

**Unwanted Workplace Experiences in the Military: Issues Affecting Measurement of Patterns and Prevalence of Sexual Harassment**



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## **Abstract**

The purpose of this study is to analyze a new module included in the Department of Defense (DoD), Defense Equal Opportunity Climate Survey (DEOCS), Version 4.1. The new module was designed to identify unwanted workplace experiences that could constitute sexual harassment. The set of questions provide a more parsimonious measurement approach to that used in other DoD surveys while expanding on the single question approach used in earlier version of the DEOCS. There are three primary objectives: 1. determine if responses to this subscale appear to be valid, 2. assess whether this subscale is suitable for deriving prevalence estimates of sexual harassment, and 3. identify potential risk factors. Favorable measurement properties tied to internal consistency and dimensionality of the items appear to be offset by lower than expected prevalence estimates. However, the patterns of findings may prove valuable for identifying unit-level climates that increase or decrease the likelihood of individual experiences of sexual harassment.

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## **Introductions and Objectives**

In 2014, researchers at RAND re-conceptualized measurement of gender relations themes in the Workplace and Gender Relations Surveys (Morrall et al., 2014). The new approach more explicitly focused on behaviors related to harassment as defined by the Uniform Code of Military Justice. As a result, the sequence of questions in the 2014 survey could include as many as 52 items, with a primary set of 19 questions and a series of follow up items, to establish the likelihood that reported activities would meet legal standards for identifying punishable incidents. The RAND approach shifted the measurement focus from a public health approach toward a criminal justice approach (Morrall et al., 2014).

Further research identified a subset of the core items proposed to measure sexual harassment with greater parsimony (Schell et al., 2017). As a result, a 5-item short scale is now included on the DEOCS as the “Unwanted Workplace Behaviors” (UWE) subscale. The purpose of this study is to analyze the new DEOCS data, with three objectives: 1. determine if responses to this subscale appear to be valid, 2. assess whether this subscale is suitable for deriving prevalence estimates of sexual harassment, and 3. identify potential risk factors.

### **The New DEOCS UWE Scale**

The survey instrument is divided into four main sections, with content descriptions and definitions included in each area:

PART I – Demographics

PART II – Organizational Effectiveness (OE)

PART III - Equal Opportunity/Equal Employment Opportunity (EO/EEO)/Fair Treatment

PART IV – Sexual Assault Prevention and Response

(See <https://www.deocs.net/public/index.cfm>).

The new questions were incorporated at the end of Part III. Respondents may complete the survey with an online or paper instrument, primarily determined by the administrator. From the DEOCS Frequently Asked Questions (FAQs):

18. What different options are available to complete the DEOCS survey?

You have three survey options available to you. (1) You can have individuals complete the survey online from any computer that has an internet connection. (2) You can have individuals complete the survey in paper form. (3) You can use a combination of the online and paper form for the same unit (<https://www.deocs.net/DocDownloads/DEOCS-FAQs.pdf>).

A slightly abbreviated version of the questions from the paper version is included below:

**Unwanted Workplace Experience:** *Measures the sexual harassment risk within the organization. The items contain behaviors associated with the increased probability that sexual harassment could be occurring.*

Please be aware that some individuals may find question 58a - e to be sensitive in nature. We are interested in hearing if you personally experienced any of the behaviors while working under your current senior leader, during the past 12 months.

58. While under your current senior leader **and** within the last 12 months, did someone from your workplace:

a. Repeatedly tell sexual “jokes” that made you uncomfortable, angry, or upset?

» 1 = Yes 2 = No

b. Embarrass, anger, or upset you by repeatedly suggesting that you do not act like a man/woman is supposed to? *For example, if you are a male being called a “fag” or “gay,” if you are a female being called a “dyke” or “butch.”*

c. Make repeated sexual comments about your appearance or body that made you uncomfortable, angry, or upset?

d. Make repeated attempts to establish an unwanted romantic or sexual relationship with you? *These could range from repeatedly asking you out for coffee to asking you for sex or a “hook-up.”*

e. Intentionally touch you in a sexual way when you did not want them to? *This could include touching your genitals, breasts, buttocks, or touching you with their genitals anywhere on your body.*

Source: <https://www.deocs.net/public/index.cfm>.

The printed version has a prominently displayed italicized description of the content focus of the “Unwanted Workplace Experience” module. This description clearly establishes that the items address “sexual harassment,” in contrast to other sexist behaviors or gender discrimination. Within the items, the words “repeated” or “repeatedly” emphasize persistent unwanted actions that “embarrass, anger, or upset” the respondent or made them “uncomfortable, angry, or upset.” In combination, the description and verbal cues guide the respondent by providing a clear focus on the topic of the module (Note that

the italicized description displays in the online version only if the respondent moves the cursor over a small icon. This issue will come up again as a possible reason for differences in measured outcomes based on survey mode).

### **Sample Descriptions and Weighting**

The data are from the new DEOCS 4.1, collected between October 1, 2017 and March 31, 2018, including 642,608 total respondents. Of the total, 501,154 are military (390,182 on active duty), 127,313 are civilian employees and 14,141 are classified as Other (perhaps Contractors). These respondents are from 7,188 military units (identified by Main Unit Identification Codes [UICs]). Paper surveys were used by 2.2% of respondents, but this provides 14,012 respondents for comparison with those completing the survey online. Table 1 provides the detailed distributions.

Selected comparisons are examined to identify similarities or differences in measurement across the different categories of respondents (military, civilian, other), and then remaining analyses focus on the active duty personnel. Table 2 provides a more detailed overview of the active duty respondents in comparison to a profile of the Department of Defense forces (Air Force, Army, Marines, and Navy) and the Coast Guard. With a few exceptions, the profiles provide some basis for confidence in the ability to represent the total active duty population. Among the exceptions, the Army appears to be somewhat over-represented, with the corresponding under-representation of the Marines and Navy. Whites are somewhat under-represented and proportionately more DEOCS respondents declined to respond to the race question. Future research might consider post-stratification weights to account for these differences in representation.

## **Measurement Issues**

### **Missing Values and Weights**

A substantial number of sample respondents had no data on one or more the UWE items (40,591 or 6.3%). Nearly 40,000 withdrew from the survey before the implementation of the UWE module. The missing respondents were systematically compared to survey participants based on sex, race, ethnicity, rank, and branch of service, with only small observed differences (Cramer's V values ranging from 0.014 to 0.063). The small differences suggest that there would be little benefit to weight tied to the non-response patterns. Preliminary exploration of using a Rake Weight procedure to adjust for differences in proportions between the sample and population also produced no substantive differences, though weighting will be explored more extensively. Future research might consider the circumstances in which respondents could discontinue the survey, which is primarily an issue in the online implementation.

### **Internal Consistency (Reliability) and Dimensionality (Principal Components)**

Responses to the five questions provide a basis for assessing internal consistency and dimensionality of the measures. Preliminary analyses display favorable measurement properties (total sample Cronbach's  $\alpha$ : male=0.824, female=0.755; active duty respondents Cronbach's  $\alpha$ : male=0.833, female=0.761; forming single dimensions for both males and females in Principal Components analyses). See Pomerance (2018) for more detail on measurement development and properties. However, the "scale" is extremely skewed (skewness value of 6.16), with a large concentration of cases in the "never" experienced category. For most subsequent analyses the measure will be treated as a dichotomy ("no" on all five items (0) versus "yes" on any of the five items).



## Comparisons to Other Data Sources

Table 3 provides univariate information from the total sample (military, civilian and other) and the active duty respondents in comparison to published information from the 2016 Defense Manpower Data Center (DMDC) Workplace and Gender Relations Survey (WGRS) of active duty forces. In each instance, the total and active duty DEOCS results are similar to each other, suggesting small differences between military, civilian and other personnel. However, in most comparisons, the percentages from the DMDC survey are substantially higher, especially for women. Based on the “Overall” indicator, the DEOCS data for active duty women show 8.3%, compared to 28.0% in the DMDC survey. There is a substantial difference between the active duty men as well, 3.8% compared to 10.0%. These discrepancies raise some preliminary concern about the DEOCS as a source for valid measurement of prevalence.

Figure 1 displays a comparison of “Overall” reports of harassment for DEOCS and DMDC/WGRS graphically. There were 13 possible items for the WGRS measure compared to the five in the DEOCS. This might account for a portion of the difference, but notice from Table 3 that reports were substantially higher for most of the five items, especially for women. Unfortunately, it is not possible to generate an exact comparison for the Overall measure because the data for the individual items were not released by DMDC. Schell et al. (2017) suggest that the five items should account for at least 80% of the overall harassment incidents. If this generalized, the figure for women would be 22.4%, and for the total sample it would be 10.4%, still much larger than the estimates from the DEOCS. While some real change may have occurred between the 2016 DMDC survey and the 2017-2018 DEOCS, it is unlikely that the prevalence rates dropped that dramatically. In fact, the DEOCS pattern by month from October 2017 through March 2018 shows a slight increase for both males and females, though the differences are small. This pattern is shown in Figure 3.

Figure 2 compares results from DEOCS 3.5 and 4.0, when a single question was used to measure sexual harassment experiences, with the new 4.1 results. The newer results are much higher than those

from version 4.0. (Some researchers believe that there was a measurement problem for the online version 4.0, accounting for the very small percentages, but this issue is moot and not pursued here.) The new results are substantially lower than those from version 3.5. However, notice that even the version 3.5 results are much smaller than are those from the DMDC survey. Finally, as a check for potential changes over time, Figure 3 displays percentages by month from the new DEOCS 4.1 data for males and females. There are only small differences over this time period, and they do not suggest a decline in sexual harassment prevalence. If anything, there is a slight upward trend over the six months.

Figure 4 provides comparisons of results from the paper versus the online versions of the survey. These results were surprising, largely because previous research did not find substantial differences by survey mode. However, in this instance, the paper version is associated with substantially higher reports of harassment for both men and women within military, civilian and other personnel.

Figure 5 approaches this issue by displaying ratios of the paper to the online reports of sexual harassment. The paper version results are nearly half again as high for military men (ratio of 1.45) and almost twice as high for military women (ratio of 1.88). While the results from the paper mode are substantially higher for all comparisons, it is noteworthy that the differences are greatest among the civilian employees, over four times higher for the civilian males (4.14) and nearly as much higher for the civilian females (3.89). The ratios for “Others” are well over twice as large. Therefore, it is not the context of being in the military that produces the larger proportions of sexual harassment on the paper version.

