Lesbian, Gay, Bisexual and Transgender Service Members' Mental Health: The Role of Morale and Unit Cohesion

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ABSTRACT

Background: Military leaders are responsible for the morale and cohesion of the units they lead. Research has shown that both morale and cohesion are important determinants of unit readiness, including medical readiness. As the composition of the military becomes more diverse an important question emerges as to whether there are important differences among minority groups regarding morale and cohesion such as gender and sexual minorities. While previous research has shown there to be difference between women and men service members, there is little know about morale and cohesion among sexual and gender minorities. This study seeks to close that gap by assessing the relationship of sexual and gender minorities and health.

Methods: Response Driven Sampling (RDS) procedures were employed to identify active duty service members from the four major branches: Army, Air Force, Navy and Marines. In total, 248 lesbian, gay, bisexual and transgender (LGBT) service members and 296 non-LGBT service members completed a comprehensive survey that assessed a variety of issues, including morale, cohesion anxiety, depression, PTSD and suicidality. Ordinary least squares regression was used to examine for moderating effects of morale and unit cohesion on the relationship between group membership and mental health outcomes.

Results: The general findings from this study indicate (a) that while morale and cohesion moderate the mental health of service members for both LGBT and non-LGBT (i.e., cisgender heterosexual) service members, the effects were not uniform across outcomes. (b) Unit cohesion moderated the relationship between LGBT status and anxiety, (c) while unit morale moderated the relationship between depression and PTSD and LGBT status. (d) Morale and unit cohesion failed to moderate the relationship between LGBT status and suicidality.

Conclusions/Implications: The findings from this study replicate and extend the importance of morale and

cohesion in moderating the mental health of service members for both LGBT and non-LGBT service members. Yet, the benefits of high morale and cohesion were not uniform among the groups. Non-LGBT service members benefited to a greater extent as morale and unit cohesion increased than did LGBT service members. These findings indicate that leaders should include other important markers of acceptance and inclusion in unit wellbeing assessments that go beyond morale and cohesion, emphasizing the increased importance of unit leadership on ensuring the full integration and acceptance of LGBT service members.

1.0 INTRODUCTION

Including both guard and reserve, nearly 71,000 (or 2.8%) military personnel across all the services identify as lesbian, gay, or bisexual (Gates, 2010) with many others identifying as transgender (Kerrigan, 2012). Until the repeal of Don't Ask, Don't Tell (DADT), LGB service members could not disclose their sexual orientation ("come out"); and if they did so, discharge from the military was common. More than 19,000 service members were discharged between 1980 and 1993 (prior to the passing of DADT) while 13,000 were discharged between 1993 and 2009 (Burrelli, 2010; DOD, 2010). Despite the repeal of DADT, transgender individuals remain unable to openly serve in the military (Bowling & Sherman, 2008; Kerrigan, 2012). The unique needs of these service members and their nearly 870,000 veteran counterparts are not well understood (Gates, 2004).

1.1 The Unique Experience of LGBT Military Service Members

The experiences of LGBT service members may be distinctly different from their non-LGBT military counterparts yet remain largely unexplored. LGBT service members may experience heightened harassment related to the "hyper-masculinity" of military service (Moradi, 2009). In the general population, LGBT individuals have a greater likelihood of experiencing traumatic events such as child maltreatment, interpersonal violence, intimate partner violence, sexual assault (Balsam et al., 2005; Tjaden et al., 1999), child abuse or neglect (Alvy et al., 2013), hate crimes (Herek, 2009), rejection from family, friends and religious communities (Gibbs & Goldbach, 2014), and unexpected death (including suicide) (Roberts et al., 2010).

These outcomes above are commonly attributed to unique stress experiences related to LGBT identity known as minority stress (shown right, Meyer, 2003). Stress theory, in general, states that as major life events and chronic circumstances accumulate, an individual becomes less equipped to adapt, adjust and tolerate continued life stress experiences (Brown & Harris, 1978). In civilian studies, minority individuals repeatedly consistently show increased stress and psychological vulnerability when compared to their majority group peers (Thoits, 1991; Meyer 2003). Minority stress theory suggests that societal oppression and chronic victimization lead to significant distress for LGBT people and result in poorer health and mental health outcomes. These stressors include negative events, negative attitudes towards homosexuality, and discomfort with homosexuality (Rosario, et al., 2002) and have been extensively linked with negative behavioral health outcomes among LGBT people (e.g., Goldbach et al., 2014; Marshal et al., 2012; Rosario, Schrimshaw, Hunter & Gwadz, 2002).

