

Experiences of Sexual Harassment, Stalking, and Sexual Assault During Military Service Among LGBT and Non-LGBT Service Members

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Sexual victimization, including sexual harassment and assault, remains a persistent problem in the U.S. military. Service members identifying as lesbian, gay, bisexual, or transgender (LGBT) may face enhanced risk, but existing research is limited. We examined experiences of sexual harassment, stalking, and sexual assault victimization during service in a sample of LGBT and non-LGBT active duty service members. Service members who identified as LGBT ($n = 227$ LGB, $n = 56$ transgender) or non-LGBT ($n = 276$) were recruited using respondent-driven sampling for an online survey. Logistic regression models examined the correlates of sexual and stalking victimization. Victimization was common among LGBT service members, including sexual harassment (80.7% LGB, 83.9% transgender), stalking (38.6% LGB, 30.4% transgender), and sexual assault (25.7% LGB, 30.4% transgender). In multivariable models, LGB identity remained a significant predictor of sexual harassment, $OR = 4.14$, 95% CI [2.21, 7.78]; stalking, $OR = 1.98$, 95% CI [1.27, 3.11]; and assault, $OR = 2.07$, 95% CI [1.25, 3.41]. A significant interaction between LGB identity and sex at birth, $OR = 0.34$, 95% CI [0.13, 0.88], suggests an elevated sexual harassment risk among male, but not female, LGB service members. Transgender identity predicted sexual harassment and assault at the bivariate level only. These findings suggest that LGBT service members remain at an elevated risk of sexual and/or stalking victimization. As the military works toward more integration and acceptance of LGBT service members, insight into victimization experiences can inform tailored research and intervention approaches aimed at prevention and care for victims.

As the U.S. military continues to face a high burden of sexual victimization, including sexual harassment and sexual assault, among service members, prevention and intervention efforts have stressed the importance of identifying high-risk priority subpopulations (Department of Defense [DoD], 2019). One such population is military personnel who identify as lesbian, gay, bisexual, or transgender (LGBT). The legacy of prior military policy that restricted service for lesbian, gay, and bisexual

(LGB) service members (i.e., Don't Ask, Don't Tell) and recent policy directed at transgender service members' eligibility to serve may contribute to an atmosphere that the risk of enhances sexual victimization (Burks, 2011). However, research regarding sexual victimization experiences among LGBT active duty service members is limited. Additionally, experiences of stalking have been linked with sexual assault during service (DoD, 2017a, 2019), yet stalking risk among LGBT service members is not well understood.

For nearly two decades in the United States (i.e., under Don't Ask, Don't Tell), the military environment for LGB service members was characterized by secrecy and stigma (Burks, 2011). Although they were legally allowed to serve, LGB service members could not disclose their sexual identity without risk of discharge. This fostered sexual prejudice and discrimination that likely enhanced the risk of sexual victimization for LGB service members and discouraged reporting among those victimized (Burks, 2011). Further, research efforts among LGB service members were inhibited under this policy; as a result, sexual and stalking victimization in this population is a largely

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uncharted area of inquiry. There is a similar need to understand sexual and stalking victimization experiences among transgender service members, who continue to perceive ambiguity in their military status as policies regarding their ability to serve openly and safely remain under debate. Such uncertainty may facilitate environments of secrecy and discrimination, potentially enhancing victimization risk.

Indeed, research among veteran samples has suggested that LGBT military personnel experience higher rates of sexual harassment and assault than their non-LGBT peers (Beckman, Shipherd, Simpson, & Lehavot, 2018; Brown & Jones, 2016; Lehavot & Simpson, 2014; Lucas, Goldbach, Mamey, Kintzle, & Castro, 2018; Mattocks et al., 2013); however, data from active duty samples are lacking. An exception is the U.S. military's biennial anonymous survey of service members, which assesses past-year sexual victimization experiences and has included measures of sexual and gender identity since 2016. In the 2016 survey, active duty LGBT personnel were 4 and 5 times more likely to report sexual harassment and assault, respectively, than their non-LGBT peers (DoD, 2017a). In 2018, data for transgender service members were not reported; however, women and men who identified as LGB were approximately 2 and 9 times more likely, respectively, to report sexual assault than their non-LGB peers (DoD, 2019).

