Eating disorders and disordered eating behaviors in the LGBT population: trends, proneness, and potential risk factors

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ABSTRACT

Background: Lesbian, Gay, Bisexual and Transgender (LGBT) individuals experience eating disorders at higher rates than heterosexual individuals.

Objectives: this review will examine the rate of this phenomenon and will sought to provide risk factors and potential mechanisms that enhance the rate of eating disorders in this sector.

Design: review of 28 articles and peer reviews searched by using the following databases: Medline, PubMed and Google Scholar. Range of years: 2015 to present. Excluding criteria: research that included only one sort of sexual minority subgroup.

Key words: eating disorders and LGBQ community or sexual minority or gay or homosexual or lesbian or bisexual or transgender or queer.

Results: sexual minority individuals have higher odds of experiencing a DSM-5 eating disorder and engaging in unhealthy weight control behaviors compared to heterosexual. Several contributing factors might explain this prevalence including the minority stress theory through its elaboration as proximal and distal stressors, the interpersonal theory of eating disorders and the emotion regulation theory.

Conclusions: higher risk and prevalence of eating disorders (ED) in LGBT community were correlated to theories in academic literature. Effort must be made to deal with this warrying phenomenon. Experts treating eating disorders might benefit from the theories pointed in our review to prevent and treat LGBT individuals who are in risk or suffer from eating disorders.

Introduction

Eating disorders and disordered weight and shape control behaviors affect individuals across all demographic strata, including sex, age, economic class, race, and ethnicity. However, risk for these behavioral health outcomes is disproportionately higher among some groups. One group that has received considerable focus is sexual minorities, which includes individuals who do not identify as heterosexual (e.g., gay, lesbian, bisexual), individuals who report attractions to people of the same or multiple genders, and individuals who report engaging in sexual contact with people of the same or multiple genders [1,2].

Understanding the prevalence and underlying mechanisms of elevated eating disorder risk among sexual minority populations is critical to informing prevention efforts and tailoring treatment. Furthermore, conducting systematic research on the needs of sexual minority populations is a public health priority, as identified by the Institute of Medicine (IOM) in their 2011 report on research and practices to promote LGBT health equity.

The purpose of this review is to summarize the most recent research on eating disorders among sexual minority populations. The review will focus on the prevalence, proneness and risk factors identified with this subgroup, by that will aim to shade light on certain mechanisms that might explain this elevated eating disorder prevalence. I conducted a systematic search of the databases Medline, PubMed and Google Scholar. The search consisted of articles that published within the last 6 years. To identify articles pertaining to sexual minority populations, sexual orientation key terms included gay*, bisexual*, homosexual*, sexual minority*, lesbian*, LGBQ community. The eating disorder key terms included eating disorder, disordered eating. Retained articles included a spectrum of sexual minority population and at least one outcome variable related to disordered eating. Articles were excluded if they were not new research papers and if they included only one sort of sexual minority population.

28 articles and peer reviews were found. Main results according to prevalence and risk of ED in sexual minority individuals determine a worrying trend: two to four times greater odds of experiencing several eating disorders compared with cisgender heterosexual adults [3]. Other studies showed a higher rate of diagnoses of ED and a higher odd of engaging in unhealthy weight control behaviors among LGBT community individuals compared to their heterosexual counterparts [4-6].

Another aim of this review is summarizing potential mechanisms and factors that sought to explain this rate of eating disorders. One of the main contributing factors for this trend is the minority stress theory- an elaboration of social stress theory [6]. According to this

theory experiences of marginalization significantly increase the risk of eating disorder behaviors among sexual minorities compared with heterosexual individuals [6-10]. Minority stress processes can be examined by distal stressors- events and experiences outside the person and proximal stressors- stressors that experienced through internalizing cognitive processes. Several studies demonstrated that distal stressors and proximal stressors were linked to increased risk of eating pathology [11-18]. Although risk factors related to the minority stress theory were not uniform across all subgroups [19-24].

Another significant theory: the interpersonal theory of eating disorder. It integrates interpersonal and psychological difficulties in understanding the emergence of eating disorder symptoms. This model highlights the role of inadequate social interactions for disturbances of the self, including low self-esteem and negative affect, which in turn trigger and perpetuate eating disorder symptoms [25-27].

Lastly, I referred to the emotional regulation theory as another mechanism underlying eating disorder pathology in lesbian, gay, and bisexual individuals. A study of Gillikin et al provided support that LGB individuals showed relative deficits in emotional regulation compared to heterosexual individuals [28].

