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LOMA LINDA UNIVERSITY
School of Behavioral Health
in conjunction with the
Department of Psychology

DSM-5 Eating Disorders and Disordered Eating Behaviors
in the LGBT Population

by

Lacie Parker

A Project submitted in partial satisfaction of
the requirements for the degree
Doctor of Psychology

September 2022

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Each person whose signature appears below certifies that this doctoral project in her opinion is adequate, in scope and quality, as a doctoral project for the degree Doctor of Psychology.

_____, Chairperson
Janet L. Sonne, Adjunct Professor, Psychology

Stephanie Goldsmith, Licensed Psychologist

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ABBREVIATIONS

AN	Anorexia nervosa
BN	Bulimia nervosa
BED	Binge eating disorder
BMI	Body Mass Index
DEB	Disordered eating behaviors
ED	Eating disorders
HRT	Hormone-replacement therapy
LGBT	Lesbian, gay, bisexual, and transgender

ABSTRACT OF THE DOCTORAL PROJECT

DSM-5 Eating Disorders and Disordered Eating Behaviors in the LGBT Population

by

Lacie Parker

Doctor of Psychology, Graduate Program in Psychology
Loma Linda University, September 2022
Dr. Janet L. Sonne, Chairperson

According to Meyer's sexual minority stress model (2003), LGB individuals experience a higher prevalence of psychopathology, which is attributable to the increased stress (i.e., stigma and prejudice) adult sexual minority individuals experience. This model was later adapted by Hendricks and Testa (2012) to include transgender and gender non-conforming individuals. More specifically, this literature review examined the empirical literature regarding the rates and types of, and risk and protective factors for eating disorders and disordered eating behaviors in the general LGBT adolescent and adult populations, in addition to each individual subgroup (i.e., lesbians, gay men, bisexuals, transgender individuals). The results of the review were then used to propose models regarding risk factors for eating disorders and disordered eating behaviors in each LGBT subgroup.

CHAPTER ONE

CLINICAL IMPORTANCE OF THE PROBLEM

Eating disorders (EDs) are defined generally in the current DSM-5 as “characterized by a persistent disturbance of eating or eating-related behaviors that results in the altered consumption or absorption of food and significantly impairs physical health or psychosocial functioning,” or both (p. 329; APA, 2013). This review focuses on three of the six eating disorders presented in the DSM-5: anorexia nervosa, bulimia nervosa, and binge eating disorder.

Disordered eating behaviors (DEBs) are defined as eating and weight control methods that are pathological and maladaptive. These behaviors are typical of eating disorders outlined by the DSM-5, but can appear at a subclinical level. Common examples include fasting, restricting food intake, binge eating, purging, over-exercising, counting calories, and misusing laxatives or diet pills. Subclinical disordered eating behaviors can have severe consequences for those individuals who frequently partake in these maladaptive behaviors. In comparison to adults who do not engage in disordered eating behaviors, short-term disordered eating in adults is associated with worse physical health and mental health, while long-term is associated with a worse overall quality of life, including more depressive symptoms (Wade et al., 2012). In addition, undetected and untreated disordered eating behaviors can progress to full clinical eating disorders as defined in the DSM-5 (APA, 2013).

The health risks and financial costs of eating disorders meeting criteria for a DSM-5 diagnosis are well-documented and substantial. Significantly elevated risk for mortality (suicide and physical complications associated with the disorders) has been

reported for individuals with anorexia nervosa and bulimia nervosa (APA, 2013). Anorexia nervosa is the DSM-5 psychiatric disorder with the highest mortality rate, with 5.1 deaths per 1,000 persons. Additionally, bulimia nervosa also has significant mortality rates, with 1.7 deaths per 1,000 persons (Arcelus et al., 2011). Binge eating disorder also is reported to be associated with increased mortality (APA, 2013). The cost for treating eating disorders is substantial. One systematic literature review found the average cost of treating eating disorders ranges from \$1,288 to \$8,042 per person annually (Stuhldreher et al., 2012). Furthermore, individuals with eating disorders spend an average of \$1,869 more on healthcare costs than those without eating disorders, and make an average of \$2,093 less at work annually than those without eating disorders (Samnaliev et al., 2015).

There are additional considerations for treating LGBT-identified individuals who suffer from eating disorders. Indeed, empirical studies of the prevalence of eating disorders and subclinical disordered eating behaviors in adolescent and adult LGBT patients indicate that these individuals tend to experience significantly higher rates of both full-criteria eating disorders and of disordered eating behaviors than their heterosexual / cisgender counterparts (e.g., Austin, Nelson, Birkett, Calzo, & Everett, 2013; Feldman, & Meyer, 2007; The Trevor Project, National Eating Disorders Association, & Reasons Eating Disorder Center, 2018). However, a comprehensive understanding of the role of disordered eating behaviors and other risk factors for clinical eating disorders across all adolescent and adult subgroups of sexual minority is lacking. Further, routine assessment of LGBT patients for disordered eating behaviors and other eating disorder risk factors may often be neglected given that these patients experience high rates of other psychiatric issues, according to the sexual minority stress model

(Meyer, 2003). Without appropriate assessment, treatment of disordered eating behaviors is compromised. Further, with the identification of risk factors for disordered eating behaviors from this review, methods to prevent disordered eating behaviors, and ultimately eating disorders, can be implemented with high-risk LGBT individuals.

CHAPTER TWO

AIMS OF THE REVIEW

The primary aim of this literature review was to provide an understanding of the factors contributing to disordered eating behaviors, and, subsequently, eating disorders behaviors in various LGBT subgroups of adolescents and adults. More specifically, first, this review examined the rates of three DSM-5 eating disorders (i.e., anorexia nervosa, bulimia nervosa, and binge eating disorder) and disordered eating behaviors in four adolescent and adult LGBT subgroup populations (i.e., lesbian women and adolescents; gay men and adolescents; bisexual, mostly heterosexual, and questioning adults and adolescents; and transgender and gender non-conforming individuals) in comparison to their heterosexual and cisgender counterparts. Second, this review outlined the roles of disordered eating behaviors, as well as risk and protective factors predicting DSM-5 eating disorders in the various adolescent and adult LGBT populations. Third, the review utilized identified risk factors for disordered eating behaviors and eating disorders within each adolescent and adult LGBT subgroup to create models for their associated subgroup. Such models may serve as the basis for enhanced clinical assessment, treatment, and prevention approaches, as well as for further empirical studies.

CHAPTER THREE

METHODS

Databases Used

The following databases were selected for this literature review: Google Scholar, PsychArticles, PyschInfo, and PubMed.