Sexual victimization during military service has been linked to negative health outcomes among LGBT veterans, including posttraumatic stress disorder (PTSD) and depressive symptoms, substance use, and suicidal behavior, with reported rates often higher among LGBT veterans than non-LGBT veterans (Beckman et al., 2018; Lehavot & Simpson, 2014; Lindsay et al., 2016; Sexton et al., 2018). Insight into LGBT service members' victimization experiences can inform early and tailored intervention efforts to prevent negative health consequences, including potential revictimization (Breitenbecher, 2001; Surfis & Lind, 2008). Sexual victimization behaviors in the military are believed to fall along a continuum of harm, with harassment and discrimination experiences contributing to environments that enhance sexual assault risk (DoD, 2017a; Sadler, Booth, Cook, & Doebbeling, 2003). In the U.S. military's survey, experiences of sexual harassment or stalking during service were linked with incidents of sexual assault (DoD, 2017a, 2019), and the sexual assault risk associated with harassment was especially elevated for LGBT service members (DoD, 2017a). Although stalking in the military is less understood, some evidence among veterans has linked these experiences to sexual assault during service (Kintzle, Schuyler, Alday-Mejia, & Castro, 2019). Understanding sexual and stalking victimization experiences among LGBT service members can not only inform timely support for those who are victimized, but potentially mitigate escalation to more severe or violent behaviors.

In the present study, we examined experiences of sexual harassment, stalking, and sexual assault during military service in a sample of LGBT and non-LGBT active duty service members. The rate of reporting sexual assault incidents to military authorities was also assessed. Little is known about the reporting of

sexual assault incidents among LGBT service members. However, they may be less likely to report than non-LGBT service members given the potential for discomfort and distrust in the military system, less engagement in help-seeking behaviors, and hesitance to disclose sexual identity to military authorities (Biddix, Fogel, & Perry Black, 2013; Castro & Goldbach, 2018).

Method

Participants and Procedure

The current analysis utilized data from a mixed-methods study designed to understand the integration, acceptance, and well-being of LGBT service members in the U.S. military. We used a respondent-driven sampling (RDS) approach to recruit LGBT and non-LGBT groups of active duty service members. Respondent-driven sampling, which is based on the premise that peers are more readily able to recruit individuals who may not otherwise be accessible to researchers (Heckathorn, 1997), relies on recruiting and incentivizing identified members of a hidden or hard-to-reach population, known as "seeds," to support recruitment efforts by referring members of their own social networks to the study. As referral chains grow, randomness is theoretically introduced into the sample, which begins to approximate a simple random sampling process from the population (Heckathorn, 1997; Salganik & Heckathorn, 2004).

Complete details of our RDS recruitment and enrollment procedures will be reported in a forthcoming article and can be made available upon request. Briefly, we began with the recruitment of seeds using referrals from an expert advisory panel and military contacts of the study team. In RDS, initial seed participants are given referral codes to share with their peers, which allows for tracking recruitment chains. Participants who successfully recruited others in their network received compensation (i.e., a "finder's fee"). We grouped respondents as LGBT or non-LGBT using items that assessed sexual identity, gender identity, and sex assigned at birth. Individuals who self-identified as LGB were grouped as LGBT, and those who reported a gender identity different than their reported sex assigned at birth, regardless of reported sexual identity, were considered as having a gender minority identity (i.e., transgender) and grouped as LGBT. Individuals who reported heterosexual identity and a gender identity that matched their sex assigned at birth were grouped as non-LGBT.

When seed recruitment slowed, we expanded by promoting the study through military-related social media. We used unique codes to track referral effectiveness and ensure no single group or platform yielded more than 20 eligible seeds. Participants received a \$25 (USD) electronic gift card if the survey was completed off duty and a \$10 gift card for each eligible referral who completed the survey. The institutional review boards at the University of Southern California and the University of California Los Angeles provided approval for all study data collection methods and procedures.

Service members were eligible to participate if they were at least 18 years old and active duty members of the U.S. Army, Navy, Marine Corps, or Air Force. A total of 991 individuals accessed the survey, 709 of whom were eligible and provided consent to participate. An additional 165 survey attempts did not pass fraud detection or data-quality checks; these included best-practice strategies for excluding potentially suspect entries and ensuring valid data in internet-based surveys (e.g., Robinson-Cimpian, 2014). We used a combination of fraud detection, including identifying entries with duplicate responses, internet provider addresses, or email addresses, and data-quality strategies, such as identifying individuals with short completion times and high levels of *decline to answer* responses, and ended up with a sample of 544 eligible participants with validated and completed surveys. For analysis, we restricted the sample to individuals with responses for all variables of interest (i.e., no missing values; $N = 503$, 92.5% of eligible participants).

The final sample featured more enlisted service members (63.3%) than military officers (36.7%). On average, respondents were 28 years of age ($SD = 6.2$, range:18–54), with a mean time in service of 6.2 years ($SD = 5.4$). Respondents were most commonly serving in the Army (38.5%) followed by the Air Force (35.1%), Navy (16.1%), and Marine Corps (10.1%).

Measures

Demographic characteristics. Sexual identity was measured with one item: “What is your sexual identity?”, with response options of *heterosexual or straight* (58.7%), *gay or lesbian* (31.0%), *bisexual* (8.1%), and *other* (2.2%). For all analyses, this item was binary coded to assess participants who reported a sexual minority identity (i.e., gay or lesbian, bisexual, or other; with the reference group defined as *heterosexual or straight*). Sex assigned at birth was reported as male or female via one item: “What sex were you assigned at birth (i.e., what sex is on your birth certificate)?”

