of variance acceptable; this suggests that using the HBMI to predict help-seeking intentions may be reliable. O'Connor et al. (2014) also stated that 40% variability is a strong effect size. However, it is important to note that not all health belief constructs were found to be significant when individually related to help-seeking intentions in the current study. In the following subsections, I interpret the significance of each HBM variable.

Health Motives

The multiple linear regression analysis indicated that health motives explained 22% of the variance in help-seeking intentions among the participants, which was the second most influential variable. Additionally, the regression coefficient revealed that health motives significantly contributed to help-seeking intentions, suggesting that individuals with higher levels of health motivation are more likely to seek help. These findings are consistent with those of previous research establishing the HBM as a reliable tool to predict help-seeking intentions, with the strongest predictors of help-seeking intentions being health motives and perceived benefits, followed by perceived barriers

and perceived severity (see Fortney et al., 2017; Graziano & Elbogen, 2017; Johnson & Possemato, 2021; Keeling et al., 2020; Langley et al., 2021). Additionally, Johnson and Possemato (2021) found that perceived severity (i.e., a mental health concern) and perceived benefits (i.e., the perceived need for treatment) had the strongest relationship with treatment utilization, indicating that health professionals should focus on these variables.

Perceived Severity

The multiple linear regression analysis showed that perceived severity explained 19% of the variance in the participants' help-seeking intentions, the least influential variable. Additionally, the regression coefficient revealed that perceived severity significantly contributed to help-seeking intentions, suggesting that individuals with higher levels of perceived severity are less likely to seek help. These findings are inconsistent with those of previous research. Lilly et al. (2020) found that higher perceived severity increased treatment-seeking behaviors. Keeling et al. (2020) examined a veteran population and also found that perceived severity symptoms were positively associated with help-seeking intentions.

Various emerging themes in the extant literature may be examined to help understand this difference, primarily surrounding differences between MST survivors and veterans with combat trauma only. Sexton et al. (2018) stated that MST survivors have higher negative cognitions about themselves and the environment, higher levels of self-blame, and a lower ability to cope with trauma than veterans with combat trauma only. Murray-Swank et al. (2018) also found that self-stigma toward treatment was a

significant predictor of help-seeking behaviors in a female veteran population in which 68% had MST experiences. In the study of 101 female veterans, 25% shared that, how others would view them, as a primary deterrent for help-seeking, which closely aligned with the following question in the current survey under perceived severity, "Having emotional or nervous problems would threaten my relationship with family and friends." According to Carroll et al. (2018), a military culture can create a self-sufficient attitude that drives service members to become self-reliant, urging a tendency to take personal responsibility without the help of others, which may help understand the current findings. Coupled with negative cognitions about the environment, MST survivors view victimization as a personal failure, leading to an even greater stigma toward seeking help (Carrol et al., 2018).

Perceived Benefits

The multiple linear regression analysis indicated that perceived benefits explained 24% of the variance in participants' help-seeking intentions, which was the most influential variable in help-seeking intentions. Additionally, the regression coefficient revealed that perceived benefits significantly contributed to help-seeking intentions, suggesting that individuals with higher perceived benefits are more likely to seek help. These findings are consistent with those of previous research. Langley et al. (2021) used the HBM to explore the relationship between perceived benefits and help-seeking practices in subjects with cognitive health issues and found that 49% of the variance in intention to seek help was associated with the components of the HBM. Similarly, Langley et al. (2018) found that 51% of the variance in seeking help was associated with

the components of the HBM. In both studies, perceived benefit was the strongest predictor of treatment-seeking behaviors. Furthermore, Johnson and Possemato (2021) found that mental health concerns (i.e., perceived susceptibility and severity) and perceived need (i.e., benefit) for treatment had the strongest relationship with treatment utilization, indicating that health professionals should focus on these variables. Opposing Langley et al. (2021) and Johnson and Possemato, Lilly et al. (2020) reported an unexpected association between perceived benefit and less help-seeking intentions, leaving the researchers to wonder why their results differed from many other studies and theorizing that treatment expectations and prior negative experiences from the military health system may have influenced the relationship. Contrary to the results by Lilly et al., the findings in the current study align with a majority of research, indicating that perceived benefit is the most significant HBM predictor of help-seeking intentions (see Graziano & Elbogen, 2017; Johnson & Possemato, 2021; Langley et al., 2018; Langley et al., 2021; O'Connor et al., 2014).