1.2 Group Cohesion and Leadership

The experience of navigating potentially hostile social environments also adds stress to LGBT individuals. A number of studies have linked the stress of coming out (i.e., fear of family disapproval, loss of close friendships) to negative mental health outcomes (D'Augelli, 1998; Russell, Franz & Driscoll, 2001). In fact, upwards of 67% of LGBT individuals who report coming out to their family to be *somewhat* or *extremely troubling* (Pilkington & D'Augelli, 1995). Further, LGBT people who fear disclosure may feel further isolated from their peers (Berkman & Glass, 2000; Silenzio et al., 2009).

Given the importance of leadership and unit support and cohesion in the military (Griffith, 1988; Manning, 1991; Siebold, 1999), minority stress experiences such as "coming out" may be particularly relevant not only to the mental health outcomes of this population, but the health and wellbeing of the unit as well. Leadership and cohesion within the military have been shown to influence health and performance in combat and in garrison (Bliese & Castro, 2000; Castro & McGurk, 2007; Wong, Kolditz, Millen & Potter, 2003). In a study conducted in garrison among soldiers with a high workload, soldiers in units with higher cohesion displayed fewer mental health symptoms associated with depression and anxiety than did soldiers where cohesion was lower (Bliese & Castro, 2000). In a conceptually similar study conducted in Iraq where combat operations were on-going, constructive and positive leadership behaviors were shown to attenuate the adverse effects of combat (Castro & McGurk, 2007). Subordinates whose leaders displayed positive leader behaviors were less likely to screen positive for probable PTSD and depression following combat experiences than leaders who displayed negative leader behaviors.

Thus, the present study sought to explore the relation between LGBT identity and mental health outcomes, and further understand whether unit cohesion and morale mediate this relationship. Viewed with the minority stress theory, it was expected that LGBT service members who report higher morale and higher unit cohesion would report fewer mental health concerns than LGBT service members who report lower morale and lower unit cohesion.

2.0 METHODS

2.1 Procedures

2.1.1 Recruitment

Our study utilized a respondent driven sampling (RDS) methodology. We began with recruitment of seeds using referrals from an Expert Advisory Panel (EAP). Primary investigators and study staff also provided seed recruits through their network contacts. When seed recruitment through EAP referrals and study staff slowed, we expanded seed recruitment by promoting the study through popular military-related social media and on college campuses. Each strategy was accompanied with a unique referral code in order to monitor and track referral effectiveness and to ensure that no single group or platform yielded more than 20 eligible seeds at a time. Survey respondents were provided up to six unique referral codes to refer others into the study. Survey participants were provided a $25 electronic gift card (if they completed the online survey off duty) and $10 gift card incentives for each referral who completed the survey. Checks for fraud were conducted throughout study recruitment and during analysis. For example, IP addresses outside of the U.S. in areas with no military-base were not permitted to take the survey, and those survey responses with at least two incorrect attention-control measures were removed from the analytic sample. The crude recruited sample consisted of 544 individuals.

2.2 Participants

The resulting sample consisted of about one third active-duty military officers (n = 185, 34.0%), and about two thirds enlisted members (n = 359, 66.0%). The U.S. Army (n = 226, 41.5%), the U.S. Air Force (n = 182, 33.5%), the U.S. Navy (n = 84, 15.4%), and the U.S. Marine Corps (n = 52, 9.6%) were each represented among respondents. The majority of the sample had served less than two years of service time in the military (n = 368, 72.3%). Racial and ethnic identity composition of the sample was majority White (n = 316, 58.1%), with Black or African American service members (n = 91, 16.7%) and Latino or Hispanics (n = 73, 13.4%) as the second and third largest respective groups self-reported in the study. The majority of the sample was under the age of 30 (n = 377, 69.3%). LGBT service members were well represented in our data, the number of non-cisgender heterosexual respondents was nearly half (n = 248, 45.6%). Transgender service members (n = 58, 10.7%) were also well-represented given that general population estimates of this

group' prevalence range from 0.3% to about 1% (Reisner et al., 2016; "The Health of lesbian, gay, bisexual, and transgender people," 2012). Under half of participants were assigned female sex at birth (*n* = 194, 35.7%).