We assessed gender identity with a single item: “What is your gender identity?”, with response options of *male* (60.8%), *female* (29.4%), *transgender male or trans man* (4.2%), *transgender female or trans woman* (4.2%), *genderqueer or gender nonconforming* (1.0%), and *other* (0.4%). For analyses, we created a binary variable based on alignment between responses for self-reported gender identity and assigned sex at birth. Individuals who identified as genderqueer/gender nonconforming or other were combined with the transgender group, as these cases represented individuals who did not self-identify in the gender binary (Richards et al., 2016) and, thus, their gender identity did not align with their assigned sex at birth. The reference group featured participants whose reported assigned sex matched their gender identity (i.e., cisgender).

Respondents reported their age in years. Racial and ethnic identity was reported as Black or African American (16.7%), Latino or Hispanic (11.7%), White or Caucasian (60.0%), Native American and Alaska Native (1.0%), Asian and Pacific

Table 1
Sample Characteristics Among Active Duty Military Service Members Recruited Using Respondent-Driven Sampling

Variable	<i>M</i>	<i>SD</i>
Age (years)	28	6.2
	<i>n</i>	%
Sexual minority identity ^a	208	41.3
Gender minority identity ^b	56	11.1
Assigned female sex at birth	178	35.4
Racial and ethnic identity		
White	302	60.0
Black or African American	84	16.7
Latino	59	11.7
Other	58	11.6
< 2 years of military service	140	27.8
Military service branch		
U.S. Air Force	177	35.2
U.S. Army	194	38.6
U.S. Marine Corps	51	10.1
U.S. Navy	81	16.1
Rank		
Enlisted	318	63.2
Officer	185	36.8

Notes. $N = 503$.

^aLesbian, gay, or bisexual. ^bTransgender, genderqueer, or gender nonconforming.

Islander (6.4%), multiracial (2.4%), and other (0.8%). Given few reports of Native American or Alaska Native, Asian or Pacific Islander, multiracial, or other identities, we combined these categories into a single group for analysis (i.e., other; the reference group included participants who reported their race/ethnicity as White).

Characteristics of military service. Respondents reported their number of years serving in the military and service branch. For analysis, we chose the Air Force as the reference group, given that its reported rates of sexual assault are consistently lower than those in other branches (DoD, 2017a, 2019). We used one item assessing current pay grade (responses from E-1 to O-6), to determine officer rank in a binary variable for analysis. The reference group comprised enlisted participants.

Sexual and stalking victimization during service. Items assessing sexual harassment, stalking, and sexual assault victimization experiences were designed based on the language used in military policy and research among active duty service members (see Table 2 for all items). Experiences could have occurred on or off duty and on or off base. Stalking during service was assessed with four questions based on the Uniform Code of Military Justice (UCMJ; 2006) and an anti-dating violence resource (Loveisrespect, n.d.). Participants indicated how

Table 2
Sample Prevalence of Sexual and Stalking Victimization Among Active Duty Military Service Members^a

	Total (N = 503)				Non-LGBT (n = 276)				LGB (n = 171) ^b				Transgender (n = 56) ^b			
	M	SD	n	%	M	SD	n	%	M	SD	n	%	M	SD	n	%
Stalking during military service^c																
Someone showing up at your home or workplace unannounced or uninvited	1.26	0.67			1.16	0.51			1.39	0.82			1.35	0.79		
Someone following you or waiting for you at places	1.17	0.55			1.14	0.50			1.22	0.59			1.21	0.62		
Someone sending you unwanted messages, emails, or phone calls	1.43	0.83			1.34	0.70			1.59	0.98			1.39	0.86		
Someone using social media to track or follow you	1.41	0.81			1.28	0.65			1.62	0.97			1.44	0.85		
Total stalking mean score	1.2	2.3			0.9	1.9			1.83	2.69			1.4	2.4		
Sexual harassment during military service^c																
Someone repeatedly telling jokes of a sexual nature	2.41	1.30			2.00	1.22			2.87	1.24			3.03	1.22		
Someone repeatedly making sexual comments, gestures, or body movements	2.24	1.28			1.92	1.16			2.56	1.31			2.91	1.23		
Someone displaying, showing, or sending sexually explicit materials such as pictures or videos	1.70	1.08			1.40	0.83			2.04	1.23			2.12	1.29		
Someone repeatedly asking you questions about your sex life or sexual interests	1.99	1.19			1.57	0.94			2.42	1.23			2.78	1.28		
Someone taking/sharing sexually explicit pictures/videos of you	1.23	0.68			1.14	0.49			1.37	0.85			1.30	0.81		
Someone making you feel that you could receive a workplace benefit in exchange for doing something sexual, or that you could be punished or treated unfairly if you didn't do something sexual	1.17	0.53			1.19	0.55			1.17	0.52			1.09	0.48		
Total sexual harassment mean score	2.2	1.9			1.6	1.8			2.8	1.8			2.9	1.6		
Sexual assault during military service																
Forced touching of a sexual nature			92	18.3			34	12.3			42	24.6			16	28.6
Oral sex			34	6.8			12	4.4			16	9.4			6	10.7
Vaginal intercourse			32	6.4			15	5.4			11	6.4			6	10.7
Anal intercourse			24	4.7			9	3.3			12	7.0			3	5.4
Sexual penetration with a finger or object			32	6.4			12	4.4			11	6.4			9	16.1