Focusing on active duty, Figure 6 compares prevalence rates for males and females. The higher percentages from those completing the paper version are clear. Noteworthy, however, is that the paper results are much closer to those from the DMDC/WGRS data (males: 7.1% vs. 10.0%; females: 21.9% vs. 28.0%). The possible impact of survey mode and online format may be worth pursuing. It is not clear why the differences by survey mode exist, but the paper version results seem more plausible. If the visual aspects of the online survey contribute to the lower estimates, this may be an area for future

improvements in estimating prevalence rates. Note: see Figures 12 and 13 at the end of the appendices that display some screen images. No information about the online display of the WGRS survey is currently available, though the documentation indicates very similar content, with no suggestion that pop-ups were used to display definitions. The SURVFORM variable is not available to allow comparison of paper vs. online results in the WGRS, but 4.79% of respondents received the paper version (DMDC, 2017). The SURVFORM variable would be useful for a more careful assessment of the impact of survey mode on observed outcomes.

### **Predictors of Sexual Harassment**

Table 4 provides results from three binary logistic regressions, with the objective of identifying predictors (potential risk factors) while controlling for the influences of other variables. The first variable included is mode (paper vs. online), to see if the differences observed earlier might be explained by differential experiences by sex, race, ethnicity, service branch, rank and climate perceptions related to organizational commitment, group cohesion, inclusiveness and sexual harassment environment. Even with these controls, the paper version is associated with substantially higher reported rates of individual experiences of sexual harassment. While significant for both males and females, the increase in odds ( $e^B$ ) for the online version is almost twice as large for women (2.390) as for men (1.254).

The pattern of findings by race and ethnicity roughly correspond to those in previous research (Harris & Firestone, 1996; Harris et al., 2011). In the total sample, the coefficient for Black is not significant. However, in the separate analyses, Black males are more likely to report sexual harassment while Black females are significantly less likely. The finding that Black women are less likely to report harassment contradicts expectations based on the “double jeopardy” hypothesis. Differences for other race groups and Hispanics mostly conform to the idea that “minority” populations are at greater risk of harassment. The coefficient for American Indian/Alaska Native (AIAN) women is not significant, likely due to small numbers of cases, and the results for those that declined to respond on race are similar to those for Blacks, though not as pronounced.

Service branch relates to observed differences. Compared to those in the Army, Navy, Marines and Coast Guard males are significantly related to lower levels of reported harassment (odds ratios between 0.817 and 0.880), with a more substantial difference for Air Force men (0.619). Women in the Navy and Marines have higher odds of reporting harassment, while Air Force women have lower odds, and there is not a significant difference for Coast Guard women. Rank is important, with lower ranks having greater odds of reporting harassment. Most noteworthy is the higher odds for E1E3 women (2.064).

Climate indicators related to commitment, cohesion and inclusiveness are significant. Perceptions that are more favorable are associated with lower odds of individual experiences of sexual harassment. More substantial is the association with sexual harassment environment, with favorable perceptions linked with much lower likelihoods of individual harassment experiences (odds ratios of 0.395 and 0.452 for males and females respectively). Figure 7 displays the variations in odds ratios in a visual picture.

### **Sexist Environments and Indicators of Unwanted Sexual Behavior**

Following up on the influence of perceptions of sexual harassment environment, Figures 6 and 9 depict very strong relationships for the total sample and males and females separately. The patterns do not display simple “linear” patterns. Rather, a natural log function best fits the observed relationship, with r-square values more than 0.85 for both males and females. Unfavorable perceptions of sexual harassment climate are very strongly associated with the likelihood of individual experiences of sexual harassment.

These findings strongly suggest an “environmental” influence that might best be measured at the unit level. At the individual level, the same respondents are reporting about their experiences and their own perceptions of the unit climate, which is sometimes referred to as a “single source bias” (Podsakoff & Organ, 1986). A special feature of the DEOCS is the ability to aggregate to unit levels, providing a “climate” assessment based on all respondents in a unit. There are 7,188 units represented in the dataset.

Figure 10 provides an image of the distribution of level of sexual harassment reported across these units. Of the total, 27.9% (n=2003) have no reported individual experiences. The distribution is skewed (unweighted mean = 4.0%, median = 3.1%, mode = 0, skewness = 2.213).

Table 5 provides a simple list of the 15 units with the highest levels of reported sexual harassment. The unit with the highest overall level has a prevalence rate of 72.8%. There are 225 members reported by the administrator, with 86 respondents (38.2%), 15.1% of whom are women. This is an Army unit, reserve component, with a “modest” Sexual Harassment Climate score (3.78 compared to an overall mean of 5.85). Sexual harassment is pervasive in this unit, affecting men and women. The point of this example and the overall list is that it is possible to identify environments (units) that are particularly problematic, which is a direction for further research, but Table 6 provides a very preliminary test, combining aggregate level data with individual-level data in a single data file. While this is not a true multilevel analysis, it is noteworthy that the unit level sexual harassment climate indicator remains a strong predictor of individual reports of harassment even after controlling for the respondent’s perception of the climate and the other variables in the analysis. Core findings for survey mode, sex, race, ethnicity, branch, and rank remain similar to those in the individual level findings from Table 4.

## Summary and Conclusions

The first research objective pertains to the basic validity of the items. The items meet the criteria for face, content and construct validity (Cronbach & Meehl, 1955; DMDC, 2017; Pomerance, 2018; Schell et al., 2017). Utilizing the newest DEOCS collection, measures of internal consistency (e.g., Cronbach's  $\alpha$ ) and dimensionality (principle components) produce favorable statistical properties for the total sample, which are reinforced by separate analyses for men and women. However, the magnitudes appear to be lower than expected in comparison to other data sources (a type of criterion-oriented assessment). The smaller percentages raise questions about the second objective, which focuses on the suitability of the data for deriving prevalence estimates.

Precision in the estimation of *prevalence* is important, especially given a criminal justice approach to the information. However, a consistent portrayal of *patterns* may be of equal importance for a public health approach. Expected patterns emerge when comparing results for males and females, by rank, and different indicators of unit climate. These variables are "risk factors" for the likelihood that individuals would experience sexual harassment, thus fulfilling the third research objective. A major advantage of the DEOCS implementation approach is that it allows identification of unit specific indicators.

The most surprising finding is the difference in prevalence obtained between the paper and online versions of the survey. It might be worth testing whether the manner of displaying definitions in the online version has some influence. Figures 12 and 13 provide screen images to give a visual sense of the screen images. Assuming most respondents are hurrying through the survey, they may not be highlighting icons for all of the detailed descriptions/definitions. At present, there is no variable for the length of time to complete the survey.

## Limitations:

- There are no measures of deployment status or other indicators of more “risky” (dangerous) contexts. The riskiness of duty context was offered, in one conversation, as a potential reason for the paper vs. online differences, but that does not seem plausible given the findings for civilians and contractors.
- The DMDC/WGRS data were not released in a manner that would allow systematic comparisons with the DEOCS. It was not possible to examine the five variables chosen for the DEOCS module, though they were in the WGRS survey. Only a dichotomous composite measure of Hostile Workplace Environment (HWE) was provided, based on thirteen workplace variables. These limitations made direct comparisons between the two data sources impossible. Further, race and ethnicity were provided only as a dichotomous “majority/minority” single variable. The Gender Discrimination Prevalence Rate (SDISC) variable was constructed as a contingency measure based on positive responses to at least one of the HWE items. Further, there is no variable to identify those completing the survey online versus on paper.
- There are some details to be conceptualized regarding the best approach for identifying and describing “units.” For most of this analysis, summary measures for UICs are based on the active duty personnel. However, units with large numbers of civilian employees may be meaningfully different than those comprised primarily of active duty military personnel.
- Linking aggregate estimates to individual respondents is a straightforward activity, once the desired measures are defined. However, a more sophisticated approach to multi-level analysis is needed.
- Weights to account for non-response patterns at the unit level and post-stratification weights to account for proportional representation to the larger DoD population should be

included. Previous research suggests that such weights might have little influence with well-specified models (Harris et al., 2018), but the use of weights might add to confidence in the generalizability of the analyses.



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## Appendix A: Tables

Table 1

*Sample Distributions DEOCS 4.1, October 2017 - March 2018*

		Male	Female	Total
Military Member	Count	413581	87573	501154
	%	81.9%	63.7%	78.0%
[Active Duty]	Count	324257	65925	390182
	%	64.2%	47.9%	60.7%
Civilian Employee	Count	81968	45345	127313
	%	16.2%	33.0%	19.8%
Other	Count	9545	4596	14141
	%	1.9%	3.3%	2.2%
Total	Count	505094	137514	642608
	%	100.0%	100.0%	
Overall Row %		78.6%	21.4%	
Paper Version of Survey				
Total in Sample	Count	11916	2096	14012
	%	2.4%	1.5%	2.2%
Active Duty	Count	1422	303	1725
	%	0.4%	0.5%	0.4%

Table 2

*DEOCS and DoD Active Duty Personnel Profiles (Percentages)*

	DoD Active Duty, 03/18 *	DEOCS Active Duty, 10/17-03/18
Male	83.7	83.1
Female	16.3	16.9
Air Force	24.0	25.2
Army	34.8	40.6
Coast Guard	3.1	4.3
Marines	13.9	9.6
Navy	24.1	20.3
Officer	16.2	15.7
Enlisted	83.8	84.3
AIAN	1.2	1.3
Asian	4.4	3.4
Black	16.8	11.5
NHPI	1.1	1.3
White	69.0	57.1
Multiple	3.1	4.9
Declined	4.4	20.5
Hispanic	15.7	14.8
Total N	1330832	390182

**\*Source: Active Duty Master File (Strength Accountable)**

**Produced - April 27, 2018 by Defense Manpower Data Center**

Table 3

All and Active Duty Respondents: DEOCS 4.1 (1 Oct 2017 - 31 Mar 2018), Unwanted Workplace Experiences, Compared to 2016 Workplace and Gender Relations Survey