2.3 Measures

2.3.1 Demographic Characteristics

Sexual Orientation was measured using one item asking, "What is your sexual identity?" Response options were, heterosexual or straight, gay or lesbian, bisexual, or sexual orientation not listed. Sex assigned at birth was reported in one item asking, "What sex where you assigned at birth, (i.e., what sex is on your birth certificate)? Response options were male and female (binary coded, male set as reference group). Gender identity was assessed in an item with six response options, male, female, transgender male/trans man, transgender female/trans woman, genderqueer/gender non-conforming, and gender identity not listed. For analysis, these three variables were used to construct a single binary item for lesbian, gay, bisexual and transgender (LGBT) service members (reference group: cisgender, i.e., not transgender, heterosexual). Respondents also reported their age and race/ethnicity.

2.3.2 Characteristics of military service

Study respondents reported sociodemographic information reflective of their status as active duty military service members. Service members reported the number of years they have been serving in the military, their service branch (U.S. Airforce, U.S. Army, U.S. Marine Corps, and U.S. Navy; reference group: U.S. Airforce), as well as their pay grade which was used to determine their rank (reference group: E-1 to E-3).

2.3.3 Hypothesized moderators and mental health

In the present study, unit cohesion and morale are hypothesized moderators of mental health outcomes. Unit cohesion was measured using the four-item platoon cohesion index, total scores range on a continuous scale from 4 to 20 with higher scores representing more integration with unit (Bartone, Johnsen, Eid, Brun, & Laberg, 2002; Siebold & Kelly, 1988). Morale was measured using a single response item from Woodruff, Kelty, and Segal (2006) that asked respondents to rate their personal morale on a scale of 1 to 5 with higher scores representing a higher degree of morale to serve. Anxiety was assessed using a brief measure to assess for generalized anxiety disorder, the GAD-7 (Spitzer, Kroenke, Williams, & Löwe, 2006). Total scale scores range from 0 to 21 with higher scores representing greater anxiety symptomatology. Depression was measured using eight items from the Patient Health Questionnaire (PHQ; Kroenke, Spitzer, & Williams, 2001). This item ranges from 0 to 24, with higher scores representing a greater degree of depression symptomatology. Post-Traumatic Stress Disorder (PTSD) was assessed using the PTSD PCL-5, a 20-item measure examining the presence and severity of PTSD symptomatology with higher scores representing greater severity of symptoms (Blevins, Weathers, Davis, Witte, & Domino, 2015). Finally, suicidality was measured using the suicidal behaviors questionnaire - revised (SBQ-R) with scores ranging from 0 to 15 with higher scores representative of a greater degree of suicidality (Osman et al., 2001).

2.4 Analysis

The purpose of the present study was to assess for a moderating impact of unit cohesion and morale on the relationship between LGBT identity and mental health outcomes among a cohort of active duty military service members. To begin, 1) authors conducted descriptive analysis of demographic and military-related sample characteristics as well as reports of mental health (i.e., anxiety, depression, PTSD, and suicidality). Then, 2) bivariate analyses using ordinary least squared regression was used to assess for significant relationships between each mental health outcome and LGBT service members, indicators of integration

(i.e., unit cohesion and morale), as well as military-related covariates (i.e., length of service, military branch, and rank). Interactions were also examined in order to assess for moderation of the relationship between LGBT status and mental health by unit cohesion and by morale (i.e., LGBT X morale, and LGBT X unit cohesion). Finally, 3) authors ran multivariate regression models by loading each of the four mental health outcomes on variables, including interaction terms, significant at the bivariate level. Variables that fell from significance in these models were removed to achieve the most parsimonious final estimates. All analyses were conducted in STATA version 14 (StataCorp, 2015). Where interaction terms were significant in final models, STATA's margins command was used to obtain expected probabilities and develop figures. Very little data was missing overall, and therefore listwise deletion was used for each analysis.

3.0 RESULTS

Demographic characteristics are summarized in Table 1. Responses to indicators of integration (i.e., unit cohesion and morale) and mental health experiences are listed in Table 2. The mean moral score among LGBT service members was 3.4 (SD: 1.0), while the mean moral score among cisgender heterosexual service members was 3.8, (SD: .90). As for unit cohesion, LGBT service members were found to have a mean score of 15.4 (SD: 3.4) and cisgender heterosexual respondents a mean score of 17.2 (SD: 3.1). Cisgender heterosexual service members reported a mean anxiety score of 2.6 (SD: 3.9) while LGBT respondents were found to have a mean anxiety score of 4.7 (SD: 5.90). The mean depression value among LGBT service members was 4.9 (SD: 6.1), and 2.6 (SD: 4.2) among cisgender heterosexual service members. As for PTSD symptomatology, the LGBT respondents in our sample were found to have a mean sore of 33.7 (SD: 18.3), while cisgender heterosexual respondents had a less severe mean score of 27.1 (SD: 11.7). Finally, the mean suicidality scores were 5.2 (SD: 3.6) and 3.1 (SD: 2.3) for LGBT and cisgender heterosexual service members respectively.