(Continued)

Table 2
Continued

	Total (<i>N</i> = 503)				Non-LGBT (<i>n</i> = 276)				LGB (<i>n</i> = 171) ^b				Transgender (<i>n</i> = 56) ^b			
	<i>M</i>	<i>SD</i>	<i>n</i>	%	<i>M</i>	<i>SD</i>	<i>n</i>	%	<i>M</i>	<i>SD</i>	<i>n</i>	%	<i>M</i>	<i>SD</i>	<i>n</i>	%
Participating in sexual activities because you were threatened with bodily harm			22	4.3			12	4.4			8	4.7			2	3.6
Binary outcome variables																
Experienced stalking ^e			148	29.4			65	23.6			66	38.6			17	30.4
Experienced sexual harassment ^f			339	67.4			154	55.8			138	80.7			47	83.9
Experienced sexual assault ^g			100	19.9			39	14.1			44	25.7			17	30.4
Reported sexual assault ^{d,h}			26	26.0			11	28.2			11	25.0			4	23.5

Note. LGB = lesbian, gay, or bisexual; non-LGBT = cisgender and heterosexual; χ^2 = bivariate chi-square value.

^aRecruited using respondent-driven sampling. ^bFor this analysis, a three-category variable was used to compare groups (cisgender heterosexual, cisgender sexual minority, and gender minority [i.e., transgender, genderqueer, gendernonconforming, other]). Therefore, the number of sexual minorities (*n* = 171) is slightly smaller than what is presented in Table 1 (*n* = 208) given that 37 sexual minorities were also gender minorities. ^cAssessed on 4-point response scale ranging from 1 (*never*) to 4 (*5 or more times*). ^dAssessed only among participants who indicated an experience of sexual assault (*n* = 100). ^e $\chi^2(2, N = 503) = 11.53^*$. ^f $\chi^2(2, N = 503) = 37.64^{**}$. ^g $\chi^2(2, N = 503) = 13.26^{**}$. ^h $\chi^2(2, N = 100) = 0.17$.

p* < .01. *p* < .001.

often they experienced each stalking behavior, using a scale of 1 (*never*) to 4 (*5 or more times*).

We assessed sexual harassment during service with six items adapted from definitions found in the Military Equal Opportunity Program (DoD, 2015) and the military's anonymous sexual victimization survey (Morrall, Gore, & Schell, 2014). Participants indicated how often they experienced each harassment behavior during service, using a scale of 1 (*never*) to 4 (*5 or more times*). We assessed sexual assault using six items adapted from a U.S. Department of Justice special report on sexual victimization (Sinozich & Langton, 2014) and the UCMJ (2006). Binary response (*yes* or *no*) items assessed different types of nonconsensual or unwanted sexual contact experienced during service involving a military member or civilian, someone known to the participant, or a stranger.

Table 2 presents descriptive information for all sexual and stalking victimization items as well as three binary outcome variables constructed for regression analyses to reflect exposure to each type of victimization experience. Two or more instances of any stalking behavior constituted stalking, an approach also used in a U.S.-based sexual violence and stalking survey (Smith et al., 2018). Participants who reported any stalking behavior more than once (i.e., score of 3 or higher on one or more items) and those who reported at least one instance each of at least two behaviors (i.e., score of 2 or higher on two or more items) were categorized as having experienced stalking in the binary outcome variable. The reference group comprised participants who did not report stalking victimization.

Sexual harassment exposure was defined as having experienced at least one sexual harassment behavior one or more times (i.e., score of 2 or higher on one or more items; reference:

no sexual harassment). Sexual assault exposure was defined as having experienced at least one sexual assault behavior (i.e., *yes* response to one or more items). The reference group included participants who did not endorse having experienced sexual assault.

Finally, individuals who indicated having experienced sexual assault were also asked, via a binary response item, if they reported the incident ("If you experienced sexual assault during your military service, did you report it?"). The reference group featured individuals who did not report sexual assault.

