

Annex 3: The Relationship Between Sexual Harassment and Sexual Assault and Mental Health-Related Outcomes among Active Duty Service Members: Executive Summary



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Introduction

Sexual harassment and sexual assault threaten military readiness via their potential impact on military members' mental health and well-being. Previous research on this topic has tended to rely solely on survey data reflecting Service members' self-reported experiences with these behaviors and mental health. Further, there has been limited research on the impact of these harmful behaviors on Service members' mental health over longer periods of time. Using a combination of survey and healthcare data, this study addressed this gap by examining the mental health-related outcomes of Department of Defense (DoD) active duty members over a five-year period after experiencing sexual harassment and/or sexual assault.

Key Takeaway

Active duty members who indicated having experienced sexual harassment and/or sexual assault on the *2016 Workplace and Gender Relations Survey of Active Duty Members (2016 WGRA)*¹ tended to have increased levels of mental health-related outcomes (e.g., mental health-related diagnoses, mental health-related encounters) compared to those who did not, particularly in the first two years following the survey. Similar results were observed for those who disclosed sexual harassment and/or reported their sexual assault compared to those who had not.

Methodology

We leveraged data from the *2016 WGRA* (Davis et al., 2017) to create predictors capturing differences in DoD active duty members' experiences with sexual harassment, sexual assault, disclosure of sexual harassment and type of disclosure, and reporting of sexual assault and type of report in the 12 months prior to completing the survey. These active duty members' mental health-related outcomes were captured over five years following the *2016 WGRA* (2016–2021).² We examined three mental health-related outcomes using data from the Military Health System Data Repository: mental health-related diagnosis, mental health-related encounters, and mental health-related prescriptions.³ For each

¹ Prior to 2025, Office of People Analytics (OPA) research products used the term “gender” to describe men and women. These groups have been defined using survey items and/or administrative data categories for “male” and “female” and therefore references to gender should be understood to mean “sex.”

² The administration of the *2016 WGRA* (versus, for example, date of sexual harassment disclosure or sexual assault report) was used to provide a consistent reference point across all models, including those active duty members who did not disclose or report their experience. Although the *2016 WGRA* included a follow-up question that collected the month and year in which respondents' sexual assault experiences occurred, a similar follow-up question was not available for respondents who indicated having experienced sexual harassment, therefore we did not use this item.

³ Mental health-related diagnosis and mental health-related encounters were created based on International Classification Diseases (ICD) codes associated with mental health disorders and broader mental and behavioral health experiences. Mental health-related prescription was created based on National Drug Codes (NDCs) associated with prescription drugs with the intended purpose of treating mental health-related diagnoses.

combination of predictor and outcome, we conducted a regression model⁴ for each year of analysis to understand how experiencing sexual harassment and/or sexual assault and how disclosing/reporting those experiences were associated with active duty members' mental health over time. All analyses used unweighted data and controlled for active duty members' demographic characteristics.⁵

Results

We describe key findings below and provide odds ratios or incidence rate ratios, depending on outcome, from each model associated with these results at the end of this report.

Experience of Sexual Harassment

Active duty members who indicated experiencing sexual harassment on the *2016 WGRA* had greater odds of receiving a mental health-related diagnosis in each of the five years of analysis, higher rates of mental health-related encounters in each of the five years of analysis, and greater odds of receiving a mental health-related prescription in each of the five years of analysis compared to those who did not.

Experience of Sexual Assault

Active duty members who indicated experiencing sexual assault on the *2016 WGRA* had greater odds of receiving a mental health-related diagnosis in each of the five years of analysis, higher rates of mental health-related encounters in each of the five years of analysis, and greater odds of receiving a mental health-related prescription in each of the five years of analysis compared to those who did not.