Following sociodemographic analysis, bivariate regression was used to examine for significant correlates of Mental Health outcomes. Increased Anxiety was found to be significantly correlated with LGBT group membership, assigned female sex at birth, lower levels of morale and unit cohesion, more than two years of military service, service in the U.S. Navy, and enlisted status (E-4 and above). Interaction terms between LGBT group membership and indicators of integration were each significant. Significant correlates of elevated depression in our sample were LGBT group membership, female assigned sex, low levels of moral and unit cohesion, more than two years of military service, U.S. Naval service, and enlisted rank (E-4 and above). Both Interaction terms were significantly associated with depression. In bivariate analysis, heightened PTSD symptomatology was found to be significantly correlated with LGBT group membership, female assigned sex, lower levels of morale and unit cohesion, more than two years military service, service in the U.S. Navy, and rank (E-4 and above, and O-4 and above). PTSD was also found to be significantly associated with study interaction terms. Finally, LGBT group membership, assigned male sex at birth, decreased levels of morale and unit cohesion, more than two years of military service, U.S. Army service, and rank (E-4 and above, and O-1 to O-3) were each associated with increased suicidality scores relative to variable reference groups. No interactions were found to be significantly associated with suicidality indicating that moral and unit cohesion do not moderate the relationship of LGBT group membership with rates of suicidality.

To develop final estimates, multivariate models were created for each outcome. Standardized beta estimates with p-value are listed in Table 3 for each final model. The final model for anxiety (adjusted R^2 = .38) showed that female assigned sex at birth (b = 0.82, p = .031), U.S. Marine Corps service (b = 2.34, p < .001), U.S. Naval service (b = 1.98, p = .001), rank E-4 and above (b = .98, p = .043), rank O-4 and above (b = 1.90, p = .014), and LGBT group membership (b = 7.31, p < .001) were each associated with elevated anxiety. Unit cohesion was not significant in our final model for anxiety, though higher levels of morale (b = -2.52, p < .001) were found to be associated with decreased anxiety. Finally, our interaction term (LGBT x Unit Cohesion) was significant (b = -.43, p <.001). Figure 1 shows that, for LGBT service members, levels

of anxiety steeply increased as unit cohesion decreased whereas for cisgender heterosexual service members, unit cohesion remained relatively stable. Our final model for depression (adjusted R^2 = .44) showed that LGBT group membership (b = 5.18, p < .001), U.S. Marine Corps (b = 2.39, p < .001) and U.S. Naval (b = 1.77, p = .002) service, ranks E-4 and above (b = 1.53, p = .001) and O-4 and above (b = 1.82, p = .015) were each associated with increases in depression. As for indicators of integration, unit cohesion (b = -.31, p < .001) and morale (b = -2.08, p < .001) were each found to correlate with decreasing levels of depression. The significant interaction term (LGBT X morale; b = -1.37, p < .001) indicated that, as morale decreased among the sample, LGBT service members were found to have a steeper increase in depression than cisgender heterosexual service members.

The final model for PTSD (adjusted R^2 = .41) showed that LGBT group membership (b = 14.88, p < .001), U.S. Marine Corps (b = 7.69, p < .001) and U.S. Naval service (b = 6.25, p < .001), and ranks E-4 and above (b = 4.14, p = .003) and O-4 and above (b = 6.57, p = .004) were each correlated with higher rates of PTSD symptomatology. Morale (b = -5.71, p <.001) and unit cohesion (b = -.80, b < .001) were associated with decreased PTSD symptom severity in this final model. The interaction term (LGBT x morale; b = -3.84, p < .001) was significant, demonstrating that PTSD symptomatology increased more steeply for LGBT service members than for cisgender heterosexual service members as levels of morale fell. In the adjusted multivariate model for suicidality (adjusted R^2 = .25), only LGBT group membership (b = 1.60, p < .001), and morale (b = -1.26, p < .001) were significant.