Data Analysis

We used Stata (Version 14) for all analyses. Initially, we assessed the amount and interference of missing data. No variable was missing more than 7% of responses. We used listwise deletion to account for missing data, which analyses suggested were missing completely at random, Little's test: $\chi^2(5, N = 543) = 7.5, p = .186$ (Li, 2013). We also assessed multicollinearity; diagnostic tests revealed acceptable tolerance values for all independent variables, *M* variance inflation factor (VIF) = 1.09.

Descriptive analyses included mean values and standard deviations for all sexual harassment and stalking items, as well as frequency counts and percentages for sexual assault items. We also assessed the frequency of each binary outcome variable, including the reporting of a sexual assault incident, and used chi-square tests to assess for bivariate differences among LGB, transgender, and non-LGBT groups. Bivariate logistic regression was used to assess associations between victimization outcomes and sexual identity, gender identity, sex assigned at birth, and demographic and military-related

Table 3
Results of Bivariate Logistic Regression Among Active Duty Military Service Members^a

Variable	Stalking		Sexual Harassment		SA		Reported SA ^b	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
LGB	2.17 ^{***}	[1.46, 3.20]	3.49 ^{***}	[2.28, 5.33]	2.10 ^{***}	[1.34, 3.27]	1.56	[0.70, 3.40]
Transgender	1.05	[0.57, 1.92]	2.77 ^{**}	[1.32, 5.80]	1.91 [*]	[1.03, 3.54]	1.41	[0.47, 4.26]
Assigned female sex at birth	0.94	[0.63, 1.41]	1.94 ^{**}	[1.28, 2.93]	1.57 [*]	[1.00, 2.46]	1.49	[0.68, 3.26]
< 2 years of service	0.45 ^{***}	[0.27, 0.72]	0.41 ^{***}	[0.27, 0.62]	0.68	[0.45, 1.14]	0.90	[0.37, 2.18]
Service branch^c								
U.S. Army	1.52	[0.95, 2.41]	1.17	[0.76, 1.80]	1.27	[0.75, 2.15]	2.67	[0.94, 7.58]
U.S. Marine Corps	1.65	[0.84, 3.27]	1.13	[0.58, 2.18]	1.34	[0.62, 2.92]	2.15	[0.49, 9.31]
U.S. Navy	1.84 [*]	[1.04, 3.28]	1.72	[0.95, 3.11]	1.50	[0.78, 2.86]	2.26	[0.63, 8.04]
Officer rank	0.79	[0.53, 1.19]	1.57 [*]	[1.05, 2.34]	0.76	[0.48, 1.22]	0.20 ^{**}	[0.05, 0.68]
Race and ethnicity^d								
Black or African American	1.12	[0.66, 1.90]	0.76	[0.46, 1.27]	0.68	[0.35, 1.30]	1.58	[0.58, 4.25]
Latino	1.28	[0.71, 2.33]	1.38	[0.73, 2.61]	1.05	[0.53, 2.06]	2.32	[0.85, 6.33]
Other	1.12	[0.66, 1.90]	0.89	[0.49, 1.62]	0.77	[0.37, 1.61]	0.36	[0.04, 2.79]
LGB × Transgender	2.84	[0.54, 14.91]	0.88	[0.19, 4.07]	0.63	[0.17, 2.39]	1.05	[0.08, 12.55]
LGB × Assigned Female Sex at Birth	0.72	[0.32, 1.64]	0.31 [*]	[0.12, 0.76]	0.74	[0.30, 1.84]	2.26	[0.44, 11.56]
Transgender × Assigned Female Sex at Birth	0.54	[0.16, 1.87]	0.56	[0.12, 2.55]	0.47	[0.13, 1.63]	1.76	[0.14, 21.15]

Note. $N = 503$ ($n = 208$ LGB, $n = 56$ transgender, $n = 276$ non-LGBT). SA = sexual assault; LGB = lesbian, gay, or bisexual; OR = odds ratio.

^aSample recruited using respondent-driven sampling. ^bAssessed only among those who indicated an experience of sexual assault ($n = 100$). ^cU.S. Air Force was the reference category. ^dWhite was the reference category.

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

covariates. We also included terms for interactions among gender identity, sexual identity, and assigned sex at birth to assess for moderating effects. Finally, adjusted multivariable logistic regression analyses modeled each of the victimization outcomes as a function of the predictors and covariates that emerged as significant in bivariate regression analyses (i.e., $p < .05$). We used mixed-effects logistic regression for multivariable models to include terms adjusting for the potential effect of clustering in RDS recruitment chains. Where interaction terms were significant in final models, Stata's margins command was used to obtain expected probabilities of reporting victimization experiences for figures.