Experience of Sexual Harassment Only, Sexual Assault Only, and Both Sexual Harassment and Sexual Assault

Active duty members who indicated experiencing sexual harassment but not sexual assault on the *2016 WGRA* had greater odds of receiving a mental health-related diagnosis in each of the five years of analysis, higher rates of mental health-related encounters in each of the five years of analysis, and greater odds of receiving a mental health-related prescription in each of the five years of analysis compared to those who indicated experiencing neither sexual harassment nor sexual assault. Active duty members who indicated experiencing sexual assault but not sexual harassment on the *2016 WGRA* had greater odds of receiving a mental health-related diagnosis in the first four years of analysis, higher rates of mental health-related encounters in each of the five years of analysis, and greater odds of receiving a mental health-related prescription in each of the five years of analysis compared to those who indicated experiencing neither sexual harassment nor sexual assault.

Active duty members who indicated experiencing both sexual harassment and sexual assault on the *2016 WGRA* had greater odds of receiving a mental health-related diagnosis in each of the five years of analysis, higher rates of mental health-related encounters in each of the five years of analysis, and

⁴ Mental health-related diagnosis and mental health-related prescription were captured as binary variables and were therefore examined using logistic regression. Mental health-related encounters was captured as a count variable and was therefore examined using negative binomial regression.

⁵ Demographic covariates included paygrade, age, Service, sex, race/ethnicity, years in service, marital status, and, for enlisted Service members, Armed Forces Qualification Test (AFQT) score.

greater odds of receiving a mental health-related prescription in each of the five years of analysis compared to those who indicated experiencing neither sexual harassment nor sexual assault.

Disclosure of Sexual Harassment

Active duty members who indicated having disclosed sexual harassment to a DoD authority⁶ on the 2016 WGRA had greater odds of receiving a mental health-related diagnosis in each of the first four years of analysis, higher rates of mental health-related encounters in each of the first two years of analysis, and greater odds of receiving a mental health-related prescription in each of the first three years of analysis compared to those who experienced sexual harassment and did not disclose it. No statistically significant differences were observed between officially or unofficially⁷ disclosing sexual harassment.

Reporting of Sexual Assault

Active duty members who indicated having reported (restricted or unrestricted) sexual assault on the 2016 WGRA had greater odds of receiving a mental health-related diagnosis in each of the first two years of analysis, higher rates of mental health-related encounters in each of the first two years of analysis, and greater odds of receiving a mental health-related prescription in each of the first two years of analysis compared to those who experienced sexual assault and did not report. No statistically significant differences were observed between filing an Unrestricted Report or Restricted Report of sexual assault.

Conclusion

Although this research does not chart the causal pathways through which sexual harassment and/or sexual assault experiences result in differences in mental health-related outcomes, these results highlight how these experiences are associated with such outcomes over time. Findings from this research can inform the Department's systems for supporting the mental health of Service members who experience sexual harassment or sexual assault.

References

Davis, E., Grifka, A., Williams, K., & Coffey, M. (2017). *2016 Workplace and Gender Relations Survey of Active Duty Members: Overview report* (Report No. 2016-050). Alexandria, VA: Office of People Analytics. https://dhra.deps.mil/sites/OPA/opa-survey/Gender%20Relations%20Surveys/Active_Duty_Members/2016/WGRA1601_Overview-Report.pdf

⁶ Including both informal and formal complaints of sexual harassment to leadership, military equal opportunity (MEO) officials, and the Inspector General's office (IG).

⁷ For the purpose of these analyses, respondents indicated that they disclosed the situation officially to a DoD authority if they discussed it with a supervisor/chain of command with the expectation of corrective action or they officially reported the situation as possible harassment or sex discrimination. Respondents indicated they disclosed the situation unofficially to a DoD authority if they discussed it with a supervisor/chain of command to get guidance on what to do.

Model Results

The following tables present the odds ratios (for mental health-related diagnosis and prescription) and incidence rate ratios (for mental health-related encounters) for the key predictors of interest in the logistic regression models described in this report, organized by mental health-related outcome. Odds ratios and incidence rate ratios less than 1 indicate a negative association and odds ratios and incidence rate ratios greater than 1 indicate a positive association. Table 1 provides the odds ratios associated with the predictors of interest in the models examining mental health-related diagnoses.

Table 1.