4.0 DISCUSSION

The primary research question of this study was to determine whether unit morale and cohesion moderate the relationship between LGBT group membership and mental health outcomes including anxiety, depression, PTSD and suicidality. The findings from this study replicate and extend the importance of morale and cohesion in moderating the mental health of service members for both LGBT and non-LGBT service members.

Regardless of sexual orientation, unit cohesion and morale were associated with mental health outcomes. Yet, the importance of morale and cohesion for LGBT service members was even more evident. That is, when morale and cohesion are low, it appears that LGBT service members report worse outcomes than their cisgender-heterosexual peers. When unit cohesion and morale are high, their outcomes are superior to their cisgender-heterosexual counterparts.

The benefits of high morale and cohesion were not uniform among the groups. Non-LGBT service members benefited to a greater extent as morale and unit cohesion increased than did LGBT service members. These findings indicate that leaders should include other important markers of acceptance and inclusion in unit wellbeing assessments that go beyond morale and cohesion.

Table 1: Sociodemographic Characteristics, 2017-18.

	N	%
LGBT (*n* = 544)	**248**	**45.6**
Sexual Orientation (*n* = 544)		
Heterosexual	316	58.1
Gay or Lesbian	174	32.0
Bisexual	43	7.9
Other sexual orientation	11	2.0
Gender identity (*n* = 544)		
Cisgender man	**329**	**60.5**
Cisgender woman	**164**	**30.2**
Transgender man	**21**	**3.9**
Transgender woman	**23**	**4.2**
Genderqueer	**5**	**0.9**
Another gender identity	**2**	**0.3**
Sex Assigned at Birth (*n* = 544)		
Male	350	35.7
Female	104	64.3
Age (*n* = 544)		
18-24	**198**	**36.4**
25-29	**179**	**32.9**
30-34	**97**	**17.8**
35-54	**70**	**12.9**
Racial and Ethnic identity (*n* = 544)		
White	316	58.1
Black or African American	91	16.7
Latino	73	13.4
Native American or Alaska Native	5	0.9
Asian or Pacific Islander	33	6.1
Multiracial	19	3.5
Other	7	1.3
Length of Service (*n* = 544)		
0 – 4	**254**	**49.9**
5 – 9	**164**	**32.2**
≥ 10	**91**	**17.9**
Military Service Branch (*n* = 509)		
U.S. Air Force	182	33.5
U.S. Army	226	41.5
U.S. Marine Corps	52	9.6
U.S. Navy	84	15.4
Rank (*n* = 544)		
E-1 to E-3	**215**	**39.5**
E-4 and above	**144**	**26.5**
O-1 to O-3	**151**	**27.8**
O-4 and above	**34**	**6.2**

Table 2. Sample Morale to Serve, Unit Cohesion, and Mental Health Reports, 2017-18.

	Mean	Standard Deviation	Range
Morale (*n* = 541).	3.64	0.97	1 - 5
Unit Cohesion (*n* = 542)	16.35	3.37	4 - 20
Anxiety (*n* = 506)	3.54	5.01	0 - 21
Depression (*n* = 543)	3.68	5.26	0 - 24
PTSD Symptomatology (*n* = 540)	30.07	15.36	20 - 100
Suicidality (*n* = 542)	4.12	3.16	1 - 15

Table 3: Results of Multivariate Ordinary Least Squares Regression, 2017-2018.

	Anxiety (n = 501)	Depression (n = 538)	PTSD (n = 535)	Suicidality (n = 539)
	β (p-value)	β (p-value)	β (p-value)	β (p-value)
Lesbian, Gay, Bisexual, and/or Transgender (LGBT)	.72 (<.001)	.48 (<.001)	.48 (<.001)	.25 (<.001)
Female Sex Assigned at Birth	.07 (.031)	--	--	--
Less than two years of service	--	--	--	--
Service branch (reference: U.S. Air Force)				
U.S. Army	.03 (.349)	.04 (.232)	-.01 (.908)	--
U.S. Marine Corps	.14 (<.001)	.13 (<.001)	.14 (<.001)	--
U.S. Navy	.14 (.001)	.12 (.002)	.14 (<.001)	--
Rank (reference: E-1 to E-3)				
E-4 and above	.08 (.043)	.12 (.001)	.11 (.003)	--
O-1 to O-3	-.01 (.874)	.07 (.044)	.02 (.515)	--
O-4 and above	.09 (.014)	.08 (.015)	.10 (.004)	--
Unit Cohesion	.01 (.85)	-.20 (<.001)	-.17 (<.001)	--
Morale	-.48 (<.001)	-.38 (<.001)	-.35 (<.001)	-.38 (<.001)
LGBT X Morale	--	-.48 (<.001)	-.45 (<.001)	--
LGB X Unit Cohesion	-.68 (<.001)	--	--	--

