

SUPPORTING STATEMENT – PART B

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Description of the Activity

This submission corresponds to the grant PT190082 funded by the Congressionally Directed Medical Research Program (CDMRP) and aligns with the Secretary of Defense's call for novel programs to prevent sexual assault within the military. Reducing sexual assault among service members is a significant national priority. There are few rigorous evaluations of sexual assault prevention programs for service members. The aim of this study is to assist in the adaptation of an existing web-based sexual assault prevention program for college men and women, +Change, for use among the Navy population. To achieve this aim, data will be collected in several ways (i.e., normative survey, focus groups, and interviews) and participants will participate in only one type of data collection. First, responses to a normative survey (N=500) will provide information about the behavior and attitudes of Sailors regarding alcohol use and sexual assault. The +Change prevention program was initially developed for college students and no such normative data exists to date for active duty Sailors within a comparable age group. The normative data gathered will be anonymous, and information gleaned from the normative survey will be used as content in the final version of the sexual assault prevention program prototype. The prevention program is based on Social Norms Theory (Perkins & Berkowitz, 1986), which shows service members how their responses to questions about alcohol use and sexual assault compare to that of the average Sailor in their age group (i.e., personalized normative feedback). Therefore, the normative survey is required to gather data on average responses from Sailors ages 18-24 to create this sexual assault prevention program prototype.

To reiterate, the purpose of this study is to adapt an existing sexual assault prevention program for civilian college students for use among the Navy population. Separate from the normative survey, focus groups (N = 60), and interviews (N = 27), will be conducted to obtain feedback about the content of the existing college student intervention, and ways to adapt it for Sailors. Interviewees and focus group respondents will be selected based on their drinking habits, which will be determined by a brief pre-interview/focus group survey. After interview/focus group completion, a post-interview/focus group survey will be given to obtain demographic and alcohol use information to be used as descriptive information, as well as data from standardized measures that assess respondents' opinions of the existing intervention. All surveys will be completed via a HIPAA-compliant software. Data from these surveys will be incorporated into the intervention content and help generate an adapted prototype of the sexual assault prevention program (+Change) for Sailors.

In the long-term, this research benefits the readiness of the force by producing an easily disseminated high-quality sexual assault prevention program that can be implemented

in multiple military settings and sustain evaluation in a larger clinical trial. This research can also have a secondary impact on reducing hazardous alcohol use among service members and can prevent the occurrence of alcohol use problems and associated negative health sequelae in service members. These long-term objectives are consistent with both DoD (including section 540D of the 2020 National Defense Authorization Act) and the national public health priorities.

The universe of potential participants for these surveys includes all active duty Sailors between the ages of 18 and 24. Normative survey data will be collected from a random sample of 500 Sailors. The random sample of Sailors (Sailors' email addresses) will be given to us by the Defense Manpower Data Center (DMDC). DMDC has conducted surveys of active duty service members since 1988, such as the Workplace and Gender Relations Surveys (WGRS) (2015 WGRS FAQs), and is the main entity tasked with providing representative data for DoD-supported research (DMDC, 2006; DMDC, 2008; DMDC, 2012; DMDC, 2013; DMDC, 2016). Because the DMDC data base includes contact information for all active duty service members, we anticipate no problems in ultimately recruiting a sample of 500 survey participants.

Participants will be enlisted, active duty male and female Sailors between the ages of 18-24. The age range is dictated by both the development of the +Change prevention program for college-age students and research documenting that rates of sexual assault among military service members are highest among men under the age of 25 and women under the age of 21 (Davis et al., 2017), and among the ranks of E1-E4 (Rock, 2013). The sample size was based on current standards of practice, and our prior development of normative feedback interventions for other populations. A sample of 500 is sufficient for presenting normative data in an intervention. Dr. Orchowksi's prior development of a normative feedback intervention for soldiers utilized a sample of approximately 300 individuals in the survey. Dr. Gilmore's prior development of normative feedback interventions have included 250 participants per risk group, with a total of 750 participants for 3 risk groups in the normative sample. Our personal correspondence with some of the leading developers of normative feedback interventions (which include individuals under which members of the research team were trained/mentored) suggest that a sample of 250 is generally sufficient for providing normative feedback in an intervention. Because our intervention will provide feedback to both men and women, a sample of 500 will allow for the inclusion of 250 men and 250 women in the sample.

Emails will be sent in groups of 1000 until the maximum number of 500 participants with complete normative survey data are reached. Each participant will receive a \$30 gift card code for their participation in the study. This incentive, as well as the anonymous nature of this survey are anticipated to increase the response rate. The average response rate across eight different editions of the WGRS is about 23% (DMDC, 2008; Rock et al., 2011; Rock, 2013; Namrow and Rock, 2013; Van Winkle et al., 2016; Davis et al., 2017; Davis et al., 2019; Breslin et al., 2020), and the WGRS does not offer compensation to respondents. Therefore, it is estimated that a) our survey

will have a higher response rate than the WGRS, and b) that our sample of 500 service members should be achieved by soliciting no more than 2,000-5,000 service members total.

