



# U.S. National Science Foundation Sexual Assault and Harassment Prevention and Response Program Office (NSF SAHPR) and the Office of Polar Programs (OPP)

REPORT BASED ON FINDINGS FROM THE  
NSF U.S. ANTARCTIC PROGRAM SEXUAL ASSAULT AND  
HARASSMENT CLIMATE SURVEY (NSF USAP SAHCS).



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# Acknowledgments

This report is the product of more than three years of work that first identified the need for a sexual assault and harassment climate survey with the U. S. Antarctic Program (USAP) community. The agreement for the USAP Sexual Assault and Climate Survey (SAHCS) is overseen by the Department of the Interior assisted acquisition. The primary contractor is Leading and Dynamic Services and Solutions (LDSS), with subcontractors including Alteristic, Inc.; Ladder Consulting LLC; Jessica E. Mindlin (JEM) Consulting; the National Center for Victims of Crime; and Soteria Solutions — the organization that conducted the SAHCS. Soteria Solutions thanks the entire team for their input during the development and execution of the SAHCS. We worked closely with the U.S. National Science Foundation Sexual Assault Harassment Prevention and Response (NSF SAHPR) office and the NSF Office of Polar Programs (NSF OPP) to implement the survey, and we are thankful for their assistance and guidance throughout the entire process. We are particularly grateful to deployers, including contractors, federal civilian personnel, principal investigators (PIs), students and nonstudent members of research teams, and military personnel of the USAP workforce who responded to the SAHCS. Their willingness to share honest and often difficult information is greatly appreciated and valued. Finally, we support the USAP deployers who were unable to share their experiences in the SAHCS. It is our hope that the data from this survey will be used to improve the workplace health related to sexual assault and sexual harassment within the USAP community.

## Disclaimer

*Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the U.S. National Science Foundation.*





# Definitions

**Bystander** - refers to a survey respondent who indicated an affirmative response to observing (saw with their own eyes) a USAP deployer committing a SA/SH behavior (bystander inventory includes 23 distinct behaviors, See Appendix B) to another USAP deployer, one or more times.

**CODEL** - Congressional Delegation

**Climate survey** - data collected to create an understanding of the incidence, prevalence, and impact of sexual assault and sexual harassment within the USAP deployer community.

**Deployer** - any USAP member working in Antarctica at a station, camp, or on a research vessel.

**Disclose** - Victims and bystanders often talk to friends, colleagues, advocates, family members, and others to seek support from those they trust. Disclosure often does not include the intent to formally report the incident.

**DV** - distinguished visitor

**Formal reporting** - disclosures of SA/SH to a formal entity such as Human Resources or Office of Inspector General.

**Grantees** - Principal investigators and co-principal investigators, faculty, students and postdoctoral researchers, and employees supported by a grant, cooperative agreement, or contract under federal law.

**Informal reporting** - information collected via surveys and other communications not constituting a formal report, such as victim advocates and support lines.

**On-ice** - a colloquial term used by the USAP community that refers to a deployer in Antarctica.

**Perpetrator** - refers to a USAP deployer who initiated/caused a SA/SH behavior (victimization inventory includes 23 distinct behaviors, bystander inventory includes 23 distinct behaviors, see Appendix B) toward another USAP deployer one or more times.

**Prevalence** - the number and proportion of a population/ specified community who has experienced SA/SH within a specific timeframe.

**Sexual Assault (SA)** - includes, but is not limited to, any intentional sexual contact, characterized by use of physical force, threats, intimidation, or abuse of authority or where consent is not given or cannot be given.

**Sexual Harassment (SH)** - includes, but is not limited to any unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature, that is made a condition of securing, maintaining, or otherwise affects employment, interferes with work performance, or creates an intimidating, hostile, or offensive working environment.

**Supervisor** - any USAP member who manages and/or oversees other USAP members in the workplace while on-ice.

**Survey Respondent** - any USAP member who completed the USAP SAHCS climate survey.

**USAP Member** - includes grantees (student, nonstudent, primary investigator, etc.), seasonal and non-seasonal contractors, federal employees and military personnel.

**Victim** - refers to any USAP member survey respondent who indicated an affirmative response to experiencing one or more SA/SH behavior(s) (victimization inventory includes 23 distinct behaviors, see Appendix B) by another USAP deployer.

**Victimization** - the process by which an individual or group of individuals experiences physical, sexual, psychological, economic, or emotional harm, injury or loss due to the actions of another, whether it is intentional or unintentional.

**VIP** - Very Important Person.



# Executive Summary

The NSF OPP enlisted subject matter experts (SME)<sup>1</sup> to develop and execute a SAHCS for the USAP. The goal of the USAP SAHCS was to establish, and ultimately expand upon, a baseline understanding of the incidence and prevalence of sexual misconduct within USAP programs. The survey measured prevalence and impact of sexual assault and sexual harassment (SA/SH) for both victims and bystanders (those who witness SA/SH), disclosures of SA/SH, understanding and utilization of SA/SH policies, and strengths and areas of concern related to the USAP workplace and supervisor behaviors.

The USAP SAHCS was administered between May 28 and July 28, 2024, to the 2022-2024 seasons' USAP deployers. Any USAP deployer, including grantees (principal investigators [PIs], co-principal investigators [co-PIs], faculty, student and postdoctoral researchers, and employees supported by a grant, cooperative agreement or contract under federal law<sup>2</sup>), contractors, federal employees and military personnel deployed during the 2022-2024 seasons were eligible to receive an email invitation to complete the SAHCS. The initial list of eligible USAP deployers numbered 3,169. The USAP deployers removed from the eligibility list were DVs, VIPs, and CODELs. A total of 2,760 USAP deployers met the 2022-2024 seasons' eligibility criteria (See Appendix C. Data Cleaning Procedure for further details). Six hundred and seventy-nine (n=679) deployers completed the survey, a 24.6% response rate, which is consistent with prior research on sexual harassment.<sup>3,4,5</sup>

Data indicates that 76.7% (n=521) of survey respondents completed the victimization inventory<sup>6</sup>. Of these respondents, 40.7% (n=212) reported that they experienced at least one SA/SH behavior. Of the 84.2% (n=572) of survey respondents who completed the bystander inventory<sup>7</sup>, 69.0% (n=393) witnessed at least one SA/SH incident. The most frequently occurring behaviors that victims and bystanders experienced were making sexual remarks, jokes or stories; paying unwanted attention; flirting or making overtly sexual compliments; and initiating unwanted and/or invasive touching of the body. Of the survey respondents who experienced a SA/SH incident one or more times, 20.2% officially reported the incident.

The data shows that 92.5% of survey respondents understand the definitions relating to SA/SH, 90.0% know about the policies relating to SA/SH and 84.8% know reporting options related to SA/SH, suggesting that the education provided thus far on this topic has been successful. Additionally, survey respondents indicate that they are motivated to support a victim of SA/SH or intervene as bystanders when they observe SA/SH. This data suggests that there is a positive foundation on-ice<sup>8</sup> for future prevention efforts.

The summary of key findings from the SAHCS data informs the corresponding recommendations. The recommendations cover three themes: policies and procedures, environmental, and prevention and training. These themes align with the four levels of the **Social Ecological Model**<sup>9,10</sup> (**SEM**), a public health theory-based framework for understanding the multifaceted and interactive effects of personal, environmental, and structural factors. The following bullet points detail the merging of the three themes of recommendations with the four levels of the socioecological model:

- *Policy and procedure* recommendations address **Level Four of the SEM: Societal/Organizational**. Interventions at this level include policies, practices and procedures that facilitate and support individuals' ability to engage in behaviors and hold attitudes that support safe and respectful living, learning and work environments.
- *Environmental* recommendations address **Level Three of the SEM: Community**. Interventions at this level are designed to impact characteristics of the settings (e.g., workplace, social venues, dining, etc.) in which social relationships occur.
- *Prevention and training* recommendations address **Level Two of the SEM: Relationship** and **Level One of the SEM: Individual**. Interventions at these two levels are designed to promote individuals' attitudes, beliefs, skills and behaviors to prevent sexual assault and harassment.

It is essential that interventions to reduce the prevalence of SA/SH occur at all four levels of the SEM<sup>11</sup>.

The full report provides a more extensive examination of the data, as well as context and support for the recommendations. Appendices provide a comprehensive overview of the SAHCS methodology and measures.



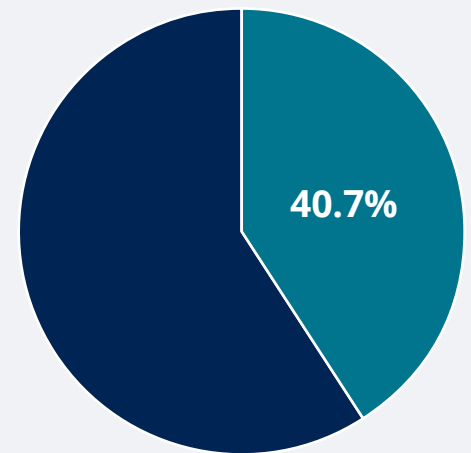
# Summary of Key Findings

Listed below is a summary of key findings from the SAHCS, which are grouped by Victimization; Bystander Incidents; Characteristics of Perpetration; and Workforce Perception, Satisfaction and Productivity. A more detailed examination of these findings is provided in the main body, Section 3, of this report.

## Victimization

- 40.7% (n=212) of survey respondents who completed the victimization inventory<sup>12</sup> reported being a victim of a SA/SH behavior one or more times.
- 40.0% of victims talked to someone<sup>13</sup> about the SA/SH incident that they experienced.
- 20.2% of those victims who talked with someone made an official report of the incident.
- 60.8% of victims reported being uncomfortable seeing the perpetrator.
- 53.5% of victims reported feeling nervous or scared about encountering the perpetrator.
- 29.1% of victims reported that the incident affected their work performance.
- 35.3% of supervisors reported being victims of SA/SH.
- 32.3% of supervisors officially reported their victimization, compared to 46.5% of non-supervisors, suggesting supervisors are less likely to report their own victimization.
- Based on total time having deployed as a USAP participant, the prevalence of SA/SH victimization among survey respondents was:
  - 47.6% of respondents who deployed for less than one year.
  - 33.5% of survey respondents who deployed 1-3 years.
  - 18.9% of survey respondents who deployed over 4 years.
- 52.0% of victims reported that their most recent SA/SH incident occurred during off-work hours/ social time.
- 40.8% of victims reported that their most recent SA/SH incident occurred in common areas where people socialize, which on-ice is restricted to a few specific environments where all groups can congregate.

**40.7%** experienced at least one SA/SH incident

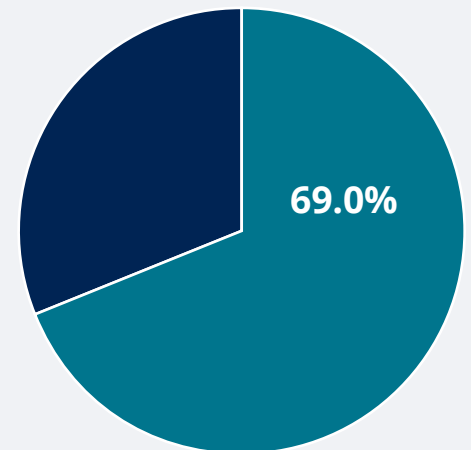


- 48.0% of victims reported that their most recent SA/SH incident was not an isolated incident, but one of multiple.
- 62.5% of victims reported their most recent SA/SH incident was a part of 2-5 separate incidents.
- The most frequently occurring behaviors that victims experienced include: making sexual remarks, jokes or stories; paying unwanted attention; flirting or making overtly sexual compliments; and initiating unwanted/invasive touching.

## Bystander Incidents

- 69.0% (n=393) of bystanders have observed a SA/SH incident one or more times.
- 47.7% of bystanders reported feeling nervous or scared about encountering the perpetrator.
- 39.2% of bystanders reported that observing the SA/SH incident(s) created stress in their workplace relationships.
- 24.0% of bystanders reported that the SA/SH incident(s) affected their work performance.
- Survey respondents who reported observing one or more SA/SH incidents reported lower rates of satisfaction working at USAP.
- The most frequently occurring behaviors that bystanders observed include: making sexual remarks, jokes or stories; paying unwanted attention; flirting or making overtly sexual compliments; and initiating unwanted/invasive touching.
- 35.0% of survey respondents have experienced being both a victim and a bystander.

**69.0%** of bystanders have observed a SA/SH incident one or more times



## Characteristics of Perpetration

- 17.6% of victimization and 15.1% of bystander incidents involved supervisors as perpetrators of SA/SH.
- 48.0% of SA/SH incidents were committed by contractors.
- 24.0% of victimization incidents involved alcohol.
- Data suggests that the availability and use of alcohol on-ice is not more indicative of victimization than any other factor.

## Workforce Perception, Satisfaction, and Productivity

- 92.5% of survey respondents understand the definitions relating to SA/SH.
- 90.0% knew about the policies relating to SA/SH.
- 84.8% knew reporting options related to SA/SH.
- Survey respondents indicated that they are motivated to support a victim of SA/SH behaviors or intervene as bystanders when they observe them.
- These data suggest that there is a positive foundation on-ice for future prevention efforts.

## Summary of Recommendations

The recommendations summarized in this section are informed by the SAHCS data. The desired outcomes of these recommendations are:

**Outcome One** - decrease the prevalence of SA/SH victimization and bystander incidents.

**Outcome Two** - increase both formal reporting (reporting to an authority such as Human Resources or the Office of Inspector General) and informal disclosures (disclosure to a confidential advocate, friend, family member, etc., and disclosure on a future SAHCS) of SA/SH behaviors by decreasing barriers to reporting and improving trust, and accountability.

**Outcome Three** - increase positive norms related to intervening as a bystander.

**Outcome Four** - decrease norms that support and encourage SA/SH behaviors.

**Outcome Five** - increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors

**Outcome Six** - increase supervisors' engagement in and initiation of SA/SH prevention efforts.

The following recommendations are grouped by the following three overarching themes: 1) policies and procedures, 2) environmental, and 3) prevention and training, as well as the four levels of the SEM.

## THEME ONE

### Policies and Procedures (Societal/Organizational Level of the SEM)

Set policies and procedures that are in line with survivor-centered best practices for addressing SA/SH in the workplace. Prevention strategies at this level should:

- Address policies and procedures.
- Facilitate and support deployers' interface with formal systems.
- Encourage attitudes of trust and respect in the unique work/living environment.

#### Recommendations for Theme One:

1. Create a process and repository for anonymous disclosure of sexual assault and sexual harassment for USAP participants.
2. Set benchmark standards for those in a position of authority or responsibility to potentially receive a formal disclosure of SA/SH, and/or are responsible for conducting inquiries (e.g., program officers, medical personnel, PIs and other applicable grantees) by:
  - a. Requiring USAP contractors in human resources (and applicable grantees), and other offices that manage and oversee employees behavior, to attend annual sexual violence training focused on best practices in trauma-informed, survivor-centered practices, as well as the impact of sexual assault, sexual harassment, and stalking on individuals and communities who experience these harms.<sup>14</sup>
  - b. Requiring USAP contractor professionals in human resources (and applicable grantees), and other offices that manage and oversee employee behavior, to provide copies of their investigative and determination processes, in addition to any corrective action guidelines and corresponding policies, to ensure they reflect best practices with respect to trauma-informed, survivor-centered practices.<sup>15</sup>
  - c. Monitoring/assessing compliance to these standards following each on-ice season, via an NSF-managed portal (e.g., confidential surveys for employees and grantees to evaluate their employers' and PIs' compliance in these areas - response, policies and procedures to disclosures of SA/SH).<sup>16</sup>
3. Review current USAP information technology (IT) policies and procedures and strengthen guidelines (for all USAP deployers) for ethical<sup>17</sup> use of email/texting/messaging,<sup>18</sup> with immediate corrective action for perpetrators.



## THEME TWO

### Environmental (Community Level of the SEM)

Implement strategies that strategically demonstrate and incorporate the role of deployers in the comprehensive prevention efforts as well as build trust in NSF's response to addressing SA/SH.

Prevention strategies at this level should:

- Address unhealthy attitudes and behaviors towards SA/SH.
- Impact physical settings where socializing occurs.
- Create visual/perceivable strategies to increase deployer trust in NSF.
- Be relevant and actionable for all deployers.
- Allow for flexibility to meet delivery needs (e.g., field camps, vessels, in-person, virtual).

#### Recommendations for Theme Two:

4. Establish transparency of NSF efforts and increase deployer trust in NSF's response to SA/SH through:
  - a. Formally sharing the SAHCS report and any additional survey findings with the USAP community.
  - b. Incorporating key performance indicators for USAP contractor supervisors that measure their active engagement in SA/SH prevention efforts (e.g., fostering a respectful workplace, record of responding to SA/SH incidents promptly) and identifying strategies to extend these expectations to PI/award personnel as a condition of receiving an NSF research award.
5. Create consistent and continuous monitoring of any physical location risk factor through:
  - a. Training individuals/monitors who are visually identifiable (e.g., wearing a specific color shirt, hat, etc.) as a source of help/support during problem situations within social spaces, as a resource to intervene when observing potentially harmful behaviors.
  - b. Installing passive video monitoring in all allowable public areas/spaces (e.g., social and communal gathering spaces, residence hallways, any other public meeting room, other spaces that are known as isolated areas that could serve as potential locations for SA/SH, and areas where repeated incidents have been reported on stations, ships, and field research sites, which are capable of supporting video monitoring).
6. Create and implement USAP media campaigns that address and correct permissive attitudes towards SA/SH while demonstrating positive intervention behaviors. Campaigns should specifically:
  - a. Illustrate victim support interventions and positive bystander interventions; correct permissive attitudes, such as "what happens on-ice stays on-ice," support deployers in feeling that they are part of the solution.
  - b. Highlight policies and procedures, including reporting, to leverage the deployer's desire to take positive action. To be most effective, a media campaign<sup>19</sup> should be implemented after visible measures are taken (i.e., only after policy and other structural issues noted here are resolved).



## THEME THREE

### Prevention and Training (Individual and Relationship Levels of the SEM)

Use the SAHCS data to further inform and develop a comprehensive prevention and response training strategy that enhances current efforts and as well as supports new training efforts that meet the dynamic/mixed population needs and desired outcomes. Prevention and response training strategies at this level should:

- Address specific topic areas and populations.
- Be relevant and actionable for all deployers.
- Be role specific (e.g., employees/grantees, supervisor/management/PI).
- Allow for flexibility to meet delivery needs (e.g., field camps, vessels, in-person, virtual).

#### Recommendations for Theme Three:

7. Use data to identify at-risk individuals and locations to tailor prevention strategies, such as deployers who are at high-risk for experiencing SA/SH victimization (e.g., newer and younger deployers); deployers who are at risk of supporting and/or perpetrating SA/SH behaviors (e.g., those in formal and informal supervisory positions and/or positions of authority over others, such as grantee PIs, team-leaders); and any physical risk factors (e.g., blind spots, social gathering spaces, isolated field or other work locations) to tailor prevention strategies.
8. Supplement existing bystander intervention training to include strategic resistance skills<sup>20</sup> that are role-specific for newer deployers and those new to supervisory roles. Strategic resistance strategies should align with other prevention and response efforts and be integrated into broader training to avoid placing the burden solely on individuals to protect themselves.
9. Create a supervisor/ management/leadership toolkit that includes incident-based guidance for handling disclosures, managing retaliation and supporting first-time deployers.
  - a. The toolkit should be leveraged to guide and enhance supervisor training to include how to discern and respond to less-recognized SA/SH behaviors; how to model intervention behaviors; how to address retaliation; and how to respond to disclosures in a victim-centered manner.

Positive impacts are dependent upon successful and effective implementation of the nine recommendations, a second execution of a SAHCS to glean comparison data for indicator metrics, and the continuation of the current prevention and response efforts. Each recommendation, corresponding outcome, and indicator metric are further outlined in Section 4 (Recommendations).