		Male	Female	Total
<b>Eo49a Unwanted1: Repeatedly tell sexual jokes that made you uncomfortable, angry, or upset? (While under your current senior leader and within the last 12 months, did someone from your workplace.)</b>				
All DEOCS Respondents	% Yes	2.8%	5.2%	3.3%
Active Duty DEOCS		2.9%	6.3%	3.4%
2016 WGRS/DMDC (Q8)*		4.0%	14.0%	6.0%
<b>Eo49b Unwanted2: Embarrass, anger, or upset you by repeatedly suggesting that you do not act like a man/woman is supposed to?</b>				
All DEOCS Respondents	% Yes	2.5%	2.9%	2.6%
Active Duty DEOCS		2.8%	3.8%	3.0%
2016 WGRS/DMDC (Q9)*		5.0%	14.0%	5.0%
<b>Eo49c Unwanted3: Make repeated sexual comments about your appearance or body that made you uncomfortable, angry, or upset?</b>				
All DEOCS Respondents	% Yes	1.8%	3.6%	2.2%
Active Duty DEOCS		2.1%	4.4%	2.4%
2016 WGRS/DMDC (Q14)*		2.0%	10.0%	3.0%
<b>Eo49d Unwanted4: Make repeated attempts to establish an unwanted romantic or sexual relationship with you?</b>				
All DEOCS Respondents	% Yes	1.2%	2.7%	1.5%
Active Duty DEOCS		1.3%	3.5%	1.7%
2016 WGRS/DMDC (Q17)*		0.0%	9.0%	2.0%
<b>Eo49e Unwanted5: Intentionally touch you in a sexual way when you did not want them to?</b>				
All DEOCS Respondents	% Yes	1.5%	1.4%	1.5%
Active Duty DEOCS		1.6%	1.8%	1.7%
2016 WGRS/DMDC (Q19)*		1.0%	3.0%	1.0%
<b>Overall: Yes on One or More Items</b>				
All DEOCS Respondents	% Yes	3.6%	6.8%	4.3%
Active Duty DEOCS		3.8%	8.3%	4.5%
2016 WGRS/DMDC*		10.0%	28.0%	13.0%

Any "Yes" on Q8 - q20 (13 Items )

\* From: 2016 Workplace and Gender Relations Survey of Active Duty Members: Tabulations of Responses, pp. 36-39.



Table 4

*Predictors of Reported Sexual Harassment*

	<b>Total</b>		<b>Males</b>		<b>Females</b>	
	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.
Paper (=1) v. Online (=0)	1.512		1.254		2.390	
Sex (Female=1, Male=0)	2.275		--		--	
Race (Ref. = White)						
Black	1.009	NS	1.269		0.642	
Asian	1.247		1.460		0.813	
MultRace	1.177		1.184		1.108	
AIAN	1.255		1.382		0.925	NS
RDeclined	0.994	NS	1.089		0.788	
Hispanic (Hispanic=1, Else=0)	1.164		1.155		1.159	
Service (Ref. = Army)						
Navy	0.973	NS	0.880		1.242	
Marines	0.925		0.871		1.198	
AirForce	0.693		0.619		0.873	
CoastG	0.876		0.817		1.027	NS
Rank (Ref. = O4 and Above)						
E1E3	1.712		1.462		2.064	
E4E6	1.311		1.094	NS	1.734	
E7E9	0.930	NS	0.834		1.082	
W1W5	0.709		0.574		1.154	NS
O1O3	1.597		1.328		1.985	NS
Organizational Commitment	0.926		0.920		0.941	
Group Cohesion	0.934		0.933		0.941	
Inclusiveness	0.756		0.731		0.817	
Sexual Harassment Climate	0.413		0.395		0.452	
-2 Log Likelihood	100516.521		72606.590		27362.617	
Cox & Snell R Square	0.088		0.079		0.110	
Nagelkerke R Square	0.285		0.287		0.254	

*Note:* NS = not statistically significant. Most coefficients are statistically significant due to the large sample sizes, even when the relationships are weak. Therefore, not being statistically significant may be substantively more meaningful. The odds ratios [Exp(B)] are useful for assessing magnitude of influence.

Table 5

*Top 15 Units for Reports of Sexual Harassment*

ID	Main UnitType	Percent Yes, SH	Percent Female	Unit Size (Adm.)	Unit Fem. (Adm.)	SexHar _mean	Service (Adm.)	Component (Adm.)	N_BREAK	Paper
1	Military Police (Army or ArmyNG)	72.8	15.1	225	43	3.78	Army	Reserve Comp.	86	Paper Only
2	Airborne (Army or ArmyNG)	45.2	0	69	0	5.17	Army	Active Duty	38	Online Only
3	Field Artillery (Army or ArmyNG)	37.7	20.5	73	12	3.99	Army	Active Duty	73	Online Only
4	Engineer (Army or ArmyNG)	33.3	16.7	120	10	5.63	National G.	Ignore	6	Paper Only
5	Logistics (Army or ArmyNG)	31.9	30	146	28	4.84	Army	Active Duty	50	Online Only
6	Logistics (Army or ArmyNG)	31.8	30.8	126	46	4.55	Army	Active Duty	26	Online Only
7	CUTTER (Coast Guard)	31.3	18.8	0	0	5.17	Coast G.	Active Duty	16	Online Only
8	Armor (Army or ArmyNG)	27.8	20	60	14	4.97	Army	Active Duty	20	Online Only
9	Aviation (Army or ArmyNG)	27.8	26.3	33	5	4.63	Army	Active Duty	19	Online Only
10	Logistics (Army or ArmyNG)	26.8	33.3	193	43	4.92	Army	Active Duty	63	Online Only
11	Field Artillery (Army or ArmyNG)	26.3	15.8	77	14	4.63	Army	Active Duty	19	Online Only
12	Transportation (Army or ArmyNG)	26.3	47.6	30	10	5.36	National G.	Ignore	21	Online Only
13	Military Police (Army or ArmyNG)	25.5	27.4	89	22	5.69	Army	Active Duty	62	Online Only
14	Transportation (Army or ArmyNG)	25.0	22.7	28	7	4.86	Army	Active Duty	22	Online Only
15	Finance (Army or ArmyNG)	25.0	23.8	29	8	6.18	Army	Active Duty	21	Online Only

Table 6

*Predictors of Reported Sexual Harassment, Individual and Unit Levels*

	Exp(B)	Sig.
Paper (=1) v. Online (=0)	1.408	0.000
Sex (Female=1, Male=0)	2.322	0.000
Race (Ref. = White)		
Black	0.999	0.980
Asian	1.241	0.000
MultRace	1.180	0.000
AIAN	1.238	0.001
RDeclined	0.998	0.926
HispDum (Hisp.=1, Else=0)	1.153	0.000
Service (Ref. = Army)		
Navy	1.053	0.029
Marines	0.987	0.683
AirForce	0.828	0.000
CoastG	1.031	0.600
Rank (Ref. = O4 and Above)		
E1E3	1.503	0.000
E4E6	1.187	0.007
E7E9	0.903	0.163
W1W5	0.717	0.011
O1O3	1.519	0.000
<b>Individual Level Scales</b>		
Organizational Commitment	0.922	0.000
Group Cohesion	0.938	0.000
Inclusiveness	0.760	0.000
Sexual Harassment Climate	0.421	0.000
<b>Unit Level Measures</b>		
Organizational Commitment	1.177	0.000
Group Cohesion	0.964	0.407
Inclusiveness	0.922	0.107
Sexual Harassment Climate	0.666	0.000
Constant	128.403	0.000
-2 Log likelihood	100063.171	
Cox & Snell R Square	0.088	
Nagelkerke R Square	0.287	