Key Words

The following key words were selected for this literature review to assess for eating disorders and disordered eating behaviors: eating disorders, disordered eating, anorexia, bulimia, binge eating, pathological eating, overeating, unhealthy weight control. The following key words were selected to assess for LGBT status of the study sample: LGB, LGBT, LGBTQIA, sexual minority, homosexual, bisexual, lesbian, gay, transgender, queer. Additionally, the following key words were selected to supplement literature findings: sexual minority stress model, minority stress model, psychopathology among LGBT individuals, mental health among LGBT individuals, mental illness among LGBT individuals.

Key Investigators

Investigators who have contributed research that informs the topic of disordered eating among LGBT individuals include Ilan H. Meyer, S. Bryn Austin, Sarah Bankoff, David J. Brennan, Timothy A. Brown, Jerel P. Calzo, Stefania Cella, Karen Heffernan, Bethany Alice Jones, Tyler B. Mason, Laurel B. Watson, and Ryan J. Watson.

Key Studies

The research that informed this literature review included the following key studies:

- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychology of Sexual Orientation and Gender Diversity, 1*(S), 3-26. doi:10.1037/2329-0382.1.S.3
 - This was a meta-analysis in which mental disorders among sexual minorities were assessed. The author proposed a sexual minority stress model, which theorized that adult sexual minorities (i.e., lesbians, gay men, and bisexual individuals) had a higher prevalence of psychiatric disorders than did heterosexuals, which was attributable to the increased stress (i.e., stigma and prejudice) they experienced. Interestingly, eating disorders were excluded from this meta-analysis.
- Feldman, M. B. & Meyer, I. H. (2007). Eating disorders in diverse lesbian, gay, and bisexual populations. *International Journal of Eating Disorders, 40*(3), 218-226. doi: 10.1002/eat.20360
 - This study assessed for the prevalence of full-syndrome eating disorders (i.e., anorexia nervosa, bulimia nervosa, binge eating disorder) among lesbians, gay men, and bisexual adults compared to their heterosexual counterparts. It was estimated that 8.8% of sexual minority men experienced eating disorders (in comparison to 1.5% of heterosexual men), and that 7.2% of sexual minority women experienced eating disorders (in comparison to 4.8% of heterosexual women).

- The Trevor Project, National Eating Disorders Association, & Reasons Eating Disorder Center (2018). *Eating Disorders Among LGBTQ Youth: A 2018 National Assessment*. Retrieved from <https://www.nationaleatingdisorders.org/sites/default/files/nedaw18/NEDA%20-Trevor%20Project%202018%20Survey%20-%20Full%20Results.pdf>
 - This survey assessed for prevalence rates of DSM-5 eating disorders, disordered eating behaviors, and suicidality among LGBTQ adolescents and young adults. Results indicated that 54% of LGBTQ youth had been diagnosed with an eating disorder at some point during their life, and an additional 21% (i.e., total of 75% of participants) suspected that they had an eating disorder at some point.
- Austin, S. B., Nelson, L. A., Birkett, M. A., Calzo, J. P., & Everett, B. (2013). Eating disorder symptoms and obesity at the intersections of gender, ethnicity, and sexual orientation in US high school students. *American Journal of Public Health, 103*(2), e16-e22. doi:10.2105/AJPH.2012.301150
 - Disordered eating behaviors among lesbian, gay, and bisexual adolescents were assessed in comparison to their heterosexual peers. It was found that LGB boys and girls were more likely to purge and use diet pills; additionally, bisexual girls and boys were more likely to be classified as obese.
- Hadland, S. E., Austin, S. B., Goodenow, C. S., & Calzo, J. P. (2014). Weight misperception and unhealthy weight control behaviors among sexual minorities in the general adolescent population. *Journal of Adolescent Health, 54*(3), 296-303.

doi:10.1016/j.jadohealth.2013.08.021

- Unhealthy weight control behaviors (i.e., fasting more than 24 hours, using diet pills, and vomiting or using laxatives) were assessed in sexual minority youth compared to that of their heterosexual peers. Results revealed that both male and female sexual minorities engaged in unhealthy weight control behaviors significantly more frequently than their heterosexual peers. One third of sexual minority adolescents engaged in unhealthy weight control behaviors.
- Institute of Medicine (2010). *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: The National Academies Press.
 - Disordered eating among sexual minority youth was assessed. It was found that sexual minority youth engaged in disordered eating behaviors significantly more frequently than their heterosexual peers. Up to one-fourth of LGB youth engaged in purging, fasting, and taking diet pills.
- Matthews-Ewald, M. R., Zullig, K. J., & Ward, R. M. (2014). Sexual orientation and disordered eating behaviors among self-identified male and female college students. *Eating Behaviors*, 15(3), 441-444. doi:10.1016/j.eatbeh.2014.05.002
 - Disordered eating behaviors among sexual minority adults were assessed compared to their heterosexual counterparts. Results indicated that sexual minority men and women were significantly more likely to diet to lose weight than heterosexual men and women.
- Watson, R. J., Adjei, J., Saewyc, E., Homma, Y., & Goodenow, C. (2017). Trends

and disparities in disordered eating among heterosexual and sexual minority adolescents. *International Journal of Eating Disorders*, 50(1), 22-31.

doi:10.1002/eat.22576

- Disordered eating behaviors among LGB youth was assessed. It was found that sexual minority youth engaged in purging, fasting, and diet pill usage significantly more frequently than their heterosexual peers.
- Calzo, J. P., Austin, S. B., & Micali, N. (2018). Sexual orientation disparities in eating disorder symptoms among adolescent boys and girls in the UK. *European Child & Adolescent Psychiatry*. doi:10.1007/s00787-018-1145-9
 - Disordered eating among sexual minority youth was longitudinally assessed via participant self-report at ages 14 and 16. Results revealed that sexual minority youth were at a greater risk for disordered eating symptoms than their heterosexual peers.
- Strong, S. M., Williamson, D. A., Netemeyer, R. G., & Geer, J. H. (2000). Eating disorder symptoms and concerns about body differ as a function of gender and sexual orientation. *Journal of Social and Clinical Psychology*, 19(2), 240-255. doi:10.1521/jscp.2000.19.2.240
 - Disordered eating symptoms and concern about body shape and size among gay men and lesbian women were assessed in comparison to that of their heterosexual counterparts. It was found that gay men and lesbian women had similar rates of disordered eating symptoms and concern about body shape and size compared to heterosexual females, who were found to have experienced these symptoms at high levels.

- Rainey, J. C., Furman, C. R., & Gearhardt, A. N. (2018). Food addiction among sexual minorities. *Appetite, 120*, 16-22. doi:10.1016/j.appet.2017.08.019
 - Food addiction (defined as the application of the criteria of substance use disorder to highly rewarding foods) among male and female sexual minority adults was assessed in comparison to that of their heterosexual counterparts. It was found that sexual minority men and women experienced significantly higher rates of food addiction symptoms than did their heterosexual counterparts.