Summary of Logistic Regression Models of Receiving a Mental Health-Related Diagnosis Following the 2016 WGRA

Model	Independent Variable	Groups Tested	Odds Ratio				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Experienced Sexual Harassment	Did Not Experience Sexual Harassment	Ref				
		Experienced Sexual Harassment	1.48	1.44	1.30	1.39	1.31
2	Experienced Sexual Assault	Did Not Experience Sexual Assault	Ref				
		Experienced Sexual Assault	2.06	1.99	1.56	1.63	1.41
3	Experiences of Sexual Harassment & Sexual Assault	Did Not Experience Sexual Harassment or Assault	Ref				
		Experienced Sexual Harassment <i>Only</i>	1.43	1.39	1.27	1.36	1.30
		Experienced Sexual Assault <i>Only</i>	2.23	1.95	1.49	1.67	NS
		Experienced <i>Both</i> Sexual Harassment and Sexual Assault	2.15	2.14	1.67	1.71	1.53
4	Sexual Harassment Disclosure	Experienced Sexual Harassment and Disclosed to DoD Authority	Ref				
		Experienced Sexual Harassment and Did Not Disclose to DoD Authority	0.83	0.87	0.87	0.87	NS
		Did Not Experience Sexual Harassment	0.61	0.64	0.70	0.66	0.73
5	Sexual Harassment Disclosure Type	Experienced Sexual Harassment and Disclosed to DoD Authority	Ref				
		Experienced Sexual Harassment and Disclosed to Leadership Unofficially	NS	NS	NS	NS	NS
		Experienced Sexual Harassment and Did Not Disclose to DoD Authority	0.81	0.86	NS	0.86	NS
		Did Not Experience Sexual Harassment	0.59	0.63	0.72	0.65	0.74
6	Sexual Assault Reporting	Experienced Sexual Assault and Reported	Ref				
		Experienced Sexual Assault and Did Not Report	0.50	0.54	NS	NS	NS
		Did Not Experience Sexual Assault	0.29	0.31	0.68	NS	NS
7	Sexual Assault Report Type	Filed an Unrestricted Report	Ref				
		Filed a Restricted Report	NS	NS	NS	NS	NS
		Experienced Sexual Assault and Did Not Report	0.44	0.48	NS	NS	NS
		Did Not Experience Sexual Assault	0.26	0.27	0.62	NS	NS

Note. Bolded odds ratios are significant at the $p < .01$ level. NS = Not Significant. Ref = Reference Category. 2016 WGRA = 2016 Workplace and Gender Relations Survey of Active Duty Members. DoD = Department of Defense. Models controlled for active duty members' demographics.

Table 2 provides the incidence rate ratios associated with the predictors of interest in the models examining mental health-related encounters.

Table 2.

Summary of Negative Binomial Regression Models of Mental Health-Related Encounters Following the 2016 WGRA

Model	Independent Variable	Groups Tested	Incidence Rate Ratio				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Experienced Sexual Harassment	Did Not Experience Sexual Harassment	Ref				
		Experienced Sexual Harassment	2.00	1.79	1.70	1.64	1.51
2	Experienced Sexual Assault	Did Not Experience Sexual Assault	Ref				
		Experienced Sexual Assault	2.86	2.31	2.06	1.87	1.64
3	Experiences of Sexual Harassment & Sexual Assault	Did Not Experience Sexual Harassment or Assault	Ref				
		Experienced Sexual Harassment <i>Only</i>	1.85	1.70	1.66	1.61	1.49
		Experienced Sexual Assault <i>Only</i>	2.44	2.00	2.35	1.88	1.50
		Experienced <i>Both</i> Sexual Harassment and Sexual Assault	3.51	2.76	2.20	2.09	1.86
4	Sexual Harassment Disclosure	Experienced Sexual Harassment and Disclosed to DoD Authority	Ref				
		Experienced Sexual Harassment and Did Not Disclose to DoD Authority	0.74	0.84	NS	NS	NS
		Did Not Experience Sexual Harassment	0.42	0.51	0.55	0.57	0.63
5	Sexual Harassment Disclosure Type	Experienced Sexual Harassment and Disclosed to DoD Authority	Ref				
		Experienced Sexual Harassment and Disclosed to Leadership Unofficially	NS	NS	NS	NS	NS
		Experienced Sexual Harassment and Did Not Disclose to DoD Authority	0.71	0.83	NS	NS	NS
		Did Not Experience Sexual Harassment	0.41	0.50	0.55	0.59	0.63
6	Sexual Assault Reporting	Experienced Sexual Assault and Reported	Ref				
		Experienced Sexual Assault and Did Not Report	0.42	0.60	NS	NS	NS
		Did Not Experience Sexual Assault	0.20	0.30	0.52	NS	NS
7	Sexual Assault Report Type	Filed an Unrestricted Report	Ref				
		Filed a Restricted Report	NS	NS	NS	NS	NS
		Experienced Sexual Assault and Did Not Report	0.38	0.56	NS	NS	NS
		Did Not Experience Sexual Assault	0.18	0.28	0.47	NS	NS