# Introduction

## Background

In April of 2020, the OPP contracted SMEs to examine the prevalence of sexual assault and sexual harassment in the USAP. The SME team conducted a needs assessment that concluded that sexual harassment, stalking, and sexual assault are ongoing problems in the USAP community. In addition to identifying corrective actions, many of which NSF is currently implementing and are outlined below, the needs assessment report<sup>21</sup> recommended that NSF “develop and execute ‘climate surveys’ to establish, and then expand upon, a baseline understanding of the incidence and prevalence of sexual misconduct within USAP programs.” Once baseline data are collected, regular disseminations of the climate survey will allow NSF to monitor progress, course correct efforts, and objectively demonstrate successes. Additionally, given NSF’s global stature in scientific advancement, its approach to preventing and addressing harm in field environments can help to shape norms across research disciplines.

## Purpose of Current Study

This report presents baseline data from the 2024 SAHCS for the USAP Community. Data include prevalence and impact of SA/SH for both victims and bystanders of SA/SH; informal disclosures and formal reporting of SA/SH; understanding and utilization of SA/SH policies; strengths and areas of concern related to the USAP workplace; and supervisor behaviors. The report provides an extensive examination of the SAHCS survey findings, as well as recommendations based on them.

Throughout the report, the words “deployer” and “USAP deployer or member” refer to the population of USAP community members that includes contractors; federal civilian personnel; PIs; students; nonstudent members of research teams (collectively referred to as “grantees”); and military personnel. “Victim” refers to a survey respondent who indicated an affirmative response to experiencing one or more SA/SH behaviors<sup>22</sup> by another USAP deployer; “bystander” refers to a survey respondent who indicated an affirmative response to observing (saw with their own eyes) a USAP deployer committing a SA/SH behavior<sup>23</sup> to another USAP deployer, one or more times; and “perpetrator” refers to a USAP deployer who initiated/caused a SA/SH behavior toward another USAP deployer one or more times.

# Overview of the (SAHCS)

The SMEs<sup>24</sup> who created the SAHCS used trauma-informed methodologies that are guided by best practices in conducting climate surveys in higher education, federal and non-federal workplaces, and as outlined by the National Academies of Sciences, Engineering, and Medicine.<sup>25,26</sup> These practices include using reliable, validated survey instruments that are implemented using research-based survey practices, as well as ensuring that the SAHCS is aligned with the unique experiences of the USAP deployers and specific elements of on-ice-culture that are particular to deployment.

The survey included the following twelve topics<sup>27</sup>: demographics; general experiences while deployed; workplace satisfaction; supervisor behavior; resources for SA/SH; willingness to take personal action about SA/SH; willingness to take community action about SA/SH; clear understanding of SA/SH policies; supervisor questions; community norms; bystander incidents and consequences; and victim incidents and consequences. Survey respondents were given the opportunity to share details about victimization and bystander incidents through an open text section.

Survey respondents had the opportunity to respond indirectly to questions by selecting “prefer not to answer” or to exit the survey at any point. The ability to select “prefer not to answer” for any item, skip certain items,<sup>28,29</sup> or exit a survey that asks about sexual harassment and other unwanted sexual experiences is a common format. This is a trauma-centered approach that allows any respondent who might have experienced some type of SA/SH to have agency when sharing sensitive information, and to help them cope, in a manner of their choosing, with potential uncomfortable emotions, PTSD responses and other unwanted responses that might be elicited by reading and answering SA/SH questions. If participants responded with “prefer not to answer” with high frequency on any one item it can also be an indicator of a low level of trust of survey respondents regarding anonymity.

Working with the NSF “Paperwork Reduction Act” (PRA) coordinator and the OPP team, the SMEs followed the steps outlined in the PRA for standard clearance for an information request (OMB 3145-0260). The survey was administered anonymously through the online survey platform Qualtrics (see “Appendix C. Data Collection” for survey administration details).

## Survey Respondents

Participants for the SAHCS were recruited via email. All USAP deployers, including grantees, contractors, federal employees, and military personnel, who were deployed between the 2022-2024 seasons were eligible to participate. An OPP communications specialist oversaw the SAHCS invitation logistics, and all communication with USAP deployers was distributed via GovDelivery, a fully hosted and exclusive government digital communications platform. Two thousand, seven hundred and sixty (2,760) USAP deployers met the eligibility criteria and were invited to complete the SAHCS between May 28 and July 28, 2024. Of the 2,760 USAP deployers invited, 679 (24.6% response rate) completed the survey (see Appendix C. Data Cleaning Procedures for further details). This response rate is consistent with prior research on sexual harassment (14%-30% response rates).<sup>30,31,32</sup>





The list of deployers that met the SAHCS deployment criteria for the survey were largely male (70.5%). Although survey respondents were more likely to be male (55.5%) than female (40.8%), these values are an overrepresentation of females, given that females made up 29.5% of invited deployers who met the SAHCS deployment criteria for the survey (see “Table 1A, Population vs. Sample Demographics by Sex” below). However, this overrepresentation is consistent with prior research suggesting that females are more likely to respond to online surveys in general, despite the topic.<sup>33,34,35</sup>

**Table 1A. Population vs. Sample Demographics by Sex**

Sex	Invited USAP Deployer* Sample n (Percent)	Survey Respondents** n (Percent)
Female	815 (29.5%)	277 (40.8%)
Male	1,945 (70.5%)	377 (55.5%)
Prefer not to answer	NA	25 (3.7%)
	<b>N=2,760</b>	<b>N=679</b>

**Table 2A. Population vs. Sample Demographics by Age**

Age	Invited USAP Deployer* Sample n (Percent)	Survey Respondents** n (Percent)
18-24	132 (4.8%)	30 (4.4%)
25-34	958 (34.7%)	192 (28.3%)
35-44	747 (27.1%)	198 (29.2%)
45-54	436 (15.8%)	128 (18.9%)
55-64	318 (11.5%)	91 (13.4%)
65+	124 (4.5%)	31 (4.6%)
Prefer not to answer	45 (1.6%)	9 (1.3%)
	<b>N=2,760</b>	<b>N=679</b>

\*Those USAP Deployers (deployed during 2022-2024 seasons) who were invited to take the SAHCS.

\*\*See Appendix C.3 Data Cleaning Procedures.

The most common positions held by survey respondents were seasonal contractors (47.9%); full-time contractors (16.1%); grantee/student researcher team members (10%); and grantee/nonstudent researcher team members (9.9%). The most common primary deployment location was NSF McMurdo Station (63%), with most people working for USAP for fewer than 12 months (52.7%). Roughly one-third (36.7%) of survey respondents reported that they currently hold a supervisory position (including federal staff, contracting staff, grantees and military personnel).

# Actions Taken by NSF

As noted above, the *2022 Needs Assessment Report*<sup>36</sup> identified corrective actions for NSF to address deficiencies in SA/SH training infrastructure; effectiveness and opportunities for engaging deployers in prevention; lack of trust in both NSF and contracting agencies' responses to SA/SH; lack of awareness by leadership that SA/SH are significant problems; and gaps in mechanisms for SA/SH reporting and response. The report also noted early indications of initial progress toward creating a healthy climate to address SA/SH within USAP, as indicated by USAP community members' motivation to engage in prevention efforts and NSF leadership's commitment to addressing SA/SH.

In response to the *Needs Assessment Report*, NSF initiated several corrective actions<sup>37</sup> to address the identified concerns. These include, but are not limited to:

- Establishing a Sexual Assault and Harassment Prevention and Response (NSF SAHPR) program office under the NSF Office of the Director.
- Hiring a Special Assistant to the Director for NSF SAHPR, as well as special assistant staff with plans to hire four additional staff members.
- Creation of an NSF SAHPR Task Force.
- Physical safety upgrades at stations, including installation of door viewers and enhanced key control procedures, as well as provision of more communication satellites for field teams.
- Creating the role of a confidential victim advocate who is on-ice during the summer, as well as a remote confidential advocate in the winter.
- Establishing a 24/7 crisis intervention helpline exclusively for USAP members who have experienced SA/SH.
- Launching an NSF SAHPR case management system.
- developing a reporting options flow chart for USAP with the Office of Inspector General (OIG).
- Routine coordination with NSF OIG and USAP contracting agencies.
- Hosting coordinated stakeholder safety calls and an incident review team.
- Institute a requirement for deployers to complete bystander intervention training prior to deployment.
- Requiring on-ice NSF SAHPR awareness training for all deployers.
- and developing an anti-retaliation resource for USAP.

All of NSF's actions are part of an *Action Plan for Antarctica*<sup>38</sup> and are consistent with best practices for implementing comprehensive sexual assault and harassment response and prevention. The findings from the SAHCS and the corresponding recommendations presented build upon NSF's actions to date and align closely with many of the proposed actions outlined in the initial *NSF SAHPR Implementation Plan Report*, reinforcing the foundational work laid by NSF. The findings from the SAHCS survey underscore the urgency and relevance of those earlier recommendations, providing additional data and context to affirm their necessity.





# Key Findings

Survey respondents had the opportunity to not answer questions by selecting “prefer not to answer” or exit the survey at any point. The ability to select “prefer not to answer” for items, skip items, or exit a survey asking about unwanted sexual experiences is a common format for this type of survey. This is a trauma-centered approach that allows any respondent who might have experienced some type of SA/SH to maintain agency when sharing sensitive information. As such, the SAHCS data presented in tables throughout this report reflect the number of survey respondents that completed the question, and not the total number of survey respondents that entered the survey. Data is presented in tables with the corresponding number (n)<sup>39</sup> and percent (%)<sup>40</sup> of survey respondents *who fall into response categories*. The symbol “-” is used when there are no (n=0) survey respondents who chose a response category. When statistical analysis is performed, significance and statistical values are presented or noted in the appropriate Appendix. Where appropriate, excerpts from qualitative responses are included to illustrate the quantitative data that are presented in the data tables. Appendices provide a comprehensive overview of the SAHCS methodology and measures (Appendix A. — Methods). Data presentation is outlined here to ensure the reader understands if a table n does not correspond to the total n of survey respondents.

## Victimization and Witnessing of Sexual Assault and Harassment

SA/SH has a negative impact on both victims and bystanders, in terms of personal health, workplace satisfaction, and workplace productivity. Over one-third (35.2%) of survey respondents report being both a victim and a bystander at one point or another.

### Victimization

Two-fifths (40.7%, n=212) of survey respondents who completed the victimization measure (n=532) indicated that they experienced at least one of the 23 behaviors in the victimization measure (See Appendix B. Victimization Measure).

The victimization and bystander incident measures were divided into four behavior groupings (both measures are compiled of 23 separate behavior items; see Appendix B for both complete measures):

**Group One** - sexual harassment and stalking (items 1-8).

**Group Two** - unwanted sexual attention (items 9-13).

**Group Three** - sexual coercion (items 14-18).

**Group Four** - sexual assault (items 19-23).

When reviewing victimization incidents, overall reporting, by group:<sup>41</sup>

- 35.3% of survey respondents experienced **sexual harassment and stalking**.
- 26.6% experienced **unwanted sexual attention**.
- 6.8% experienced **sexual coercion**.
- 2.5% experienced **sexual assault**.

The top three reported behaviors fall into the **sexual harassment and stalking and unwanted sexual attention groups** (See Table 1 in Appendix D. Data Tables, for total n):

- 26.7% — sexual remarks, jokes or stories that were insulting or offensive, or made you uneasy.
- 19.9% — unwanted attention, such as flirting or making overtly sexual compliments to you.
- 18.0% — unwanted touching, such as a hand on lower back, shoulder or back rubs, or other invasive touching of your body.

The top three reported behaviors within the **sexual coercion group** are (see Table 3 in Appendix D. Data Tables, for total n):

- 4.7% — unwanted touching, groping, or kissing when you didn't want to, or they initiated sexual activity despite your refusal or while you were still deciding or ignored your cues to stop or slow down.
- 3.0% — unwanted touching, groping, or kissing when you didn't want to because/or you were asleep, passed out, or incapacitated due to drugs or alcohol.
- 3.0% — unwanted touching, groping, or kissing when you didn't want to because/or they either threatened to end a friendship or romantic relationship if you didn't, and/or causing you to feel pressured by their constant arguments or begging.

The top three behaviors victims experienced in the **sexual assault group** are (see Table 4 in Appendix D. Data Tables, for total n):

- 1.9% — unwanted oral, vaginal, or anal penetration when you didn't want to because/or they initiated sexual activity despite your refusal or while you were still deciding and/or ignored your cues to stop or slow down.



- 1.5% — unwanted oral, vaginal, or anal penetration when you didn't want to because/or you were asleep, passed out, or incapacitated due to drugs or alcohol.
- 0.9% — unwanted oral, vaginal, or anal penetration when you didn't want to because/or they either threatened to end a friendship or romantic relationship if you didn't, and/or causing you to feel pressured by their constant arguments or begging.

Survey respondents were asked follow-up items about their last victimization incident, whether the incident was isolated or part of multiple SA/SH incidents, and if they disclosed or talked to someone about the incident. Forty-eight percent (48.0%) of those survey respondents who identified as victims reported that the incident was one of multiple SA/SH incidents, while 31.6% reported the incident was isolated (see Table 5 in Appendix D. Data Tables). Additionally, 40.0% of survey respondents who experienced victimization told someone about the incident, and 45.1% reported not disclosing,<sup>42</sup> i.e., they did not tell anyone about their victimization (see Table 6 in Appendix D. Data Tables).

The employment positions of those who experienced at least one SA/SH incident include 61.3% seasonal contractors, 19.4% grantee/member of a research team (this includes grantee student, grantee nonstudent, and grantee PI), and 17.9% full-time contractors.

In the majority of cases, 57.5% of victims reported not labeling the behavior as serious enough to disclose, despite the degree of impact of victimization. More than 60.8% of victims reported being uncomfortable about seeing the perpetrator, 53.5% reported feeling nervous or scared about encountering the perpetrator, and 33.5% of victims reported their victimization created stress in workplace relationships.

## Bystander Incidents

Survey respondents were asked about their experiences as a bystander (i.e., witnessed with their own eyes) and to respond to the same 23 behaviors in the victimization measure. The bystander measure items were worded to reflect the bystander's point of view and are collectively named the bystander measure (See Appendix B). The data demonstrates that a majority, 68.7% of survey respondents who completed the bystander measure (n=572) witnessed at least one SA/SH behavior.

As with the victimization measure, the bystander measure items (23 items describing distinct behaviors) were organized into four groups:

**Group One** - sexual harassment and stalking (items 1-8).

**Group Two** - unwanted sexual attention (items 9-13).

**Group Three** - sexual coercion (items 14-18).

**Group Four** - sexual assault (items 19-23).

When reviewing bystander-witnessed incidents, overall, by group:

- 63.4% of bystander survey respondents reported witnessing **sexual harassment and stalking**.
- 53.1% of bystander survey respondents reported witnessing **unwanted sexual attention**.
- 16.4% of bystander survey respondents reported witnessing **sexual coercion**.
- 4.8% of bystander survey respondents reported witnessing **sexual assault**.

The top three reported behaviors fall into the **sexual harassment** and **stalking and unwanted sexual attention groups** (See Table 8 in Appendix D. Data Tables, for total n):

- 49.0% — sexual remarks, jokes or stories that were insulting or offensive, or made you uneasy;
- 44.4% — unwanted attention, such as flirting or making overtly sexual compliments to you.
- 39.6% — unwanted touching, such as a hand on lower back, shoulder or back rubs, or other invasive touching of your body.

The top three reported behaviors within the **sexual coercion group** are (see Table 9 in Appendix D. Data Tables, for total n):

- 11.4% — unwanted touching, groping, or kissing, despite the other person's refusal or while they were still deciding or ignoring their cues to stop or slow down.
- 7.8% — unwanted touching, groping, or kissing while the other person was sleeping, passed out, or incapacitated due to drugs or alcohol.
- 7.3% — unwanted touching, groping, or kissing because of either threats to end a friendship or romantic relationship, and/or pressuring, constant arguments or begging.

The top three behaviors bystanders experienced in the **sexual assault group** are (see Table 10 in Appendix D. Data Tables, for total n):

- 3.2% — unwanted oral, vaginal, or anal penetration, despite the other person's refusal or while they were still deciding or ignoring their cues to stop or slow down.
- 3.2% — unwanted oral, vaginal, or anal penetration while the other person was sleeping, passed out, or incapacitated due to drugs or alcohol.
- 2.0% — unwanted oral, vaginal, or anal penetration because of threats to end a friendship or romantic relationship, and/or pressuring, constant arguments or begging.

Bystander survey respondents were asked if the SA/SH behaviors that they witnessed were part of one isolated incident or part of multiple SA/SH incidents that occurred at different times, as well as whether they disclosed or talked to someone about the incident they witnessed. Forty-four-point five percent (44.5%) of bystanders reported that the SA/SH behavior was part of multiple incidents, and 41.5% of bystanders reported that SA/SH behavior they witnessed was isolated to a single incident (see Table 11 in Appendix D. Data Tables).

With respect to disclosure, 64.5% of bystander survey respondents reported that they did not disclose the incident, tell anyone or seek support (see Table 12 in Appendix D. Data Tables).

Bystander behavior data suggests that SA/SH is a significant problem among USAP members on-ice. Overall, 60.3% of bystanders also reported being uncomfortable about seeing the perpetrator, 47.7% reported feeling nervous or scared about encountering the perpetrator, and 39.2 reported that stress was created in their workplace relationships.

## Implications of Victimization and Witnessing of Sexual Assault and Sexual Harassment

The most frequently reported SH behaviors by victims are consistent with the most frequently reported behaviors witnessed by bystanders (see Table 1 and 8 in Appendix D. Data Tables). Further, these behaviors often occur in public and work settings that are visible to others.

Both victim and bystander survey respondents also reported experiencing and witnessing incidents multiple times, most frequently within public spaces (see section Characteristics of Risk). This further suggests that the visibility and frequency of inappropriate behaviors in shared public spaces have become normalized<sup>43</sup> — as demonstrated by survey respondents signifying high recognition of problematic behaviors but labeling those behaviors as “not serious enough” to disclose or intervene. Normalization is characterized by the repetition of inappropriate behaviors, such as verbal harassment and objectification, and is well-documented in the SA/SH prevention literature as a contributing factor to a broader tolerance of sexual assault-level behaviors. These concepts of normalization and perception, and their collective impact on the USAP workforce, are further discussed in section Workforce Perception, Workplace Satisfaction and Productivity. Taken together, the data indicate that the majority of survey respondents reported witnessing SA/SH incidents with high frequency. Consequently, this might be an opportunity to encourage and engage bystanders to intervene and/or report to a confidential source to help monitor and quell inappropriate behaviors.

The victimization and bystander data suggest that SA/SH is a significant problem in the USAP community, indicating a need to further engage bystanders to recognize the impact of those behaviors occurring most frequently, and to intervene and/or to report them to a confidential source.

Data demonstrates that SH categories have a higher prevalence rate and are more visible to bystanders than SA categories; this does not, however, translate to less damage caused to the individuals experiencing SH or to the overall workplace environment. High rates of SH are foundational to a high-risk environment, and more so when combined with high rates of normalization (see Table 35. Perceptions of USAP Community’s Customs Related to SA/SH, in Appendix D. Data Tables).

Survey respondents were given the opportunity to share details about their victimization or bystander incidents through an open text section of the SAHCS. The following victim and bystander qualitative excerpts provide further context to the nature and impact of some SA/SH incidents.