Perceived Barriers

The multiple linear regression analysis showed that perceived barriers did not significantly affect the variance of help-seeking intentions among participants. Additionally, the regression coefficient revealed that perceived barriers did not significantly affect help-seeking intentions, suggesting that help-seeking intentions may not be conditionally based on the perceived barriers to seeking help. Though previous studies support the idea of barriers as a primary determinant for help-seeking intentions and behaviors (see Fortney et al., 2017; Kelly, 2021; Murray-Swank et al., 2018), when

using the HBM as a guiding model to measure perceived barriers, findings have varied. One reason could be because of the various tools used to measure barriers. For example, Murray-Swank et al. (2018) identified barriers using the Perceived Stigma and Barriers to Seeking Mental Health Services Scale, while Johnson and Possemato (2021) used the Barriers to Help Seeking Scale-Modified and Kelly (2021) used qualitative measures. Similarly, previous studies grounded in the HBM have also used different measures, including the HBMI and predefined questions developed by the researchers.

Results have varied when using the HBM to measure barriers to seeking help. Contrary to the current study, O'Connor et al. (2014) used the HBMI to measure perceived barriers and found a significant relationship between higher levels of seeking help and low perceived barriers toward seeking help. Graziano and Elbogen (2017) also used the HBM to examine the relationship between perceived barriers and help-seeking among veterans, whereas perceived barriers were determined by the perceived need for treatment, using the statement: "It's up to me to work out my own problems." Graziano and Elbogen found that veterans with a higher perceived barrier (i.e., lower perceived need) related to lower help-seeking behaviors. However, veterans who reported needing help (i.e., lower perceived barriers) were more likely to use behavioral health treatment resources. Finally, Langley et al. (2018) and Langley et al. (2021) measured perceived barriers using a questionnaire developed by the researchers, finding that perceived barriers did not significantly contribute to help-seeking intentions.

In summary, collectively, the HMB constructs, measured by the HBMI, were reliable for predicting help-seeking intentions in female veterans with MST experiences

in the current study, indicating that the HBMI may be a helpful tool for measuring help-seeking intentions in female veterans with MST experiences. The specific problem was addressed because no previous literature had examined multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences.

As described in the general problem, because MST experience can be confounding, navigating beliefs toward treatment resources and seeking help can be challenging. Identifying health beliefs, recognizing barriers to seeking help, exploring the benefits of seeking help, and identifying perceptions about the severity of emotional and nervous problems are essential to investigate and understand. Additionally, there was minimal literature examining the perceived benefits of getting help for emotional and nervous problems and the perceived severity of emotional or nervous problems in female veterans, which are essential components when considering the whole health approach to the complexity of MST and individual differences in seeking help.

Further analysis of the individual constructs found that perceived benefits and health motives explained the largest variance in help-seeking intentions. Additionally, individuals with higher levels of health motivation are more likely to seek help, and individuals with higher perceived benefits are more likely to seek help. Though perceived severity was significant, contrary to previous research, the current study found that individuals with higher levels of perceived severity are less likely to seek help. Finally, the study revealed that perceived barriers did not significantly affect help-seeking intentions, suggesting that help-seeking intentions may not be contingent on the

perceived barriers to seeking help. Perceived barriers are the most controversial of the measured variables, as research conflicts with how to define and measure perceived barriers.