Inclusion / Exclusion Criteria

Research studies were included in this review if they were peer-reviewed, published in the English language, assessed at least one domain of disordered eating behaviors (e.g., frequency, type, risk factors, etc.), included adolescent or adult LGBT individuals or at least one LGBT subgroup in the sample, and contained empirical data. There were no inclusion / exclusion criteria regarding the publication year of the studies.

Subtopics

Subtopic areas included adolescents and adults in each LGBT subgroup.

Related and Broader Topics

The related and broader topics that were also assessed in order to help inform this literature review included a general overview of the physiological and financial costs of clinical eating disorders (DSM-5) and of subclinical disordered eating behaviors in the

general population, general psychopathology in the LGBT population, and the sexual minority stress model.

CHAPTER FOUR

LITERATURE REVIEW

The purpose of this review is to assess the frequency of, types of, and risk and protective factors for DSM-5 eating disorders and disordered eating behaviors within the LGBT adult and adolescent populations in comparison to their heterosexual and cisgender counterparts. This literature review will address the following: an overview of eating disorders as defined by the current DSM-5 (APA, 2013), general mental health problems within the general LGBT population and within the four specific LGBT subgroups of adults and adolescents (lesbian women and adolescents; gay men and adolescents; bisexual, mostly heterosexual, and questioning adults and adolescents; transgender and gender non-conforming adults and adolescents), and eating disorders and disordered eating behaviors within the general LGBT population and within the four specific LGBT subgroups of adults and adolescents.

An Overview of Eating Disorders

The *Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5;* American Psychiatric Association, 2013) classifies eating disorders as the presence of a consistent disturbance in eating and other behaviors around food, with negative consequences for both physical and psychological health. The primary eating disorder diagnoses include anorexia nervosa, bulimia nervosa, and binge eating disorder, as described in further detail below. It is important to note that, as with most mental health disorders, eating disorders lie on a spectrum: although someone may not meet the full DSM-5 criteria in order to receive a formal diagnosis of an eating disorder, they may still present with

disordered eating behaviors, exhibiting eating disorder symptomology (e.g., restricting food intake, bingeing, inappropriate compensatory mechanisms, etc.).

Anorexia Nervosa

The current DSM-5 (APA, 2013) requires the presence of the following symptoms in order to meet diagnostic criteria for anorexia nervosa (AN): (a) calorie restriction resulting in a severely low body weight, (b) phobia of gaining weight or becoming fat, or consistent behavior that inhibits weight gain, and (c) incongruity between perceived body shape and size, and actual body shape and size, importance of body shape and size to overall self-worth, or inability to recognize the serious nature of current low body weight. There are two subtypes for this disorder: restricting type, which is characterized by the severe restriction of caloric intake and the lack of binge eating episodes; and binge-eating/purging type, which is characterized by the presence of recurrent episodes of binge eating and purging behaviors. Both subtypes capture behaviors within the past three months.

Anorexia nervosa occurs at a rate of approximately 0.4% in females, with a ten-to-one ratio of diagnoses in females to males. However, there is additional research suggesting the rate of anorexia nervosa in males to be greater than previously approximated (Mond et al., 2014). Risk factors for anorexia nervosa include being of the female gender, the presence of anxiety and obsessional traits during childhood, being in a culture in which thinness is valued and encouraged, and having a biological relative diagnosed with anorexia nervosa, bipolar disorder, or depression (APA, 2013).

Bulimia Nervosa

The current DSM-5 (APA, 2013) requires the presence of the following symptoms in order to meet criteria for bulimia nervosa (BN): (a) recurrent binge eating episodes (i.e., eating an objectively large amount of food within a short time frame, feeling out of control while eating), (b) the use of inappropriate compensatory behaviors to inhibit weight gain (e.g., purging, exercising, laxative use, fasting, etc.), (c) the bingeing and compensatory behaviors occur at least once per week on average, and for a minimum of three months, (d) reliance on body shape and size in evaluating self-worth, and (e) the criteria for anorexia nervosa are not met.

Bulimia nervosa occurs at a rate of 1-1.5% in young females, with a ten-to-one ratio of diagnoses in females to males. Risk factors for bulimia nervosa include being of female gender identity, the presence of weight concerns, low self-esteem, depression, social anxiety, and general anxiety during childhood, internalization of the thin ideal (often internalized in the presence of fatphobic societal norms), childhood sexual or physical abuse, childhood obesity, malnutrition during early puberty, the presence of comorbid mental health diagnoses, and belonging to an industrialized culture (APA, 2013).

Binge Eating Disorder

The current DSM-5 (APA, 2013) requires the presence of the following symptoms in order to meet criteria for binge eating disorder (BED): (a) recurrent binge eating episodes (i.e., eating an objectively large amount of food within a short time frame, feeling out of control while eating); (b) the presence of at least three of the

following during binge eating episodes: rapid eating, eating until uncomfortably full, eating large amounts of food despite not feeling hungry, eating alone out of embarrassment over quantity of food consumed, and/or consequently feeling disgusted, depressed, or guilty about the binge; (c) feeling distressed about the binge; (d) the binges occur at least once per week on average, and for a minimum of three months; and (e) inappropriate compensatory behaviors are not used.

Binge eating disorder occurs at a rate of 1.6% in females and 0.8% in males. Risk factors for binge eating disorder include attempting to lose weight, having a family member diagnosed with binge eating disorder, and belonging to an industrialized culture (APA, 2013).

Psychopathology in the General Adult and Adolescent LGBT Population

A meta-analysis conducted by Meyer (2003) revealed that adult sexual minorities (defined in this study as lesbians, gay men, and bisexual individuals) have an overall higher prevalence of psychiatric disorders than do heterosexuals. According to the sexual minority stress model, this higher prevalence is attributable to the increased stress (i.e., stigma and prejudice) adult sexual minority individuals experience. This model was later adapted by Hendricks and Testa (2012) to include transgender and gender non-conforming individuals, suggesting that adverse experiences result in increased rates of victimization and internalized transphobia, which then contribute to higher rates of psychopathology and suicide attempts.

Additionally, LGBT adolescents also appear to have higher prevalence of psychiatric disorders than their heterosexual and cisgender peers. Approximately one-

third of the LGBT adolescents surveyed in one study met criteria for a formal DSM diagnosis, including conduct disorder, major depressive disorder, posttraumatic stress disorder, anorexia nervosa, and bulimia nervosa, in addition to reporting higher rates of suicide attempts (Mustanski et al., 2010). The following sections of this review describe the incidence of and specific risk factors for general mental health problems for each subgroup of the LGBT population, for adults and for adolescents, to the extent that there is relevant empirical research.