*(Victim) "... I was alone in the gerbil gym during my midrat break and another contractor... (who I have been told has been reported several times over multiple seasons for being a creep, and still gets rehired) came in and made me feel scared while I was working out. He asked to watch me work out, asked me to come back to his room, etc."*

*(Victim) "I've experienced sexual harassment multiple times on ice causing me to avoid parts of [the] station when the person harassing me was there and to not go out and socialize during certain weekly events."*

*(Bystander) "Very well-liked leader in workplace, stalking young person in entry-level position, after a night where they made out (drinking was involved). But he got heavier into it than she was comfortable. (She told me this) I observed him, stalking her at work. She was clear she was not interested ..."*

*(Bystander) "Power dynamic (male fulltime contractor supervisor vs. female seasonal first-season grantee), plausibly deniable, but clearly lewd comments in an office setting regarding a research topic, veiled request to meet up during weekend hours."*

## Characteristics of Perpetration

Survey respondents who indicated that they were either victims, bystanders, or both, were asked about the relational position of the perpetrator of the SA/SH behavior. Positions were described in various ways to capture whether the perpetrator had a superior, parallel, or subordinate work position within their immediate work group in relation to the victim or bystander; an already-established intimate partner relationship; and/or if the perpetrator was classified as a contractor, research team member or military member. Position options were not mutually exclusive, since survey respondents were able to "check all that apply" when selecting the perpetrator's position.

The data suggests that the top three reported positions of perpetrators fall into the categories of contractor, supervisor (victim's supervisor and/or a supervisor but not the victim's supervisor), and personnel in the victim's immediate work group (see Table 13. Perpetration of SA/SH by Position in Appendix D. Data Tables).

Data shows that 17.6% of victims and 15.1% bystander incidents involve supervisors as perpetrators of SA/SH. When analyzing victimization and bystander perpetration data by supervisor and non-supervisor (collapsing all other position categories), and contractor and non-contractor (collapsing all other positions), the data show similarities as well as key differences in perpetration tactics for the time of day, frequency of SA/SH incidents, location, use of alcohol, and other specific tactics.

### Time of Day

Victims were asked a series of follow-up questions regarding their last victimization experience. Victim data suggests that supervisors who perpetrate are more likely to do so during work hours (see Table 14. Last Victim Experience: Time of Day for Supervisor Perpetration). For contractors who perpetrate, the data suggest they are more frequently reported to do so outside of work hours, as well as during social time (see Table 15. Last Victim Experience: Time of Day for Contractor Perpetration).



When looking at the same data from the bystander experience, the same dynamic is evident. Bystanders report that supervisors who perpetrate did so during work hours (35.8%) versus non-supervisors who perpetrate (19.1%), were less likely to do so during work hours. The same bystander data for contractors continues this theme. Bystander data for contractors who perpetrate indicate that they most-often perpetrated during social time (72.2%), whereas those that fall into the non-contractor perpetrator category were less likely to perpetrate during social time (55.2%).

## Isolated and Multiple SA/SH Incidents

For victim and bystander incidents, the data suggests that experiencing multiple different SA/SH incidents over time is more common than isolated one-time SA/SH incidents, regardless of the perpetrator's position (e.g., contractor or supervisor, etc.).

The victimization incidence tables also show a much higher response rate of "prefer not to answer"<sup>44</sup> than expected. Both data tables suggest that supervisors and contractors are more likely to perpetrate multiple SA/SH incidents. When factoring in "prefer not to answer," the higher response rate may contribute to the data suggesting that contractors who do perpetrate do so multiple times (see Table 16, Last Victim Experience: Isolated/Multiple SA/SH Incidents for Contractor vs. Non-Contractor Perpetrator). Again, high responses of "prefer not to answer" generally indicate a low level of trust among survey respondents.

As with victimization tables, bystander data also show a much higher response of "prefer not to answer" for the perpetrator -- not a supervisor and perpetrator -- not a contractor. When factoring in the higher response rate of "prefer not to answer," similarly to victimization data, the multiple frequency in the supervisor column would still suggest that supervisors who perpetrate are more likely to do so multiple times. For contractors, the higher "prefer not to answer" response rate may suggest that contractors who perpetrate do so multiple times. Unfortunately, we do not know why some survey participants choose this response for specific items. However, high PNA does indicate a low level of trust among survey respondents with respect to anonymity (see Table 17. Last Bystander Reported Experience: Isolated/Multiple SA/SH Incidents for Supervisor vs. Non-Supervisor Perpetrator and Table 18. Last Bystander Experience: Isolated/Multiple SA/SH Incidents for Contractor vs. Non-Contractor Perpetrator in Appendix D. Data Tables).

## Location

Data for the specific location of victimization and bystander SA/SH incidents suggest that supervisors and contractors who perpetrate are reported to do so in different locations from one another.

The victim data location for perpetrators who are supervisors suggests supervisors are more frequently reported to perpetrate in workspaces than non-supervisor perpetrators (see Table 19. Last Victim Experience: Specific Location for Perpetrator is a Supervisor and Table 20. Perpetrator is a Non-Supervisor in Appendix D. Data Tables). Contractors who are perpetrators are more frequently reported to perpetrate in common areas than perpetrators who are non-contractors (see Table 21. Last Victim Experience: Specific Location for Contractor vs. Non-Contractor Perpetrators).

Bystander experience data suggests the same dynamic regarding specific locations. Bystanders reported that supervisors who perpetrate are more likely to perpetrate in workspaces, while contractors who perpetrate are more likely to perpetrate in common areas (see Table 22. Last Bystander Experience: Specific Location of incident involving Supervisors vs. Non-Supervisors Perpetrators, and Table 23. Last Bystander Experience: Specific Location of incident involving Contractor vs. Non-Contractor Perpetrator in Appendix D. Data Tables).

## Alcohol Involvement

The victim data suggests that alcohol is involved in about one quarter (24.0%, n=60) of the cases. The bystander data is in agreement, finding that alcohol is involved in about one-quarter of cases (25.1%, n=101). The data also suggests, however, that the availability and use of alcohol, on-ice, is not any more indicative of victimization than any other factor.

## Specific Tactics

Only those survey respondents who indicated a victimization experience were asked about the specific tactics used by the perpetrator. The data showed that the top three tactics used by those who perpetrated are: catching a victim off guard, ignoring the victim's cues to stop or slow down, and the use of verbal pressure (Table 24. Perpetrator Tactics by Victim; see Appendix D. Data Tables).

# Characteristics of Risk

Data was analyzed by survey respondents' demographic categories to determine if there were survey respondents who were at greater risk of victimization and being a bystander to SA/SH behaviors. Demographic categories that were examined include age, education, socio-economic status (SES), and supervisor status. The analysis of these data is presented below.

## Demographics and Job Status

Survey respondents were asked for demographic information, including age; sex; education; income; job status; and total time as a USAP employee. Demographic data, when analyzed by victimization status and bystander status, suggest that age, education, SES, and supervisor status are predictive of victimization, whereas age, education, SES, and years worked at USAP are predictive of bystander experience.

To determine whether the predictive relationship was more or less likely, victimization and bystander descriptive statistics are presented and discussed below.

## Victimization Predictors

There is an inverse relationship between age and victimization. The data suggest that victimization is most frequent for those in the age group 25-34 and that victimization decreases as age increases, with a small peak for the 65+ community (see Table 25 in Appendix D). This is consistent with prior research, which suggests that older and younger age populations are at an increased risk of victimization.



The data suggest that females are more likely to report being a victim, with 27.2% of males and 57.3% of females reporting.

In terms of the level of a victim's education, the relationship is not as clear. Data show an increased risk of victimization with some higher education (i.e., associate's, bachelor's, and graduate level). The following points highlight the percentages of survey respondents who report that they have had one or more SA/SH victimization experiences:

- 42.9% of survey respondents who have completed high school.
- 35.6% of survey respondents who have completed trade school.
- 53.7% of survey respondents who have completed an associate's degree.
- 46.2% of survey respondents who have completed a bachelor's degree.
- 53.3% of survey respondents who have completed some graduate school.
- 37.5% of survey respondents who have completed a master's degree.
- 25.0% of survey respondents who have completed a doctoral program.

With respect to socioeconomic status, the data suggests that the risk of victimization starts to decrease as survey respondents cross the \$100,000/year+ threshold.

In terms of supervisory experience, the results indicate that 43.2% of non-supervisors are victims while 35.5% of supervisors are victims, suggesting that supervisors are less likely to be victims than non-supervisors.

## **Bystander Predictors**

With respect to age, the data indicate that survey respondents who are 44 years old or younger have an increased likelihood of being a bystander.

The data demonstrates that females report a higher frequency of being bystanders, with 62.5% of males and 76.4% of females reporting having experienced being a bystander.

In terms of education, as with the victimization predictors, the relationship is not clear. It might be that a higher level of terminal education correlates to increased awareness of bystander incidents and/or less comfortable tolerating SA/SH behaviors (see Table 28 in Appendix D).

The data indicate that with respect to socioeconomic status, generally, as income increases, the number of bystander incidents witnessed decreases (see Table 29 in Appendix D).

In terms of total time deployed as a USAP participant, 65.0% of bystanders have been deployed for fewer than 12 months; 76.1% have been deployed between 1-3 years; 75.0% have been deployed for 4-6 years; 64.5% have been deployed for 7-9 years; and 52.4% have been deployed for 10 or more years. The results suggest that the highest risk of being a bystander is between one and six years of deployment.

Survey respondents with victimization and bystander incidents were asked to respond to items about their last (most recent) experience. Those follow-up items regarded place and time of the experience, deployment season, general and specific location, and time of day when the incident occurred.

## Deployment Season

Victims and bystanders were asked to indicate the season and year, from the period between Summer 2021 through Winter 2024, in which their last SA/SH incident occurred. The three austral seasons are winter, summer, and winfly (a shoulder season between winter and summer). Both victim and bystander data suggest that summer has the highest frequency for victimization and bystander experiences. This was expected, as the austral summer is the time with most personnel either on-ice or waiting in key gathering locations<sup>45</sup> to deploy (see Table 30 in Appendix D).

## Location – General and Specific

Generally, perpetration location data for bystanders and victims indicate that McMurdo is the most common geographic location for SA/SH. That McMurdo is a ‘hot spot’ for perpetration is not surprising, given that this station has the highest population during all seasons. McMurdo is followed by South Pole, Palmer Station, and research vessels, respectively (see Table 31 in Appendix D).

Specifically, the data indicate that victim and bystander incidents are occurring most often in common areas, followed by the workplace and bar settings (see Table 32 in Appendix D). These specific areas can be referred to as high-risk, since most offenses occur in these locations.

## Time of Day

The data indicate that the majority of victim and bystander incidents are taking place after work hours in social spaces (see Table 33 in Appendix D). These spaces are visible to others and may contribute to these behaviors being overlooked due to the perception of a permissive environment.

## Implications of Risk Data

The data indicate that being a victim or bystander is, unfortunately, a common experience for survey respondents.

Based on total time deployed as a USAP participant, the prevalence of being a victim was 47.6% for survey respondents who had deployed for less than one year; 33.5% for survey respondents who had deployed between one and three years; and 18.9% for individuals who had deployed for over four years, indicating that negative SA/SH behaviors were frequently experienced during the time of the survey (i.e., during the past three years).

Victims and bystanders both report that SA/SH incidents occur more frequently outside of work hours, in public spaces where people socialize, which on-ice is restricted to a few specific environments where all deployers, regardless of job status, can congregate.

Several survey respondents commented about observing objectionable behavior in public spaces:

*(Victim) "There was a contractor that I met as part of a group...he started searching me out more frequently in person and through FB messenger ... Then he sent me a message that he was interested in me and at first, I tried to laugh it off since he was approximately 15-20 years my senior, but he continued to message me more and try to be in the same space I was. I told a friend about it, and he had done the same thing to her and had even sent her some explicit messages..."*

*(Bystander) "(Name of person) was almost always gross at the bar. It was clear he was preying on individuals who were intoxicated. I watched him on multiple occasions block in individuals, so they were unable to get up without having to ask him to move...[he] worked in [xxxx]. He would come up close to [females], say inappropriate things and would specifically prey on [females] who had been drinking. On multiple occasions I saw groups/friends of [females] observe him narrowing in on an intoxicated [female] and the friends/group would interrupt the conversation to check-in with her."*

*(Bystander) "There was a guy at the bar who kept trying to isolate at least two [female]s and was overly touchy in a situation where the other person was not reciprocating.... {one of the [females]} said this person had come up to her and done the same thing several times... A different day he was doing the same thing to a second person. I was with a group of people and mentioned that he was being creepy and overly touchy again..."*

## Workplace Customs

### Workforce Perception, Workplace Satisfaction and Productivity

To meet the requirement of the SAHCS data collection plan to "identify and study the perceptions and perspectives of USAP participants located in the Antarctic," and as best practice requires, SAHCS included questions measuring whether these "perceptions" are accurate and, in turn, to collect the necessary data to correct any identified misperceptions. As noted in the section Development and Testing of SAHCS, correcting misperceptions is a science-based, best practice strategy that will serve to meet the prevention goals for SAHCS (see Appendix C).

In Table 34 (see Data Tables, Appendix D.), results suggest that survey respondents who perceive SA/SH as normal are more likely to be both a victim and a bystander. More specifically, survey respondents who believed that SA/SH is normal reported a 47.3%<sup>46</sup> increase in being a victim, and a 21.1%<sup>47</sup> increase in being a bystander. This is consistent with prior research, which suggests that norms about sexual violence increase the risk of victimization, and whether it is labeled as victimization.<sup>48</sup>

Data from Table 35 in Appendix D (highlighted below) demonstrate the extent to which participants agree with sexualized behavior in the USAP workplace. Specifically, items listed include known elements that impact the sexualization of a particular workforce. Although attitudes are, for the most part,



positive, there are five concerning beliefs that may be associated with a permissive environment for SA/SH, including (*according to those who responded “agree” or “strongly agree”*):

- 43.2% agree that “sexual jokes and innuendos are a normal part of deployment.”
- 42.1% agree that “what happens on-ice stays on-ice.”
- 34.1% agree that “having an ice partner is a normal part of life on-ice.”
- 17.9% agree that “flirting and sexual comments are a way of life on-ice.”
- 9.6% agree that “if you want to date/hookup with a USAP community member, it’s ok to keep asking until they agree to a date or very definitively say no.”

Although these attitudes do not necessarily indicate propensity for SA/SH, they may serve as permission-giving for those who have this propensity.

Other respondent attitudes present similar causes for concern. For example, 36.6% percent of survey respondents said that “it is not the responsibility of USAP community members to intervene when they observe SA/SH,” and 61% replied that “SA/SH is common on-ice.”

Concurrently, positive attitudes exist regarding the addressment of SA/SH issues; supporting and believing someone who has been the victim of SA/SH behavior and making use of resources, with percentages ranging from 74% to 94% among participants agreeing or strongly agreeing.

Alongside an individual’s own attitudes and beliefs about SA/SH is the perception that this individual has of the attitudes of others on-ice. Research suggests that when an individual with a propensity to commit SA/SH perceives that their attitudes are shared, they are more likely to commit SA/SH. Thus, even when a small percentage of community members perceive a permissive attitude, this perception can enable SA/SH.

For example, approximately one-quarter (27.6%) of survey respondents stated that a majority of those deployed agree that flirting and sexual compliments are “the way of life within the community,” with this perception being the most prevalent among those who are both victims and bystanders (36.8%) (see Table 35 in Appendix 35 for a breakdown of these data). As noted above, even when this perception is held by a numerical minority of those deployed, extensive research has demonstrated that perceiving approval from one’s peers is one of the primary motivating factors for SA/SH perpetrators.

Problematic perceptions of the majority exist as well, including” agreeing that everyone is looking to hookup while deployed” (34%) and that “drinking a lot of alcohol is the only way to relax off-hours” (16.8%). These perceptions of the majority, even when held by a smaller segment of a workforce, create an environment where perpetrators feel that their behavior is justified and unproblematic. Overall, there are many personal attitudes held by individuals on-ice that, when combined with the perception of a permissive environment on the part of others, can serve as a permission-giving “green light” for an individual to commit SA/SH.

As noted above, the majority of deployers (including contractors, federal civilian personnel, PIs, students and nonstudent members of research teams, and military personnel) on-ice do not hold permissive attitudes about SA/SH, and are supportive of victims of SA/SH behavior. These attitudes extend to beliefs about contributing to SA/SH prevention activities, with percentages ranging from 50-83% who strongly agree with statements such as: being willing to be part of conversations to prevent SA/SH; displaying a symbol in support of SA/SH prevention; including prevention strategies in work-team meetings; and being part of building a plan to prevent SA/SH.

The data indicate that a large percentage of individuals on-ice understand the definitions and policies relating to SA/SH, suggesting that the education provided on this topic has been successful. Percentages ranged from 92.5% understanding definitions of SA/SH, to 90% knowing about SA/SH policies, and 84.8% knowing reporting options. Many survey respondents, however, noted barriers to using reporting systems, which might inhibit individuals from acting on this knowledge. This data includes many survey respondents believing that sanctions for individuals committing SA/SH are not severe enough (92.5%) and that sanctions are not enforced the same for everyone (60.7%), as well as expressing discomfort about reporting a SA/SH incident (17.3%).

## Workplace Satisfaction and Productivity

Overall, the data indicate that survey respondents are satisfied with their work, that they understand SA/SH definitions and policies, and that they are motivated to support a victim of SA/SH behaviors or intervene as bystanders when they observe them.

Upon further analysis examining the relationship between victims and bystanders to workplace satisfaction, the data indicate a negative relationship between the two. As such, victims and bystanders are more likely to be unhappy with the work environment than those who have not been a victim or bystander.

## Reporting

Survey respondents who reported victimization and/or bystander incidents were asked follow-up questions regarding any disclosure, such as whether they talked to someone (*not to officially report*) about the SA/SH behavior that they experienced. The following data references the most recent victimization and bystander experience of the respondents.

### Victimization

When asked if they talked to someone (*not to officially report*) about the SA/SH behavior that they experienced, less than half of the victims reported disclosing their experience (40.0%) to others (see Table 39 in Appendix D).

Those who did reach out to someone were asked who, specifically, they talked to about the SA/SH behavior they experienced. The results suggest the most common person they reached out to was a work colleague (69.1%), followed by nonwork community members (50.0%) (see Table 40 in Appendix D).

Those respondents who indicated that they did not talk to someone about the SA/SH behavior were asked to confirm why.

The results suggest the most common reason deployers didn't disclose their victimization experience was because they felt it was not serious enough (57.5%); didn't trust that the person would be sanctioned (46.7%); didn't think it would be taken seriously (36.7%); were afraid of being retaliated against socially (35.0%); indicated that, "it happens all the time and nobody reports it" (26.7%); and were afraid of retaliation by their employer (25.0%) (see Table 41 in Appendix D).

Victims were also asked if they or someone they spoke with officially reported the SA/SH behavior. The results suggest that most of the cases were not formally reported.

Victims who did not make a formal report were asked why they did not report the SA/SH behavior that they experienced. Qualitative data indicate that many victims perceive that there are few sanctions or consequences for engaging in SA/SH behavior. This perception is especially high among those individuals who are more equipped at recognizing SA/SH behaviors in the workplace.

## **Bystanders**

Bystanders who responded affirmatively to reporting the incident they witnessed were asked to whom, specifically, they reported the SA/SH behavior.

The results indicate bystanders most commonly report the incident to their Supervisor (49.4%) and Human Resources (45.5%). Confidential Victim Advocate comprised only 24.7% of the responses, while 19.5% of bystanders also checked "other."

Nearly 26% of bystanders indicate that the person they spoke with officially reported the SA/SH behavior they observed (see Table 45 in Appendix D). Eighty-eight point nine percent of these bystanders indicate that they wanted this person to report the behavior (see Table 46 in Appendix D). The results suggest that most people who disclosed their bystander experience wanted the case to be reported.

Over one-third of supervisors report being victims themselves (35.5%); however, data suggest supervisors are less likely to report (32.3% [n=28]) their own victimization than non-supervisors (46.5%).