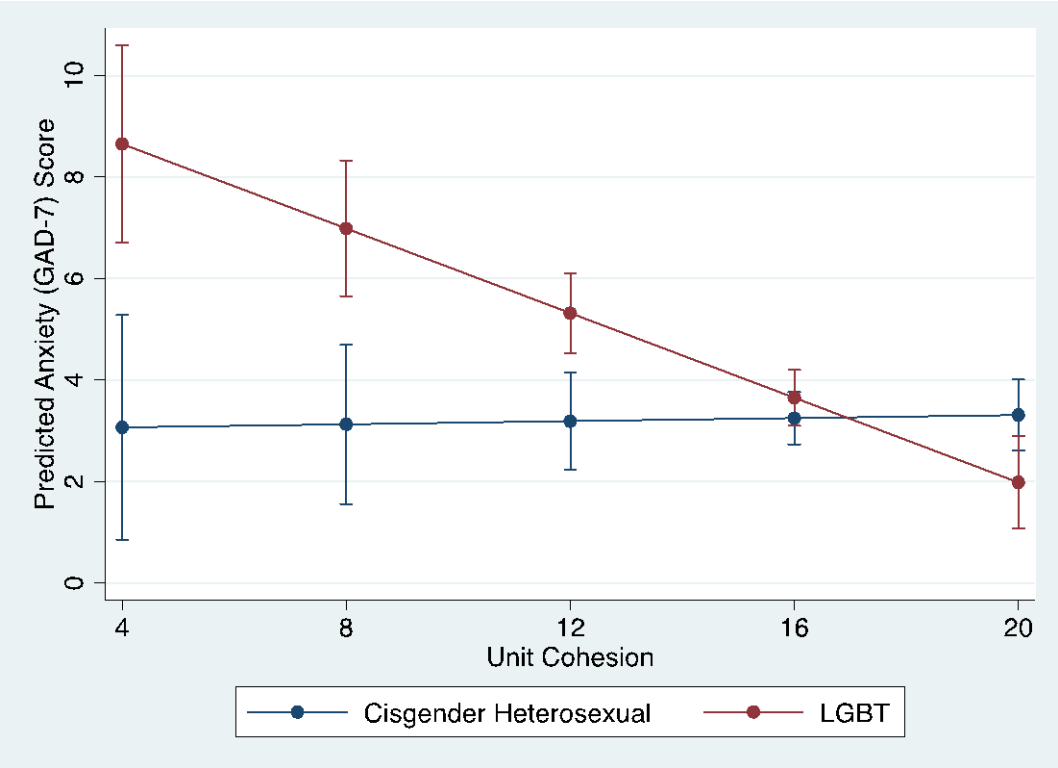

FIGURE 1. Predicted Anxiety Score among LGBT and non-LGBT Service Members by Unit Cohesion

