**Project Title:** A meta-analytic review of military sexual trauma

**IRB Required**
- [ ] Yes
- [x] No

**Date Submitted for review:** n/a

**Project Summary (50-75 words):**
Military sexual trauma (MST) is quite common, with estimates suggesting that 1 in 4 women and 1 in 100 men experience this type of trauma. However, these prevalence rates only represent Veterans who have sought VA health care and reported the incident to a provider. A meta-analytic review of all available empirical studies could provide more accurate or complete information about the true prevalence rate of MST. That is the purpose of the proposed study.

**Proposal Format:**
- Project Description
- Goals, Specific Objectives, and Project Significance
- Procedures and Methods
- Results
- Documentation
- Budget

**Funding Period:** 07/2016-06/2017

**FUNDING FOR:**
- [ ] Summer Stipend $4000
- [x] Expenses Only $4500
- Project Expenses $495 Max: $500
- Course Release
  - [x] Fall
  - [ ] Spring

**Other information to include in Proposal:**
- Simultaneous Application-Identify any internal/external grant support for project
- Previous Awards-List any previous grant/fellowships awarded during last 3 years. Include dates, amount received, nature of activity, and outcomes.
- Report-Specify contents of final report and date to be submitted.

**SIGNATURES:**

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<th>Applicant: Laura Wilson</th>
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<td>Department Chair:</td>
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*Updated 9/14/15*
A Meta-Analytic Review of Military Sexual Trauma

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I. Project Description

As defined by the Department of Defense, military sexual trauma (MST) is any incident of sexual harassment or sexual assault during the course of military service (Department of Defense Sexual Assault Prevention and Response, 2012). According to large-scale data collected by the Department of Veterans Affairs (VA), this type of trauma impacts 1 in 4 female service members and 1 in 100 male service members (Military Sexual Trauma Support Team, 2012). MST is of high concern within the Department of Defense and VA because survivors are at increased risk of long-term psychological, physical, social, and occupational difficulties (e.g., Goldzweig et al., 2006; Kimerling et al., 2010). In addition, military personnel are at greater risk of sexual victimization and subsequent difficulties when compared to the general population (Zinzow et al., 2007).

As articulated by Berliner (1992, p. 121), “numbers are central to developing a societal response to a social problem. Establishing the frequency of a problem has everything to do with how seriously it is taken.” Subsequently, our ability to detect and appropriately respond to MST hinges on our awareness of the prevalence of the phenomenon. The aforementioned prevalence rates are frequently cited during the discussion of MST, including in publications released by the VA. However, it should be noted that these rates only reflect Veterans who sought medical services through the VA, elected to disclose their victimization experiences to their providers, and were collected through responses to two questions. Therefore, it could be questioned whether these numbers are accurate.

Several literature reviews have been conducted examining the prevalence rates of MST (e.g., Allard et al., 2011; Goldzweig et al., 2006; Suris & Lind, 2008; Zinzow et al., 2007) and these reviews yield estimates ranging from 22% to 45%. These prior reviews suggest that the prevalence rate may vary by the population (e.g., active duty, Veterans), the measurement technique (e.g., in-person interview, mailed questionnaire), definition of MST, the purpose of the data collection (e.g., in the context of seeking psychological services), and other factors (Suris & Lind, 2008). Although these prior systematic reviews provide insight into the range of prevalence rates that have been observed in diverse populations of active and retired service members using a wide range of methodological approaches, these studies did not use meta-analysis to estimate an average prevalence rate. The purpose of the proposed project is to conduct the first known meta-analysis of the prevalence of MST.
There is growing concern about the frequency of MST and this has been identified as a high priority area of research by the Department of Defense and VA. The first step to addressing a problem is to adequately assess the frequency of the phenomenon. Although there is empirical data available from individual studies, including a large-scale investigation by the VA, each of these studies has flaws that impact the interpretation of the obtained data. To best understand the prevalence of MST, a meta-analysis is the gold standard methodology. A meta-analysis is a study of studies. Specifically, it is a technique that allows a researcher to statistically summarize an entire literature base by estimating a single value to answer a research question. Thus, in completing this project, I will make a significant contribution to the field.