## Implications of Workplace Data

While overall workplace satisfaction is high, further analysis indicates that workplace satisfaction is negatively impacted for victims, bystanders, and for those who are both a victim and bystander (see Table 36 Workplace Satisfaction). In other words, deployers (including contractors, federal civilian personnel, PIs, students and nonstudent members of research teams, and military personnel), who report being a victim, report being a bystander of SA/SH, or both, have very different experiences while deployed than survey respondents who have not experienced SA/SH victimization and/or been a bystander. Survey respondents who have had SA/SH experiences report reduced satisfaction with their workplace; less positive perceptions of how their supervisors have, and/or would, respond to incidents of SA/SH; and less positive perceptions of how other USAP community members would respond if they were victims or bystanders of SA/SH behavior. These negative impacts of SA/SH behaviors are experienced by a majority of USAP community members who are affected as victims, bystanders, or both. These data do suggest, however, that there is a positive foundation on-ice for future prevention efforts.

In summary, the data are mixed. A large percentage of deployers feel positive about efforts to address SA/SH on-ice and are willing to be part of the solution. At the same time, they are holding negative perceptions of the on-ice environment combined with observing negative behaviors, indicating that a significant percentage of individuals on-ice feel that behaviors which serve to normalize SA/SH incidents are widely held.



# Recommendations

The recommendations are based on analysis, including key findings listed above, of SAHCS. While some of the recommendations align with previous recommendations from the Needs Assessment, the recommendations listed below also raise new action items for NSF to consider. They are meant to provide a road map for how to affect meaningful change within USAP, and are grounded in best practices and evidence-based strategies for preventing SA/SH.

Anticipated outcomes associated with each recommendation are noted with specific metrics of corresponding decreases and increases in data that would be expected in future climate surveys, if the recommendations were to be fully and effectively implemented.

The desired outcomes of these recommendations are:

**Outcome One:** decrease the prevalence of SA/SH victimization and bystander incidents.

**Outcome Two:** increase both formal reporting (reporting to an authority such as Human Resources or the Office of Inspector General) and informal disclosures (disclosure to a confidential advocate, friend, family member, etc., and disclosure on a future SAHCS) of SA/SH behaviors by decreasing barriers to reporting and improving trust, and accountability.

**Outcome Three:** increase positive norms related to intervening as a bystander.

**Outcome Four:** decrease norms that support and encourage SA/SH behaviors.

**Outcome Five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors

**Outcome Six:** increase supervisors' engagement in and initiation of SA/SH prevention efforts.

It is expected that the successful and effective implementation of these recommendations will yield measurable change in the following SAHCS measures:

**Indicator/Metric one:** decrease in the prevalence of being a victim and bystander of SA/SH behavior.

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not reporting) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report due to fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).



**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that incidents of SA/SH happen all the time and nobody reports it.

**Indicator/Metric six:** increase in trust that NSF and USAP contracting agencies will sanction and give appropriate consequences to any USAP deployer (contractor, NSF federal employee, grantee, etc.) who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increase in trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.

The recommendations are divided into three themes: policies and procedures, environmental, and prevention and training. These align with the four levels of the Social Ecological Model<sup>49</sup> (SEM), a public health theory-based framework for understanding the multifaceted and interactive effects of personal, environmental and structural factors. The following bullets expand on each level of the SEM:

- Policy and procedure provisional recommendations address the Societal/Organizational Level of the SEM. Interventions at the Societal/Organizational Level include policies, practices, and procedures that facilitate and support individuals' abilities to engage in behaviors and hold attitudes that support safe and respectful living, learning and work environments.
- Environmental provisional recommendations address the Community Level of the SEM. Interventions at the Community Level are designed to impact characteristics of the settings (e.g., workplace, social venues, dining, etc.) in which social relationships occur.
- Prevention and training provisional recommendations address the Individual and Relationship Levels of the SEM. Interventions at the Individual Level are designed to promote individuals' attitudes, beliefs, skills, and behaviors to prevent sexual assault and harassment. Interventions at the Relationship Level focus on peers to reduce sexual assault and harassment, foster problem-solving skills, promote healthy relationships, and address factors related to the social circle, peers, and other allies who influence an individual's behavior and experience.

As humans, the messages that we receive and internalize at every level influence and shape not only our ideas but also our behaviors. The SEM also helps to identify opportunities for intervention and implementation of social, organizational reform by interrupting systems that support discrimination and repairing harm. Improving safety across the SEM first requires an acknowledgment of the social, organizational, and structural forms of harm that prevent all members of the community from experiencing harassment and assault-free living, learning and work environments. If supportive structures are created, NSF can better serve the USAP community members. It is essential that interventions to reduce the prevalence of SA/SH must occur at all levels of the social ecology.<sup>50</sup>

# Policies and Procedures (Societal/Organizational Level of the SEM)

## Recommendation One - Disclosure Repository

Create a process and repository for anonymous disclosure of sexual assault and sexual harassment.

The repository should have the capability to identify individuals who repeat SA/SH behaviors. This allows for documentation of disclosures that are not formal complaints, while also tracking consistent and persistent perpetration at the individual level. Individuals who report a perpetrator can be notified when another individual reports the same person. These types of systems demonstrate that more formal reports are made when multiple victims are identified. The anonymity of individuals sharing information via a repository is a critical component of encouraging its use as an effective tool.

### Specific Outcome(s) to be Addressed:

**Outcome two:** Increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

### Measures Tied to Above Outcome(s):

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not to officially report) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed etc.).

**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it;

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

## Recommendation Two – Benchmark Standards for Contracting Agencies

Set benchmark standards for Contracting Agencies by:

- Requiring those in conduct- or human resources-related fields to attend annual training specific to their field, addressing best practices in trauma-informed, survivor-centered practices, and understanding the impact of sexual assault, sexual harassment, and stalking on individuals and communities who experience these harms.<sup>51</sup>
- Requiring those in conduct or human resources positions to provide copies of their investigation, determination process, and corrective action policies that reflect best practices with respect to trauma-informed, survivor-centered practices, and demonstrate an understanding of the impact of sexual assault, sexual harassment, and stalking on the individuals and communities who experience these harms.<sup>52</sup>
- Further monitoring/assessing compliance with these standards following each on-ice season, via an NSF-managed portal (e.g., confidential surveys for employees to evaluate their employers' compliance in these areas - response, policies and procedures to disclosures of SA/SH.<sup>53</sup>

### Specific Outcomes to be Addressed:

**Outcome two:** increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome four:** decrease norms that support and encourage SA/SH behaviors.

### Measures Tied to Above Outcome(s):

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not to officially report) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).

**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happen all the time and nobody reports it.

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.



## Recommendation Three – Ethical Use of Messaging Systems

Establish guidelines for ethical use of email/texting/messaging with immediate corrective action for perpetrators (e.g., an employee may turn in inappropriate messages to an individual who has been designated to document and intervene with appropriate corrective action).

### Specific Outcomes to be Addressed:

**Outcome two:** increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behavior.

**Outcome six:** increase supervisors' engagement in and initiation of SA/SH prevention efforts.

### Measures Tied to Above Outcome(s):

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).

**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it.

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.

## Context and Justification for Recommendations One through Three

Data demonstrate that efforts by NSF to educate deployers regarding the problem of SA/SH, and the resources available to them, show some impact in terms of individuals having the correct information. Data also demonstrate that NSF programming efforts have not yet eliminated the deeper barriers and collective attitude of mistrust that keep deployers from accessing resources, or from intervening when witnessing SA/SH. In fact, the data illustrate there is a considerable distance to cover to significantly improve the current, ongoing and tenacious nature of SA/SH in the USAP workplace to that of a workplace that rejects SA/SH as normative.

Structural administrative changes are necessary to support a work environment that rejects SA/SH behavior. For example, “harassment is more likely to occur in workplaces with ‘high value’ employees ...” and “management may also be reluctant to challenge these employees’ behaviors.”<sup>54</sup> We see this dynamic within the USAP management structure — how to sanction a very qualified contractor who is “essential staff,” but who is also a perpetrator of SA/SH behavior, or how to effectively manage so many different contracting entities that each have their own policies, oversight, and procedures. This type of dynamic is foundational and an indicator of a work environment supportive of SA/SH behaviors.

Victims and bystanders are more likely to be unhappy with the system and with the work environment when they perceive it as unresponsive and lacking in sanctions. Bystanders also report witnessing high rates of stalking and harassment via messaging systems, such as email, pagers, as well as leaving notes in rooms and workspaces. Establishing policies and guidelines for ethical communication and ensuring swift actions are taken will provide key structural support to address these very preventable SA/SH behaviors. As the data exemplify, both victims and bystanders report lower workplace satisfaction and report fear or anxiety at potentially encountering the person who harmed them or committed the harm they observed, affecting their work performance. The high response rate of “prefer not to answer” is further suggestive and expressive of workforce distrust of management systems.



# Environmental (Community Level of the SEM)

## Recommendation Four – Establishing Transparency

Establish transparency of NSF efforts and increase deployer trust in NSF's response to SA/SH by:

- Sharing findings from SAHCS with the USAP workforce in order to: 1) establish transparency related to addressing SA/SH; 2) build trust with NSF's response to addressing these multi-faceted issues; and 3) demonstrate appreciation for deployers (including contractors, federal civilian personnel, PIs, students and nonstudent members of research teams, and military personnel) who participated in SAHCS.
- Incorporating key performance indicators for supervisors that measure their active engagement in SA/SH prevention efforts (e.g., fostering respectful environments, responding to SA/SH incidents promptly) and identifying strategies to extend these expectations to PI/award personnel as a condition of receiving an NSF research award.

### Specific Outcomes to be Addressed:

Outcome two: increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome four:** decrease norms that support and encourage SA/SH behaviors.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors.

**Outcome six:** increase supervisors' engagement in and initiation of SA/SH prevention efforts.

### Measures Tied to Above Outcome(s):

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not official reports) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).

**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it.

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.



## Recommendation Five – Monitoring of Physical Location Risk Factor

Create consistent and continuous monitoring of physical location risk factors by:

- Designating individuals/monitors trained to intervene who are visually identifiable (e.g., wearing a specific color shirt, hat, etc.) as a source of help/support during problem situations within social spaces (e.g., primary areas where deployers congregate off work hours). Monitors may file reports to USAP contractor organizations and NSF on problematic individuals and SA/SH behaviors.
- Implementing video monitoring in all allowable public areas/spaces (e.g., socializing and communal gathering spaces; residence hallways; any other public meeting rooms), and other spaces that are known to be isolated areas that might serve as potential locations for SA/SH on stations, ships and field research sites that are capable of supporting video monitoring. Review of footage can be completed as needed.

### Specific Outcomes to be Addressed:

**Outcome one:** decrease the prevalence of SA/SH victimization and bystander incidents.

**Outcome two:** increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome four:** decrease norms that support and encourage SA/SH behaviors.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors.

**Outcome six:** increase supervisors' engagement in and initiation of SA/SH prevention efforts.

### Measures Tied to Above Outcome(s):

**Indicator/Metric one:** decrease in the prevalence of being a victim and bystander of SA/SH behaviors.

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not official reports) of SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increases in bystander intervention behaviors.

## Recommendation Six – Media Campaigns

Create and implement USAP media campaigns that address and correct permissive attitudes towards SA/SH and demonstrate positive intervention behaviors. Campaigns should specifically:

- Illustrate victim support interventions and positive bystander interventions through social norms<sup>55</sup> campaigns; correct permissive attitudes, such as “what happens on-ice stays on-ice”; and support deployers in feeling that they are part of the solution (i.e., norming campaign).
- Highlight policies and procedures, including reporting, to leverage the deployer’s desire to take positive action. To be effective, a media campaign<sup>56</sup> should be implemented after visible measures are taken (i.e., only after policy and other structural issues noted here are resolved).

### Specific Outcomes to be Addressed:

**Outcome one:** decrease the prevalence of SA/SH victimization and bystander incidents.

**Outcome two:** increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome four:** decrease norms that support and encourage SA/SH behaviors.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors.

**Outcome six:** increase supervisor engagement in, and initiation of, SA/SH prevention efforts.

### Measures Tied to Above Outcome(s):

**Indicator/Metric one:** decrease in the prevalence of being a victim and bystander of SA/SH behaviors.

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not official reports) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).

**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it.

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.



## Context and Justification for Recommendations Four through Six

There are high-risk areas where most offenses occur — e.g., after-hours social spaces— prevention and intervention efforts should be directed at targeting these areas.

Most perpetrators are contractors and/or supervisors, and preventative interventions need to be designed with this in mind.

Survey data related to social norms suggest two things: that there is a perception of a permissive environment, and that most deployers (including contractors, federal civilian personnel, PIs, students and nonstudent members of research teams, and military personnel) perceive others as noticing problematic behavior and wanting to intervene. This provides a foundation for prevention work.

In addition, bystanders and victims are more likely to be dissatisfied with supervisors. For example, data suggests that if an individual is aware of the problem and their supervisor is not, these specific individuals find it demoralizing.

People who are more aware of the problems (victims and bystanders) are more demoralized, more impacted, and less happy with supervisors, even if they are also more concerned and willing to take positive action and more willing to see others as wanting to help. The same dynamic presents itself for supervisors who have heightened awareness. The dilemma lies in initiating efforts to acknowledge and correct the problem. The efforts might make people feel worse (e.g., “it’s worse than I thought,” or “it really is bad after all?”), making prevention efforts challenging. There are two ways to address this: First, leadership needs to make a discernible effort to address the overall reporting and sanctioning issues. Second, provided these major structural concerns are addressed and corrected, then, and only then, will the leveraging of social norms data (social norming campaign) and positive data about people caring and their willingness to intervene (public media campaign) act as a catalyst for positive workforce shifts. In brief, a strong positive foundation for prevention exists at NSF, provided that the systemic structural complications related to SA/SH are managed.

# Prevention and Training (Individual and Relationship Levels of the SEM)

## Recommendation Seven – Identification of ‘High-Risk’

Use data to identify at risk individuals and locations such as: deployers who are at high-risk for experiencing SA/SH victimization (e.g., newer deployers with one to three years of experience and/or younger deployers), deployers who are at risk for supporting and/or perpetrating SA/SH behaviors (e.g., those in formal and informal supervisory positions and/or positions of authority over others, such as grantee PIs, team-leaders, etc.), and any physical location risk factor (e.g., blind spots, social gathering spaces, isolated field or other work locations).

### Specific Outcomes to be Addressed:

**Outcome one:** decrease the prevalence of SA/SH victimization and bystander incidents.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors.

**Outcome six:** increase supervisor engagement in, and initiation of, SA/SH prevention efforts.

### Measures Tied to Above Outcome(s):

**Indicator/Metric one:** decrease in the prevalence of being a victim and bystander of SA/SH behaviors.

**Indicator/Metric Five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it;

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behavior.

**Indicator/Metric nine:** increase in intervention behaviors.



## Recommendation Eight – Tailored Prevention Modules

Supplement existing bystander intervention to include strategic, role-specific resistance skills for newer deployers and those who are new to supervisory roles. Strategic resistance skills<sup>57</sup> and strategies should align with other prevention efforts and be integrated into broader training to avoid placing the burden solely on individuals to protect themselves.

### Specific Outcomes to be Addressed:

**Outcome one:** decrease the prevalence of SA/SH victimization and bystander incidents;

**Outcome two:** increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome four:** decrease norms that support and encourage SA/SH behaviors.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors.

### Measures Tied to Above Outcome(s):

**Indicator/Metric one:** decrease in the prevalence of being a victim and bystander of SA/SH behaviors.

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors.

**Indicator/Metric three:** increase in informal disclosures (not official reports) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).

**Indicator/Metric five:** decreases in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it.

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.

## Recommendation Nine – Supervisor Toolkit and Training Enhancement

Create a supervisor/management/leadership toolkit that includes incident-based guidance for handling disclosures, managing retaliation and supporting first-time deployers.

- The toolkit should be leveraged to guide and enhance supervisor training to include how to discern and respond to less recognized SA/SH behaviors, how to model intervention behaviors, how to address retaliation, and how to respond to disclosures in a victim-centered manner.

### Specific Outcomes to be Addressed:

**Outcome one:** decrease the prevalence of SA/SH victimization and bystander incidents.

**Outcome two:** increase both formal and informal reporting of SA/SH behaviors by decreasing barriers to reporting and improving trust and accountability.

**Outcome three:** increase positive norms related to intervening as a bystander.

**Outcome four:** decrease norms that support and encourage SA/SH behaviors.

**Outcome five:** increase recognition of problem behaviors that can lead to perpetration of SA/SH behaviors.

**Outcome six:** increase supervisor engagement in, and initiation of, SA/SH prevention efforts.

### Measures Tied to Above Outcome(s):

**Indicator/Metric one:** decrease in the prevalence of being a victim and bystander of SA/SH behaviors.

**Indicator/Metric two:** increase in formal reporting of SA/SH behaviors;

**Indicator/Metric three:** increase in informal disclosures (not official reports) of SA/SH behaviors.

**Indicator/Metric four:** reduction in the percentage of victims who indicate that they did not report because of fear of being retaliated against socially (e.g., ostracized, excluded, judged) and by their employer (e.g., a poor performance review, demotion, change in duties, losing job/being re-deployed, not being hired again/deployed, etc.).

**Indicator/Metric five:** decrease in the percentage of victims who report normative barriers to reporting, such as the belief that SA/SH happens all the time and nobody reports it.

**Indicator/Metric six:** increased trust that NSF and contracting agencies will sanction and punish deployers who perpetrate SA/SH behaviors.

**Indicator/Metric seven:** increased trust that NSF and contracting agencies will take SA/SH reports seriously.

**Indicator/Metric eight:** reduction in permissive attitudes toward problematic SA/SH behaviors.

**Indicator/Metric nine:** increase in bystander intervention behaviors.

## Context and Justification for Recommendations Seven through Nine

The data clearly show that bystanders are negatively impacted – this is an important finding that generalizes the problem to the community level and its impact on a majority of individuals on-ice. Most victims and bystanders are reluctant to take positive action due to how the acceptance of SA/SH is perceived. For victims and bystanders who accurately assess problematic behavior, not seeing appropriate interventions by NSF and contracting agencies leads them to feel demoralized (as mentioned in the context and justification of Area II — Environmental) — another consequence of a concerning environment, which is cited in the literature as ‘institutional betrayal’. Therefore, steps need to be taken to reduce barriers and offer tailored skills training (i.e., tailored to the situations and environments in which SA/SH is most common).

The data show that many supervisors are not intervening and that, in general, they are not intervening in similar manners to their staff which, if visible to said staff, is demoralizing and sets a poor example. Supervisors who are more aware of the problem need additional help in knowing how to address it, since supervisors report more concern about retaliation than non-supervisors. Scenarios should be supervisor-specific to address these concerns. A focus group of supervisors, or other information-gathering methods, may be necessary to ascertain if, and how, scenarios might differ.

The “prefer not to answer” response for many survey items is high, which might be an expression of distrust of the system.

All of the above concerns are diagnostic of the systemic issues that need to be addressed to impact massive change, regarding SA/SH, on-ice.

Collectively, these nine recommendations are intended to work in tandem with and support the corrective and ongoing actions that NSF has taken since the 2022 Needs Assessment. It is therefore important to align these recommendations with the goals of NSF SAHPR’s current and future actions, as well as to incorporate these recommendations into a logic model that includes short-, medium- and long-term outcomes. Ultimately, reducing the prevalence of SA/SH takes time, so it is important to remain focused on end goals while acknowledging the steps necessary to create this reduction.

# Appendix A.

## Methods

### Survey Respondents

USAP invited 2,760 deployers, including contractors, federal civilian personnel, PIs, students and nonstudent members of research teams, and military personnel, to participate in an anonymous online survey. The only demographic variables provided for these employees were their sex and age. As presented in Table 1A, employees were largely male (70.5%). For age, most survey respondents were in the 25-44 age range (57.5%).