Psychopathology within Specific LGBT Subgroups

Lesbian Adults and Adolescents

Research findings have indicated that adult lesbians who were open about their sexual orientation reported more emotional stress during their adolescence, and were more than twice as likely than heterosexual woman to experience suicidal ideation. Conversely, lesbians who hid their sexual orientation were more likely to attempt suicide than heterosexual women (Koh & Ross, 2006). Additionally, lesbians appeared to be more likely to engage in heavy drinking than heterosexual women (Diamant et al., 2000; Wilsnack et al., 2008). Moreover, lesbians were found to be one and a half to two times more likely to smoke than heterosexual women. Specifically, younger lesbian women and “butch” lesbians were more likely to smoke tobacco and cannabis than older women and “femme” lesbians, explained by the authors to result from the increased stigma, internalized homophobia, and emotional distress experienced by “butch” lesbians (Nyitray et al., 2006).

Gay Men and Adolescents

Studies have suggested that both adolescent and adult gay males are more at-risk for suicide attempts than other groups, which is aggravated by experiences of increased verbal and physical harassment, negative experiences regarding revealing sexual orientation, family rejection, substance use, and isolation (Berg et al., 2008; Bostwick et al., 2009; Burgess et al., 2007; Cochran et al., 2007; Gilman et al., 2001). Additionally, gay men tend to engage in substance use, including both alcohol and illicit drugs, at higher rates than the general population (Centers for Disease Control and Prevention, 2010; Ostrow & Stall, 2008). Furthermore, reports indicate that gay men use tobacco up to 50 percent more than the general population (Greenwood et al., 2005; Gruskin et al., 2007; Halkitis et al., 2009; Irwin et al., 2006; Lee et al., 2009; Padilla et al., 2010; Stall et al., 2001; Wong et al., 2008).

Bisexual, Mostly Heterosexual, and Questioning Adults and Adolescents

Research has indicated that bisexual adults are twice as likely to be dissatisfied with their life than heterosexual adults (VanKim & Padilla, 2010). Specifically, bisexual individuals are more than twice as likely to report depressive symptoms than heterosexual individuals (Dobinson, 2007; VanKim & Padilla, 2010). Additionally, bisexual individuals tend to report higher levels of self-harm, suicidal ideation, and suicide attempts than heterosexual individuals, lesbians, and gay men (Dobinson, 2007). Furthermore, bisexual adults appear to engage in more binge drinking than do heterosexuals (VanKim & Padilla, 2010), and also appear to have the highest smoking rates out of any subgroup, with up to 30 to 40 percent who smoke tobacco (American

Lung Association, 2010).

Transgender and Gender Non-Conforming Adults and Adolescents

According to the literature, the transgender population is perhaps one of the most vulnerable groups to mental health problems. Indeed, studies have suggested that transgender adolescents and adults experience higher rates of depression, eating disorders, self-harm, substance use, somatization, overall distress, suicidal ideation, and suicide attempts than their cisgender counterparts (Carmel & Erickson-Schroth, 2016; Connolly et al., 2016; Weir, 2018). Haas et al., 2014 found that almost half of the transgender adults they surveyed have reported at least one suicide attempt.

Additionally, research indicates that there are high rates of substance abuse among transgender adolescents and adults, including alcohol, cannabis, crack cocaine, methamphetamine, and intravenous drugs (Boles & Elifson, 1994; Brown, 2002; Carson, 2009; Cambridge Cares About AIDS., 2006; Clements et al., 1999; Clements-Nolle et al., 2001; Garofalo et al., 2006; Kenagy, 2005; Kenagy & Bostwick, 2005; McGowan, 1999; Nemoto et al., 2006; Reback & Lombardi, 1999; Reback et al., 2001; Risser et al., 2005; Rose et al., 2001; Xavier et al., 2005; Xavier et al., 2007; Zians, 2006). And finally, tobacco usage among transgender individuals also appears to be highly prevalent, with rates from 45 to 74 percent (Cambridge Cares About AIDS., 2006; Carson, 2009; Garofalo et al., 2006; Gay, Lesbian, Bisexual and Transgender Community Center of Colorado, OMNI Research and Training., 2002; National Association of Lesbian Gay, Bisexual, and Transgender Community Centers., 2003; Sanchez et al., 2009; Xavier et al., 2007; Zians, 2006).

Eating Disorders and Disordered Eating Behaviors in the General LGBT

Population: Frequencies, Types, and Risk Factors

Due to research findings that the LGBT adolescent and adult populations experience mental health issues at higher rates than the general population, it is a reasonable hypothesis that the LGBT population as a whole also is more vulnerable to eating disorders as defined by the current DSM-5 (APA, 2013), as well as general disordered eating behaviors, than their heterosexual and cisgender counterparts. Indeed, the empirical literature reviewed below appears to support this hypothesis. Additionally, research cited below also appears to indicate that LGBT adults and adolescents experience greater body dissatisfaction, which is well-documented as the most significant proximal risk factor for both eating disorders and disordered eating behaviors.

Adults

A study conducted by Feldman and Meyer (2007) found that 8.8% of the sexual minority men surveyed met criteria for a full-syndrome eating disorder, compared to 1.5% of heterosexual men, while 7.2% of the sexual minority women surveyed met criteria for a full-syndrome DSM-5 eating disorder, compared to 4.8% of heterosexual women.

Adult sexual minorities were found to have experienced significant disordered eating symptomology, including desire to be thin, bingeing, purging, and body dissatisfaction, which correlated with being overly concerned about body shape and size and level of femininity (regardless of biological sex). These behaviors occurred at higher rates than within the heterosexual and cisgender male population, but did not appear to be

significantly different from heterosexual females (Cella et al., 2010; Meyer et al., 2001; Strong et al., 2000). Adult sexual minorities also were almost twice as likely to experience food addiction (defined as the application of the criteria of substance use disorder to highly rewarding foods) as heterosexuals, which was aggravated by heterosexual harassment (Rainey et al., 2018).

Other research findings suggest that the sexual minority community has both helpful and hurtful effects on adult LGB individuals' body image and eating behaviors. For example, a qualitative study of LGB adults conducted by VanKim et al. (2016c) found that while many participants reported that their sexual orientation motivated them to be physically active, eat healthily, and have a positive body image, many other participants indicated their sexual orientation adversely impacted their exercise and eating behaviors. For example, some participants endorsed that there was greater body diversity in the LGBT community, while others reported that they felt like they needed their body to fit a particular aesthetic. Similarly, while approximately half of the participants denied that their sexual orientation posed any barriers to their physical activity, the other half of participants reported that they felt uncomfortable at the gym as a direct result of their sexual orientation. Finally, while many participants denied that their sexual orientation posed any impact on their eating behaviors, a substantial number of participants indicated that they engaged in binge eating due to their sexual orientation.