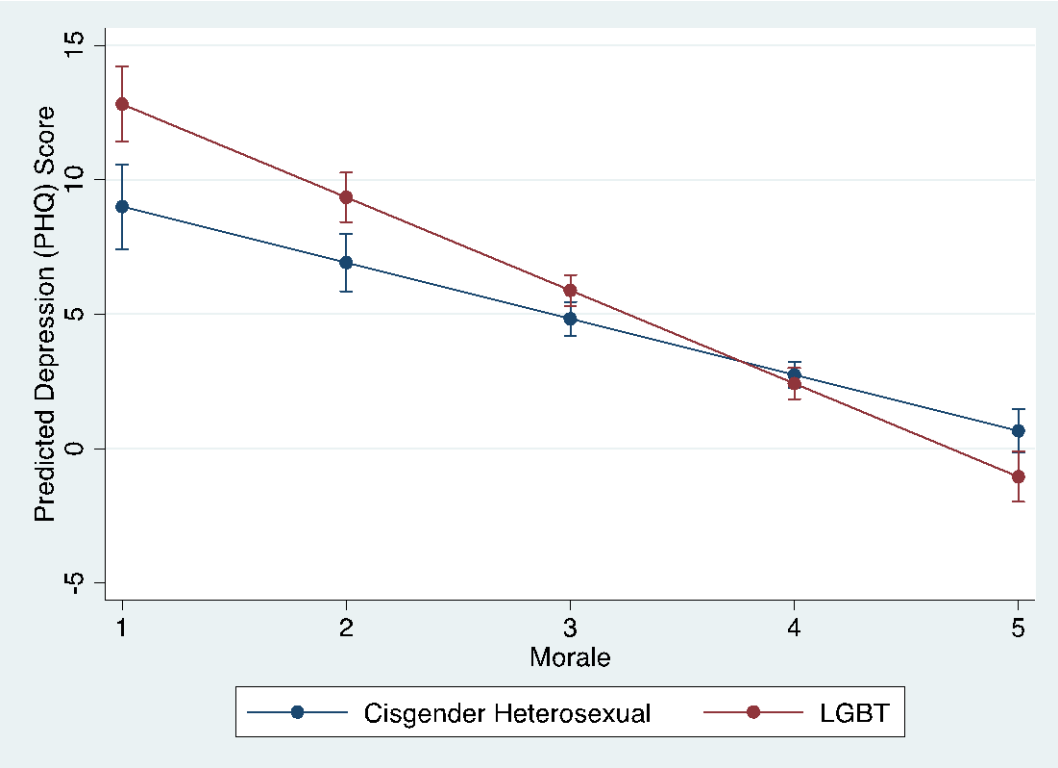

FIGURE 2. Predicted Depression Score among LGBT and non-LGBT Service Members by Unit Cohesion

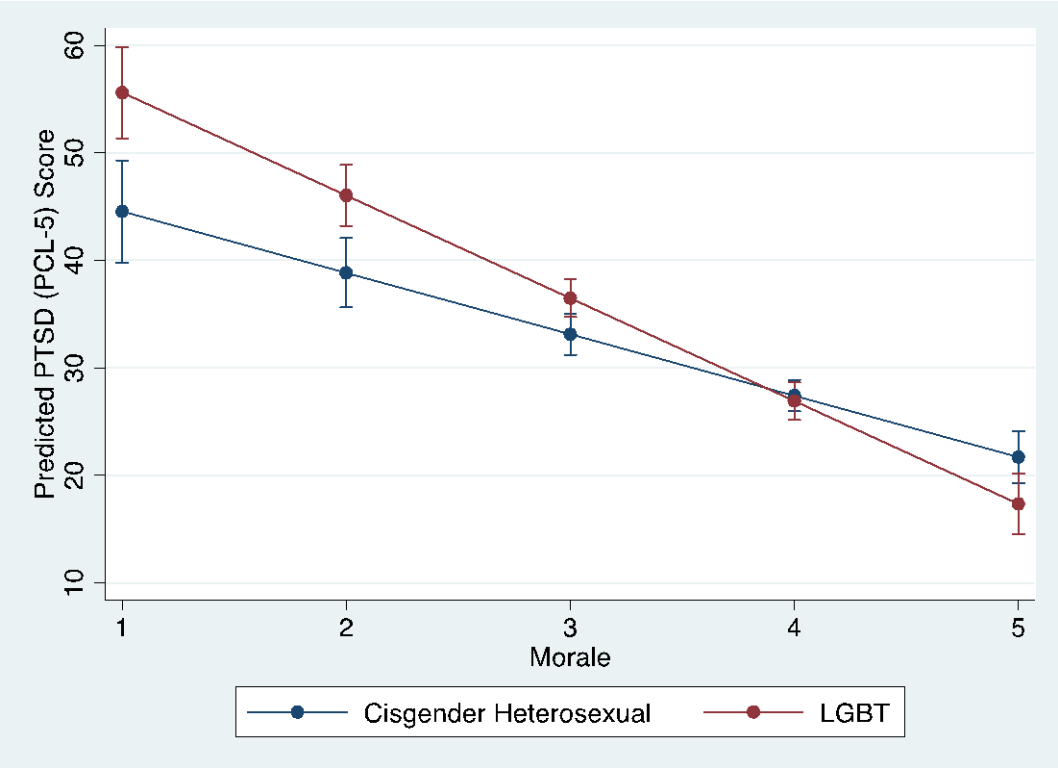

FIGURE 3. PREDICTED PTSD SCORE AMONG LGBT AND NON-LGBT SERVICE MEMBERS BY MORALE

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