Of the 2,760 USAP employees provided the survey, 679 (24.6% response rate) completed the survey. The response rate is consistent with prior research on sexual harassment (14%-30% response rate).<sup>58,59,60</sup> For the sex item, survey respondents were more likely to be male (55.5%) than female (40.7%). Consistent with prior research suggesting that females are more likely to respond to online surveys.<sup>61, 62</sup> This sample was also overrepresented in females. For age, the most common age range was 25-44 (57.8%). Additional descriptive statistics comparing population demographics with sample demographics are provided in Table 1A and Table 2A.

**Table 1A. Population vs. Sample Demographics by Sex**

Sex	Invited USAP Deployer* Sample n (Percent)	Survey Respondents** n (Percent)
Female	815 (29.5%)	277 (40.8%)
Male	1,945 (70.5%)	377 (55.5%)
Prefer not to answer	NA	25 (3.7%)
	<b>N=2,760</b>	<b>N=679</b>

\*USAP Deployers (deployed during 2022-2024 seasons) who were invited to take the SAHCS.

\*\*See Appendix C. Data Cleaning Procedures.

Table 2A. Population vs. Sample Demographics by Age

Age	Invited USAP Deployer* Sample n (Percent)	Survey Respondents** n (Percent)
18-24	132 (4.8%)	30 (4.4%)
25-34	958 (34.7%)	192 (28.3%)
35-44	747 (27.1%)	198 (29.2%)
45-54	436 (15.8%)	128 (18.9%)
55-64	318 (11.5%)	91 (13.4%)
65+	124 (4.5%)	31 (4.6%)
Prefer not to answer	45 (1.6%)	9 (1.3%)
	<b>N=2,760</b>	<b>N=679</b>

\*\*Those USAP Deployers (deployed during 2022-2024 seasons) who were invited to take the SAHCS.

\*\*See Appendix C. Data Cleaning Procedures.

As presented in Table 3A, survey respondents were largely male (55.5%), between the ages of 25-34 (28.3%) and 35-44 (29.2%), and most had completed some college (96%). The most common positions were seasonal contractors (47.9%), full-time contractors (16.1%), grantee/student researcher team members (10%), and grantee/nonstudent researcher team members (9.9%). The most common primary deployment was NSF McMurdo Station (63%), with most people working fewer than 12 months (52.7%) at USAP. Roughly one-third (36.7%) of survey respondents reported that they are currently in a supervisory role.



Table 3A. Demographics for Entire Survey Sample (N=679)

Demographics		n (Percent)
Sex	Female	277 (40.8%)
	Male	377 (55.5%)
	Prefer not to answer	25 (3.7%)
		<b>679 (100.0%)</b>
Age	18-24	30 (4.4%)
	25-34	192 (28.3%)
	35-44	198 (29.2%)
	45-54	128 (18.9%)
	55-64	91 (13.4%)
	65+	31 (4.6%)
	Prefer not to answer	9 (1.3%)
		<b>679 (100.0%)</b>
Education	Secondary (completed high school or GED)	19 (2.8%)
	Some post-secondary/college/trade school	71 (10.5%)
	Completed trade school/Technical certification/associate degree	93 (13.7%)
	Completed college/bachelor's degree	195 (28.7%)
	Some graduate school	40 (5.9%)
	Master's Degree	143 (21.1%)
	Doctoral or Professional Degree	109 (16.1%)
	Prefer not to answer	9 (1.3%)
		<b>679 (100.0%)</b>

Table 3A. Demographics for Entire Survey Sample (N=679), continued

Demographics		n (Percent)
Socio-Economic Status (SES)	Receiving academic credit, no income while deployed	3 (0.4%)
	Under \$15,000	12 (1.8%)
	\$15,000-\$29,999	66 (9.7%)
	\$30,000-\$49,999	<b>114 (16.8%)</b>
	\$50,000-\$74,999	128 (18.9%)
	\$75,000-\$99,999	114 (16.8%)
	\$100,000-\$150,000	123 (18.1%)
	Over \$150,000	59 (8.7%)
	Prefer not to answer	60 (8.8%)
		<b>679 (100.0%)</b>
Position	Grantee/student researcher team member	68 (10.0%)
	Grantee/non-student researcher team member	<b>67 (9.9%)</b>
	Grantee/PI	45 (6.6%)
	Contractor, Seasonal	325 (47.9%)
	Contractor, Full Time	109 (16.1%)
	Federal civilian personnel	27 (4.0%)
	Military personnel	27 (4.0%)
	Other	10 (1.5%)
	Prefer not to answer	1 (0.1%)
		<b>679 (100.0%)</b>

Table 3A. Demographics for Entire Survey Sample (N=679), continued

Demographics		n (Percent)
Primary Deployment	NSF McMurdo Station	428 (63.0%)
	NSF McMurdo: Near field	26 (3.8%)
	NSF McMurdo: Deep field	34 (5.0%)
	NSF South Pole Station	<b>76 (11.2%)</b>
	NSF Palmer Station	49 (7.2%)
	Research Vessel	57 (8.4%)
	Other	8 (1.2%)
	Prefer not to answer	1 (0.1%)
	Prefer not to answer	60 (8.8%)
		<b>679 (100.0%)</b>
Years Deployed at USAP	Less than 12 months	358 (52.7%)
	1-3 years	<b>188 (27.7%)</b>
	4-6 years	71 (10.5%)
	7-9 years	35 (5.2%)
	10+ years	26 (3.8%)
	Prefer not to answer	1 (0.1%)
		<b>679 (100.0%)</b>
Last Deployment Length	I am currently deployed	38 (5.6%)
	Less than 4 months	382 (56.3%)
	5-7 months	208 (30.6%)
	8-10 months	24 (3.5%)
	10+ months	26 (3.8%)
	Prefer not to answer	1 (0.1%)
		<b>679 (100.0%)</b>
Supervisor	No	416 (61.3%)
	Yes	249 (36.7%)
	Prefer not to answer	14 (2.0%)
		<b>679 (100.0%)</b>

## Procedures

Employees at USAP were invited to participate in an anonymous online survey provided through Qualtrics. Survey respondents were asked questions about demographic information, workplace culture, bystander incidents and victimization incidents at USAP. After completing the survey, survey respondents were provided with a debriefing form, including resources to disclose or report sexual assault or sexual harassment at USAP.

## Measures

**Demographic questionnaire.** The demographic questionnaire included 14 questions about sex, age, education, socioeconomic status and USAP job status, including their current position, primary deployment, years deployed, last deployment length and whether they are currently a supervisor.

**General experiences while deployed.** Four items asked about workplace respect, meaning at work, and their perceived value by co-workers at USAP on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question.

**Workplace satisfaction.** Five items assessed workplace satisfaction at USAP, including feeling like skills are utilized, comfortability with the work environment and feeling like work deadlines are realistic. Questions were asked on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question. Items were scored by averaging the responses on the five items. Scores ranged from 1-4, with a higher score indicating greater workplace satisfaction. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach's alpha. The scale demonstrated good reliability ( $\alpha=0.87$ ; Warner, 2013).<sup>63</sup>

**Supervision culture.** Thirteen items asked about "thoughts one may have about their direct/immediate supervisor regarding SA/SH issues at USAP" on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question. Items discussed supervisor culture around SA/SH, such as whether supervisors "support helping behaviors to prevent SA/SH," and "respond adequately to reports of stalking." Items were scored by averaging the responses on the 13 items (items 1, 4, 5, 7, 9, 10, 12 were reverse-scored so that all items were in the same direction). Scores ranged from 1-4, with a higher score indicating a more positive supervisor culture. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach's alpha. The scale demonstrated excellent reliability ( $\alpha=0.96$ ; Warner, 2013).

**Resources for SA/SH.** Two items asked whether people understood, "resources for people experiencing SA/SH while deployed," and if they would be, "more likely to talk to a confidential SA/SH advocate if I could talk to them in-person while deployed," on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question.

**Willingness to take personal action about SA/SH.** Nine items asked about “actions one may or may not take regarding SA/SH issues at USAP while deployed” on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question. Items were scored by averaging the responses on the nine items (items 3, 5, 7 were reverse-scored so that all items were in the same direction). Scores ranged from 1-4, with a higher score indicating a greater willingness to take personal action about SA/SH. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated acceptable reliability ( $\alpha=0.77$ ; Warner, 2013).

**Willingness to take community action about SA/SH.** Five items asked about “actions one may or may not take regarding the prevention of SA/SH issues within the USAP community” on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question. Items were scored by averaging the responses on the five items. Scores ranged from 1-4, with a higher score indicating a greater willingness to take community action about SA/SH. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated good reliability ( $\alpha=0.90$ ; Warner, 2013).

**Clear understanding of SA/SH policies.** Nine items asked about “things a community member may think about SA/SH policies” on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question or did not know. See the full measure in Appendix A.

**Supervisor questions.** Five items asked about “things a supervisor or manager may think about respect in the workplace” on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question.

**Workforce perception.** Ten items asked about “things a person may think about USAP workforce culture” on a 4-point Likert Scale (1=Strongly Disagree, 4=Strongly Agree). Survey respondents could also select that they preferred not to answer the question. Items were scored by averaging the responses on the 10 items. Scores could range from 1-4, with a higher score indicating more negative community perceptions. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated good reliability ( $\alpha=0.82$ ; Warner, 2013).

**Bystander measure.** Twenty-three items asked about, “total times you *OBSERVED* (saw with your own eyes) a USAP community member, Person A, doing any of the following SA/SH behaviors to another USAP community member, Person B” with the following response options: Never, 1-3 times, 4-6 times, 7-9 times, 10+ times. Survey respondents could also select that they preferred not to answer the question. Items were averaged with a 0=No Bystander Incidents or 1=At least 1 Bystander Incident. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated excellent reliability ( $\alpha=0.92$ ; Warner, 2013). See the full measure in Appendix C.



**Bystander measure follow-up.** Seventeen items asked about demographic and environmental circumstances related to the bystander experience, including: where the incident occurred; who perpetrated the incident; whether alcohol was involved; and actions taken by the bystander.

**Bystander consequences.** Twenty-two items asked, “how much each item described below impacted your life because of observing/seeing the incident you described above” on a 5-point Likert Scale (0=No Impact, 4=Severe Impact). Survey respondents could also select that they preferred not to answer the question. Items were scored by averaging the responses on the 22 items. Scores could range from 0-4, with a higher score indicating higher negative consequences from observing a situation involving SA/SH. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated excellent reliability ( $\alpha=0.94$ ; Warner, 2013).

**Victim measure.** Twenty-three items asked about “total times you personally *EXPERIENCED* (*happened to you*) any of the following SA/SH behaviors,” with the following response options: Never, 1-3 times, 4-6 times, 7-9 times, 10+ times. Survey respondents could also select that they preferred not to answer the question. Items were averaged with a 0=No Victim Incidents or 1=At least 1 Victim Incident. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated excellent reliability ( $\alpha=0.92$ ; Warner, 2013). See the full measure in Appendix A.

**Victimization measure follow-up.** Seventeen items asked about demographic and environmental circumstances related to the victim incident, including: where the incident occurred; who perpetrated the incident; whether alcohol was involved; and disclosure about the incident.

**Victimization consequences.** Twenty-two items asked, “how much each item described below impacted your life because of experiencing the incident you described above” on a 5-point Likert Scale (0=No Impact, 4=Severe Impact). Survey respondents could also select that they preferred not to answer the question. Items were scored by averaging the responses on the 22 items. Scores could range from 0-4, with a higher score indicating higher negative consequences from experiencing a situation involving SA/SH. As presented in Table 3A, the internal consistency of the scale was evaluated using Cronbach’s alpha. The scale demonstrated excellent reliability ( $\alpha=0.93$ ; Warner, 2013).

*Table 4A. Descriptive Statistics for Measures*

Measure	N	M	SD	Minimum	Maximum	Cronbach's Alpha
Workplace Satisfaction	671	3.03	0.69	1	4	0.87
Supervision Culture	633	3.29	0.66	1	4	0.96
Willingness to Take Personal Action About SA/SH	624	3.43	0.43	1	4	0.77
Willingness to Take Community Action About SA/SH	602	2.86	0.81	1	4	0.90
Community Perception	603	1.79	0.45	1	3.7	0.82
Bystander Incidents	572	0.69	0.46	0	1	0.92
Bystander Consequences	375	1.01	0.87	0	3.5	0.94
Victim Incidents	521	0.41	0.49	0	1	0.92
Victim Consequences	172	1.11	0.98	0	4	0.93

## Analysis

**Table One:** T-tests were run to see if the differences in workplace culture between bystanders and non-bystanders were statistically significant. The results suggested that the differences were significant for all questions. Question 1 was statistically significant, with bystanders reporting they would recommend USAP as a respectful place to work less than non-bystanders. Question 2 was statistically significant, with bystanders reporting that the work they do is not as important or meaningful to them as non-bystanders. Question 3 was statistically significant, with bystanders indicating that they felt less valued by at least one person at USAP than non-bystanders. Question 4 was significant, with bystanders reporting feeling less valued by most people at USAP than non-bystanders.

*Table One. Workplace Culture for Bystander vs. Non-Bystander*

Workplace Culture	Bystander Mean (SD)	Not a Bystander Mean (SD)	<i>t</i>
1) I would recommend USAP as a respectful place to work.	2.71 (0.84)	3.20 (0.79)	6.46***
2) The work that I do at USAP is important and meaningful to me.	3.44 (0.69)	3.61 (0.63)	2.81**
3) I feel valued by <b>at least one person</b> I work closely with at USAP.	3.57 (0.65)	3.69 (0.51)	2.39*
4) I feel valued by <b>most of the people</b> I work closely with at USAP.	3.03 (0.82)	3.35 (0.78)	4.47***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Table Two:** T-tests were run to see if the differences in workplace culture between victims and non-victims were statistically significant. Question 1 was statistically significant, with victims reporting they would recommend USAP as a respectful place to work, less than non-victims. Question 2 was statistically significant, with victims reporting that the work they do is not as important or meaningful to them as non-victims. Question 4 was significant, with victims reporting feeling less valued by most people at USAP than non-victims.

*Table Two. Workplace Culture for Workplace Culture for Victim vs. Non-Victim*

Workplace Culture	Victim Mean (SD)	Not a Victim Mean (SD)	<i>t</i>
1) I would recommend USAP as a respectful place to work.	2.57 (0.84)	3.10 (0.76)	7.25***
2) The work that I do at USAP is important and meaningful to me.	3.38 (0.70)	3.55 (0.65)	2.80**
3) I feel valued by <b>at least one person</b> I work closely with at USAP.	3.55 (0.64)	3.65 (0.56)	1.77
4) I feel valued by <b>most of the people</b> I work closely with at USAP.	3.00 (0.82)	3.24 (0.78)	3.40***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

**Table Three:** T-tests were run to see if the differences in supervisor culture between bystanders and non-bystanders were statistically significant. The results suggested that the differences were significant for all questions. In all instances, the results suggest that bystanders perceive supervisor culture to be worse than non-bystanders.

*Table Three. Supervisor Culture for Bystander vs. Non-Bystander*

Question	Bystander Mean (SD)	Non-Bystander Mean (SD)	t
1) Would not stop community members who were making sexist comments at work. (R)	3.18 (0.94)	3.59 (0.76)	5.46***
2) Would correct community members who refer to coworkers as "honey," "hottie," "babe," "sweetie," or use other unprofessional language at work.	2.90 (0.91)	3.34 (0.81)	5.41***
3) Supports helping behaviors to prevent SA/SH.	3.17 (0.81)	3.53 (0.73)	4.92***
4) Would not stop community members who were making homophobic comments at work. (R)	3.23 (0.84)	3.64 (0.64)	6.05***
5) Does not model/show respectful behavior. (R)	3.30 (0.87)	3.75 (0.52)	7.60***
6) Overall, takes SA/SH issues seriously.	3.19 (0.86)	3.68 (0.52)	8.30***
7) Would not stop community members who were making transphobic (focused on transgender and intersex individuals) comments at work. (R)	3.28 (0.80)	3.70 (0.52)	7.21***
8) Responds adequately to reports of homophobia (focused on lesbian, gay, bisexual, queer and questioning individuals).	3.07 (0.79)	3.48 (0.68)	5.68***
9) Would not stop community members who were making racist comments at work. (R)	3.38 (0.80)	3.70 (0.57)	5.35***
10) Would not intervene if an individual was receiving inappropriate sexual attention at work (e.g., staring at someone's chest, standing too close, rubbing someone's shoulders). (R)	3.17 (0.91)	3.64 (0.62)	6.95***
11) Responds adequately to reports of sexual harassment.	3.10 (0.84)	3.60 (0.56)	8.14***
12) Would not stop community members who are talking about sexual topics at work. (R)	3.02 (0.88)	3.53 (0.62)	7.59***
13) Responds adequately to reports of stalking.	3.13 (0.83)	3.64 (0.56)	8.10***
<b>OVERALL (AVERAGE OF QUESTIONS)</b>	<b>3.15 (0.68)</b>	<b>3.58 (0.52)</b>	<b>7.98***</b>

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: Questions were reverse-coded (R) so that all questions with a higher mean indicate a more prosocial belief/response.

**Table Four:** T-tests were run to see if the differences in supervisor culture between victims and non-victims were statistically significant. The results suggested that the differences were significant for all questions. In all instances, the results suggest that victims perceive supervisor culture to be worse than non-victims.

*Table Four. Supervisor Culture for Victim vs. Non-Victim*

Question	Bystander Mean (SD)	Non-Bystander Mean (SD)	t
1) Would not stop community members who were making sexist comments at work. (R)	3.03 (0.99)	3.52 (0.74)	5.99***
2) Would correct community members who refer to coworkers as "honey," "hottie," "babe," "sweetie," or use other unprofessional language at work.	2.79 (0.95)	3.22 (0.80)	5.26***
3) Supports helping behaviors to prevent SA/SH.	3.10 (0.87)	3.44 (0.68)	5.01***
4) Would not stop community members who were making homophobic comments at work. (R)	3.13 (0.90)	3.53 (0.69)	5.32***
5) Does not model/show respectful behavior. (R)	3.18 (0.94)	3.62 (0.64)	5.82***
6) Overall, takes SA/SH issues seriously.	3.13 (0.92)	3.51 (0.66)	5.01***
7) Would not stop community members who were making transphobic (focused on transgender and intersex individuals) comments at work. (R)	3.16 (0.87)	3.60 (0.56)	6.19***
8) Responds adequately to reports of homophobia (focused on lesbian, gay, bisexual, queer and questioning individuals).	2.94 (0.86)	3.40 (0.66)	6.51***
9) Would not stop community members who were making racist comments at work. (R)	3.29 (0.86)	3.63 (0.57)	5.01**
10) Would not intervene if an individual was receiving inappropriate sexual attention at work (e.g., staring at someone's chest, standing too close, rubbing someone's shoulders). (R)	3.03 (0.99)	3.51 (0.70)	5.86***
11) Responds adequately to reports of sexual harassment.	2.96 (0.89)	3.48 (0.63)	7.56***
12) Would not stop community members who are talking about sexual topics at work. (R)	2.93 (0.94)	3.37 (0.69)	5.59***
13) Responds adequately to reports of stalking.	3.02 (0.87)	3.51 (0.62)	7.26***
<b>OVERALL (AVERAGE OF QUESTIONS)</b>	<b>3.04 (0.74)</b>	<b>3.47 (0.55)</b>	<b>7.01***</b>

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: Questions were reverse-coded (R) so that all questions with a higher mean indicate a more prosocial belief/response.