## Appendix B: Figures

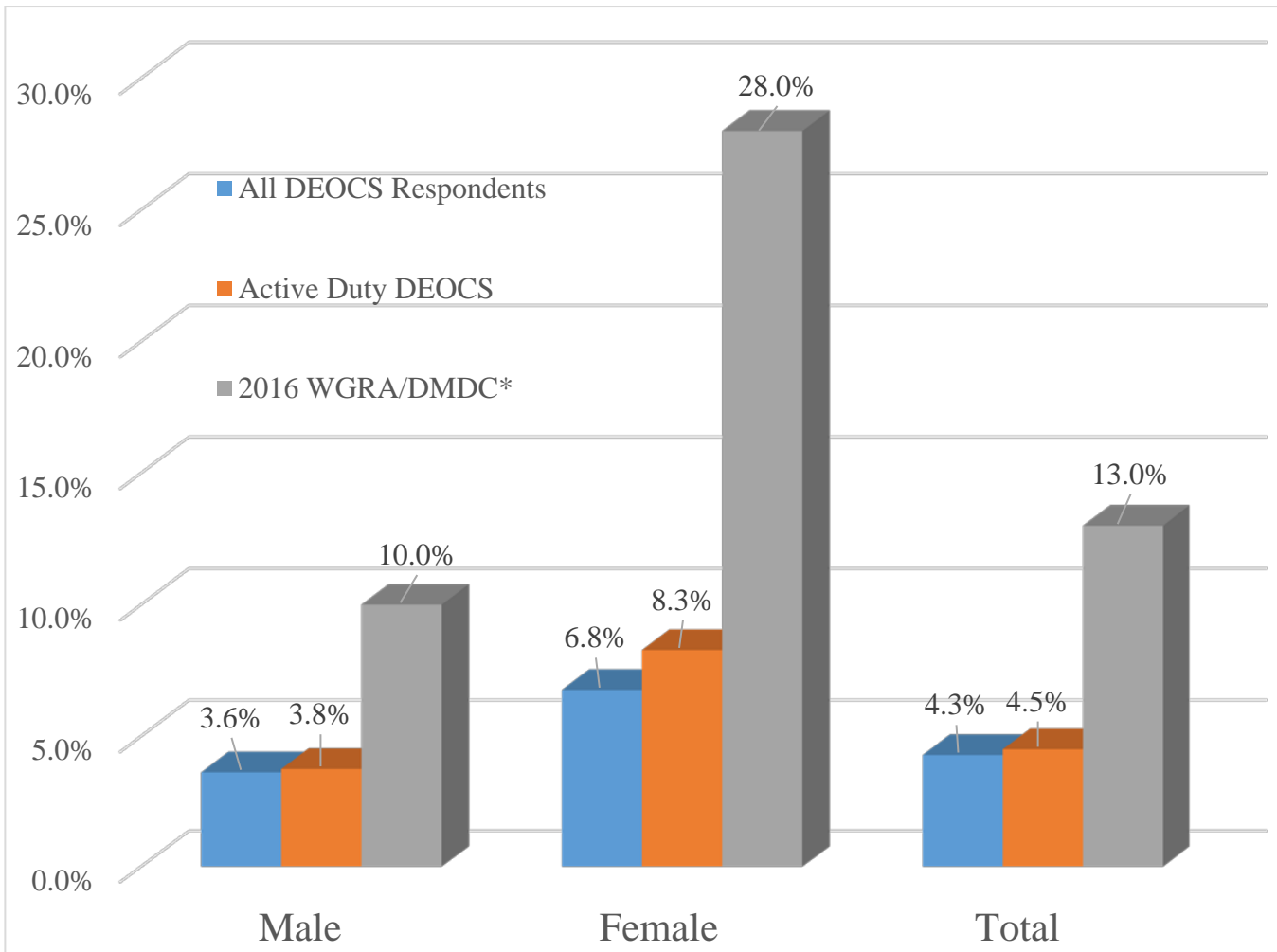
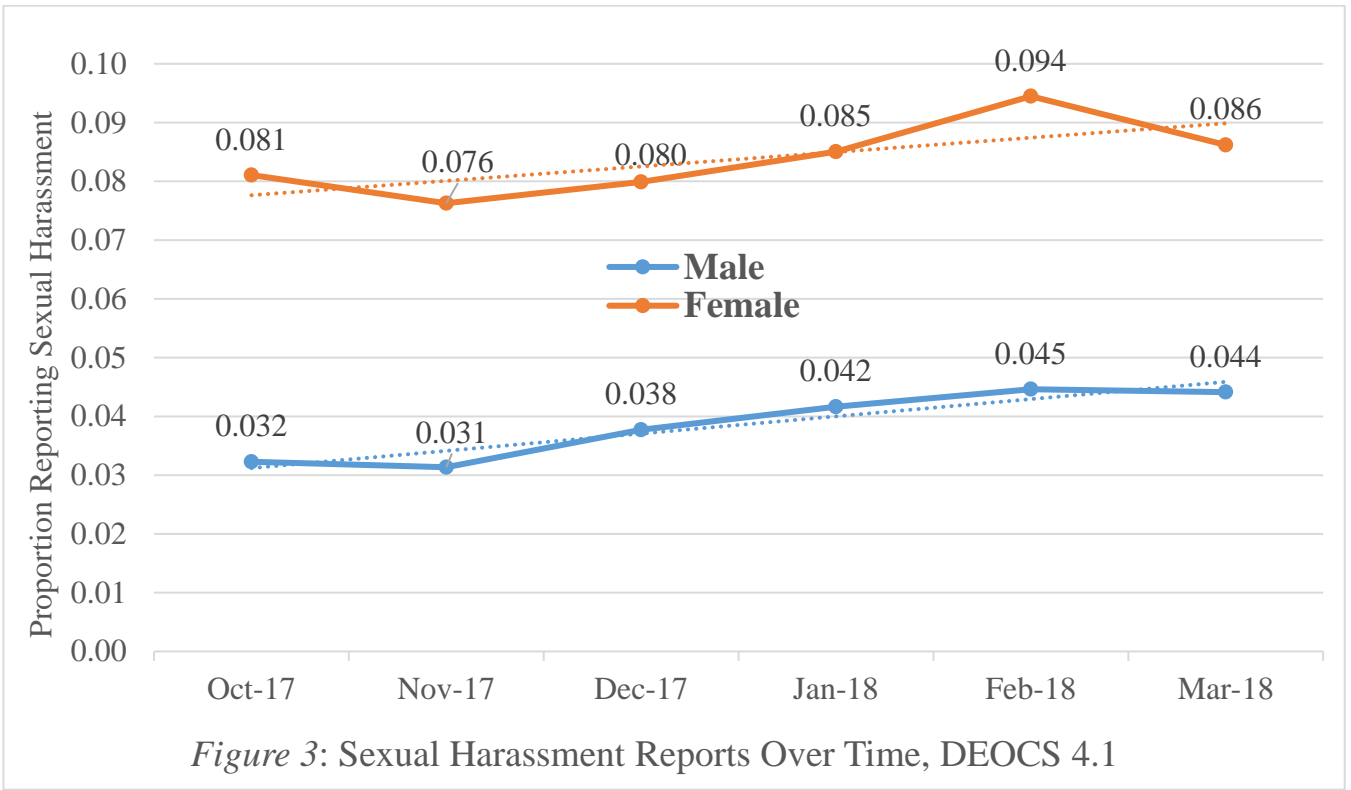
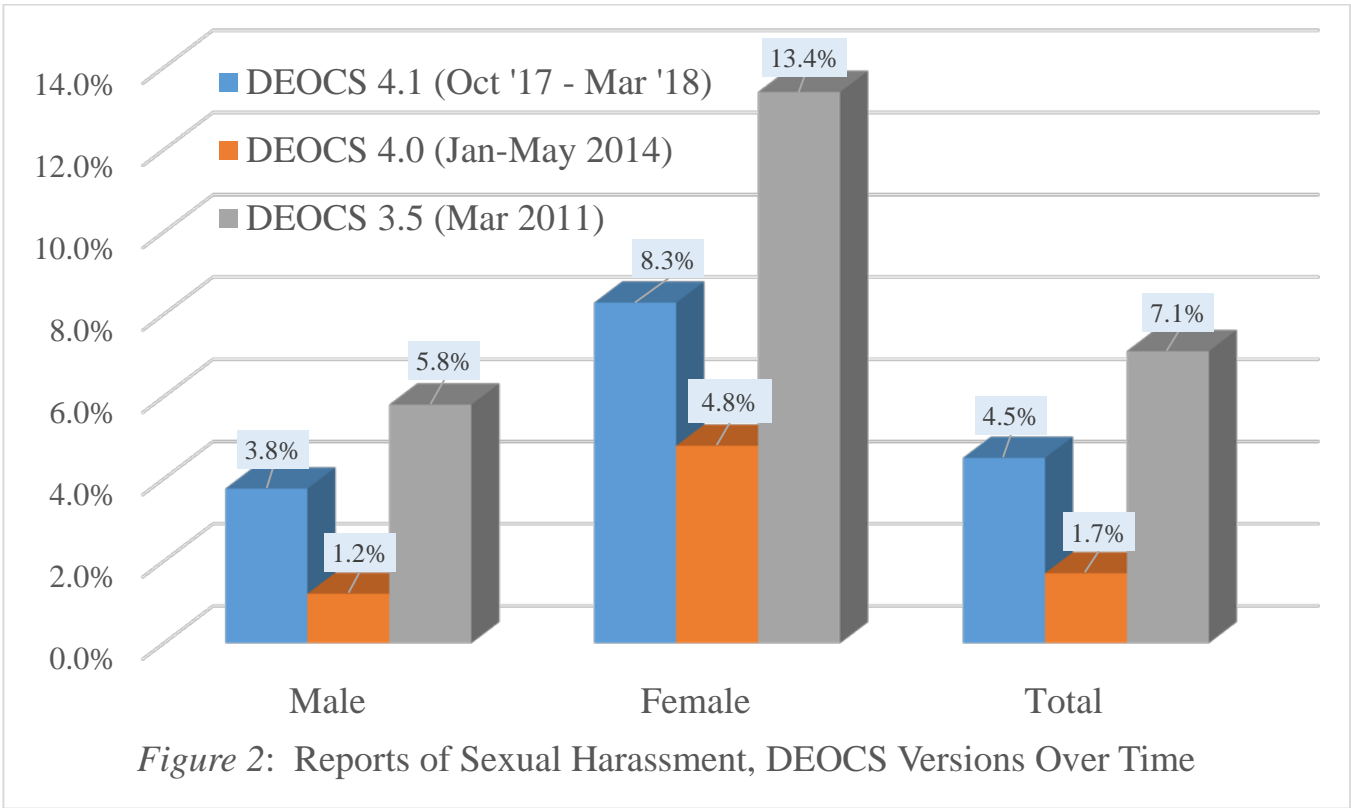


Figure 1: Experienced Sexual Harassment (Yes on One or More of the Items)

\* From: 2016 Workplace and Gender Relations Survey of Active Duty Members: Tabulations of Responses, pp. 36-39.