Additionally, I have ongoing collaborations with several researchers within the VA, including individuals at the Durham VA and Central Texas VA. By invitation from these researchers, I have been involved in several projects and have co-authored several papers and presentations on the topic of MST. This is a fruitful collaboration that I intend to continue and I hope to be involved in their future projects examining the occurrence and consequences of MST. Therefore, this project directly relates to forthcoming projects I plan to pursue and will directly inform our research questions. As a young faculty member who has completed two years at the University of Mary Washington, I am continuing to work hard to expand my research interests, create a unique and productive line of research, and foster beneficial collaborations.

In addition, this project will inform my teaching and benefit my students. My students will have the opportunity to be involved in cutting-edge and well-informed studies related to MST because I will use the information gained from this project to develop my future research goals. For example, three of my students in my Psyc 491/492 Individual Research course co-authored a paper on MST last year. This paper was recently accepted in a peer-reviewed journal, Psychiatry Research. Additionally, these students had the opportunity to work with and meet my collaborators at the Durham VA and Central Texas VA, which was an invaluable experience and chance to network with leading researchers in the field. My involvement in projects, such as the one proposed here, establishes me as an expert on MST which leads to fruitful research collaborations that my students and the University of Mary Washington can benefit from.

Further, I plan to teach Psyc 411 Research Seminar in the future and continue to teach Psyc 491/492 Individual Research. The topic of these courses will most likely be sexual violence. Thus, this project will directly inform my teaching.

II. Goals, Specific Objectives, and Project Significance

Goals and Specific Objectives

To identify the appropriate search terms and databases to perform a thorough and systematic literature search. The first step of a meta-analysis is to identify the search terms to be used to search for and identify all appropriate studies on a particular topic. In addition, the researcher must decide which databases should be searched. The quality of the meta-analysis hinges on the researcher's ability to identify all studies that should be included in the analysis.
My goal is to select the search terms and databases that result in the identification of all potentially appropriate studies. (July 2016)

**To identify the appropriate inclusion criteria and definitions of key constructs.** When completing a meta-analysis it is essential that the researcher has clear guidelines on the requirements each study must satisfy in order to be included in the meta-analysis. My goal in this step is to identify inclusion criteria and definitions that will aid me in making thoughtful and empirically-based decisions about which articles to include in the meta-analysis. (August 2016)

**To identify all published and unpublished relevant studies.** My next goal is identify all published and unpublished studies that have examined the prevalence of MST. This goal will be achieved by completing the literature search using the previously identified search terms and databases. Further, I will contact relevant researchers in the field in an attempt to obtain unpublished studies. This step will be time-consuming because it involves communicating with researchers and working with the library to obtain manuscripts that are difficult to locate (September-October 2016)

**To review all identified relevant studies for potential inclusion in the analysis.** The single most time-consuming step of a meta-analysis is the review of the identified studies. This objective will be achieved once I have read every single study and evaluated it based on the inclusion criteria and definitions I previously created. I am estimating that I will review approximately 1,000 articles as part of the proposed project. (November 2016-March 2017)

**To extract the data and conduct the analysis.** The next step is to extract the prevalence rate of MST from the studies that meet the inclusion criteria and definitions. Then, the objective will be to complete the data entry and analysis. This goal will be achieved once I have obtained a mean estimate of the prevalence of MST (April 2017)

**To publish the results in a peer-reviewed journal and present the results at a conference.** My end goal is to disseminate the findings. Possible outlets include *Clinical Psychology Review, Journal of Traumatic Stress, Journal of Consulting and Clinical Psychology*, or *Psychological Trauma: Theory, Research, Practice, and Policy*. I am also planning to present the findings at a conference, such as the Association for Psychological Science. (May-June 2017)