**Table Five:** T-tests were run to see if the differences in attitudes towards SA/SH between bystanders and non-bystanders were statistically significant. Question 2 was statistically significant, with bystanders reporting they would believe someone experiencing SA/SH more than non-bystanders. Question 4 was statistically significant, with bystanders reporting they would respect someone who intervened to prevent SA/SH more than non-bystanders. Question 5 was statistically significant, bystanders reporting they would believe someone exposed to SA/SH more than non-bystanders. Question 7 was statistically significant, with bystanders believing that SA/SH is more common than non-bystanders. Question 8 was statistically significant, with non-bystanders feeling like most USAP community members would do something to help make sure they are safer than those that are bystanders. Overall was statistically significant, with bystanders reporting more prosocial attitudes towards SA/SH than non-bystanders.

**Table Five. Attitudes/Behaviors Towards SA/SH at USAP for Bystanders vs. Non-Bystanders**

Question	Bystander Mean (SD)	Non-Bystander Mean (SD)	t
1) If I were made aware of SA/SH happening to a USAP community member, I would check in with that person.	3.45 (0.64)	3.38 (0.75)	-1.13
2) If a USAP community member told me they experienced SA/SH, I would believe them.	3.59 (0.59)	3.38 (0.73)	-3.38***
3) Intervening when observing/hearing/witnessing SA/SH issues is not the responsibility of USAP community members. (R)	3.57 (0.63)	3.59 (0.65)	0.28
4) I would respect a USAP member who intervened to prevent SA/SH.	3.75 (0.45)	3.64 (0.64)	-2.35*
5) If a USAP member told me they observed/saw SA/SH, I would have a hard time believing them. (R)	3.62 (0.57)	3.40 (0.78)	-3.24***
6) If I saw SA/SH happening to a USAP community member, I would intervene.	3.54 (0.53)	3.53 (0.68)	-0.15
7) SA/SH is not that common among USAP community members. (R)	3.02 (0.92)	2.13 (0.93)	-10.15***
8) I am confident that most of the USAP community members I work with would do something to help make sure I was safe if they thought I were in danger due to a SA/SH issue.	3.12 (0.82)	3.46 (0.66)	4.81***
9) If a USAP community member told me they experienced SA/SH, I would feel comfortable letting them know about the confidential SA/SH advocate.	3.62 (0.60)	3.63 (0.60)	0.24
<b>OVERALL (AVERAGE OF QUESTIONS)</b>	<b>3.47 (0.37)</b>	<b>3.35 (0.54)</b>	<b>-2.84**</b>

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: Questions were reverse-coded (R) so that all questions with a higher mean indicate a more prosocial attitude/behavior.

**Table Six:** T-tests were run to see if the differences in attitudes towards SA/SH between victims and non-victims were statistically significant. Question 7 was statistically significant, with victims believing that SA/SH is more common than non-victims. Question 8 was statistically significant, with non-victims feeling like most USAP community members would do something to help make sure they are safe than those that are victims.

**Table Six. Attitudes/Behaviors Towards SA/SH at USAP for Victim vs. Non-Victim**

Question	Victim Mean (SD)	Not a Victim Mean (SD)	t
1) If I were made aware of SA/SH happening to a USAP community member, I would check in with that person.	3.46 (0.65)	3.44 (0.68)	-0.30
2) If a USAP community member told me they experienced SA/SH, I would believe them.	3.58 (0.59)	3.51 (0.64)	-1.14
3) Intervening when observing/hearing/witnessing SA/SH issues is not the responsibility of USAP community members. (R)	3.59 (0.59)	3.60 (0.63)	0.20
4) I would respect a USAP member who intervened to prevent SA/SH.	3.76 (0.47)	3.69 (0.56)	-1.45
5) If a USAP member told me they observed/saw SA/SH, I would have a hard time believing them. (R)	3.58 (0.59)	3.54 (0.65)	-0.81
6) If I saw SA/SH happening to a USAP community member, I would intervene.	3.59 (0.53)	3.53 (0.60)	-1.01
7) SA/SH is not that common among USAP community members. (R)	3.13 (0.98)	2.45 (0.95)	-7.73***
8) I am confident that most of the USAP community members I work with would do something to help make sure I was safe if they thought I were in danger due to a SA/SH issue.	3.03 (0.85)	3.36 (0.70)	4.82***
9) If a USAP community member told me they experienced SA/SH, I would feel comfortable letting them know about the confidential SA/SH advocate.	3.62 (0.61)	3.65 (0.56)	0.66
<b>OVERALL (AVERAGE OF QUESTIONS)</b>	<b>3.48 (0.37)</b>	<b>3.42 (0.45)</b>	<b>-1.59</b>

\*p<.05, \*\*p<.01, \*\*\*p<.001

Note: Questions were reverse-coded (R) so that all questions with a higher mean indicate a more prosocial attitude/behavior.

To understand if perceiving a permissive environment is associated with being a victim or bystander, the survey norms items were used to create an average. If participants' survey respondents' norms average was 1-1.999, they were described as not having norms that SA/SH is normal. If participants' norm average was 2-4, they were described as having norms that SA/SH is normal.

Table 34. SA/SH Norms for Bystander vs. Victims

		SA/SH is Normal n (percent)	SA/SH is Not Normal n (percent)
Bystander	No	44 (22.4%)	135 (35.9%)
	Yes	152 (77.6%)	241 (64.1%)
Victim	No	86 (48.3%)	222 (64.9%)
	Yes	92 (51.7%)	120 (35.1%)

# Appendix B.

## SAHCS Bystander and Victimization Measures

### Bystander Measure

*Table B1. Bystander Measure - 23 Items*

Scale: Never, 1-3 times, 4-6 times, 7-9 times, 10+ times, prefer not to answer.

Things that you observed another USAP community member(s) do to another USAP community member(s):
<b>Sexual harassment and stalking, numbers 1-8</b>
1) Person A showing up somewhere or waiting for Person B in a way that made Person B afraid, uncomfortable, or caused Person B emotional distress (e.g., waiting outside of a room, workspace, bar, bathroom etc.).
2) Person A spying on, watching or following Person B in a way that made Person B afraid, uncomfortable or caused them emotional distress.
3) Person A photographing or recording Person B when Person B was naked, undressing, or engaging in a sexual act, without Person B's knowledge or consent.
4) Person A sending unwanted messages or continually calling Person B (e.g., leaving notes at their room or workspace, by pager, or email) in a way that caused Person B to feel afraid, uncomfortable or caused community Person B emotional distress.
5) Person A saying inappropriate, crude or gross sexual things to Person B or trying to get Person B to talk about sexual things when Person B didn't want to.
6) Person A making sexual remarks, jokes or stories that were insulting or offensive, or made Person B uneasy.
7) Person A making inappropriate gestures, offensive comments, or using rude sexual body language in reference to Person B's body, appearance, or sexual activities.
8) Person A continually asking Person B to go on dates go out, meet, or "hookup" even though Person B said "no" or otherwise indicated "no".

### Unwanted sexual attention, numbers 9-13

9) Person A leading, pulling, or trying to convince Person B to move away from other people to a more secluded or private space even though Person B did not want to go.

10) Person A initiating unwanted touching, such as a hand on lower back, shoulder or back rubs, or other invasive touching of Person B.

11) Person A paying unwanted attention, such as flirting or overtly sexual compliments to Person B.

12) Person A pressuring Person B to engage in behavior of a sexual or intimate nature that did not end up happening at that time.

13) Person A initiating unwanted sexual behavior, such as grabbing another person or themselves in intimate areas of the body, in front of Person B on purpose.

### Sexual coercion, numbers 14-18

14) Person A initiating unwanted touching, groping, or kissing when Person B did not want to because: Person A was threatening to end a friendship or romantic relationship if Person B did not, or causing Person B to feel pressure by Person A's constant arguments or begging.

15) Person A initiating unwanted touching, groping, or kissing when Person B did not want to because: Person A was threatening to end a working relationship if Person B did not, or was promising rewards (e.g., re-hire, higher pay, etc.).

16) Person A initiating unwanted touching, groping, or kissing when Person B did not want to because: Person A was threatening to use or was using physical force (e.g., twisting arm, holding down, choking).

17) Person A initiating unwanted touching, groping, or kissing when Person B did not want to because: Person B was sleeping, passed out, or incapacitated due to drugs or alcohol.

18) Person A initiating unwanted touching, groping, or kissing when Person B did not want to because: Person A was not listening to Person B's refusal, or while Person B was still deciding, or Person A was ignoring Person B's cues to stop or slow down.

### Sexual assault, numbers 19-23

19) Person A initiating oral, vaginal, or anal penetration when Person B did not want to because: Person A was threatening to end a friendship or romantic relationship if Person B did not, or Person A was causing Person B to feel pressure by constant arguments or begging.

20) Person A initiating oral, vaginal, or anal penetration when Person B did not want to because: Person A was threatening to end a working relationship if Person B did not, or made promises of rewards (e.g., re-hire, higher pay, etc.).

21) Person A initiating oral, vaginal, or anal penetration when Person B did not want to because: Person A was threatening to use or was using physical force (e.g., twisting arm, holding down, choking).

22) Person A initiating oral, vaginal, or anal penetration when Person B did not want to because: Person B was sleeping, passed out, or incapacitated due to drugs or alcohol.

23) Person A initiating oral, vaginal, or anal penetration when Person B did not want to because: Person A was not listening to Person B's refusal ,or while Person B was still deciding, or Person A was ignoring Person B's cues to stop or slow down.



# Victimization Measure

*Table B2. Victimization Measure - 23 items*

Scale: Never, 1-3 times, 4-6 times, 7-9 times, 10+ times, prefer not to answer.

Things a USAP community member(s) did to you:
<b>Sexual harassment and stalking, numbers 1-8</b>
1) Someone showing up somewhere or waiting for you in a way that made you uncomfortable, afraid, or caused your emotional distress (e.g., waiting outside of a room, workspace, bar, bathroom etc.).
2) Someone spying on, watching or following community you in a way that made you uncomfortable, afraid or caused your emotional distress.
3) Someone photographing or recording you when you were naked, undressing, or engaging in a sexual act, without your knowledge or consent.
4) Someone sending unwanted messages (e.g., leaving notes at your room or workspace, by pager, email) or continually calling your room phone, in a way that caused you to feel afraid, uncomfortable or caused your emotional distress.
5) Someone saying inappropriate, crude or gross sexual things to you or trying to get you to talk about sexual things when you did not want to.
6) Someone making sexual remarks, jokes or stories that were insulting or offensive, or made you uneasy.
7) Someone making inappropriate gestures, offensive comments, or using rude sexual body language your body, appearance, or sexual activities.
8) Someone continually asking you to go on dates, go out, meet, or “hookup” even though you said “no” or otherwise indicated “no”.

### Unwanted sexual attention, numbers 9-13

9) Someone leading, pulling, or trying to convince you to go away from other people to a more secluded or private space even though you did not want to go.

10) Someone initiating unwanted touching, such as a hand on lower back, shoulder or back rubs, or other invasive touching of your body.

11) Someone paying unwanted attention, such as flirting or making overtly sexual compliments to you.

12) Someone pressuring you to engage in behavior of a sexual or intimate nature that did not end up happening at that time.

13) Someone initiating unwanted sexual behavior, such as grabbing another person or themselves in intimate areas of the body, in front of you on purpose.

### Sexual coercion, numbers 14-18

14) Someone initiating unwanted touching, groping, or kissing when you did not want to because: they either threatened to end a friendship or romantic relationship if you did not, or causing you to feel pressure by their constant arguments or begging.

15) Someone initiating unwanted touching, groping, or kissing when you did not want to because: they either threatened to end a work relationship if you did not, or promised you rewards (e.g., re-hire, higher pay, etc.).

16) Someone initiating unwanted touching, groping, or kissing when you did not want to because: they either threatened to use or used physical force (e.g., twisting arm, holding down, choking).

17) Someone initiating unwanted touching, groping, or kissing when you did not want to because: you were sleeping, passed out, or incapacitated due to drugs or alcohol.

18) Someone initiating unwanted touching, groping, or kissing when you did not want to because: they initiated sexual activity despite your refusal, or while you were still deciding, or ignored your cues to stop or slow down.

### Sexual assault, numbers 19-23

19) Someone initiating unwanted oral, vaginal, or anal penetration when you did not want to because: they either threatened to end a friendship or romantic relationship if you did not, and/or causing you to feel pressure by their constant arguments or begging.

20) Someone initiating unwanted oral, vaginal, or anal penetration when you did not want to because: they either threatened to end a work relationship if you did not, or promised you rewards (e.g., re-hire, higher pay, etc.).

21) Someone initiating unwanted oral, vaginal, or anal penetration when you did not want to because: they either threatened to use or used physical force (e.g., twisting arm, holding down, choking).

22) Someone initiating unwanted oral, vaginal, or anal penetration when you did not want to because: you were sleeping, passed out, or incapacitated due to drugs or alcohol.

23) Someone initiating unwanted oral, vaginal, or anal penetration when you did not want to because: they initiated sexual activity despite your refusal, or while you were still deciding, or ignored your cues to stop or slow down.

# Appendix C.

## Development, Data Collection and Cleaning of the SAHCS

### Development and Testing

The topics of this survey, sexual assault and sexual harassment, are sensitive issues. While the purpose of data collection is to create a baseline understanding of the incidence and prevalence of sexual assault and sexual harassment, the SMEs created the SAHCS using trauma-informed methodologies that are grounded in the best practices in conducting climate surveys in higher education and outlined by the National Academies of Sciences, Engineering, and Medicine.<sup>64,65</sup> These practices include using reliable and validated survey instruments that use research-based survey practices, such as limiting the timeframe that measures individuals' incidents to their most recent USAP deployment(s); including unique experiences so that solutions can be tailored to meet specific needs; and separating questions that ask survey respondents to disclose details about sexual assault and harassment from mental, physical, professional and educational outcomes. Because USAP operations vary in terms of location, mission and personnel, the SMEs have ensured that SAHCS aligns with the unique experiences of the workforce and elements of the on-ice atmosphere that are particular to deployment. This has resulted in a survey tailored to the environment and experiences of on-ice personnel, which is consistent with best practice recommendations for survey design.

Demographic questions were included in the survey to determine if perceptions on the issues, understanding of response and prevention activities, and bystander incidents differed by demographic. This included a question about each of the following: sex, age, income, education level and position. Bystander behaviors, likelihood of reporting and other perceptions of prevention and response activities can be impacted by various conditions. It is therefore important that those creating and implementing solutions to keep the USAP workforce safe from sexual assault and sexual harassment understand these differences to ensure prevention, response and policies are relevant across a range of experiences.

Extensive research on health risk behaviors, as well as sexual assault and sexual harassment, has demonstrated that individuals often have inaccurate perceptions of the attitudes and behaviors of others in their immediate environment, as well as for the larger groups that they belong to.<sup>66</sup> Regarding sexual assault and sexual harassment, two important patterns of misperception have been identified in the research. First, bystanders typically underestimate others': 1) concern when hearing problematic language and observing negative behaviors; 2) respect for someone who intervenes; and 3) willingness to act. Second, research has also established that perpetrators typically overestimate others' support for their negative language and behaviors, which serves as encouragement or permission to engage in them.<sup>67</sup>

Interventions to correct these misperceptions have confirmed that when bystanders know that others share their concerns, they are more likely to intervene. Research has also established that when perpetrators learn that others are uncomfortable with their language and behaviors, they are less likely to engage in them. Research has shown that leaders are often subject to the same misperceptions as their staff and that when leaders spread or reinforce these misperceptions, they unintentionally enable the problem. For these reasons, a variety of questions were incorporated into the survey assessing a respondent's perception of members of their work group and environment. A third category of perceptions assessed in the study determined if an individual feels that others in their work group share their positive and/or negative assessments of sexual assault and sexual harassment issues on-ice.

These data indicate to what extent concerns are perceived as shared versus held in isolation. Correcting misperceptions is therefore a science-based best practice strategy to prevent sexual assault and sexual harassment and is supported by extensive research as well as funding from multiple federal agencies. The data collected on this theme will allow us to make best-practice recommendations for sexual assault and sexual harassment prevention strategies.

Testing of SAHCS was conducted with USAP personnel, all of whom were previously or currently deployed to the ice, including information technology personnel. Survey respondents invited to test the SAHCS were in two categories: 1) those that were asked to pay particular attention to the wording of survey items, identify items that required clarification, and provide feedback on any areas of on-ice customs that they felt were important to note; and 2) those that were asked to focus on the functionality of the survey, including timing, skip logic elements, any noticeable lag time in processing speed, and the look and feel of the survey. All testers were given individual passwords, had the capability to log in multiple times to complete the testing process, remained anonymous, and were able to provide feedback directly within the survey platform to protect anonymity.

## Data Collection and Security

### Data Collection

SAHCS survey respondents were recruited by email from among the USAP deployers between the 2022-2024 seasons. OPP requested from Leidos, the main contractor of USAP, and the U.S. Department of Defense, a complete list of those deployers that met the SAHCS deployment criteria. The list of deployers included contact email, minimal demographic information (i.e., sex and age), survey respondent type (i.e., grantee, contractor, federal civil service, military personnel, etc.) and supervisor status. The final invitation list of eligible deployers totaled 2,760.

The OPP communications specialist oversaw the SAHCS invitation logistics. Potential survey respondents were contacted via email using the GovDelivery system. Soteria Solutions provided the language for all SAHCS email communications to potential survey respondents. The timeline for recruitment of the 2,760 participants was as follows:

- Initial informational email sent on May 24, 2024
- Actual invitation email sent on May 28, 2024
- Reminder one - T+14 (6/11/24)
- Reminder two - T+28 (6/25/24)
- Reminder three - T +42 (7/9/24)
- Final reminder - T+56 (7/23/24)
- SAHCS closed in Qualtrics (July 28, 2024)

USAP deployers who had knowledge of the survey but were not included in the GovDelivery invitation were directed to contact the NSF SAHPR office at [USAPclimateSurvey@nsf.gov](mailto:USAPclimateSurvey@nsf.gov) and to visit the USAP SAHCS FAQ webpage. The FAQ included:

*"Who do I contact if I have questions about the USAP Sexual Assault and Harassment Climate Survey? If you or anyone deployed before 2022 have questions regarding the USAP SAHCS, please contact the NSF SAHPR office at [USAPclimateSurvey@nsf.gov](mailto:USAPclimateSurvey@nsf.gov)."*

## Data Security

The survey platform, Qualtrics, was the mechanism used to collect responses for SAHCS. Qualtrics provides the following security statement as of Oct. 26, 2022:

*"Qualtrics' most important concern is the protection and reliability of customer data. Our servers are protected by high-end firewall systems, and scans are performed regularly to ensure that any vulnerabilities are quickly found and patched. Application penetration tests are performed annually by an independent third-party. All services have quick failover points and redundant hardware, with backups performed daily."*

*Access to systems is restricted to specific individuals who have a need-to-know such information and who are bound by confidentiality obligations. Access is monitored and audited for compliance. Qualtrics uses transport layer security encryption (also known as HTTPS) for all transmitted data. Surveys may be protected with passwords. Our services are hosted by trusted data centers that are independently audited using the industry standard SSAE-18 method."*



## Data Cleaning Procedures

The number of recorded responses at the close of the SAHCS was 812. This number includes duplicate entries by the same survey respondent, various types of incomplete responses, and additional unusable data. Qualtrics, the industry standard survey collection platform, includes a function to “clean” the data by identifying the “progress” and “completion” status of each response.

The tools provided by Qualtrics, however, were not adequate to determine what data were sufficient for analysis. As such, the Soteria Solutions analysis team determined a quality data threshold for inclusion in analysis.

The quality data threshold included three sets of criteria, two demographic parameters and one measure parameter. SAHCS survey respondents who completed the minimum demographic criteria and completed the first measure met the quality data threshold criteria. The minimum demographic criteria included deployment items (e.g., current position, primary deployment location) and demographics (e.g., age, sex). The next criterion included total completion of the first survey measure respondents encountered and workplace satisfaction (five total items). Additionally, the five items in the workplace measure must have contained “quality” data, responses not including “prefer not to answer,” and if the workplace measure was the only measure completed before the survey respondent exited the survey. If a survey respondent entered “prefer not to answer” but continued in the survey with response clicks that contained “quality” data (not “prefer not to answer”), the data set for that survey respondent was included.