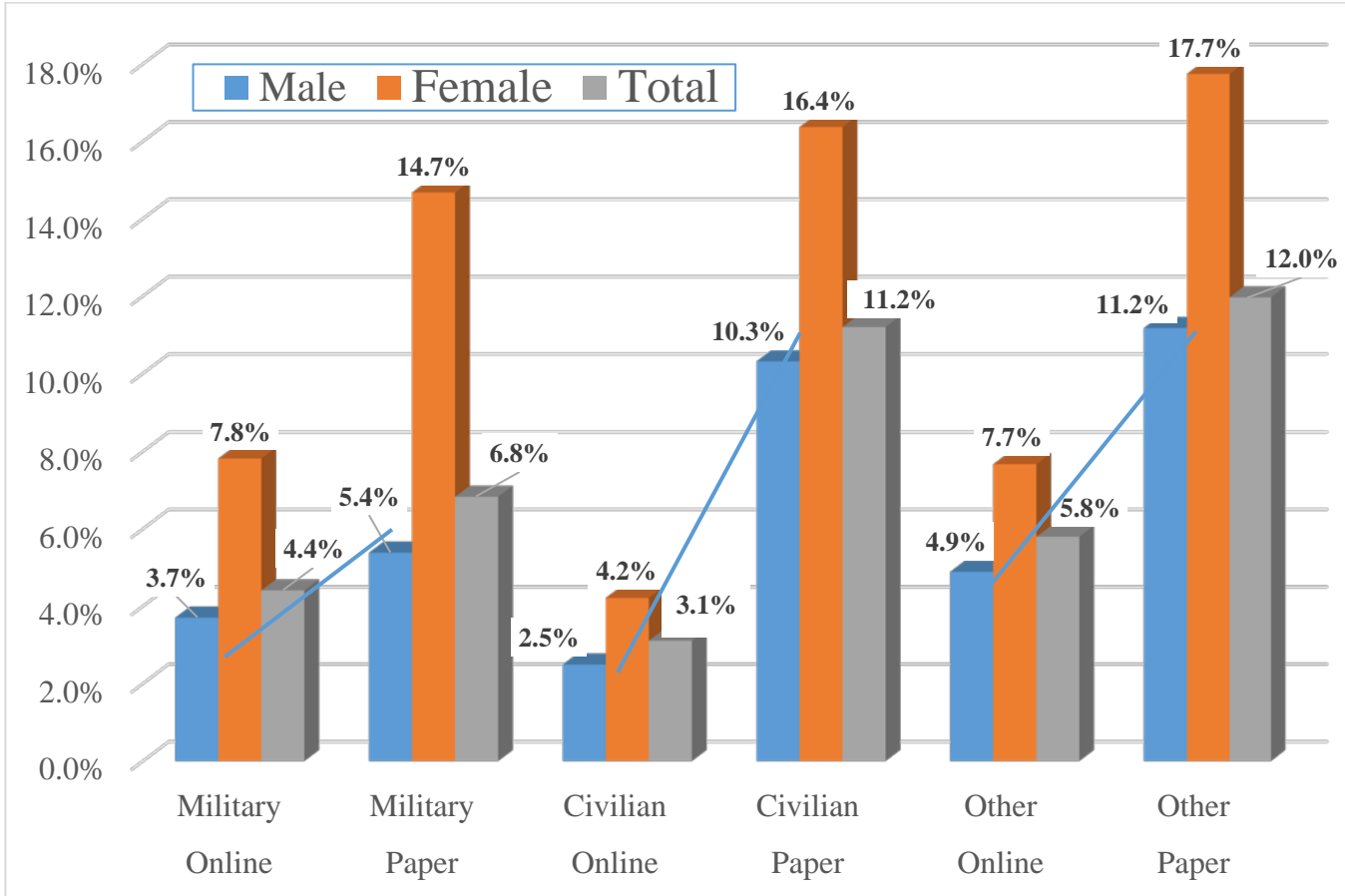
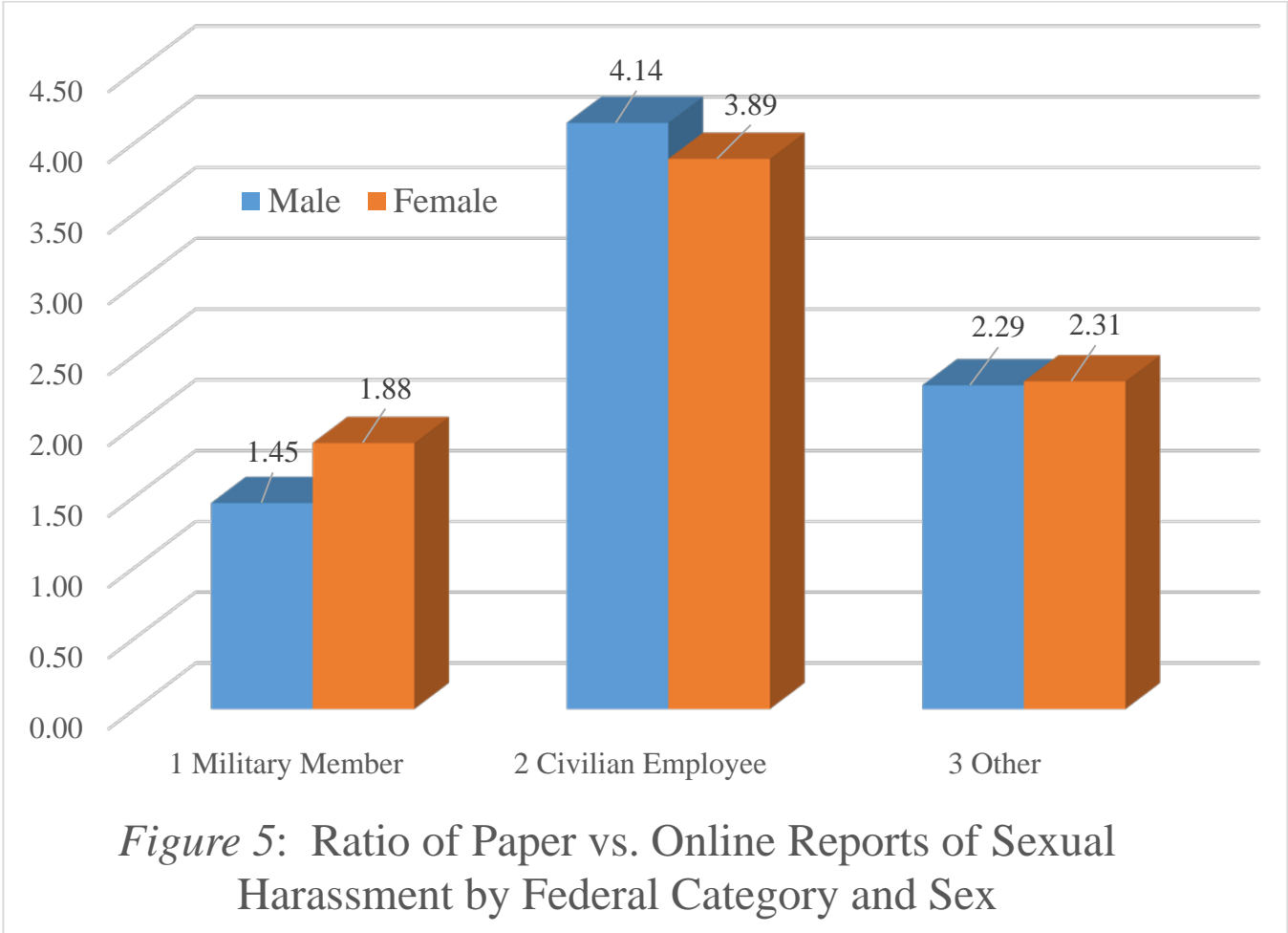
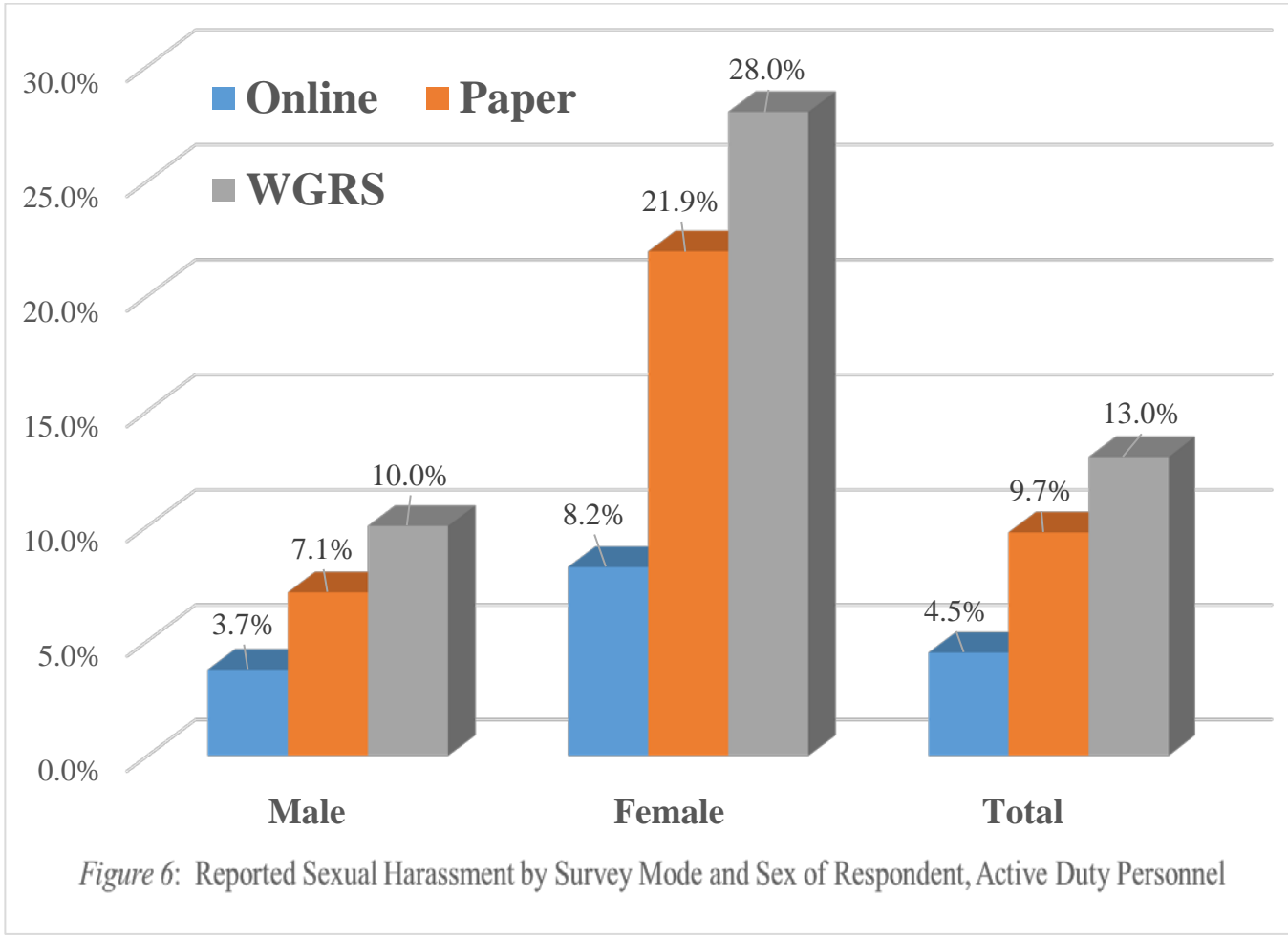
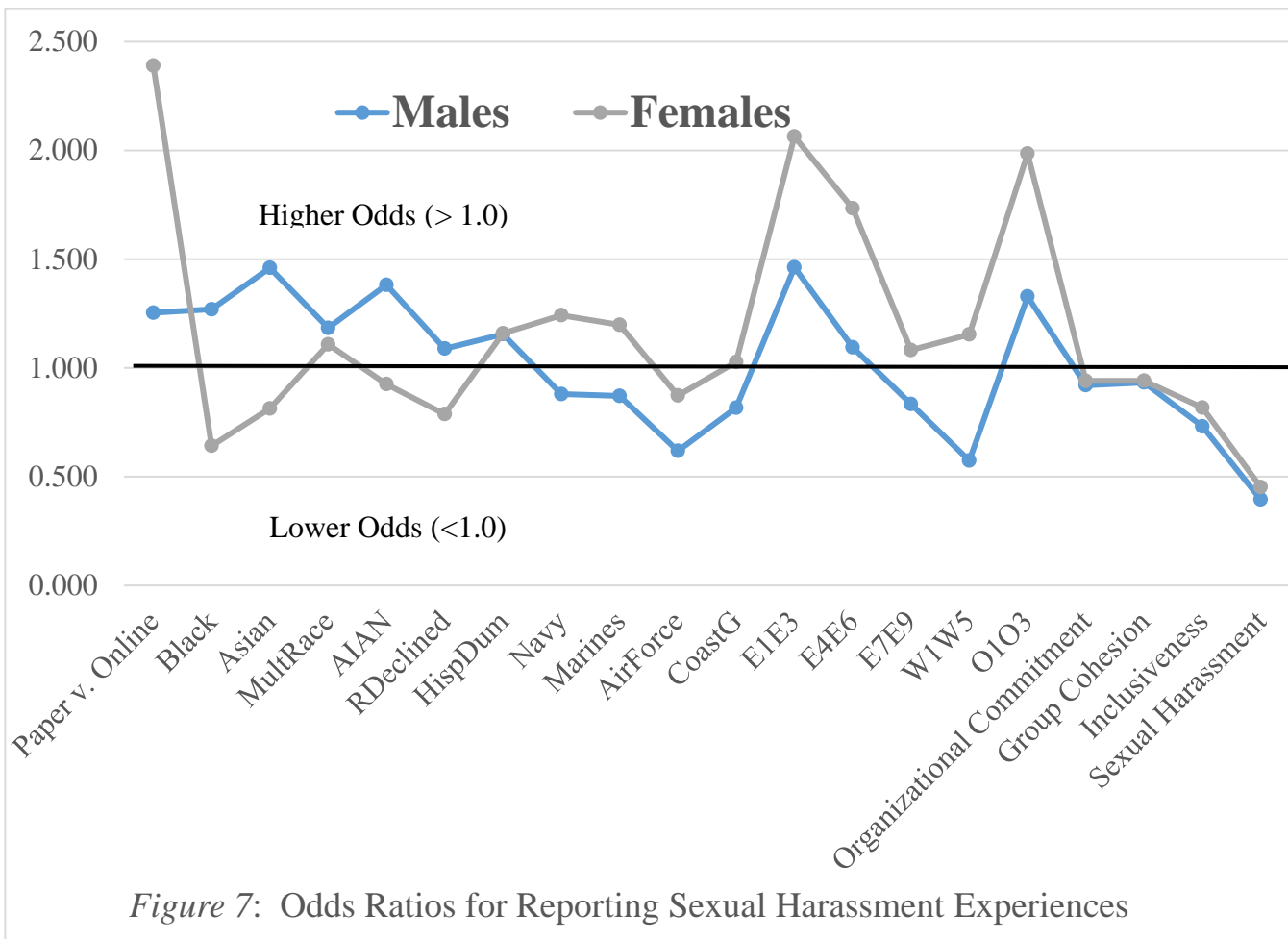