In a qualitative study conducted by Huxley et al. (2014), sexual minority women reported in interviews that they did not feel protected from societal pressures to be thin, especially from the media, and still experienced body dissatisfaction and self-comparison to images of women in the media, despite approximately half of the women reporting not

engaging in media consumption. Most of the women were critical of the media representation of beauty and thinness, yet they still expressed disdain over the discrepancy between their weight and the weight of women in the media, suggesting that sexual minority women are still vulnerable to body dissatisfaction. All women could identify at least one aspect of their body with which they were unsatisfied; only a small portion of women reported satisfaction with their bodies. These women reported that it was natural and normal to have body dissatisfaction, and attributed it to something every women experiences. Weight loss was reported as a means to increase self-confidence and was equated with being “good,” and several women in the study reported current engagement in behaviors such as dieting and exercise with the intention of weight loss. Other women admitted to engaging in past disordered eating behaviors.

Some research has identified specific protective factors for the LGBT population against disordered eating behaviors, including social support, being in a stable relationship, masculinity (regardless of biological sex), and self-compassion (Cella et al., 2010; Cella et al., 2013; Meyer et al., 2001; Rainey et al., 2018; Swearingen, 2007).

Adolescents

Further research has indicated that approximately 54% of LGBT adolescents have been diagnosed with a full-syndrome eating disorder at some point during their life, with an additional 21% suspecting that they had an eating disorder at some point during their life (The Trevor Project, National Eating Disorders Association, & Reasons Eating Disorder Center, 2018).

Other studies indicated that approximately one-quarter to one-third of LGBT

youth engaged in disordered eating behaviors, such as purging, fasting, dieting with intention of weight loss, and taking diet pills. This rate was disproportionately high compared to the rates reported by heterosexual youth (Austin et al., 2013; Hadland et al., 2014; Institute of Medicine, 2010; Matthews-Ewald et al., 2014; Tabler et al., 2019; Watson et al., 2017), putting them at greater risk for developing an eating disorder (Calzo et al., 2018). Further, the results of one study indicated that over half of sexual and gender minority youth experienced weight-based victimization from family members and peers, which in turn was associated with increased rates of binge eating, dieting, and other unhealthy weight-control behaviors, in addition to stress, exercise avoidance, less physical activity, and poorer sleep (Himmelstein et al., 2019).

These reports of disordered eating behaviors in young LGBT individuals are further supported by the findings of a study conducted by Gorden et al. (2019), who assessed for disordered eating behaviors in LGBT adolescents and young adults. The investigators found that 60.9% of the participants reported engaging in at least one disordered eating behavior within the past year. They also reported that 80.4% of the participants indicated that they experienced at least one form of discrimination within the past year.

Gorden et al. (2019) also found that their adolescent and young adult participants indicated that their appearance ideals came from traditional media, social media, LGBTQ-specific media, dating apps, and family, suggesting that LGBT appearance ideals only slightly differs from heterosexual and cisgender appearance ideals, with the exception of the influence of LGBTQ-specific media. Four themes emerged regarding the participants' experiences with these appearance ideals: (1) appearance ideals tended to

interrelate with one's sexual and/or gender identity development, in that respondents constructed their own ideal from a wide variety of sources, especially from sources that aligned with their own sexual and/or gender identity; (2) appearance ideals and LGBT stereotypes were intertwined, in that others expected them to have a certain appearance based on the stereotype of their sexual and/or gender identity (e.g., gay men stereotypically have a lean and muscular body); (3) gender identity, sexual orientation, and race/ethnicity all uniquely contributed to the pressure one felt to appear a certain way; and (4) LGBT-specific community spaces had the potential to be either affirming or constraining to one's appearance, in that other sexual and gender minorities were either accepting of a variety of body shapes and sizes, or reinforced societal expectations of the ideal body type.

Eating Disorders and Disordered Eating Behaviors within Specific LGBT Adult and Adolescent Subgroups: Frequencies, Types, and Risk and Protective Factors

The following sections will present findings regarding the frequencies and types of eating disorders and disordered eating behaviors for each LGBT subgroup (i.e., lesbian adults and adolescents, gay men and adolescents, bisexual, mostly heterosexual, and questioning adults and adolescents, and transgender adults and adolescents). Furthermore, a discussion of proximal (i.e., direct) and distal (i.e., indirect) risk factors for eating disorders and disordered eating behaviors, in addition to protective factors, will be presented for each LGBT subgroup. Specifically, body dissatisfaction is a significant proximal risk factor for both eating disorders and disordered eating behaviors; the distal risk factors discussed below contribute indirectly to an increased risk of eating disorders

and/or disordered eating behaviors by predicting increased body dissatisfaction, which, in turn, then contributes to eating disorders and/or disordered eating behaviors.

Lesbian Adults and Adolescents

Frequencies and Types of Eating Disorders and Disordered Eating Behaviors

Of all the LGBT subgroups, research findings regarding the rates of eating disorders and disordered eating behaviors among lesbian women and adolescents are the least consistent.

In a study conducted by Bell et al. (2019), it was found that 34.7% of lesbian women were currently or had previously been diagnosed with a full-syndrome eating disorder, and that an additional 66.7% reported significant clinical risk factors in which they were likely to develop an eating disorder. Similarly, adult lesbians also had more frequent clinical diagnoses of binge eating disorder than heterosexual women (Heffernan, 1996).

Moreover, some of the literature suggested that adult and adolescent lesbians are at greater risk for disordered eating behaviors. Researchers have found that adult lesbians appeared to diet frequently and exercised more than other groups (Heffernan, 1999; Schneider et al., 1995). Further, adolescent and adult lesbians were also found to have significantly higher incidences of disordered eating behaviors than heterosexual women and men (Davids & Green, 2011; Hadland et al., 2014; Jones et al., 2019), reported more frequent binge eating, purging, and laxative use than heterosexuals, with binge eating occurring at higher rates than any other sexual orientation group (Austin et al., 2009;

Calzo et al., 2018; Von Schell et al., 2018). Moreover, results of a longitudinal study revealed adolescent and adult sexual minority women were more likely to engage in restrictive dieting than heterosexual women (Luk et al., 2019).

Additionally, while other adolescents (e.g., heterosexuals, gay males) were found to decrease their disordered eating behaviors over time, the same was not true with adolescent lesbians. Indeed, the odds of fasting, using diet pills, and purging increased to being at least twice as likely at the end of their time in high school as compared to the beginning of their time in high school (Watson et al., 2017). The findings from longitudinal research indicated that there was a greater disparity over time in fasting to lose weight for women with same-sex partners than for women with opposite-sex partners (Watson et al., 2018).