Results

Sample Characteristics

The demographic characteristics of the sample are presented in Table 1. Sexual minority (i.e., LGB) service members comprised a substantial portion of the sample ($n = 208$, 41.3%). Gender minority (i.e., transgender, genderqueer, or gender non-conforming) service members ($n = 56$, 11.1%) were also well represented given that general U.S. population estimates range

from about 0.3% to 1.0% (Graham et al., 2011; Reisner et al., 2016). Most participants were assigned male sex at birth ($n = 325$, 64.6%).

Sexual and Stalking Victimization among LGBT and Non-LGBT Service Members

Descriptive results. Table 2 summarizes reported experiences of sexual and stalking victimization during service among non-LGBT (i.e., cisgender heterosexual), LGB, and transgender respondents and in the total sample. Nearly one-third (29.4%) of respondents reported having been stalked, 67.4% reported sexual harassment, and just under 20% indicated having experienced sexual assault; among individuals who indicated having experienced a sexual assault, about one-quarter reported the incident. A smaller proportion of non-LGBT service members reported stalking, sexual harassment, and sexual assault compared to LGB and gender minority service members.

Bivariate results. Bivariate regression results are summarized in Table 3. Stalking during service was significantly more likely among LGB service members, odds ratio (OR) = 2.17,

$p < .001$; and those in the Navy, $OR = 1.84, p = .035$, than heterosexual service members and those in the Air Force, respectively. Respondents who reported less than 2 years of service were less likely to report stalking, $OR = 0.45, p = .001$; and sexual harassment, $OR = 0.41, p < .001$, than those with more service time. Service members who were LGB, $OR = 3.49, p < .001$; gender minority, $OR = 2.77, p = .007$; assigned female sex at birth, $OR = 1.94, p = .002$; or held an officer rank, $OR = 1.57, p = .026$, were significantly more likely to have experienced sexual harassment than those who were heterosexual, cisgender, assigned male sex at birth, or enlisted, respectively.

Service members who identified as LGB, $OR = 2.10, p = .001$; or a gender minority, $OR = 1.91, p = .040$, had significantly higher odds of experiencing sexual assault during service than heterosexual and cisgender service members, respectively. Individuals who were assigned female sex at birth also had significantly higher odds of experiencing sexual assault than those assigned male sex at birth, $OR = 1.57, p = .040$. Military officers were significantly less likely to indicate reporting a sexual assault incident than enlisted service members, $OR = 0.20, p = .010$. Regression analyses indicated one significant interaction between sexual identity and assigned sex at birth for sexual harassment, $OR = 0.31, p = .011$. Male, but not female, service members who identified as gay or bisexual were significantly more likely to report harassment than their heterosexual peers.

Multivariable regression. An adjusted model for stalking during service was used to assess the effects of sexual identity, length of service, and service branch (Table 4). The final model, $\chi^2(5, N = 500) = 21.8, p < .001$, showed that LGB respondents had nearly 2 times higher odds of reporting stalking than heterosexual respondents, $OR = 1.98, p = .003$. Respondents with less than 2 years of service experience were less likely to report stalking than those who had served longer, $OR = 0.52, p = .016$. The adjusted model for sexual harassment during service included gender identity, sexual identity, sex assigned at birth, the interaction term between sexual identity and sex assigned at birth, length of military service, and rank (Table 4). In the final model, $\chi^2(6, N = 500) = 44.1, p < .001$, LGB respondents were approximately 4 times more likely to experience harassment than heterosexual participants, $OR = 4.14, p < .001$, whereas those assigned female sex at birth had more than double the odds than those assigned male sex at birth of experiencing harassment, $OR = 2.67, p = .001$. Participants who reported serving less than 2 years were conferred roughly half the odds of sexual harassment compared to those who had served longer, $OR = 0.53, p = .026$. A significant interaction term, $OR = 0.34, p = .026$, indicated that sexual identity modified the impact of sex assigned at birth on sexual harassment. That is, although heterosexual service members assigned male sex at birth had more than a 50% likelihood of having experienced sexual harassment, sexual minority service members of all assigned sexes as well as heterosexual service members assigned female sex at birth had more than a 70% likelihood of sexual harassment.

An adjusted model for sexual assault during service included sexual identity, sex assigned at birth, and gender identity (Table 4). In this model, $\chi^2(3, N = 500) = 13.4, p = .004$, LGB identity conferred approximately 2 times the odds of experiencing sexual assault compared to heterosexual identity, $OR = 2.07, p = .005$. In the final model for reporting of sexual assault, $\chi^2(4, N = 100) = 3.6, df = 4, p = .470$, the effect of officer rank was no longer statistically significant, $p = .110$.

Discussion

In the current study, service members who identified as LGB demonstrated an elevated risk of sexual harassment, stalking, and sexual assault during military service, suggesting that disparities in sexual victimization experiences reported among veteran samples are also present among active duty personnel (Brown & Jones, 2016; Lucas et al., 2018; Mattocks et al., 2013). Our findings also align with military research among active duty service members (DoD, 2017a, 2019), suggesting that those who identify as LGB remain at an elevated risk of sexual and stalking victimization in the years following the repeal of a restrictive military policy believed to have fostered victimization risk (i.e., Don't Ask, Don't Tell; Burks, 2011).