Limitations of the Study

To improve the generalizability of the study, an adequate sample size of 120 was obtained, exceeding the minimum of 85 participants needed to meet the power requirements for the study design. However, a larger sample size may improve generalizability even further. Additionally, as mentioned in chapter one, using a convenience sample may limit the generalizability to a larger population. However, descriptive statistics of the demographic variables show that the sample collected may represent a larger population of female veterans in the United States across several variables. Racial background, ethnicity, relationship status, employment status, education level, and branch of service were all found to be representative of female veterans in the United States. Geographically, when comparing by state, similar to findings by the VA (2022), the current sample population shows that the most significant number of women veterans are in Texas, Florida, California, and Virginia. Regionally, women veterans are represented as the majority of female veterans are from the Southeast region of the United States (35.1%), while 18.4% are from the West region, 16.8% are from the Midwest region, 15.0% are from the Northeast region, and 14.6% are from the Southwest region (VA, 2022). When comparing regional similarities to the current study, the West region is represented at a higher rate, the Southwest, Southeast, and Northeast regions are represented at a slightly lower rate, and the Midwest region is represented at a lower rate.

As described in Chapter 1, respondent bias was another potential variable that could influence the study outcome. Respondent bias occurs when a response from a participant is untruthful due to various circumstances that may influence their answer (Ketokivi, 2019). Various circumstances that can influence a respondent's answer include the setting of a survey, the participant's current attitude or mood at the time of taking the survey, participant motivation to complete the survey, the potential relationship between the researcher and participant, question bias, level of understanding of what a question is asking, and social desirability bias. Due to the nature of some questions, an environment can influence a participant's answer to a question. If participants are not alone or in a public setting, they may answer differently than alone in a private setting. Further, if participants are not feeling well or in a negative mindset, their answers may reflect a more negative outcome. Similarly, if a person is in a positive mindset, their answer may be more positive.

Further limitations discussed in Chapter 1 and relevant to this study include participant motivation, participant's understanding of the survey questions, and social desirability. Participant motivation references the likelihood that a participant is motivated to take a survey or participate in a research study (Ketokivi, 2019). Since the current study was a voluntary online survey of a convenience sample, the participants volunteering may not represent the population compared to participants who do not choose to volunteer. Furthermore, since the participant was taking the survey online and unassisted, answers may vary if a participant does not understand the question. Finally, social desirability could have influenced the responses of a participant. Though

respondent bias is considered lower in anonymous surveys (Ketokivi, 2019), not all biases can be controlled and should be considered when generalizing study results.

Recommendations

One recommendation that emerged from interpreting the results was the need to define which HBM construct perceived need represents. Throughout the literature, several studies used perceived need to measure perceived benefit, while others used perceived need to measure perceived barrier. Further, the need to define one instrument to measure individual or all of the HBM variables is needed. Primarily one measurement tool is needed to measure perceived barriers.

This study did not explore the relationship between health motives and help-seeking intentions in male veterans. It is essential to recognize that male veterans have MST experiences. Wilson (2018) estimated that 3.9% of military men experience MST at some point in their careers. In 2020 the VA stated that 1 in 50 men seen in the VHA has reported experiencing MST at some time in their military career (VA, 2020c). Further research should include male U.S. military veterans while exploring the relationship between health motives and help-seeking intentions.

Additionally, literature is lacking for the lesbian, gay, bisexual, and transgender populations. Some literature supports that this population may be at higher risk for MST (Sadeh et al., 2017). Unfortunately, given the “Don’t Ask, Don’t Tell” policies from 1994 to 2011 and bans, until recently, on transgender individuals serving in the military, data on this population are warranted.

The study aimed to examine health motives, perceived severity of emotional or nervous problems, perceived benefits of getting help for emotional and nervous problems, and perceived barriers to getting help for emotional and nervous problems among female veterans who have experienced MST, specifically, using a quantitative correlational design. The current research provides a preliminary step in looking at help-seeking intentions in female veterans with MST experiences. Further, research examining help-seeking intentions across other demographic categories may prove valuable. For example, examining differences between health motives and help-seeking intentions across disability ratings could be insightful. Additionally, the research could include examining help-seeking intentions over time to observe changes. Finally, exploring help-seeking intentions grounded in the HBM using a qualitative approach may complement the current research.