However, other findings suggested there was no significant difference between lesbian and heterosexual women in disordered eating symptoms. Several researchers reported no significant difference in regard to eating disorder prevalence (Feldman & Meyer, 2007; Heffernan, 1996; Picot, 2006), nor for disordered eating behaviors and dieting behaviors (French et al., 1996; Share & Mintz, 2002; Shearer et al., 2015; Yean et al., 2013). Indeed, some research findings appeared to show more similarities than differences between lesbian and heterosexual females regarding rates of disordered eating behaviors (Moore & Keel, 2003; Yean et al., 2013).

And, other early research indicated that on average, adolescent and adult lesbians appear to be at less risk for eating disorders (Strong et al., 2000). Some findings suggested that they also tend to have less engagement in disordered eating behaviors, including weight control methods such as dietary restriction and purging, dieting, and

binging (Lakkis et al., 1999; Moore & Keel, 2003; Polimeni et al., 2009; Strong et al., 2000; Wagenbach, 2003). Additionally, some researchers found that in comparison to heterosexual and bisexual women, adult lesbians were more likely to report engaging in healthy eating behaviors and physical activity (VanKim et al., 2016b).

Proximal and Distal Risk and Protective Factors

One study found that 82% of the lesbian participants based their self-worth upon their weight and 62.5% reported dissatisfaction with their eating patterns (Bell et al., 2019). Additionally, studies have revealed that adult lesbians had lower self-esteem and greater feelings of ineffectiveness, interpersonal distrust, and difficulties identifying their emotions than heterosexual women did. Further, in comparison to heterosexual women, self-esteem in lesbians was found to be more dependent upon body esteem and BMI, suggesting that lesbians are still vulnerable to societal pressure of the thin ideal (Heffernan, 1996; Heffernan, 1999; Striegel-Moore et al., 1990; Yean et al., 2013). And, lesbian women reported dissatisfaction with their weight, exhibited greater body dissatisfaction, and were less critical of norms regarding female appearances and weight, despite being critical of other social gender norms (Heffernan, 1999; Morrison et al., 2004). Indeed, lesbian women were found to experience higher rates of body dissatisfaction than heterosexual women (Jones et al., 2019).

In a qualitative study conducted by Huxley et al. (2014), many lesbian women reported that male friends made negative comments about their weight; despite the women's recognition of heterosexism in these comments, the effect was still hurtful. Moreover, none of the women reported increased body satisfaction after coming out

about their sexual orientation, and some felt pressure from the LGBT community to be thin. The authors reported that “the lesbian women (many of whom were currently involved in LGB communities) argued that sexuality is irrelevant and stated that they did not feel ‘protected’ from social pressures because of an affiliation to lesbian subculture” (Huxley et al., 2014, p. 17). Similarly, further research found that the extent to which lesbians identified with their sexual orientation did not appear to influence body satisfaction or disordered eating behaviors (Wagenbach, 2003).

It has also been found that adolescent and adult lesbians were more likely to be within the “overweight” or “obese” BMI (body mass index) categories (Boehmer & Bowen, 2009; Boehmer et al., 2007; Jones et al., 2019; Laska et al., 2015; Mereish & Poteat, 2015), which in turn increased their risk for disordered eating behaviors (Douglas & Varnado-Sullivan, 2016; Hagen et al., 2017; Mason, 2016b). These rates were predicted by age, education level, depression, public identification as a lesbian, increased heavy alcohol use, longer relationship length, lower relationship consensus, and the tendency to use eating as a coping mechanism in response to stress (Mason & Lewis, 2015; Matthews et al., 2011; Warren et al., 2016).

However, it should be noted some research findings suggested no significant differences between lesbian and heterosexual women in body dissatisfaction, attitudes regarding weight and appearance, awareness of cultural standards of attractiveness, drive for thinness, likelihood of being classified as obese, and body esteem concerning weight and physical appearance (Beren et al., 1996; Schneider et al., 1995; Share & Mintz, 2002; Striegel-Moore et al., 1990; Yean et al., 2013). And, other investigators found no apparent differences in the path from internalization of the thin ideal to disordered eating

behaviors (Moore & Keel, 2003; Yean et al., 2013).

Some researchers have found that lesbians actually experienced less body dissatisfaction and more body satisfaction, as further evidenced by their increased likelihood to have weighed significantly more and had a higher ideal weight, believed themselves to be of a normal BMI with an actual BMI of overweight or obese, reported greater body esteem concerning sexual attractiveness and were more satisfied with their weight and physical appearance (assuming normal BMI), expressed less concern regarding their weight and physical appearance, were less concerned with attempting to look like women in the media, and had a lower drive for thinness than adolescent and adult heterosexual females, which in turn reduced their likelihood of developing clinical eating disorders (Alvy, 2013; Alvy, 2014; Austin et al., 2004; French et al., 1996; Hadland et al., 2014; Herzog et al., 1992; Lakkis et al., 1999; Lyders, 1999; Moore & Keel, 2003; Polimeni et al., 2009; Share & Mintz, 2002; Strong et al., 2000; Wagenbach, 2003). In contrast to the findings of Huxley et al. (2014), other authors theorized that lesbians experienced less body dissatisfaction and were less vulnerable to eating disorders because they did not hold physical attraction and thinness as important as heterosexual women did, as they were not attempting to attract men (Siever, 1994). However, it should be noted that one possible explanation for the discrepancy in findings could be the time when the research was conducted. Indeed, it appears that more recent studies find greater rates of disordered eating behaviors and body dissatisfaction in lesbian women; these studies are more likely to have a larger and more diverse sample of lesbian women, given that more individuals are open about their LGBT-identified status.

Perhaps providing an explanation for these conflicting findings, there does appear

to be research evidence identifying more distal risk factors that make lesbian adults more or less vulnerable to eating disorders. Risk factors related to sexual orientation included less time out about sexual orientation, less connection to the LGB community, low sexual identity development, and perceived stigma (Bell et al., 2019; Joshua, 2002). Risk factors related to relationship dynamics included low social support and having an unmet need to belong (Bell et al., 2019; Joshua, 2002). Risk factors related to mental health included depression, anxiety, and negative affect (Bell et al., 2019; Feldman & Meyer, 2010; Joshua, 2002). Risk factors related to demographics included being of Hispanic/Latina or black ethnicity (Feldman & Meyer, 2007). Risk factors related to intrapsychic functioning included low self-esteem (Joshua, 2002). Risk factors related to body image included body preoccupation, increased importance of fitness, and increased importance of being attractive (Joshua, 2002). It should be noted that no risk factors for eating disorders were found for adolescent lesbians; more research in this area is needed.