To sum up, concerning prevalence and risk of eating disorders were found: dramatically higher in sexual minorities compered to heterosexual individuals. This phenomenon can be explained by several psychological theories. A treatment for eating disorders can be fitted using the theories pointed in our review to prevent and treat LGBT individuals who are in risk or suffer from eating disorders.

Epidemiology and statistics:

Results from a recent nationally representative study in the United States shows that sexual minority adults had between two to four times greater odds of experiencing a DSM-5 eating disorder diagnosis of anorexia nervosa, bulimia nervosa, or binge-eating disorder compared with cisgender heterosexual adults [3].

A recent study conducting semi-structured diagnostic interviews with a nationally representative sample of adults found higher rates of diagnoses of anorexia nervosa (1.71% vs. 0.77%), bulimia nervosa (1.25% vs. 0.24%), and binge-eating disorder (2.17% vs. 0.81%) in LGB participants (i.e. participants who categorized themselves as gay or lesbian, bisexual, or not sure) compared to their heterosexual counterparts [3].

Similarly, another study found that sexual minority young adults had higher odds [1.53, 95% confidence interval (CI) 1.02–2.29] of engaging in unhealthy weight control behaviors (e.g., fasting, skipping meals, vomiting, using laxatives, diuretics, or weight loss pills) than their heterosexual counterparts [4].

Furthermore, several studies have indicated that LGB youth and college students are at higher risk of engaging in eating disorder behaviors compared to their heterosexual peers across genders, with findings indicating that at age 16, gay and bisexual boys had 12.5 times the odds of binge eating compared to heterosexual boys while lesbian and bisexual girls had two times the odds of binging and purging compared to their heterosexual peers [5].

Contributing factors:

Minority stress theory

Stress researchers have identified both individual and social stressors. In psychological literature, stressors are defined as events and conditions (e.g., losing a job, death of an intimate) that cause change and that require that the individual adapt to the new situation or life circumstance. Stress researchers have studied traumatic events, eventful life stressors, chronic stress, and role strains, as well as daily hassles and even non-events as varied components of stress [6].

The concept of social stress extends stress theory by suggesting that conditions in the social environment, not only personal events, are sources of stress that may lead to mental and physical ill effects. Social stress might therefore be expected to have a strong impact in the lives of people belonging to stigmatized social categories, including categories related to socioeconomic status, race/ethnicity, gender, or sexuality [6].

One elaboration of social stress theory may be referred to as minority stress to distinguish the excess stress to which individuals from stigmatized social categories are exposed as a result of their social, often a minority, position. This theory posits that experiences of marginalization (i.e., discrimination, stigma) are a consequence of having a devalued social or group identity and precipitate mental and physical health concerns [6]. The minority stress theory has been used to explain the disproportionate rates of eating disorder behaviors and body dissatisfaction among sexual minorities compared with heterosexual individuals [7].

In a systematic review, Mason et al. [8] showed that experiences related to gender and sexual orientation, such as minority stress, heterosexism, and sexual objectification, may lead to eating disorder behaviors and body dissatisfaction among sexual minority (e.g., lesbian and

bisexual identified) women. Similarly, among gay men, perceived stigma, a major component of minority stress theory, is positively associated with eating disorder behaviors [9].

Furthermore, sexual minority adult men and women who have experienced discrimination based on their weight at any point in their life had a greater risk of eating disorder behaviors compared with those who did not experience weight discrimination [10]. It appears that the social experiences of sexual minorities are a contributor to eating disorder behaviors and body dissatisfaction among this population.

Proximal and distal stressors

Minority stress processes can be examined along a distal to proximal continuum. Distal stressors referring to events and experiences outside the person, such as chronic strains, everyday discrimination or microaggressions (referred to as daily hassles in general stress research) and even non-events. Proximal stressors referring to stressors that are transmuted through socialization and experienced by the person through internalizing cognitive processes including internalized homophobia and internalized transphobia, expectations of rejection and discrimination, or felt stigma, and concealment of sexual and gender identity [11].

Several studies demonstrated that distal stressors and proximal stressors were linked to increased risk of eating pathology [12-14], which is consistent with general research that reports that that minority stress increased risk for the development of physical and mental health issues [15-18].

However, risk factors related to the minority stress theory were not uniform across all subgroups. More specifically, having greater connection to other sexual minorities and being involved in the LGB community were found to be risk factors for eating pathology among gay and bisexual adults [19-21]. Conversely, having less connection to other sexual minorities and not belonging to the lesbian community were found to be risk factors for eating pathology among lesbian adults [22-24]. Further, regarding adolescents, the only subgroup that literature findings explicitly connect stigma and discrimination to increased disordered eating behaviors is that of transgender adolescents. However, given the amount of evidence that stigma and discrimination are risk factors for each adult subgroup, it is likely that this same pattern is present in each adolescent subgroup and that more research is needed [8,9,14].