A random selection of these DMDC-provided email addresses, as well as email addresses from interested Sailors responding to recruitment flyers, will be used to obtain participants for the individual interviews (N = 27), and small focus groups (5-7 participants per group), for a total of 60 focus group participants. Before and after each interview, participants will complete the pre- and post-interview surveys. Before and after each focus group, participants will complete the pre- and post- focus group surveys. The sample size for the interviews and focus groups are based on prior research indicating that 9-10 interviews are needed to reach saturation of qualitative themes. Our prior treatment development research has also found that such a sample size is sufficient for treatment development.

Power analysis is not required for this project since the primary purpose is to collect normative data to incorporate into the +Change program and to produce a final prototype of the program.

2. Procedures for the Collection of Information

a. Statistical methodologies for stratification and sample selection: We are stratifying the sample based on gender. Half of the service members invited to participate in the study will be male, and the other half of invitees will be female. The sample size was based on current standards of practice, and our prior development of normative feedback interventions for other populations. Study subsamples will include 500 normative survey participants, 27 interview participants, and 60 focus group participants and are sufficient for informing the intervention. Emails will be sent in groups of 1000 until the maximum number of participants with complete data are reached.

b. Estimation procedures: Survey, interview, or focus group results will not be adjusted or weighted. The aim of this study is to assist in the adaptation of an existing web-based sexual assault prevention program for college men and women for use among the Navy population. Normative data from the survey, and qualitative data from interviews and focus groups will be incorporated into the intervention content and will help generate an adapted prototype of the sexual assault prevention program (+Change).

c. Degree of accuracy needed for the Purpose discussed in the justification: The intention of the survey, interviews, and focus groups is to obtain normative and qualitative data about alcohol use and perceptions of sexual assault behaviors among Sailors ages 18-24. However, we recognize that representativeness cannot be ensured in a voluntary survey and that conclusions based on small samples of participants are less reliable than those based on larger samples.

- d. Unusual problems requiring specialized sampling procedures: N/A
- e. Use of periodic or cyclical data collections to reduce respondent burden: NA

3. Maximization of Response Rates, Non-response, and Reliability

The normative survey will be completed during off-duty hours, and participants will receive a \$30 gift card code for their survey completion. Interviews, focus groups, and associated surveys (pre- post-interview/focus group surveys) will also be completed during off-duty hours, and participants will receive a \$40 gift card code for their participation. Emails will be sent in groups of 1000 until the maximum number of participants with complete data are reached. No additional methods will be used to maximize response rates. To increase the accuracy and reliability of responses, study participants will be provided information about the study, including the risks and benefits of participation, confidentiality, and the voluntary nature of study participation. Participants are instructed to complete the surveys in as accurate and thorough manner as possible (although they may skip any question they do not wish to answer and may discontinue survey participation at any time). The fact that the surveillance is anonymous and voluntary is likely to increase the candidness of responses, although this cannot be assured.

4. Tests of Procedures

The surveys were piloted internally among NHRC staff, as well as among one active duty Sailor. Additionally, we consulted with Drs. Beverly Fortson and Andra Tharp of the DoD Sexual Assault Prevention and Response Office (SAPRO) to ensure that the survey items were consistent with the standards in the field and within the DoD, as well as appropriate to meet the project aims aligned with sponsor priorities. Responses to many of the questions included in the surveys were already collected as part of a similar study among Soldiers at Ft. Bragg, which was shown to be successful.

5. Statistical Consultation and Information Analysis

- a. Provide names and telephone number of individual(s) consulted on statistical aspects of the design.

These surveys are intended to primarily be descriptive and normative and fall within the statistical expertise of the project PIs and Co-PIs listed below.

- b. Provide name and organization of person(s) who will collect and analyze the collected information.

All people collecting and analyzing data are government employees or contractors working on behalf of the Naval Health Research Center, or Co-PI's, or survey staff

from one of the collaborating institutions, including Georgia State University, Rhode Island Hospital, and Arizona State University.

Kristen Walter, PhD (Co-PI; data analyst)

Lindsay Orchowski, PhD (Co-PI; data analyst)

Amanda Gilmore, PhD (Co-PI; data analyst)

Kelly Cue-Davis, PhD (Co-PI; data analyst)

Erin Miggantz, PhD (Study coordination; data collection)

Julia Hollingsworth, BA (Study coordination; data collection)