Implications

Overall, the results of the current study suggest that the HBM can assist health professionals in predicting help-seeking intentions, which can help outreach practices and guide resources for health professionals. Further interpretations of the findings from this study provide evidence for the guiding theoretical framework showing that health motives and perceived benefits are the most significant factors in determining help-seeking intentions in female veterans with MST experiences.

The HMB constructs, measured by the HBMI, collectively account for 41% of the variation in help-seeking intentions in female veterans with MST experiences. The study has shown that the HBMI is a valuable tool for predicting help-seeking intentions in

female veterans with MST experiences. Of the measured constructs, health motives and perceived benefits were found to significantly predict help-seeking intentions, showing that individuals with higher levels of health motivation and perceived benefits are more likely to seek help. The results also found that health motivation and perceived benefits were more important than perceived severity and perceived barriers, suggesting that health promotion efforts should focus on promoting health motives and the perceived benefits of getting help for emotional and nervous problems. Thus, interventions and public health campaigns that target health motives and perceived benefits may be more beneficial than focusing on perceived severity or perceived barriers.

According to Langley et al. (2018), health professionals must use targeted promotional strategies to increase the perceived need to seek help. Understanding help-seeking intentions are essential for identifying factors that can be modified to reduce the associated risks of MST for female veterans. This research filled a gap in knowledge by investigating help-seeking intentions and perceptions of emotional and nervous problems among female veterans with MST experiences. Results found that health motives and perceived benefits correlate with increased help-seeking intentions, which informs health professionals about which health constructs should be included in outreach efforts. Developing strategies to improve outcomes for female veterans with MST is crucial. Additional insights found that perceived barriers did not significantly predict help-seeking intentions, which has been a common focus for many health professionals. Therefore, it is suggested that health professionals focus less on barriers to seeking help in the context of the HMB and provide information to female veterans about the benefits

of seeking help for emotional or nervous problems, which may increase health treatment utilization.

Positive social change is the process of bringing attention to social determinants of health that will encourage behavior changes among various populations. As an advocate for social change, it is important to know how to design interventional programs tailored to specific target populations. The current research arose from the need to further understand an underrepresented population in the literature to gain insights into designing and implementing programs to improve healthy behaviors. This study aimed to bring positive social change to female veterans with MST experiences by further understanding their help-seeking intentions and informing best practices in health education.

Conclusion

To date, there is no literature examining multiple constructs of the HBM together as a foundational tool to identify perceptions of help-seeking intentions among female veterans with MST experiences. The study's results found that the HBM can assist health professionals in predicting help-seeking intentions, which can help outreach practices and guide resources for health professionals. Overall, 41% of the variance in help-seeking intentions was predicted by the HBM constructs, leading to the belief that the HBMI is a reliable tool for determining help-seeking intentions among female veterans with MST experiences. Analysis of the individual constructs found that perceived benefits and health motives explained the largest variance in help-seeking intentions, which informs health professionals about which health constructs should be included in outreach efforts.

Further, the study revealed that perceived barriers did not significantly affect help-seeking intentions, suggesting that help-seeking intentions may not be contingent on the perceived barriers to seeking help. Therefore, it is suggested that health professionals focus less on barriers to seeking help in the context of the HMB and provide information to female veterans about health motivation and the benefits of seeking help for emotional or nervous problems, which may increase health treatment utilization. The study's results help inform best practices in health education, including managing health resources and outreach to female veterans, positively impacting social change.