Gender minority identity (i.e., transgender, genderqueer, or gender nonconforming) was associated with significantly higher rates of sexual harassment and assault compared to cisgender identity, but only in bivariate models. Concurrently, substantial proportions of gender minority participants indicated experiencing sexual and/or stalking victimization during military service. The rate of sexual assault among gender minority participants was approximately twice the rate found among samples of transgender veterans (15%–17%; Beckman et al., 2018; Brown & Jones, 2016). One prior study that analyzed health records of veterans who accessed the Veterans Health Administration from 1996 to 2013 found that the more than 5,000 veterans who identified as transgender had nearly 3 times the odds of reporting military sexual trauma than non-transgender veterans (Brown & Jones, 2016). Collectively, this evidence may suggest that elevated sexual victimization risk persists among transgender and other gender minority service members; the attenuation in the multivariate association found in our study may be related to the limited number of gender minority participants.

It is important to note that sexual identity demonstrated a moderating effect on the relation between sex assigned at birth and sexual harassment, in that identifying as LGB significantly elevated harassment risk for male but not female service members. This suggests that given the high risk of sexual harassment among female service members generally (e.g., LeardMann et al., 2013), identifying as lesbian or bisexual does not confer an elevation in risk. For male service members in our study, however, identifying as gay or bisexual significantly increased harassment risk. This disparity may reflect the context of a military culture that is both male dominated and

Table 4
Adjusted Results of Multivariate Logistic Regression Among Active Duty Military Service Members^a

Variable	Stalking		Sexual Harassment		SA		Reported SA ^b	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
LGB	1.98**	[1.27, 3.11]	4.14***	[2.21, 7.78]	2.07***	[1.25, 3.41]		
Transgender			1.53	[0.68, 3.46]	1.49	[0.78, 2.88]		
Female sex at birth			2.67***	[1.46, 4.88]	1.47	[0.92, 2.35]		
< 2 years of service	0.52*	[0.31, 0.89]	0.53**	[0.34, 0.83]				
Service branch^c								
U.S. Army	1.44	[0.85, 2.42]						
U.S. Marine Corps	1.54	[0.73, 3.24]						
U.S. Navy	1.51	[0.81, 2.84]						
Officer rank			1.23	[0.76, 1.99]			0.11	[0.01, 1.64]
LGB × Assigned Female Sex at Birth			0.34*	[0.13, 0.88]				

Note. $N = 503$ ($n = 208$ LGB, $n = 56$ transgender, $n = 276$ non-LGBT). Models included only variables significant at the bivariate level and were adjusted for response-driven sampling (RDS) cluster effects. SA = sexual assault; LGB = lesbian, gay, and bisexual; OR = odds ratio.

^aSample recruited using RDS. Multivariate models included a term to adjust for cluster effects of RDS recruitment chains. ^bAssessed among participants who indicated an experience of sexual assault ($n = 100$). ^cU.S. Air Force was the reference category.

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

places value on masculine ideals (e.g., dominance, aggression, self-sufficiency), perhaps compelling some individuals to prove their masculinity to others through the use of sexualized language or behavior (Castro, Kintzle, Schuyler, Lucas, & Warner, 2015; Hunter, 2007). Intervention strategies targeting at-risk populations should consider these nuances. For instance, secondary and tertiary prevention efforts aimed at linking service members to sexual harassment-related support might include strategies directed toward female service members broadly and others directed more specifically toward gay and bisexual male service members.

The rates of reporting an incident of sexual assault were low across the sample, which is consistent with prior research among veteran and active duty samples (Dardis, Reinhardt, Foyne, Medoff, & Street, 2018; DoD, 2017a; Mengeling, Booth, Torner, & Sadler, 2014) and did not vary significantly by sexual or gender identity. In prior work among LGBT and non-LGBT service members, barriers to reporting sexual victimization have included beliefs that the incident was not important enough or that nothing would be done, feelings of discomfort with reporting, fear of reprisal or consequences, or wanting to resolve the issue personally (Dardis et al., 2018; DoD, 2017a; Gurung et al., 2018; Mengeling et al., 2014; Sadler et al., 2003). Taken together, these findings suggest substantial barriers to reporting sexual and stalking victimization experiences regardless of sexual or gender identity.