In addition to the quality data threshold, the data cleaning process included but was not limited to:

- Removing any survey respondent who entered the survey but did not provide any responses to items (i.e., the survey respondent entered and exited the survey with zero response clicks).
- Removing any survey respondent who entered the survey and provided incomplete responses (i.e., the survey respondent provided responses to the initial three items and then exited the survey).
- Removing survey respondents who entered the survey multiple times and partially completed or fully completed the survey upon each entry (i.e., stripping duplicate survey respondent data).
- Removing survey respondents who solely provided the response “prefer not to answer” to items completed.
- Removing any individual survey respondent who did not meet the quality data threshold for final analysis.

Upon completion of the data cleaning process, 679 unique individual responses met the quality data threshold and were included in the analysis provided in this preliminary report.

# Appendix D.

## Data Tables

It is important to note that survey respondents had the option to choose “prefer not to answer” as their response to questions or exit the survey. Thus, the total number (n) of survey respondents presented in these tables does not always add up to the total survey population N.

*Table 1. Victimization – Top Three Reported Behaviors*

Survey respondents that completed the items (n=532)		n (Percent)
Sexual remarks, jokes or stories that were insulting or offensive or made you uneasy	Yes	142 (26.7%)
	No	376 (70.7%)
	PNA*	14 (2.6%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>
Unwanted attention, such as flirting or making overtly sexual compliments to you.	Yes	106 (19.9%)
	No	413 (77.6%)
	PNA*	13 (2.4%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>
Unwanted touching, such as a hand on lower back, shoulder or back rubs, or other invasive touching of your body	Yes	96 (18.0%)
	No	424 (79.7%)
	PNA*	12 (2.3%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>

\*Prefer not to answer

*Table 2. Number of Victim Incidents by Group*

# of SA/SH Incidents Experienced	0	1	2	3	4	5	6	7	8
Sexual Harassment and Stalking n (Percent)	333 (64.7%)	59 (11.5%)	42 (8.2%)	32 (6.2%)	13 (2.5%)	11 (2.1%)	11 (2.1%)	12 (2.3%)	2 (0.4%)
Unwanted Sexual Attention n (Percent)	380 (73.4%)	54 (10.4%)	37 (7.1%)	18 (3.5%)	17 (3.3%)	12 (2.3%)	-	-	-
Sexual Coercion n (Percent)	483 (93.2%)	15 (2.9%)	9 (1.7%)	7 (1.4%)	1 (0.2%)	3 (0.6%)	-	-	-
Sexual Assault n (Percent)	505 (97.5%)	5 (1.0%)	5 (1.0%)	2 (0.4%)	-	1 (0.2%)	-	-	-

*Table 3. Victimization, Sexual Coercion – Top Three Reported Behaviors*

Survey respondents that completed the items		n (Percent)
Unwanted touching, groping, or kissing when you did not want to because: they initiated sexual activity despite your refusal, or while you were still deciding, or ignored your cues to stop or slow down.	Yes	25 (4.7%)
	No	492 (92.7%)
	PNA*	14 (2.6%)
	<b>TOTAL</b>	<b>531 (100.0%)</b>
Unwanted touching, groping, or kissing when you did not want to because: you were sleeping, passed out, or incapacitated due to drugs or alcohol.	Yes	16 (3.0%)
	No	503 (94.7%)
	PNA*	12 (2.3%)
	<b>TOTAL</b>	<b>531 (100.0%)</b>
Unwanted touching, groping, or kissing when you did not want to because: they either threatened to end a friendship or romantic relationship if you did not, or caused you to feel pressure by their constant arguments or begging.	Yes	16 (3.0%)
	No	502 (94.4%)
	PNA*	14 (2.6%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>

\*Prefer not to answer

*Table 4. Victim Incidents Sexual Assault – Top Three Items*

Survey respondents that completed the items		n (Percent)
Unwanted oral, vaginal or anal penetration when you did not want to because: they initiated sexual activity despite your refusal or while you were still deciding or ignored your cues to stop or slow down.	Yes	10 (1.9%)
	No	508 (95.5%)
	PNA*	14 (2.6%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>
Unwanted oral, vaginal or anal penetration when you did not want to because: you were asleep, passed out or incapacitated due to drugs or alcohol.	Yes	8 (1.5%)
	No	510 (95.9%)
	PNA*	14 (2.6%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>
Unwanted oral, vaginal or anal penetration when you did not want to because: they either threatened to end a friendship or romantic relationship if you didn't or they caused you to feel pressured by their constant arguments or begging.	Yes	5 (0.9%)
	No	513 (96.4%)
	PNA*	14 (2.6%)
	<b>TOTAL</b>	<b>532 (100.0%)</b>

\*Prefer not to answer

*Table 5. Last Victim Incident: Isolated/Multiple SA/SH Incidents*

	n (Percent)
Isolated	79 (31.6%)
Multiple	120 (48.0%)
Prefer not to answer	51 (20.4%)
<b>TOTAL</b>	<b>250 (100.0%)</b>

*Table 6. Last Victim Incident: Disclose SA/SH Behavior*

Told someone about the experience	n (Percent)
No	106 (45.1%)
Yes	94 (40.0%)
Prefer not to answer	35 (14.9%)
<b>TOTAL</b>	<b>235 (100.0%)</b>

*Table 7. Bystander Incidents Groups*

# of SA/SH Incidents Experienced	0	1	2	3	4	5	6	7	8
Sexual Harassment and Stalking n (Percent)	206 (36.6%)	83 (14.7%)	60 (10.7%)	53 (9.4%)	46 (8.2%)	37 (6.6%)	27 (4.8%)	41 (7.3%)	10 (1.8%)
Unwanted Sexual Attention n (Percent)	261 (46.9%)	78 (14.0%)	95 (17.1%)	49 (8.8%)	42 (7.5%)	32 (5.7%)	-	-	-
Sexual Coercion n (Percent)	468 (83.6%)	45 (8.0%)	16 (2.9%)	20 (3.6%)	5 (0.9%)	6 (1.1%)	-	-	-
Sexual Assault n (Percent)	537 (95.2%)	10 (1.8%)	7 (1.2%)	4 (0.7%)	2 (0.4%)	4 (0.7%)	-	-	-

*Table 8. Bystander Incidents – Overall Top Three Reported Behaviors*

		n (Percent)
Making sexual remarks, jokes or stories that were insulting or offensive or made people uneasy	Yes	287 (49.0%)
	No	281 (48.0%)
	PNA*	18 (3.1%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>
Paying unwanted attention, such as flirting or overtly sexual compliments.	Yes	260 (44.4%)
	No	307 (52.4%)
	PNA	19 (3.2%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>
Initiating unwanted touching, such as a hand on lower back, shoulder or back rubs, or other invasive touching.	Yes	232 (39.6%)
	No	336 (57.3%)
	PNA	18 (3.1%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>

\*Prefer not to answer

*Table 9. Bystander Incidents Sexual Coercion – Top Three Behaviors*

		n (Percent)
Unwanted touching, groping, or kissing because of either threatening to end a friendship or romantic relationship, and/ or pressuring, constant arguments or begging.	Yes	43 (7.3%)
	No	521 (88.9%)
	PNA*	22 (3.8%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>
Unwanted touching, groping, or kissing when the other person was sleeping, passed out, or incapacitated due to drugs or alcohol.	Yes	46 (7.8%)
	No	520 (88.7%)
	PNA*	20 (3.4%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>
Unwanted touching, groping, or kissing despite the other person's refusal or while they were still deciding or ignoring their cues to stop or slow down.	Yes	67 (11.4%)
	No	500 (85.3%)
	PNA*	19 (3.2%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>

\*Prefer not to answer



*Table 10. Bystander Incidents Sexual Assault – Top Three Items*

		n (Percent)
Initiating oral, vaginal, or anal penetration because of either threatening to end a friendship or romantic relationship, and/or pressuring, constant arguments or begging.	Yes	12 (2.0%)
	No	554 (94.5%)
	PNA*	20 (3.4%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>
Initiating oral, vaginal, or anal penetration when the other person was sleeping, passed out, or incapacitated due to drugs or alcohol.	Yes	19 (3.2%)
	No	548 (93.5%)
	PNA	19 (3.2%)
	<b>TOTAL</b>	<b>586 (100.0%)</b>
Initiating oral, vaginal, or anal penetration despite the other person's refusal or while they were still deciding or ignoring their cues to stop or slow down.	Yes	19 (3.2%)
	No	545 (93.2%)
	PNA	21 (3.6%)
	<b>TOTAL</b>	<b>585 (100.0%)</b>

\*Prefer not to answer

*Table 11. Last Bystander Experience: Isolated/Multiple SA/SH Incidents*

	n (Percent)
Isolated	167 (41.5%)
Multiple	179 (44.5%)
Prefer not to answer	56 (13.9%)
<b>TOTAL</b>	<b>402 (100.0%)</b>

*Table 12. Last Bystander Experience: Disclose SA/SH Behavior*

Disclosure	n (Percent)
No	247 (64.5%)
Yes	76 (19.8%)
Prefer not to answer	60 (15.7%)
<b>TOTAL</b>	<b>383 (100.0%)</b>

*Table 13. Perpetration of SA/SH by Position*

Position	Bystander n (Percent)	Bystander n (Percent)
Contractor	194 (48.0%)	128 (51.2%)
Victim's supervisor	26 (6.4%)	15 (6.0%)
Someone else's supervisor	35 (8.7%)	29 (11.6%)
<b>Total for above two supervisor categories combined</b>	<b>61 (15.1%)</b>	<b>44 (17.6%)</b>
Someone in victim's immediate work group that is not their supervisor	47 (11.6%)	34 (13.6%)
Military personnel	28 (6.9%)	14 (5.6%)
Victim's superior that is not their supervisor	26 (6.4%)	-
Research team member	23 (5.7%)	15 (6.0%)
Victim's dating partner, spouse, "ice-wife", husband, partner or hookup partner	21 (5.2%)	3 (1.2%)
A subordinate but not the victim's subordinate	19 (4.7%)	11 (4.4%)
Victim's subordinate	6 (1.5%)	2 (0.8%)
I don't know	65 (16.1%)	16 (6.4%)
Other	41 (10.1%)	26 (10.4%)
Prefer not to answer	48 (11.9%)	41 (16.4%)
<b>TOTAL*</b>	<b>-</b>	<b>-</b>

\*Note: Responses may exceed 100% as survey respondents could check all that applied.

*Table 14. Last Victim Experience: Time of Day for Supervisor vs. Non-Supervisor Perpetrator*

Time of Day	Perpetrator- Supervisor n (Percent)	Perpetrator - Non-Supervisor n (Percent)
During my work hours	20 (51.3%)	43 (20.4%)
During my time off work — social time	16 (41.0%)	114 (54.0%)
Prefer not to answer	3 (7.7%)	54 (25.6%)
<b>TOTAL</b>	<b>39 (100.0%)</b>	<b>211 (100.0%)</b>

*Table 15. Last Victim Experience: Time of Day for Contractor vs. Non-Contractor Perpetrator*

Time of Day	Perpetrator-Contractor n (Percent)	Perpetrator – Non-Contractor n (Percent)
During my work hours	30 (23.4%)	33 (27.0%)
During my time off work — social time	88 (68.8%)	42 (34.4%)
Prefer not to answer	10 (7.8%)	47 (38.5%)
<b>TOTAL</b>	<b>128 (100.0%)</b>	<b>122 (100.0%)</b>

*Table 16. Last Victim Experience: Isolated/Multiple SA/SH Incidents for Contractor vs. Non-Contractor Perpetrator*

Incident Frequency	Perpetrator-Contractor n (Percent)	Perpetrator – Non-Contractor n (Percent)
Isolated	51 (39.8%)	28 (23.0%)
Multiple	74 (57.8%)	46 (37.7%)
Prefer not to answer	3 (2.3%)	48 (39.3%)
<b>TOTAL</b>	<b>128 (100.0%)</b>	<b>122 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

*Table 17. Last Bystander Reported Experience: Isolated/Multiple SA/SH Incidents for Supervisor vs. Non-Supervisor Perpetrator*

Incident Frequency	Perpetrator-Supervisor n (Percent)	Perpetrator – Non-Supervisor n (Percent)
Isolated	8 (15.1%)	159 (45.6%)
Multiple	41 (77.4%)	138 (39.5%)
Prefer not to answer	4 (7.5%)	52 (14.9%)
<b>TOTAL</b>	<b>53 (100.0%)</b>	<b>349 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

**Table 18. Last Bystander Experience: Isolated/Multiple SA/SH Incidents for Contractor vs. Non-Contractor Perpetrator**

Incident Frequency	Perpetrator-Contractor n (Percent)	Perpetrator – Non-Contractor n (Percent)
Isolated	75 (38.7%)	92 (44.2%)
Multiple	110 (56.7%)	69 (33.2%)
Prefer not to answer	9 (4.6%)	47 (22.6%)
<b>TOTAL</b>	<b>194 (100.0%)</b>	<b>208 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

**Table 19. Last Victim Experience: Specific Location when Perpetrator is a Supervisor**

Specific Location	Perpetrator – Non-Contractor n (Percent)
Workplace	13 (33.3%)
Common area	12 (30.8%)
Bar	2 (5.1%)
Private in-person meeting	2 (5.1%)
Bathroom	1 (2.6%)
Residence/bedroom	1 (2.6%)
Field camp	1 (2.6%)
Other	3 (7.7%)
Prefer not to answer	4 (10.3%)
<b>TOTAL</b>	<b>39 (100.0%)</b>

*Table 20. Last Victim Experience: Specific Location for Perpetrator is a Non-Supervisor*

Specific Location	Perpetrator – Non-Supervisor n (Percent)
Workplace	21 (10.0%)
Common area	90 (42.7%)
Bar	24 (11.4%)
Private in-person meeting	1 (0.5%)
Bathroom	2 (0.9%)
Residence/bedroom	12 (5.7%)
Field camp	4 (1.9%)
Other	10 (4.7%)
Prefer not to answer	47 (22.3%)
<b>TOTAL</b>	<b>211 (100.0%)</b>

*Table 21. Last Victim Experience: Specific Location for Contractor vs. Non-Contractor Perpetrator*

Specific Location	Perpetrator - Contractor n (Percent)	Perpetrator – Non-Contractor n (Percent)
Workplace	19 (14.8%)	15 (12.3%)
Common area	68 (53.1%)	34 (27.9%)
Bar	16 (12.5%)	10 (8.2%)
Private in-person meeting	1 (0.8%)	2 (1.6%)
Bathroom	1 (0.8%)	2 (1.6%)
Residence/bedroom	10 (7.8%)	3 (2.5%)
Field camp	1 (0.8%)	4 (3.3%)
Other	5 (3.9%)	8 (6.6%)
Prefer not to answer	7 (5.5%)	44 (36.1%)
<b>TOTAL</b>	<b>128 (100.0%)</b>	<b>122 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding, and some participants selected more than one option.

**Table 22. Last Bystander Experience: Specific Location of incident involving Supervisor vs. Non-Supervisor Perpetrator**

Specific Location	Perpetrator - Supervisor n (Percent)	Perpetrator - Non-Supervisor n (Percent)
Workplace	15 (28.3%)	29 (8.3%)
Common area	18 (34.0%)	151 (43.3%)
Bar	8 (15.1%)	60 (17.2%)
Private in-person meeting	1 (1.9%)	4 (1.1%)
Bathroom	-	2 (0.6%)
Residence/bedroom	5 (9.4%)	27 (7.7%)
Field camp	1 (1.9%)	6 (1.7%)
Other	2 (3.8%)	19 (5.4%)
Prefer not to answer	3 (5.7%)	51 (14.6%)
<b>TOTAL</b>	<b>53 (100.0%)</b>	<b>349 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

**Table 23. Last Bystander Experience: Specific Location of incident involving Contractor vs. Non-Contractor Perpetrator**

Specific Location	Perpetrator - Contractor n (Percent)	Perpetrator - Non-Contractor n (Percent)
Workplace	24 (12.4%)	20 (9.6%)
Common area	93 (47.9%)	76 (36.5%)
Bar	32 (16.5%)	36 (17.3%)
Private in-person meeting	4 (2.1%)	1 (0.5%)
Bathroom	-	2 (1.0%)
Residence/bedroom	20 (10.3%)	12 (5.8%)
Field camp	3 (1.5%)	4 (1.9%)
Other	7 (3.6%)	14 (6.7%)
Prefer not to answer	11 (5.7%)	43 (20.7%)
<b>TOTAL</b>	<b>194 (100.0%)</b>	<b>208 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.



*Table 24. Perpetrator Tactics Reported By Victim\**

Tactics	n (Percent)
Caught you off guard (e.g., came up behind you, or initiated sexual activity without checking in with you first, before you knew what was happening).	77 (32.6%)
Ignored your nonverbal cues to stop or slow down (e.g., move hand away, turn away, pushed off, pretended to be asleep).	61 (25.8%)
Used verbal pressure.	54 (22.9%)
Ignored you when you asked or told them to leave.	42 (17.8%)
Criticized your sexuality, attractiveness or called you names/slurs.	29 (12.3%)
Used another method not described above.	32 (13.6%)

\*Note: Of the 12 items for the above “Perpetrator Tactics” measure that survey respondents could choose from, only those items above 10% are shown here. Percentages will not add up to 100% as only people who responded “yes” to a tactic were included.

*Table 25. Victimization By Age*

Age	n (Percent)
18-24	-
25-34	80 (37.7%)
35-44	69 (32.5%)
45-54	31 (14.6%)
55-64	12 (5.7%)
65+	-
Prefer not to answer	-
<b>TOTAL</b>	<b>*</b>

Note: Percentages may not add up to 100% due to rounding.

\*Totals not available to preserve confidentiality.

*Table 26. Victimization By Socioeconomic Status*

Respondent Income	n (Percent)
Under \$15,000	-
\$15,000-\$29,999	21 (9.9%)
\$30,000-\$49,999	43 (20.3%)
\$50,000-\$74,999	49 (23.1%)
\$75,000-\$99,999	39 (18.4%)
\$100,000-\$150,000	34 (16%)
Over \$150,000	-
Prefer not to answer	-
<b>TOTAL</b>	<b>*</b>

Note: Percentages may not add up to 100% due to rounding or if data was not available. \*Totals not available to preserve confidentiality.

*Table 27. Reported Being a Bystander*

Age	n (Percent)
18-24	18 (4.6%)
25-34	133 (33.8%)
35-44	118 (30.0%)
45-54	65 (16.5%)
55-64	44 (11.2%)
65+	12 (3.1%)
Prefer not to answer	3 (0.8%)
<b>TOTAL</b>	<b>393 (100.0%)</b>

*Table 28. Education Level of Bystander*

Education	n (Percent)
High school	18 (4.6%)
Trade school	133 (33.8%)
Associate's degree	118 (30.0%)
Bachelor's degree	65 (16.5%)
Some graduate school	44 (11.2%)
Master's degree	12 (3.1%)
Doctoral	
Prefer not to answer	3 (0.8%)
<b>TOTAL</b>	<b>*</b>

Note: Percentages may not add up to 100% due to rounding or if data not available. \*Totals not available to preserve confidentiality.

*Table 29. Bystanders by Socioeconomic Status*

Respondent Income	n (Percent)
Under \$15,000	-
\$15,000-\$29,999	43 (10.9%)
\$30,000-\$49,999	80 (20.4%)
\$50,000-\$74,999	81 (20.6%)
\$75,000-\$99,999	65 (16.5%)
\$100,000-\$150,000	64 (16.3%)
Over \$150,000	32 (8.1%)
Prefer not to answer	-
<b>TOTAL</b>	<b>*</b>

Note: Percentages may not add up to 100% due to rounding or if data not available. \*Totals not available to preserve confidentiality.