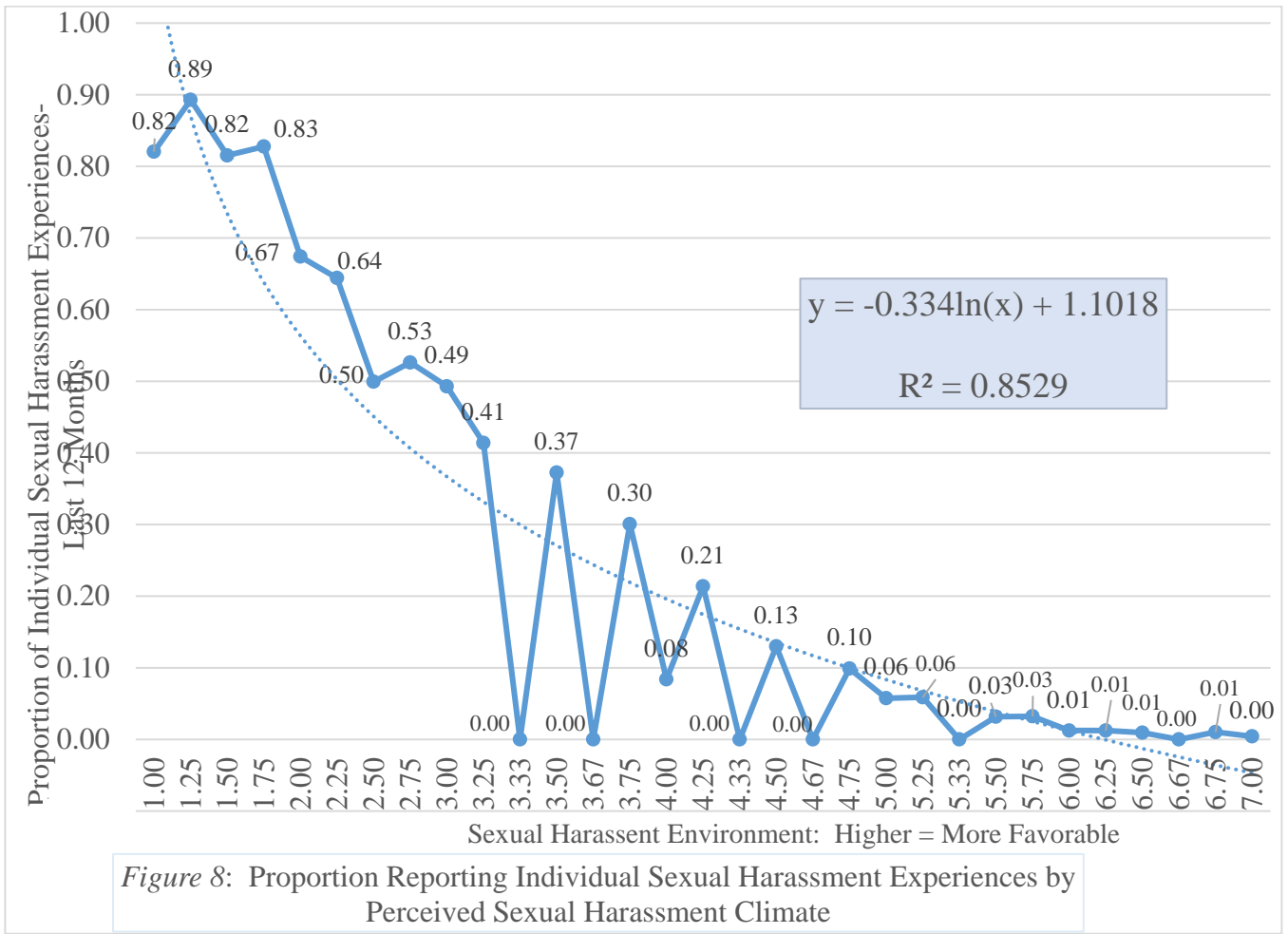
Figure 4. Reports of Sexual Harassment by Online vs.Paper Survey Mode











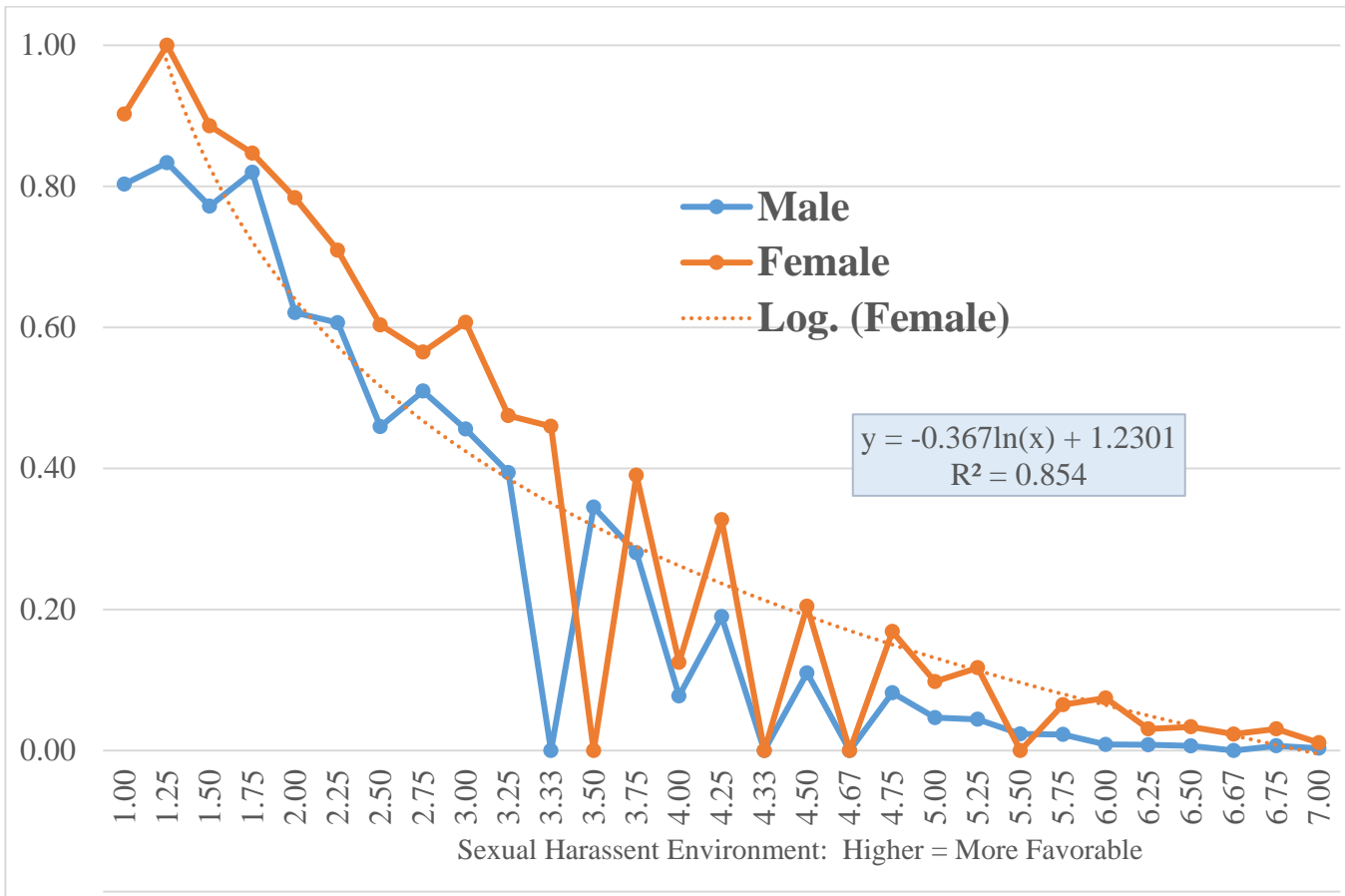


Figure 9: Proportion Reporting Individual Sexual Harassment Experiences by Perceived Sexual Harassment Climate