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Appendix A: Participant Eligibility Questionnaire

Participant Eligibility Questionnaire

1. Was your gender at birth female?	Yes
	No

2. Are you between the ages of 18-65 years?	Yes
	No

3. Are you a U.S. military veteran, not active-duty?	Yes
	No

1. When you were in the military, did you ever receive unwanted, threatening, or repeated sexual attention (for example, touching, cornering, pressure for sexual favors, inappropriate verbal remarks, etc.)? **OR** 2. When you were in the military, did you have sexual contact against your will or were unable to say no (for example, after being forced or threatened or to avoid other consequences)?	Yes
	No

Appendix B: Demographics Questionnaire

Demographics Questionnaire

1. What is your age?	18-20
	21-25
	26-30
	31-35
	36-40
	41-45
	46-50
	51-55
	56-60
	61-65

2. What is your racial background?	American Indian or Alaska Native
	Asian
	Black or African American
	Native Hawaiian or Other Pacific Islander
	White or Caucasian
	Multiple
	Other (Please specify)

3. Which ethnicity do you identify with?	Hispanic, Latino, or Spanish Origin
	Not Hispanic, Latino, or Spanish Origin
	Other

4. What is your relationship status?	Single, never married
	Committed Partner
	Cohabitating
	Married
	Divorced, once
	Divorced, multiple
	Widowed

5. What is your employment status?	Unemployed
	Employed part-time
	Employed full-time

	Underemployed
	Self-employed

6. What is your current education level completed?	No high school diploma/GED
	High school diploma/GED
	Some college, but no degree
	Certificate program
	Associate's
	Bachelor's
	Master's
	Doctoral or beyond

7. What is your current geographical location?	State (U.S.)
	Dropdown menu

8. How many years did you actively serve in the military?	Less than 1
	1-4
	5-8
	9-14
	15-19
	20+

9. What branch of the Armed Forces did you serve?	Army
	Marine Corps
	Navy
	Air Force
	Coast Guard
	Space Force
	Other

10. What is your current, if any, service-connected disability rating?	No rating
	0%
	10-30%
	40-70%
	80-100%
	Prefer not to answer

Appendix C: General Help-Seeking Questionnaire

GENERAL HELP-SEEKING QUESTIONNAIRE – Original Version (GHSQ)

Question 1 = Personal or emotional problems

Question 2 = Suicidal ideation

***Note*: In all questions, items a-j measure **help-seeking intentions**.**

Help sources should be modified to match the target population.

1. If you were having a personal or emotional problem, how likely is it that you would seek help from the following people?

Please indicate your response by putting a line through the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely

a. Intimate partner (e.g., girlfriend, boyfriend, husband, wife, significant other)	1	2	3	4	5	6	7
b. Friend (not related to you)	1	2	3	4	5	6	7
c. Parent	1	2	3	4	5	6	7
d. Other relative/family member	1	2	3	4	5	6	7
e. Mental health professional (e.g. psychologist, social worker, counsellor) or Other health professional (health educator, other health professional)	1	2	3	4	5	6	7
f. Phone helpline (e.g. Lifeline)	1	2	3	4	5	6	7
g. Doctor (Medical Doctor, general practitioner, or naturopathic doctor)	1	2	3	4	5	6	7
h. Minister or religious leader (e.g. Priest, Rabbi, Chaplain)	1	2	3	4	5	6	7
i. I would not seek help from anyone	1	2	3	4	5	6	7
j. I would seek help from another not listed above, such as a coworker, another veteran, or neighbor	1	2	3	4	5	6	7

Appendix D: Permission to Use HBMI Instrument

Hello Elizabeth,

[redacted] I have read your email about the use of the instrument I developed. Your dissertation topic sounds like a worthwhile endeavor and I believe that your findings will advance the body of knowledge on this subject.
Yes, you have my permission to use the HBMI instrument. I agree to all conditions stipulated in the email correspondence below. I would love to read your completed dissertation.
Good luck in your scholarly endeavors. Please let me know if I can be of further assistance.

Thank you,
Jackie Saleeby

Good afternoon,

I am a doctoral student at Walden University, completing a dissertation in Health Education and Behavioral Health. I am writing to ask for permission to use the Health Beliefs About Mental Illness instrument in my research study. My research focuses on help-seeking intentions in female veterans with military sexual trauma. My research is being supervised by my professor, Dr. Teresa Gibble.