The interpersonal theory of eating disorders

Pennesi and Wade, Rieger et al. proposed an interpersonal theory of eating disorders (IPTED) that integrates interpersonal and psychological difficulties in understanding the emergence of eating disorder symptoms. This model highlights the role of inadequate social interactions, defined as those that share the core feature of entailing real or perceived negative evaluation by others, such as thwarted belongingness (i.e., an unmet need to belong) or negative social exchanges [25-26].

These inadequate social interactions are theorized to lead to disturbances of the self, including low self-esteem and negative affect, which in turn trigger and perpetuate eating disorder symptoms (e.g., dieting to enhance self-esteem and binge eating to regulate negative affect). Models of this kind can be used to inform investigations of risk and protective factors, and their interaction, for eating disorder symptoms. Among current theoretical conceptualizations of eating disorders, the IPT-ED model might be especially applicable to those populations susceptible to experiencing negative social evaluation such as sexual minority and gender diverse populations [27].

In this sense, a research of Kathryn Bell et al [9] aimed to identify and compare risk and protective factors, and examine a mediational model based on the interpersonal theory of eating disorders (IPT-ED). The sample of the study included 97 gay men, 82 lesbian women, and 138 TGNC (Transgender and Gender Non-conforming) adults. Participants completed the National College Health Assessment, Eating Disorders Screen for Primary Care, Patient Health Questionnaire Depression scale, Generalized Anxiety Disorder 7 scale, Self-Compassion Scale-Short Form, Negative Social Exchange subscale of the Multidimensional Health Profile, Interpersonal Needs Questionnaire, and Perceived Stigma Scale. Mediation analyses were performed to investigate whether the psychological factors that were significant predictor variables of ED proneness mediated the effect of interpersonal factors on ED proneness.

Depression, perceived stigma, and self-compassion were significant predictor variables of ED proneness in the gay men, depression in the lesbian women, and self-compassion in the TGNC adults (Table 1). Thwarted belongingness, which had the largest correlations with depression and self-compassion in gay men (Table 2), depression in lesbian women (Table 3), and self-compassion in the TGNC group (Table 4), was included as a representative interpersonal factor in the simple mediation analysis.

Moreover, a significant indirect effect between thwarted belongingness and ED proneness that was mediated by depression in lesbian women and lower self-compassion in gay men and TGNC adults.

Mediation analysis showed as well that there was a significant indirect effect between perceived stigma and ED proneness for each group. Perceived stigma was mediated by depression in lesbian women, by depression and self-compassion in gay men, and by self-compassion in TGNC adults.

Table 1: Logistic regression testing predictors of ED proneness across groups.

Variable	Gay men ($n = 67$)			Lesbian women ($n = 50$)			TGNC adults ($n = 91$)		
	B	*OR*	95% CI	B	*OR*	95% CI	B	*OR*	95% CI
Depression (PHQ-9)	0.223*	1.25	[1.00, 1.56]	0.313*	1.37	[1.04, 1.79]	−0.011	0.99	[0.89, 1.10]
Anxiety (GAD-7)	−0.004	1.00	[0.83, 1.20]	−0.220	0.80	[0.63, 1.02]	0.023	1.02	[0.89, 1.17]
Self-compassion (SCS)	−0.098*	0.91	[0.83, 0.99]	−0.059	0.94	[0.86, 1.04]	−0.109**	0.90	[0.84, 0.96]
Negative social exchange (MHP-P)	0.032	1.03	[0.84, 1.28]	0.147	1.16	[0.92, 1.46]	−0.007	0.99	[0.87, 1.14]
Thwarted belongingness (INQ)	−0.051	0.95	[0.88, 1.03]	−0.032	0.97	[0.87, 1.07]	−0.007	0.99	[0.94, 1.04]
Perceived stigma (PSS)	0.109*	1.12	[1.00, 1.24]	−0.039	0.96	[0.87, 1.08]	0.031	1.03	[0.95, 1.12]
Constant	−0.002	1.00		2.52	12.45		3.05	21.03	

*OR, odds ratio; CI, confidence interval; TGNC, Transgender and Non-conforming; PHQ-9, Patient Health Questionnaire Depression Scale; GAD-7, Generalized Anxiety Scale; SCS, Self-Compassion Scale – Short Form; MHP-P, Negative Social Exchange subscale of the Multidimensional Health Profile: Psychological Functioning; INQ, Thwarted belongingness subscale of the Interpersonal Needs Questionnaire; PSS, Perceived Stigma Scale; *p <0.05. **p <0.01.*

Table 2: Summary of intercorrelations between predictor variables for gay men.