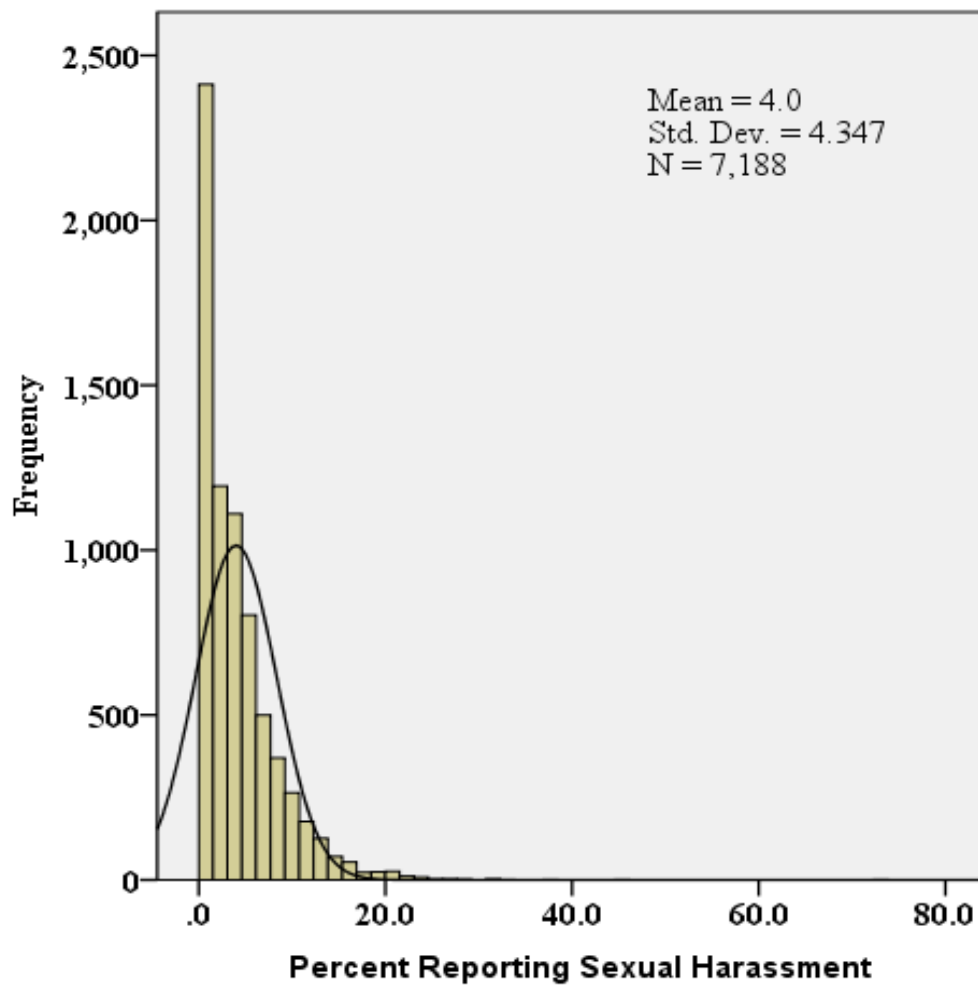


Figure 10: Unit Level Percent of Personnel Reporting Sexual Harassment

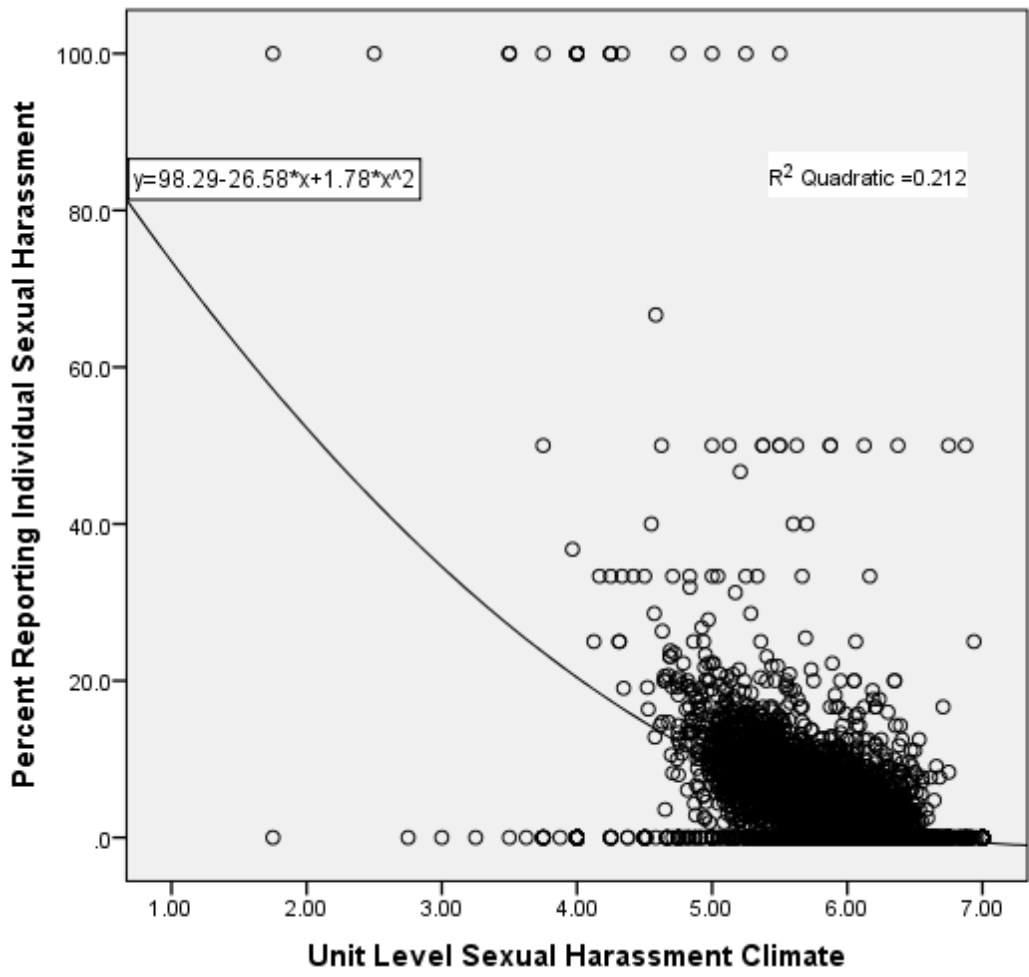
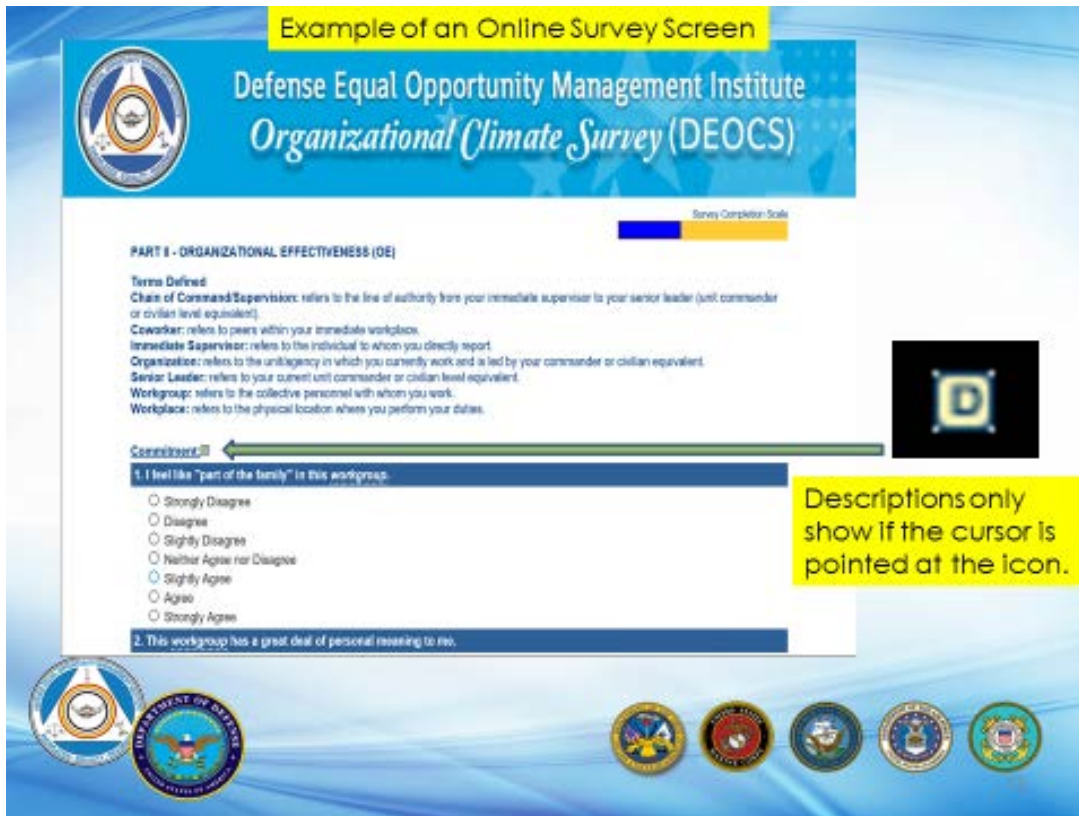