**Project Significance**
No known meta-analysis has examined the prevalence of MST. Therefore, this proposed project has the potential to make a significant contribution to the literature and advance scholarship in the field by being the only known meta-analysis to examine the prevalence of MST across the literature base. This project would be of interest to a wide range of people and organizations, including the Department of Defense and VA. In addition to contributing to the field, the project
will also significantly contribute to the University of Mary Washington community in several ways. As previously mentioned, I am planning to teach several courses in the near future with an emphasis on sexual violence. This project will add depth to my course materials and provide a foundation for potential class topics or student projects. Furthermore, by conducting and disseminating such as a significant project, I am hoping to increase the visibility of the high quality work being conducted at the University of Mary Washington.

III. Procedures and Methods

The objectives and goals of the project will be achieved using a meta-analytic approach. A meta-analysis is a method used to identify all relevant studies in a literature base that have been conducted on a specific topic and combine them statistically. The end result is a number, called an effect size, which represents the research question across all included studies. In the proposed project, I will obtain a single number that represents the prevalence of MST across all of the studies. Single studies examining a topic are subject to criticism because the results may not apply beyond that single study. Conversely, because meta-analyses include a large number of studies, they are generally seen as a more robust research design and provide results that apply to a wider range of participants and situations.

The main steps of a meta-analysis include identifying the search terms and databases based on the researcher’s understanding of the literature, creating the guidelines and definitions of the types of studies to be included in the analysis, identifying all relevant published and unpublished articles that examine those variables, extracting the relevant data from the identified studies, conducting the analysis, and interpreting the results. The quality of a meta-analysis is based on making sure all relevant articles in the entire literature are identified, including both published and unpublished results. IRB is not required to conduct a meta-analysis.

Step 1: July 2016

The first step in the research process is to identify all the search terms and the databases that will be used to conduct a thorough literature search of the prevalence of MST. This will involve me examining relevant studies to assess the index and key terms that are commonly used in the literature. This phase will be complete once I have a list of search terms and databases that will allow me to identify all relevant studies that have been conducted.

Step 2: August 2016

The second step of the research process is to identify the guidelines and definitions that will be used to decide whether each study should be included in the meta-analysis. This step will involve me examining previous studies to consider the characteristics of previous studies and the potential impact on the analysis. This step will be complete once I have clearly defined definitions for my variables of interest and criteria to use to make the inclusion decisions.

Step 3: September through October 2016
The third step is to complete the literature search in the identified databases using the search terms that were created during a previous research phase. The key to a high quality meta-analysis is to obtain all of the relevant articles, including both published and unpublished findings. I will also contact relevant researchers in the field to request unpublished studies. This phase will involve me working with the library to obtain difficult to locate manuscripts. By the end of this phase, I must have a paper or electronic copy of all applicable published and unpublished studies, which will likely include approximately 1,000 articles. This process can be very lengthy because it involves submitting interlibrary loan requests and directly contacting researchers. This phase will be complete once I have all relevant published and unpublished studies in my possession.

**Step 4: November 2016 through March 2017**
The fourth step of the research process is to read all of the studies identified in the prior stage and evaluate whether each study should be included in the meta-analysis. This is the most time-consuming phase because it could involve reading approximately 1,000 articles. This phase is complete once all studies have been reviewed for inclusion and the final sample of studies is identified.

**Step 5: April 2017**
The fifth step of the research process focuses on the extraction of data from the identified articles, the analysis of the extracted data, and the interpretation of the results. At this stage it may be necessary to contact researchers directly to obtain additional information needed for the meta-analysis. This phase is complete once all analyses have been conducted to answer the research questions and the findings have been interpreted.

**Step 5: May through June 2017**
The last step of the research process is to disseminate the research to a wide audience. I will use this time to write a manuscript that will be submitted to a peer-reviewed journal. I will also submit a proposal to present the research at a conference. This phase will be complete once the study is under review for publication in a peer-reviewed journal and has been accepted for presentation at a conference.