	Depression	Anxiety	Negative social exchange	Thwarted belongingness	Perceived stigma	Self compassion
Depression	–	0.609**	0.560**	0.731**	0.342*	−0.522**
Anxiety		–	0.412**	0.427**	0.413**	−0.595**
Negative social exchange			–	0.494**	0.429**	−0.476**
Thwarted belongingness				–	0.360**	−0.551**
Perceived stigma					–	−0.383**
Self compassion						–

**p <0.01. **p <0.001.*

Table 3: Summary of intercorrelations between predictor variables for lesbian women.

	Depression	Anxiety	Negative social exchange	Thwarted belongingness	Perceived stigma	Self compassion
Depression	–	0.775***	0.483***	0.672***	0.388**	−0.456***
Anxiety		–	0.496***	0.617***	0.347***	−0.580***
Negative social exchange			–	0.501***	0.227	−0.278*
Thwarted belongingness				–	0.139	−0.449***
Perceived stigma					–	−0.406**
Self compassion						–

**p < 0.05. **p < 0.01. ***p < 0.001.*

Table 4: Summary of intercorrelations between predictor variables for TGNC adults.

	Depression	Anxiety	Negative social exchange	Thwarted belongingness	Perceived stigma	Self compassion
Depression	–	0.763***	0.390***	0.549***	0.204*	−0.371***
Anxiety		–	0.447***	0.362***	0.317***	−0.337***
Negative social exchange			–	0.469***	0.201*	−0.208*
Thwarted belongingness				–	0.132	−0.424***
Perceived Stigma					–	−0.269**
Self compassion						–

*$p < 0.05$. **$p < 0.001$. ***$p < 0.001$.

Emotion regulation

Emotion regulation is the ability to respond to the ongoing demands of experience with the range of emotions in a manner that is socially tolerable and sufficiently flexible to permit spontaneous reactions as well as the ability to delay spontaneous reactions as needed. A study of Gillikin et al [28] sought to identify whether LGB individuals and heterosexuals differ in their ER capacity, and whether ER accounted for the relationship between LGB status and eating pathology. ER difficulties were assessed using the DERS, a widely used and well-validated self-report measure that assesses habitual difficulties regulating emotions in a number of dimensions. The DERS subscales include: nonacceptance of emotional responses, difficulties engaging in goal directed behavior, impulse control difficulties, lack of emotional awareness, limited access to ER strategies, and lack of emotional clarity. Another aim of the research was finding indirect relationship between ER subscales and eating pathology. Eating pathology was assessed using the EAT-26, a widely used and well-validated 26-item self-report measure of abnormal eating cognitions and behaviors.

The main results showed that LGB participants exhibited higher levels of ER deficits compared to heterosexual participants on all DERS subscales except for DERS of Awareness, controlling for age and race (Table 5). Consistent with hypotheses, nearly all of the DERS subscales significantly mediated the relationship between LGB status and eating pathology, controlling for age and race. There was a significant indirect effect of LGB status on eating pathology through the nonacceptance of emotional responses, difficulties engaging in goal directed behavior, impulse control difficulties, and limited access to ER strategies DERS subscales (Table 6). By that we can include that increased levels of ER deficits accounted for the relationship between LGB status and increased eating pathology.

Table 5: Means and standard deviations of difficulties with emotion regulation scale subscales as a function of LGB status.

Scale	LGB[a]	Heterosexual[a]	F	*p*	Effect size[b]
DERS-nonacceptance	15.51 (0.47)	13.62 (0.47)	7.39	0.01	0.02
DERS-goals	15.16 (0.38)	14.01 (0.39)	4.12	0.04	0.01
DERS-impulse	13.01 (0.38)	11.46 (0.38)	7.63	0.01	0.02
DERS-awareness	14.88 (0.35)	14.19 (0.35)	1.72	0.19	0.00
DERS-strategies	20.88 (0.57)	18.05 (0.57)	11.33	0.00	0.03
DERS-clarity	10.98 (0.28)	9.77 (0.29)	8.28	0.00	0.02

[a] Data are shown as adjusted means (standard error).
[b] Partial eta squared.

Table 6: Indirect Effect of Difficulties with Emotion Regulation Scale subscales on the relationship between LGB status and eating pathology.

Indirect Effect of Difficulties with Emotion Regulation Scale subscales on the relationship between LGB status and eating pathology.