Further distal risk factors have been identified that lead to disordered eating behaviors in adult and adolescent lesbians. For adult lesbians, risk factors related to sexual orientation included discrimination, concealment of sexual orientation, less involvement in the LGB community, internalized homophobia, internalized homonegativity, heterosexist experiences, proximal minority stress, lower sense of belonging to the lesbian community, organizations, and friends, and stigma consciousness (Heffernan, 1996; Haines et al., 2008; Hanley & McLaren, 2015; Mason & Lewis, 2015; Mason & Lewis, 2016; Mason et al., 2017a; Wang, 2017; Wang & Borders, 2017; Watson et al., 2015). Risk factors related to relationship dynamics included pressure from female partners to be thin, pressure from family to be thin, pressure from

LGB friends to be thin, less social support from family, less social support from friends, less enjoyment of sexualization (i.e., enjoying positive sexualized male attention and feeling beautiful and sexy), and isolation (Erchull & Liss, 2015; Huxley et al., 2011; Joshua, 2002; Mason & Lewis, 2015). Risk factors related to mental health included anxiety, social anxiety, depression, negative affect, and eating as negative affect regulation (Hanley & McLaren, 2015; Heffernan, 1996; Joshua, 2002; Mason & Lewis, 2015; Mason & Lewis, 2016; Mason et al., 2017b). Risk factors related to demographics included being of an older age and being of Caucasian ethnicity (Cogan, 1999; Heffernan, 1996; Jones et al., 2019; Picot, 2006). Risk factors related to gender attitudes included negative femininity, low endorsement of women's movement, less active work to improve the status of women, acceptance of traditional gender roles, realization of sexism, body-gender identity incongruence, lower masculinity, and non-identification as a feminist (Cogan, 1999; Guille & Chrisler, 1999; Henrichs-Beck & Szymanski, 2017; Lakkis et al., 1999). Risk factors related to intrapsychic functioning included low self-esteem, reduced self-awareness, shame, interoceptive awareness, emotional control, self-blame, catastrophizing, and media internalization (Bayer et al., 2017; Heffernan, 1996; Haines et al., 2008; Henrichs-Beck & Szymanski, 2017; Joshua, 2002; Kozee & Tylka, 2006; Mason & Lewis, 2015; Mason et al., 2017a; Mason et al., 2017b; Picot, 2006). Risk factors related to body image included actual to ideal weight discrepancy, internalized sociocultural standards of beauty (i.e., media pressure to be thin, thin ideal internalization, internalized cultural attitudes concerning thinness), body esteem concerning weight, weight discrimination, physical condition, sexual attractiveness, sexual objectification, self-objectification, body surveillance, negative eating attitudes,

and higher perceived weight status (Cogan, 1999; Erchull & Liss, 2015; Heffernan, 1996; Haines et al., 2008; Henrichs-Beck & Szymanski, 2017; Huxley et al., 2011; Jones et al., 2019; Kozee & Tylka, 2006; Luk et al., 2019; Mason et al., 2017b; Watson et al., 2015). These risk factors predicted disordered eating behaviors directly, and indirectly via body dissatisfaction.

Additional studies identified more specific pathways linking specific risk factors to disordered eating behaviors among adult lesbians. Research conducted by Mason and Lewis (2016) found that discrimination increased sexual minority stress, which in turn increased social anxiety, body shame, and thus binge eating. In addition, discrimination also was associated with greater negative emotions, which reduced self-awareness, resulting in increased binge eating (Mason et al., 2017a). Furthermore, lacking social support from family and friends was found to increase negative emotions and social anxiety, which then increased disordered eating behaviors, as did discrepancy between ideal weight and actual weight (Mason et al., 2017b). Being of an older age and having a higher BMI predicted having a greater weight discrepancy, which in turn was associated with bingeing, purging, drive for thinness, and body dissatisfaction (Cogan, 1999). Moreover, it was found that body surveillance increased shame and negative eating attitudes, increasing disordered eating behaviors, which was further aggravated by internalized heterosexism (Haines et al., 2008). Similarly, internalized homonegativity increased body surveillance, which increased body shame, and, ultimately, disordered eating behaviors (Watson et al., 2015).

A systematic review conducted by Mason et al. (2018) that assessed for disordered eating patterns among sexual minority women identified themes among the

current research studies, and proposed a model to predict eating disorder behaviors among sexual minority women. Specifically, this model indicated that gender experiences (i.e., gender roles, gender expression, sexual objectification, sexism/harassment), sexual orientation experiences (heterosexism, internalized minority stress, concealment, sexual identity), and the interaction of the two experiences affect the internalization of sociocultural norms in addition to social resources and emotion regulation, which in turn contribute to negative affect in addition to body image concerns and body surveillance, which ultimately predicted disordered eating behaviors.

Conversely, being open about one's sexual identity and doing so for a longer period of time, as well as greater involvement in the LGBT community, having a lower BMI, experiencing less weight discrimination, having fewer depressive symptoms, and having greater self-esteem were associated with less weight concern and higher body esteem, and, therefore, less disordered eating behaviors in lesbian women (Heffernan, 1996; Johns et al., 2017; Krakauer & Rose, 2002).

Distal risk factors for disordered eating behaviors in adolescent lesbians include earlier age of achievement of sexual minority developmental milestones, depression, anxiety, and excessive alcohol use (Calzo et al., 2019; Katz-Wise et al., 2015). These risk factors predicted disordered eating behaviors directly, and indirectly via body dissatisfaction.