Disparities in sexual and stalking victimization observed in the current study build on existing evidence suggesting that LGBT military personnel endure frequent occurrences of gender- or sexuality-based discrimination and violence during service (American Psychological Association, 2009; DoD, 2017a; Gurung et al., 2018). The perpetrator hypothesis, a re-

cent conceptual framework (Castro & Goldbach, 2018), can provide a useful tool for contextualizing these findings and identifying targets for intervention. According to this hypothesis, LGBT service members may be deliberately targeted as victims of malicious and violent behavior, including sexual assault, due to factors ranging from perpetrator beliefs to the broader military climate and culture. For instance, leaders who condone disparaging or homophobic language or behavior may embolden perpetrators to victimize LGBT service members. Military policies (e.g., those regarding transgender individuals' ability to serve) may encourage perpetrators who see the policy as deterring certain individuals from reporting an incident of victimization. The perpetrator hypothesis points to the importance of designing targeted and timely intervention strategies to both prevent future victimization experiences and mitigate the potential impact on LGBT service members' health and behavior as well as their military-related attitudes, performance, and readiness (Castro & Goldbach, 2018).

The current study was not without limitations. As noted previously, the small number of transgender participants may obscure differences in victimization experiences compared to the larger sample of cisgender participants. The cross-sectional nature of the data limited the ability to make causal inferences or examine trends over time. In addition, despite the use of fraud-prevention measures, there remains a possibility that survey responses included invalid entries. Listwise deletion was used to construct a sample with complete information, which may have introduced bias if data were not missing completely at random. Additionally, although RDS is a helpful tool for recruiting difficult-to-reach populations, it may not provide a sample as representative as would be achieved through probability-based methods. Moreover, most of the participants in our sample were

serving in the Army and Air Force, which is relatively characteristic of the military's distribution of service members across branches (DoD, 2017b). Thus, our findings may not necessarily generalize to the broader population of service members.

Limitations regarding some of our measures should also be noted. Our measures of sexual and stalking victimization, although informed by military language and policy, have not been utilized as frequently as other measures, such as the military sexual trauma screen used by the Veterans Health Administration (Mengeling et al., 2019). At the same time, sexual assault researchers have suggested the use of multiple, behaviorally specific items to assess unique victimization events (e.g., Ullman & Brecklin, 2002), and thus our measure may capture a wider breadth of victimization experiences than a brief clinical screening measure. The race and ethnicity measure may also have been limited: Despite allowing participants to self-select their identity, it may not have reflected the potential range or intersections of racial and ethnic identities in the sample.

As the military works toward more integration and acceptance of LGBT service members, understanding the nature and impact of sexual and stalking victimization experiences during service is critical. Experiences of sexual victimization during military service have been linked with adverse psychological and physical health outcomes among veterans (Surís & Lind, 2008), which may be especially likely for individuals who identify as LGBT (Lehavot & Simpson, 2014; Sexton et al., 2018). This research should be further extended among active duty LGBT military personnel and include stalking to inform treatment strategies aimed at mitigating the potential effects of victimization on service members' well-being and military readiness. It is important for military health care providers to recognize that LGBT service members may face enhanced risk of sexual and/or stalking victimization. Knowledge of unique stressors and traumatic experiences that LGBT service members may face as well as the skills needed to effectively screen for and discuss these experiences can help providers build supportive, nonjudgmental environments and administer appropriate care. Similar to efforts in the veteran health care system (e.g., Kauth & Shipherd, 2016), future research and intervention strategies should aim to equip military health care providers with the knowledge and skills to build comprehensive, supportive systems of care for LGBT service members.

Additionally, insight into sexual and stalking victimization experiences among LGBT personnel can better equip military leaders and empower them to identify and intervene on unit climate factors that may perpetuate victimization risk. Perceptions of betrayal by the military institution in failing to effectively prevent or respond to sexual or stalking victimization may inhibit the reporting of victimization experiences or the seeking of care (Holliday & Monteith, 2019), and, thus, the actions of military leaders are especially impactful. Preparing military leaders to effectively understand, prevent, and respond to instances of victimization among LGBT service members will not only promote well-being but also foster trust and encourage LGBT service members to remain engaged in the military

system. Ultimately, this can improve both individual service member readiness and the health of the military.

Training and educational resources regarding LGBT service members' unique needs and experiences, including their risk of sexual and stalking victimization, should be promptly made available to military leaders and health care providers. Timely efforts are needed to address LGBT service members' victimization risk and mitigate potential health- and functioning-related consequences. Additionally, future perpetration against LGBT service members can be prevented by greater awareness of and less tolerance for such behaviors by military leaders.

The experiences of sexual harassment, stalking, and sexual assault during service among LGBT military personnel should be better understood to design informed, effective, and directed prevention and care interventions. Future research should further explore sexual and stalking victimization dynamics and outcomes among LGBT service members, including event-related details, reporting decisions and experiences, and perceptions of and experiences with military leadership, health care, and support for sexual and stalking victimization. Safe and supportive environments for LGBT service members, including access to comprehensive and appropriate health care, can help mitigate the risk of adverse health and military outcomes, contributing to improved wellness of both LGBT service members and the military as a whole.

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