Note. Bolded incidence rate ratios are significant at the $p < .01$ level. NS = Not Significant. Ref = Reference Category. 2016 WGRA = 2016 Workplace and Gender Relations Survey of Active Duty Members. DoD = Department of Defense. Models controlled for active duty members' demographics.

Table 3 provides the odds ratios associated with the predictors of interest in the models examining mental health-related prescriptions.

Table 3.
Summary of Logistic Regression Models of Receiving a Mental Health-Related Prescription Following the 2016 WGRA

Model	Independent Variable	Groups Tested	Odds Ratio				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Experienced Sexual Harassment	Did Not Experience Sexual Harassment	Ref				
		Experienced Sexual Harassment	1.90	1.70	1.59	1.54	1.52
2	Experienced Sexual Assault	Did Not Experience Sexual Assault	Ref				
		Experienced Sexual Assault	2.56	2.03	2.04	1.90	1.67
3	Experiences of Sexual Harassment & Sexual Assault	Did Not Experience Sexual Harassment or Assault	Ref				
		Experienced Sexual Harassment <i>Only</i>	1.80	1.65	1.53	1.50	1.49
		Experienced Sexual Assault <i>Only</i>	2.39	1.93	1.88	2.09	1.61
		Experienced <i>Both</i> Sexual Harassment and Sexual Assault	3.03	2.32	2.32	2.00	1.85
4	Sexual Harassment Disclosure	Experienced Sexual Harassment and Disclosed to DoD Authority	Ref				
		Experienced Sexual Harassment and Did Not Disclose to DoD Authority	0.77	0.80	0.81	NS	NS
		Did Not Experience Sexual Harassment	0.45	0.52	0.55	0.59	0.63
5	Sexual Harassment Disclosure Type	Experienced Sexual Harassment and Disclosed to DoD Authority	Ref				
		Experienced Sexual Harassment and Disclosed to Leadership Unofficially	NS	NS	NS	NS	NS
		Experienced Sexual Harassment and Did Not Disclose to DoD Authority	0.74	0.79	0.81	NS	NS
		Did Not Experience Sexual Harassment	0.43	0.52	0.55	0.61	0.64
6	Sexual Assault Reporting	Experienced Sexual Assault and Reported	Ref				
		Experienced Sexual Assault and Did Not Report	0.58	0.62	NS	NS	NS
		Did Not Experience Sexual Assault	0.26	0.35	0.49	0.60	0.47
7	Sexual Assault Report Type	Filed an Unrestricted Report	Ref				
		Filed a Restricted Report	NS	NS	NS	NS	NS
		Experienced Sexual Assault and Did Not Report	0.53	0.58	NS	NS	NS
		Did Not Experience Sexual Assault	0.24	0.32	0.44	0.51	0.51

Note. Bolded odds ratios are significant at the $p < .01$ level. NS = Not Significant. Ref = Reference Category. 2016 WGRA = 2016 Workplace and Gender Relations Survey of Active Duty Members. DoD = Department of Defense. Models controlled for active duty members' demographics.