I plan to use the following subscales: Health Motivation Scale, Emotional/Nervous Severity Scale, Emotional/Nervous Benefits Scale, and Emotional/Nervous Barriers Scale as published in the American Journal of Health Behavior in 2000. Article Title: Health beliefs about mental illness: An instrument development study.

In addition to using the instrument, I also ask your permission to reproduce it in my dissertation appendix. The dissertation will be published in the ProQuest Dissertations & Theses database.

I want to use and reproduce your instrument under the following conditions:

I will use the instrument only for my research study and will not sell or use it for any other purposes.
I will include a statement of attribution and copyright on all copies of the instrument. If you have a specific statement of attribution that you would like me to include, please provide it in your response.
At your request, I will send a copy of my completed research study to you upon completion of the study and/or provide a hyperlink to the final manuscript.
If you do not control the copyright for these materials, I would appreciate any information you can provide concerning the proper person or organization I should contact.

If these are acceptable terms and conditions, I would greatly appreciate it if you could reply to me through e-mail at elizabeth.pirone@waldenu.edu.

Graciously,

Elizabeth Pirone

Appendix E: Original HBMI Instrument

TABLE 6
Subscales of the Health Beliefs about Mental Illness Instrument

Health Motivation Scale
Factor 6

HB2	I feel it is important to carry out activities which improve my emotional health.
HB3	have regular health check-ups even when I am not sick.
HB4	I eat well balanced meals.
HB5	Maintaining good emotional health is extremely important to me.
HB6	I want to recognize emotional problems early.
HB8	I search for new information to improve my emotional health.

Emotional/Nervous Susceptibility Scale
Factor 2

HB7	It is extremely likely that I will have emotional or nervous problems in the future.
HB9	My chances of having emotional or nervous problems are great.
HB10	I am more likely than the average person to have emotional or nervous problems.
HB11	There is a good possibility that I will develop emotional or nervous problems in the next 10 years.
HB12	I feel I will develop emotional or nervous problems in the future.

Emotional/Nervous Severity Scale
Factor 3

HB13	Emotional or nervous problems would threaten my relationship with family or friends.
HB15	Thinking about emotional or nervous problems makes me nervous.
HB16	The thought of having emotional or nervous problems scares me.
HB17	If I had emotional or nervous problems, my whole life would change.
HB18	I am afraid to think about emotional or nervous problems.
HB20	If I developed emotional or nervous problems, I would not live as long as the average person.

Factor 7

HB 14	Difficulties I would experience with emotional or nervous problems would last a long time.

Emotional/Nervous Benefits Scale
Factor 5

HB19	Getting help for emotional or nervous problems would prevent major problems with family and friends.
HB23	Getting help for emotional or nervous problems would increase my ability to function at home and at work.
HB25	Getting help for emotional or nervous problems would make me feel better about myself.
HB27	A burden would be lifted off me if I were to get help for emotional or nervous problems.

Emotional/Nervous Barriers Scale
Factor 1

HB21	Getting help for emotional/nervous problems is embarrassing.
HB22	Getting help for emotional/nervous problems would cost too much money.
HB24	Getting help for emotional/nervous problems would take too much time.
HB26	Health professionals would not understand someone like me if I went to them for emotional or nervous problems.
HB29	People would think differently about me if I were to get help for emotional or nervous problems.

Table 6 (continued on next page)

Appendix F: Survey Exit Messages

Exit Message for Ineligible Participants:
Thank you for your time and interest to join in this research study. Unfortunately, you do not meet the inclusion criteria required to participate in this study. Thank you again for your willingness to contribute.

Exit Message for Eligible Participants:
Thank you for your time and interest in completing this research study. If you experience any adverse effects from participating in this study, please contact your health care provider, or contact the Veterans Crisis Line 24/7 at 1-800-273-8255 and Press 1 to speak to a trained support representative.