*Table 30. During What Deployment Season Did The SA/SH Behavior Happen?*

Season	Bystander n (Percent)	Victim n (Percent)
Winter 2024	20 (3.4%)	14 (2.7%)
Summer 2023	154 (26.4%)	96 (18.2%)
Winfly 2023	6 (1.0%)	1 (0.2%)
Winter 2023	18 (3.1%)	9 (1.7%)
Summer 2022	100 (17.1%)	52 (9.9%)
Winfly 2022	4 (0.7%)	4 (0.8%)
Winter 2022	15 (2.6%)	2 (0.4%)
Before or during summer 2021	58 (9.9%)	45 (8.5%)
Have not observed	176 (30.1%)	277 (52.6%)
Prefer not to answer	33 (5.7%)	27 (5.1%)
<b>TOTAL</b>	<b>584 (100.0%)</b>	<b>527 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

*Table 31. Geographic Location of Perpetration, Bystander and Victim*

Geographic Location	Bystander n (Percent)	Victim n (Percent)
New Zealand	2 (0.5%)	2 (0.8%)
Chile	1 (0.2%)	1 (0.4%)
McMurdo Station	278 (69.2%)	164 (65.6%)
McMurdo Near Field	4 (1.0%)	2 (0.8%)
McMurdo Deep Field	5 (1.2%)	4 (1.6%)
South Pole	33 (8.2%)	20 (8.0%)
Palmer Station	29 (7.2%)	12 (4.8%)
Research vessel	19 (4.7%)	7 (2.8%)
Other	7 (1.7%)	5 (2.0%)
Prefer not to answer	24 (6.0%)	33 (13.2%)
<b>TOTAL</b>	<b>402 (100.0%)</b>	<b>250 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

*Table 32. What Specific Location Did Perpetrators Use to Target Victims?*

Specific Location	Bystander n (Percent)	Victim n (Percent)
Common area	169 (42.0%)	102 (40.8%)
Bar	68 (16.9%)	26 (10.4%)
Workplace	44 (10.9%)	34 (13.6%)
Residence/bedroom	32 (8.0%)	13 (5.2%)
Other	21 (5.2%)	13 (5.2%)
Field camp	7 (1.7%)	5 (2.0%)
Private in-person meeting	5 (1.2%)	3 (1.2%)
Bathroom	2 (0.5%)	3 (1.2%)
Prefer not to answer	54 (13.4%)	51 (20.4%)
<b>TOTAL</b>	<b>402 (100.0%)</b>	<b>250 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

*Table 33. When in the Day Did the SA/SH Behavior Happen?*

Time of Day	Bystander n (Percent)	Victim n (Percent)
During my work hours	86 (21.2%)	63 (25.2%)
During my time off work — social time	256 (63.1%)	130 (52.0%)
Prefer not to answer	64 (15.8%)	57 (22.8%)
<b>TOTAL</b>	<b>406 (100.0%)</b>	<b>250 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

**Note for Table 34 and 34a:** To understand whether perceiving a permissive environment is associated with being a victim or bystander, the survey norms items were used to create an average. If participants' survey respondents' norms average was 1-1.999, they were described as "not having norms" — that SA/SH is normal. If participants' norm average was 2-4, they were described as "having norms" — that SA/SH is normal.

*Table 34. SA/SH Norms for Bystander vs. Victims*

Bystander	SA/SH is Normal n (Percent)	SA/SH is Not Normal n (Percent)
No	44 (22.4%)	135 (35.9%)
Yes	152 (77.6%)	241 (64.1%)
<b>TOTAL</b>	<b>196 (100.0%)</b>	<b>376 (100.0%)</b>

*Table 34a. SA/SH Norms for Victims*

Victim	SA/SH is Normal n (Percent)	SA/SH is Not Normal n (Percent)
No	86 (48.3%)	222 (64.9%)
Yes	92 (51.7%)	120 (35.1%)
<b>TOTAL</b>	<b>178 (100.0%)</b>	<b>342 (100.0%)</b>



**Table 35. Perceptions of USAP Community's Customs Related to SA/SH**

<i>survey respondents (n= 679)</i>	<b>Agree and Strongly Agree</b>
Sexual jokes and innuendos are a normal part of deployment with the USAP community.	43.2%
Drinking a lot of alcohol during off hours is the best way to relax.	8.2%
Going to the McMurdo bars means a community member is probably looking to "hook up"/have sex.	6.7%
Most people in the USAP community have a "what happens on-ice, stays on-ice" way of thinking when it comes to sex and dating.	42.1%
If I want to date or "hook up" with a USAP community member, it's ok to keep asking until they agree to a date or very definitively say no.	9.6%
Flirting and sexual compliments are the way of life within the USAP community.	17.9%
Having an "ice wife," husband or partner is a normal part of USAP community life.	34.1%
Surprising someone by always showing up where they are, even if they don't like it, can be understood as a compliment.	1.5%
Most people are looking to date or "hook up" while deployed.	16%

**Table 36. Workplace Satisfaction**

<i>survey respondents (n= 679)</i>	<b>Agree and Strongly Agree</b>
In my current job at USAP, I feel like my skills are appropriately utilized.	83.2%
In my current job at USAP, I feel that my workload and deadlines are manageable.	77.4%
Overall, I am comfortable with my workplace environment at USAP.	81.1%
In my current job at USAP, I feel like my skills are appropriately credited.	78.0%
In my current job at USAP, I feel like my perspectives/thoughts are valued.	75.6%

*Table 37. Workplace Satisfaction Measure for Victim vs. Non-Victim*

	Victim Mean (SD)	Not a Victim Mean (SD)	<i>t</i>
Overall (average of five items)	2.80 (0.69)	3.19 (0.65)	6.44***

\*\*\* $p < .001$ *Table 38. Workplace Satisfaction Measure for Bystander vs. Non-Bystander*

	Victim Mean (SD)	Not a Victim Mean (SD)	<i>t</i>
Overall (average of five items)	2.90 (0.69)	3.29 (0.62)	6.44***

\*\*\* $p < .001$ *Table 39. Last Victim Incident: Disclose SA/SH Behavior*

Disclose	n (Percent)
No	106 (45.1%)
Yes	94 (40.0%)
Prefer not to answer	35 (14.9%)
<b>TOTAL</b>	<b>235 (100.0%)</b>

*Table 40. Last Victim Incident: Who Disclosed SA/SH Behavior*

Who Disclosed Victim Incident to	n (Percent)*
A community member I work with	65 (69.1%)
A community member I do not work with	47 (50.0%)
Confidential victim advocate	19 (20.2%)
Chaplain, faith or spiritual leader while deployed	1 (1.1%)
Someone at the medical clinic while deployed	3 (3.2%)
Counselor while deployed	8 (8.5%)
My supervisor, manager /military commanding officer	38 (40.4%)
Human resources,	19 (20.2%)
NSF station manager, special deputy U.S. marshal	9 (9.6%)
Ice ally	4 (4.3%)
Someone NOT deployed (i.e., family member, friend)	19 (20.2%)
Other	7 (7.4%)
Prefer not to answer	1 (1.1%)

\*Note: Total responses may exceed 100% as survey respondents could check all that applied.

*Table 41. Last Victim Incident: Why Did They Not Tell Anyone About the SA/SH Behavior*

	n (Percent)*
Felt it was not serious enough.	61 (57.5%)
Was afraid of being retaliated against socially (i.e., ostracized, excluded, judged).	13 (12.3%)
Was afraid of retaliation by my employer (i.e., a poor performance review, demotion, change in duties, losing my job or being re-deployed, not being hired again or deployed etc.).	9 (8.5%)
Was afraid it would be reported without my permission.	9 (8.5%)
Was afraid for my physical safety.	3 (2.8%)
Didn't trust that the person would be sanctioned or punished.	25 (23.6%)
Felt bad about calling attention to negative workplace behavior.	15 (14.2%)
Didn't think I would be believed.	14 (13.2%)
Didn't think it would be taken seriously.	32 (30.2%)
It wasn't the first time it happened.	14 (13.2%)
I reported a SA/SH behavior before and nothing happened.	7 (6.6%)
Didn't know who or what office to talk to.	8 (7.5%)
It happens all the time and nobody reports it.	22 (20.8%)
Decided to handle it on my own.	41 (38.7%)
Other	16 (15.1%)
Prefer not to answer	10 (9.4%)

\*Note: Total responses may exceed 100% as survey respondents could check all that applied.

**Table 42. Last Victim Incident: Did Victim or Who the Victim Told Officially Report SA/SH Behavior**

	n (Percent)*
No, I did not officially report the incident.	60 (63.8%)
Yes, I officially reported the incident.	19 (20.2%)
Yes, the person I spoke with officially reported the SA/SH incident.	10 (10.6%)
Prefer not to answer	5 (5.3%)
<b>TOTAL</b>	<b>94 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

**Table 43. Last Victim Incident: Why Did Victim Not Officially Report**

	n (Percent)*
Felt it was not serious enough.	36 (60.0%)
Was afraid of being retaliated against socially (i.e., ostracized, excluded, judged).	21 (35.0%)
Was afraid of retaliation by my employer (i.e., a poor performance review, demotion, change in duties, losing my job or being re-deployed, not being hired again or deployed etc.).	15 (25.0%)
Was afraid it would be reported without my permission.	6 (10.0%)
Was afraid for my physical safety.	2 (3.3%)
Didn't trust that the person would be sanctioned or punished.	28 (46.7%)
Felt bad about calling attention to negative workplace behavior.	5 (8.3%)
Didn't think I would be believed.	4 (6.7%)
Didn't think it would be taken seriously.	22 (36.7%)
It wasn't the first time it happened.	8 (13.3%)
I reported a SA/SH behavior before and nothing happened.	7 (11.7%)
Didn't know who or what office to talk to.	5 (8.3%)
It happens all the time and nobody reports it.	16 (26.7%)
Decided to handle on my own.	19 (31.7%)
Other	6 (10.0%)
Prefer not to answer	-

Note: Percentages may not add up to 100% due to rounding. \* Total responses may exceed 100% as survey respondents could check all that applied.

*Table 44. Last Bystander Incident: Who Did Bystander Tell About the SA/SH Behavior*

	n (Percent)*
Confidential victim advocate	19 (24.7%)
Chaplain, faith or spiritual leader while deployed	2 (2.6%)
Someone at the medical clinic while deployed	5 (6.5%)
Counselor while deployed	9 (11.7%)
My supervisor, manager or military commanding officer	38 (49.4%)
Human resources	35 (45.5%)
NSF station manager	9 (11.7%)
Ice ally	2 (2.6%)
Other	15 (19.5%)
Prefer not to answer	5 (6.5%)

Note: Percentages may not add up to 100% due to rounding. \*Total responses may exceed 100% as survey respondents could check all that applied.

*Table 45. Last Bystander Experience: Did Bystander or Who Bystander Told Officially Report SA/SH Behavior*

	n (Percent)*
No	125 (59.5%)
Yes	54 (25.7%)
Prefer not to answer	31 (14.8%)
<b>TOTAL</b>	<b>210 (100.0%)</b>

Note: Percentages may not add up to 100% due to rounding.

*Table 46. Last Bystander Experience: Did You Want the Person Told to Officially Report SA/SH Behavior*

	n (Percent)
No	1 (1.9%)
Yes	48 (88.9%)
Prefer not to answer	5 (9.3%)
<b>TOTAL</b>	<b>54 (100.0%)</b>



# Endnotes

- <sup>1</sup> Department of the Interior assisted acquisition.
- <sup>2</sup> CHIPS and Science Act, Section 10002. <https://www.congress.gov/117/plaws/publ167/PLAW-117publ167.pdf>.
- <sup>3</sup> Freedman-Weiss, M. R., Chiu, A. S., Heller, D. R., Cutler, A. S., Longo, W. E., Ahuja, N., & Yoo, P. S. (2020). Understanding the barriers to reporting sexual harassment in surgical training. *Annals of surgery*, 271(4), 608-613.
- <sup>4</sup> Sapiro, V., & Campbell, D. (2018). Report on the 2017 APSA survey on sexual harassment at annual meetings. *PS: Political Science & Politics*, 51(1), 197-206.
- <sup>5</sup> Wood, L., Hoefer, S., Kammer-Kerwick, M., Parra-Cardona, J. R., & Busch-Armendariz, N. (2021). Sexual harassment at institutions of higher education: Prevalence, risk, and extent. *Journal of interpersonal violence*, 36(9-10), 4520-4544.
- <sup>6</sup> The victimization inventory includes 23 distinct behaviors (see Appendix B).
- <sup>7</sup> The bystander inventory includes 23 distinct behaviors (see Appendix B).
- <sup>8</sup> On-ice is a colloquial term used by the USAP community to mean actively working on station, camp, research vessel in Antarctica.
- <sup>9</sup> Brofenbrenner U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32, 513-531.
- <sup>10</sup> Centers for Disease Control and Prevention. (n.d.). *About the CDC's violence prevention efforts*. Centers for Disease Control and Prevention. Retrieved March 19, 2025, from <https://www.cdc.gov/violence-prevention/about/>.
- <sup>11</sup> Krug, E. G., Dahlberg, L. L., Mercy, J. A., Zwi, A. B., & Lozano, R. (2002). *World report on violence and health*. World Health Organization. [https://www.who.int/violence\\_injury\\_prevention/violence/world\\_report/en/](https://www.who.int/violence_injury_prevention/violence/world_report/en/).
- <sup>12</sup> The victimization inventory includes 23 distinct behaviors (see Appendix B).
- <sup>13</sup> Referred to as '**disclosure or disclosing**'. Victims and bystanders often disclose to friends, colleagues, advocates, family members, and others in seeking support from those they trust. Disclosure often does not include intent to formally report the incident.
- <sup>14</sup> "Title VII, ADEA, ADA, GINA, 29 CFR Part 1601, 29 CFR Part 1604, 29 CFR Part 1605, 29 CFR Part 1606, 29 CFR Part 1625, 29 CFR Part 1626, 29 CFR Part 1630, 29 CFR Part 1635."
- <sup>15</sup> Ibid.
- <sup>16</sup> Ibid.
- <sup>17</sup> Ethical use of communication systems includes, but is not limited to: clear boundaries in all communications during deployment on-ice to avoid misunderstandings; conflicts; are clear, concise, and free from offensive or disrespectful statements and language; and that adhere to current to relevant guidelines.
- <sup>18</sup> "Messaging" includes pagers, radios, audios, and land mobile radios (LMR).
- <sup>19</sup> A media campaign broadly educates a specific target population on a desired topic versus a social norming campaign aims to correct misperceptions on what a community considers 'normal' behavior.
- <sup>20</sup> Strategic resistance skills are grounded in evidence-based strategies proven to empower individuals to protect themselves when they encounter problematic or unsafe behaviors. Strategic resistance skills include: assessment of risk and protective factors; building and leveraging support networks; setting boundaries through verbal and physical resistance, etc. Strategic resistance skills are particularly helpful in insular and isolated work environments where the prevalence of misconduct tends to be higher.
- <sup>21</sup> U.S. National Science Foundation. (n.d.). *U.S. Antarctic Program Science and Health Protocols Report (NSF SAHPR)*. Retrieved Jan. 20, 2025, from <https://www.nsf.gov/geo/opp/documents/USAP%20SAHPR%20Report.pdf>.

- <sup>22</sup> The victimization inventory includes 23 distinct behaviors (see Appendix B).
- <sup>23</sup> The bystander inventory includes 23 distinct behaviors (see Appendix B).
- <sup>24</sup> The agreement for the USAP Sexual Assault and Climate Survey (SAHCS) is overseen by the Department of the Interior assisted acquisition. The primary contractor is Leading and Dynamic Services and Solutions (LDSS), with subcontractors including Alteristic, Inc.; Ladder Consulting LLC; Jessica E. Mindlin (JEM) Consulting; the National Center for Victims of Crime; and Soteria Solutions — the organization that conducted the SAHCS.
- <sup>25</sup> Merhill, N. M., K. A. Bonner, and A. L. Baker (Eds.). 2021. Guidance for Measuring Sexual Harassment Prevalence Using Campus Climate Surveys. Washington, D.C.: National Academies of Sciences, Engineering, and Medicine. <https://doi.org/10.7226/26346>.
- <sup>26</sup> Fitzgerald, L. F., Gelfand, M. J., & Drasgow, F. (1995). Measuring Sexual Harassment: Theoretical and Psychometric Advances. *Basic and Applied Social Psychology*, 17(4), 425–445. [https://doi.org/10.1207/s15324834basp1704\\_2](https://doi.org/10.1207/s15324834basp1704_2).
- <sup>27</sup> See Appendix A for a more detailed description of the measures and statistical testing for validity and reliability.
- <sup>28</sup> Merhill, N. M., K. A. Bonner, and A. L. Baker (Eds.). 2021. Guidance for Measuring Sexual Harassment Prevalence Using Campus Climate Surveys. Washington, D.C.: National Academies of Sciences, Engineering, and Medicine. <https://doi.org/10.7226/26346>.
- <sup>29</sup> National Science Foundation Advisory Committee for the Social, Behavioral and Economic Sciences Subcommittee on Advancing SBE Survey Research. (2018). The Future of Survey Research: Challenges and Opportunities. National Science Foundation. Retrieved from <https://docslib.org/doc/13058456/the-future-of-survey-research-challenges-and-opportunities>.
- <sup>30</sup> Freedman-Weiss, M. R., Chiu, A. S., Heller, D. R., Cutler, A. S., Longo, W. E., Ahuja, N., & Yoo, P. S. (2020). Understanding the Barriers to Reporting Sexual Harassment in Surgical Training. *Annals of surgery*, 271(4), 608–613.
- <sup>31</sup> Sapiro, V., & Campbell, D. (2018). Report on the 2017 APSA Survey on Sexual Harassment at Annual Meetings. *PS: Political Science & Politics*, 51(1), 197–206.
- <sup>32</sup> Wood, L., Hoefer, S., Kammer-Kerwick, M., Parra-Cardona, J. R., & Busch-Armendariz, N. (2021). Sexual Harassment at Institutions of Higher Education: Prevalence, Risk, and Extent. *Journal of interpersonal violence*, 36(9–10), 4520–4544.
- <sup>33</sup> Porter, S. R., & Whitcomb, M. E. (2005). Non-response in Student Surveys: The role of Demographics, Engagement and Personality. *Research in higher education*, 46, 127–152.
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- <sup>39</sup> Because survey respondents had the opportunity to skip and not answer questions, the total number (n) of survey respondents presented in tables does not always add up to the total survey population N.
- <sup>40</sup> Percentages may not add up to 100% due to rounding.
- <sup>41</sup> Table 2 (see Appendix D. Data Tables) shows the frequent and ongoing nature of victimization for a subset of survey respondents.

- <sup>42</sup> Not disclosing means not telling anyone about the incident and not seeking support.
- <sup>43</sup> Normalization is the process by which non-inherent beliefs or social dynamics become fixed and reinforced over time through social interactions and power dynamics.
- <sup>44</sup> Prefer not to answer.
- <sup>45</sup> Chile and New Zealand.
- <sup>46</sup> The change or increase in percentage from those victims that believe SA/SH is Not normal (35.1%) to those victims that do believe SA/SH IS normal (51.7%).
- <sup>47</sup> The change or increase in percentage from those bystanders that believe SA/SH is Not normal (64.1%) to those bystanders that do believe SA/SH IS normal (77.6%).
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- <sup>57</sup> Strategic resistance skills are grounded in evidence-based strategies proven to empower individuals to protect themselves when they encounter problematic or unsafe behaviors. Strategic resistance skills include assessment of risk and protective factors, building and leveraging support networks, setting boundaries through verbal and physical resistance, etc. Strategic resistance skills are particularly helpful in insular and isolated work environments where the prevalence of misconduct tends to be higher.
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