Scale	b	SE	*p*	95% CI
DERS-nonacceptance	0.52	0.24	0.00	[0.13, 1.04]
DERS-goals	0.33	0.19	0.00	[0.02, 0.78]
DERS-impulse	0.41	0.21	0.00	[0.08, 0.89]
DERS-awareness	0.05	0.10	0.43	[−0.13, 0.29]
DERS-strategies	0.71	0.29	0.00	[0.22, 1.38]
DERS-clarity	0.27	0.20	0.06	[−0.04, 0.72]

Note: SE = Standard Error, CI = Confidence Interval.

Discussion

Eating disorders and disordered weight and shape control behaviors affect individuals across all demographic strata. However, risk and prevalence of these behavioral health outcomes is disproportionately higher among sexual minorities. In this systemic review I focused on the prevalence, proneness and risk factors identified with the LGBT community, and summarized several mechanisms that might explain the disproportionately higher eating disorder prevalence.

As for the prevalence of ED and disordered eating behaviors: results from several studies shows that sexual minority adults had between two to four times greater odds of experiencing a DSM-5 eating disorder diagnosis of anorexia nervosa, bulimia nervosa, or binge-eating disorder compared with cisgender heterosexual adults [3]. Overall, lifetime prevalence for those eating disorders were higher among sexual minority adults compared with

cisgender heterosexual adults [3]. Other studies found that sexual minority young adults had higher odds of engaging in unhealthy weight control behaviors [4-5].

Several contributing factors that sought to explain this prevalence were found in the academic literature. One of the factors is the minority stress theory. On a broad picture: conditions in the social environment are sources of stress that may lead to mental and physical ill effects. The sexual minority theory focuses on experiences of marginalization, that are a consequence of having a devalued social or group identity and precipitate mental and physical health concerns. According to research, experiences related to gender and sexual orientation, such as heterosexism, sexual objectification, and perceived stigma are a contributor to eating disorder behaviors and body dissatisfaction among sexual minority individuals [6-10].

Minority stress processes can be examined along a distal to proximal continuum. Several studies demonstrated that distal stressors and proximal stressors were linked to increased risk of eating pathology, which is consistent with reports that that minority stress increased risk for the development of physical and mental health issues [11-24]. Findings on minority stress theory and its expansion along a distal to proximal continuum point on our responsibility as a company to obliterate homophobia, discrimination, and hassles. These acts could be one way to minimize the elevated eating rate of eating disorder in the LGBT community.

Another theory that might explain the worrying phenomenon: the interpersonal theory of eating disorders. A theory that integrates interpersonal and psychological difficulties in understanding the emergence of eating disorder symptoms [25-27]. In a research of Kathryn Bell et al [9], risk and protective factors for ED were identified based on the interpersonal theory of eating disorder. They found that emotional states such as depression, self-compassion, thwarted belongingness, and perceived stigma significantly predicted ED proneness in sexual minority individuals. These findings also present us another potential perspective focusing on a potential treatment of eating disorders- fitted to LGBT individuals.

The last theory underlying the proneness of sexual minorities and ED in this review is the Emotional regulation. Emotion regulation has been defined as the ability in controlling the influence of emotional arousal on the organization and quality of thoughts, actions, and interactions. In a sense that individuals who are emotionally dysregulated exhibit patterns of responding in which there is a mismatch between their goals, responses, and/or modes of expression, and the demands of the social environment [28].

According to a study of Gillikin et al [28]: LGB individuals reported higher levels of ER deficits, compared to heterosexuals, in several ER domains: nonacceptance of emotional responses, difficulties engaging in goal directed behavior, impulse control difficulties, limited access to ER strategies, and lack of emotional clarity. Moreover, there was a significant indirect effect of LGB status on eating pathology through ER domains, that increased the relationship between ER deficits in LGB individuals and increased eating pathology [28]. These findings line up with previous potent psychological approaches that focus on ED poorness and suspensibility in LGBT individuals and may lead to better treatment.

Examination of the risk factors that appear to contribute to higher frequencies of eating disorders and disorders eating behaviors among LGBT members demonstrate risk factors above and beyond one specific psychological theory. These additional risk factors are related to relationship dynamics, gender attitudes, body image, intrapsychic functioning, demographics, and mental health, which can all contribute to higher risk for eating pathology.

Considering our findings, an intensive intention must be invested in these individuals. Fitting treatment and programming prevention strategies for eating disorders are beyond the scope of this review. However, psychologists, dietitians and other experts might benefit from the theories pointed in this review to prevent and treat LGBT individuals who are in risk or suffer from eating disorders.

conclusions

Sexual minorities are exposed to higher extent of stressors and exacerbating factors for eating disorders. This review showed a higher prevalence of ED and several theories that sought to explain this phenomenon.

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