**Faculty Member Credentials and Commitments**
I am an experienced sexual violence researcher and have published 13 peer-reviewed journal articles on the topic, including two publications on MST. I have also conducted three meta-analyses, all of which have been published in peer-reviewed journals. I have the necessary background knowledge and statistical skills to complete the proposed project. The only special materials that will be required for the proposed study is a statistical software called Comprehensive Meta-Analysis. A one year academic subscription to the software is $495. I am requesting that amount of money as a project expense in this application. During the grant
period, I will be teaching a normal course load in the fall and spring semester. All of my other research responsibilities will be completed by the beginning of this project.

IV. Results
Regardless of the specific finding from the proposed study, the results will be of interest to a wide range of individuals within the field of trauma psychology. The outcome from the project will be submissions for publication in a peer-reviewed journal and presentation at a conference. The goal is that this project will significantly contribute to the literature and inform future research studies I conduct at the University of Mary Washington.

V. Additional Information

References/Documentation

Budget
I am requesting $495 to purchase the necessary software, called Comprehensive Meta-Analysis (https://www.meta-analysis.com/). Most statistical software is not capable of completing these analyses. This software is capable of performing all the necessary analyses, including the advanced functions, such as moderator analyses and the creation of the required plots. My $500 of annual faculty development money will be used to renew my membership to the Association for Psychological Science ($216), which I have belonged to for 8 years. I also plan to join the International Society for Traumatic Stress Studies ($225) next year because it is the leading
organization within the field of trauma psychology. The remaining $59 has been earmarked to purchase a book that is needed for my future research projects, called *Multiple Regression: Testing and Interpreting Interactions* ($68).

**Grant Support**
This project is not currently under consideration for any internal or external grant support.

**Previous Awards**
I am an early career faculty member and have completed two years at the University of Mary Washington. As a young researcher, I have been working hard to establish several lines of research and greatly benefited from the support of two previous Faculty Development awards (listed below). I believe I took full advantage of the previous funding and am very proud of the outcomes of those projects, which included a book, a peer-reviewed journal publication and a conference presentation. My previous projects were on different topics, specifically first responders and mass shootings. The proposed project is on sexual violence among military personnel. I think a truly successful and impactful researcher should have multiple lines of research and that is what I am working towards. The proposed project would further my career as I work towards tenure and help me keep my momentum in terms of generating unique and significant research. Again, I truly appreciate the previous funding support I have received from UMW because it made it possible for me to generate several publications and present my research at an international conference.

(1) 07/2014-06/2015, Mental Health Outcomes in First Responders ($3,500): In this project I conducted a systematic review of all studies examining posttraumatic stress disorder in first responders following man-made mass violence. I presented the results at the Association for Psychological Science convention in May, 2015. The manuscript was accepted for publication in a peer-reviewed journal, Psychiatry Research, which has a 5-year impact factor of 2.947. It appeared in the September 2015 volume of the journal. I have submitted my final report to the Dean from this project.

(2) 07/2015-06/2016, The Wiley Handbook of the Psychology of Mass Shootings ($3,500): I was asked by Wiley to serve as the Editor for a groundbreaking reference book on mass shootings. This book consists of 21 chapters written by experts in the field. As editor, I prepared and submitted the book proposal, wrote the preface for the book and a chapter, commissioned contributors for the 21 chapters, reviewed each contribution several times, provided feedback to the contributors, guaranteed the work met the requirements stipulated by Wiley, and will submit the manuscript on time (by February, 2016). This book is the only known reference work within the fields of communication, criminal justice, criminology, psychiatry, psychology, and sociology dedicated to the topic of mass shootings. It is expected to be published in Fall, 2016. I have submitted my final report to the Dean from this project.
Report
I will submit a final report to the Office of the Dean by May, 2017. The final report will review the completion of each stage of the project, results of my project, the implications of the results, how the results of the project will inform my future research activities, and indicate how the results have or will be disseminated. I successfully submitted the final reports from my two previously funded Faculty Development awards.