Figure 11. Aggregate Level Relationship between Percent of Individual Reports of Harassment and Unit Level Sexual Harassment Climate

Edited Example of Online Screen:



Paper Version:

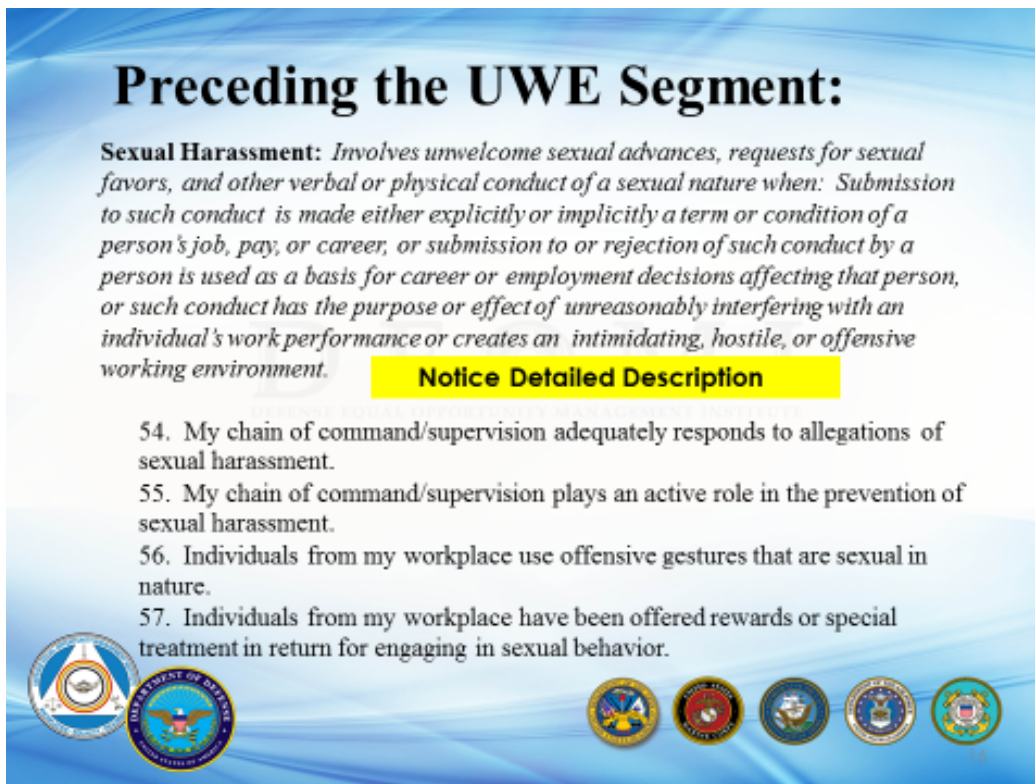
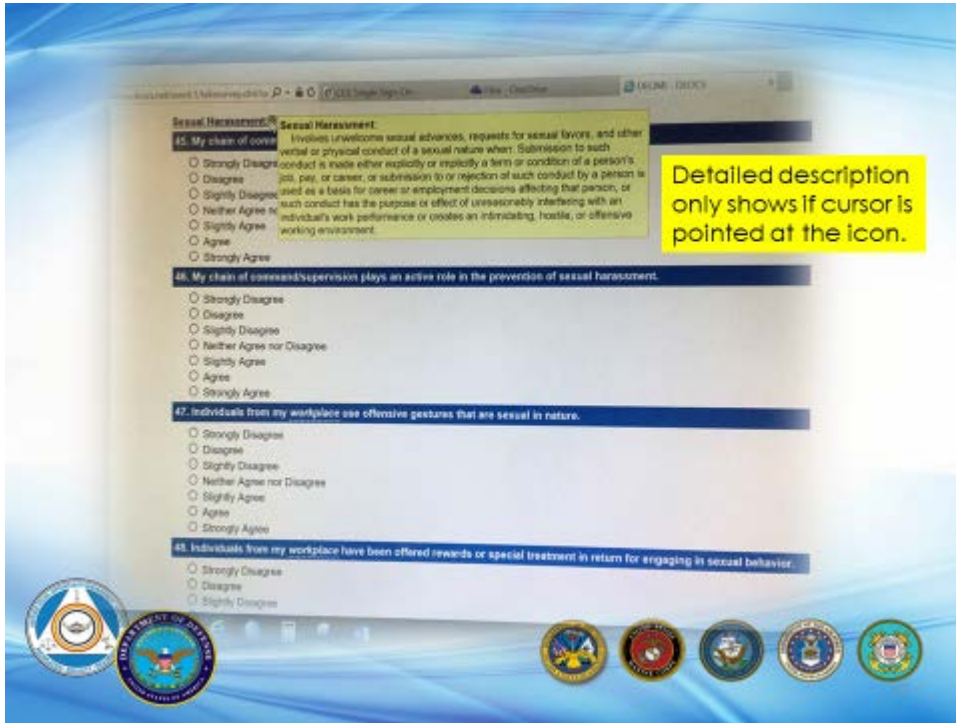


Figure 12. Illustrations of Images from Online and Paper Survey Versions

Online Version:



Online Version:

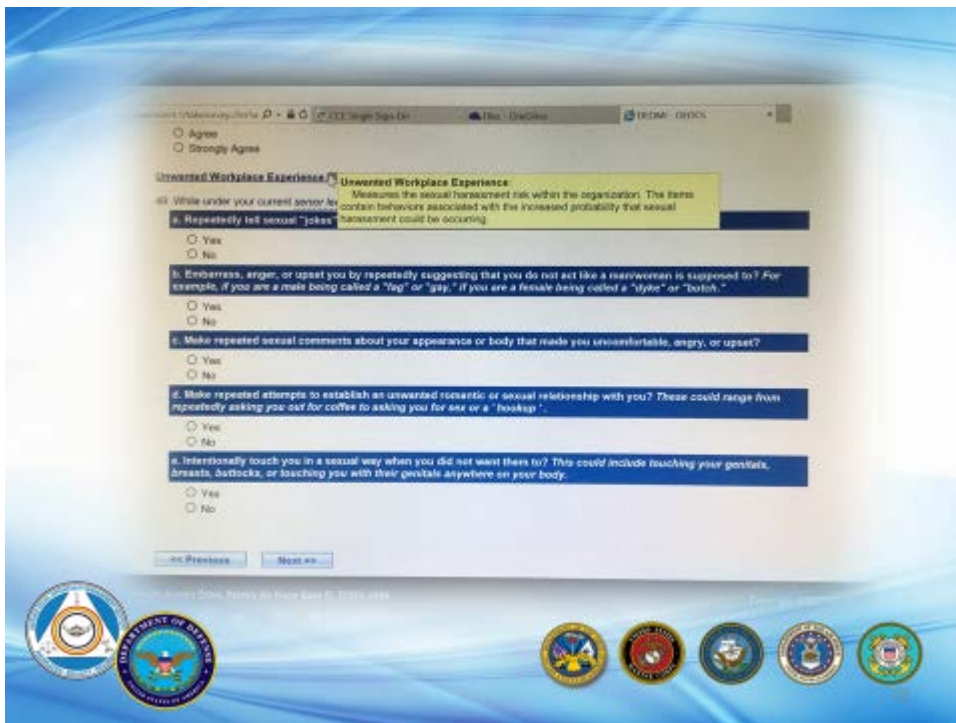


Figure 13. Illustrations of Images from Online Survey with Descriptions Visible

Appendix C: Crude Attempt to Compare Logistic Results from DEOCS and WGRS Datasets

<i>Predictors of Reported Sexual Harassment</i>													
	<b>DEOCS 4.1 2017-2018</b>							<b>DMDC/WGRS 2016</b>					
	<b>Total</b>		<b>Males</b>		<b>Females</b>			<b>Total</b>		<b>Males</b>		<b>Females</b>	
	Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.		Exp(B)	Sig.	Exp(B)	Sig.	Exp(B)	Sig.
Paper (=1) v. Online (=0)	1.512		1.254		2.390								
Sex (Female=1, Male=0)	2.275		--		--		Female	3.147					
Race (Ref. = White)													
Black	1.009	NS	1.269		0.642		Minority	0.877		0.931		0.772	
Asian	1.247		1.460		0.813								
MultRace	1.177		1.184		1.108								
AIAN	1.255		1.382		0.925	NS							
RDeclined	0.994	NS	1.089		0.788								
HispDum (Hisp.=1, Else=0)	1.164		1.155		1.159								
Service (Ref. = Army)													
Navy	0.973	NS	0.880		1.242		Navy	1.337		1.379		1.247	
Marines	0.925		0.871		1.198		Marines	0.743		0.684		0.986	NS
AirForce	0.693		0.619		0.873		AirForce	0.574		0.562		0.583	
CoastG	0.876		0.817		1.027	NS	CoastG	0.703		0.745		0.622	
Rank (Ref. = O4 and Above)													
E1E3	1.712		1.462		2.064		E1E4	3.396		3.170		3.723	
E4E6	1.311		1.094	NS	1.734		E5E9	2.095		1.880		2.526	
E7E9	0.930	NS	0.834		1.082								
W1W5	0.709		0.574		1.154	NS	W1W4	1.023	NS	0.948	NS	1.178	NS
O1O3	1.597		1.328		1.985	NS	O1O3	2.188		1.987		2.504	
Organizational Commitment	0.926		0.920		0.941								
Group Cohesion	0.934		0.933		0.941								
Inclusiveness	0.756		0.731		0.817								
Sexual Harassment Climate	0.413		0.395		0.452		SDISCDum	12.191		13.825		10.569	
-2 Log likelihood	100516.521		72606.6		27362.6			611175.817		434243.16		176278.14	
Cox & Snell R Square	0.088		0.079		0.110			0.085		0.033		0.156	
Nagelkerke R Square	0.285		0.287		0.254			0.198		0.096		0.242	

*Note:* NS = not statistically significant. Most coefficients are statistically significant due to the large sample sizes, even when the relationships are weak. Therefore, not being statistically significant may be substantively more meaningful. The odds ratios [Exp(B)] are useful for assessing magnitude of influence.