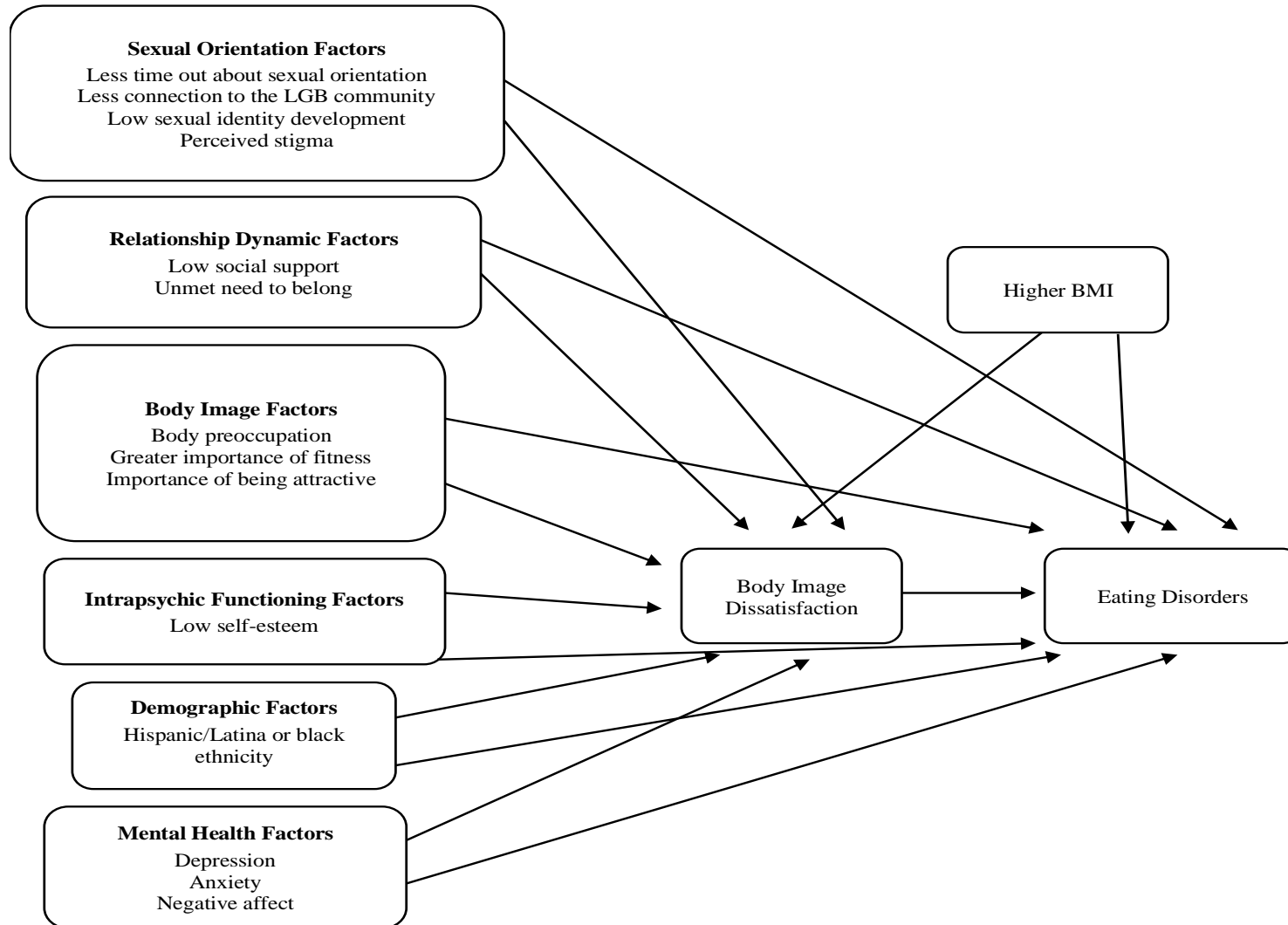


Figure 1. Model of factors that contribute to eating disorders in lesbian adults.

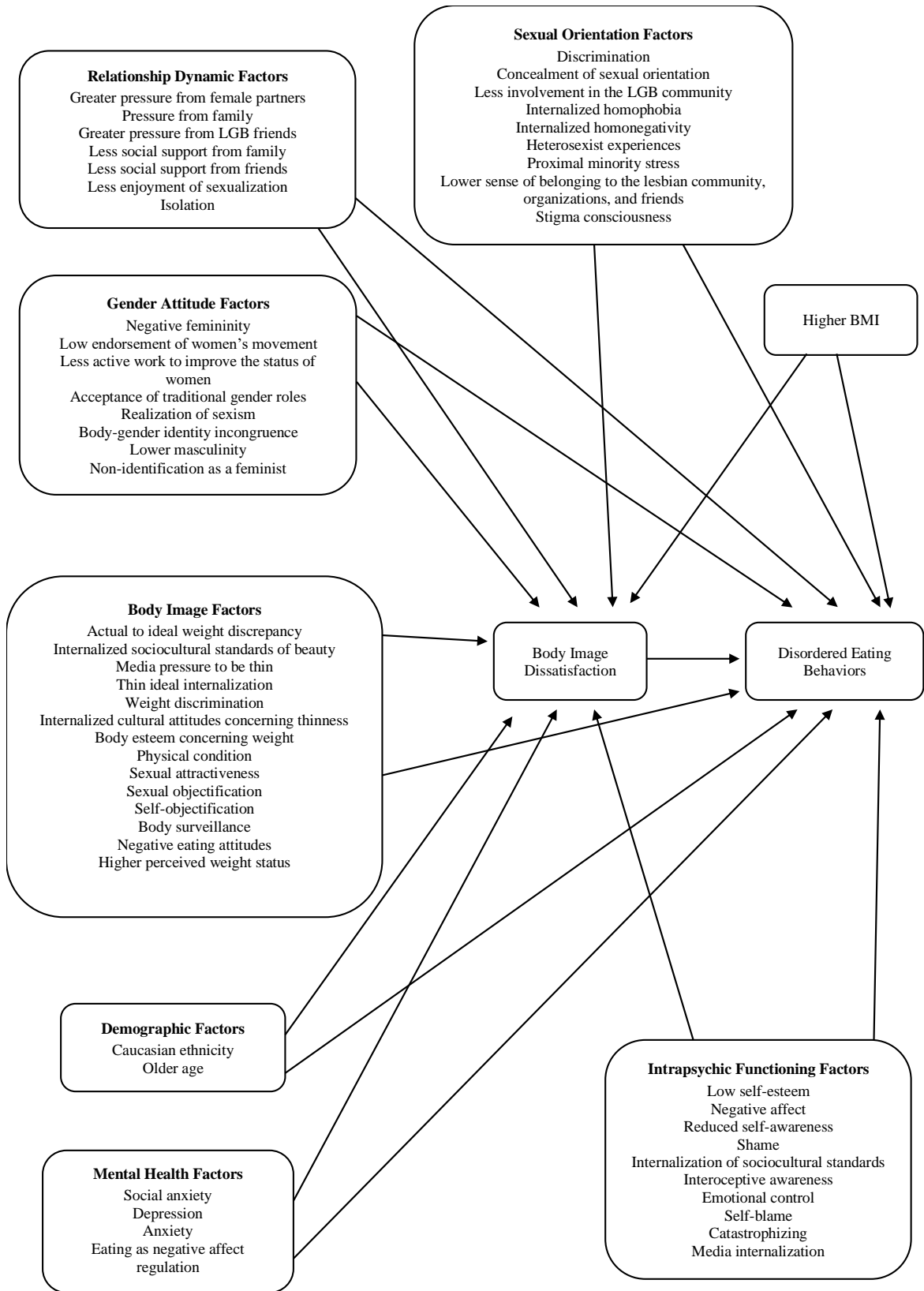


Figure 2. Model of factors that contribute to disordered eating behaviors in lesbian adults.

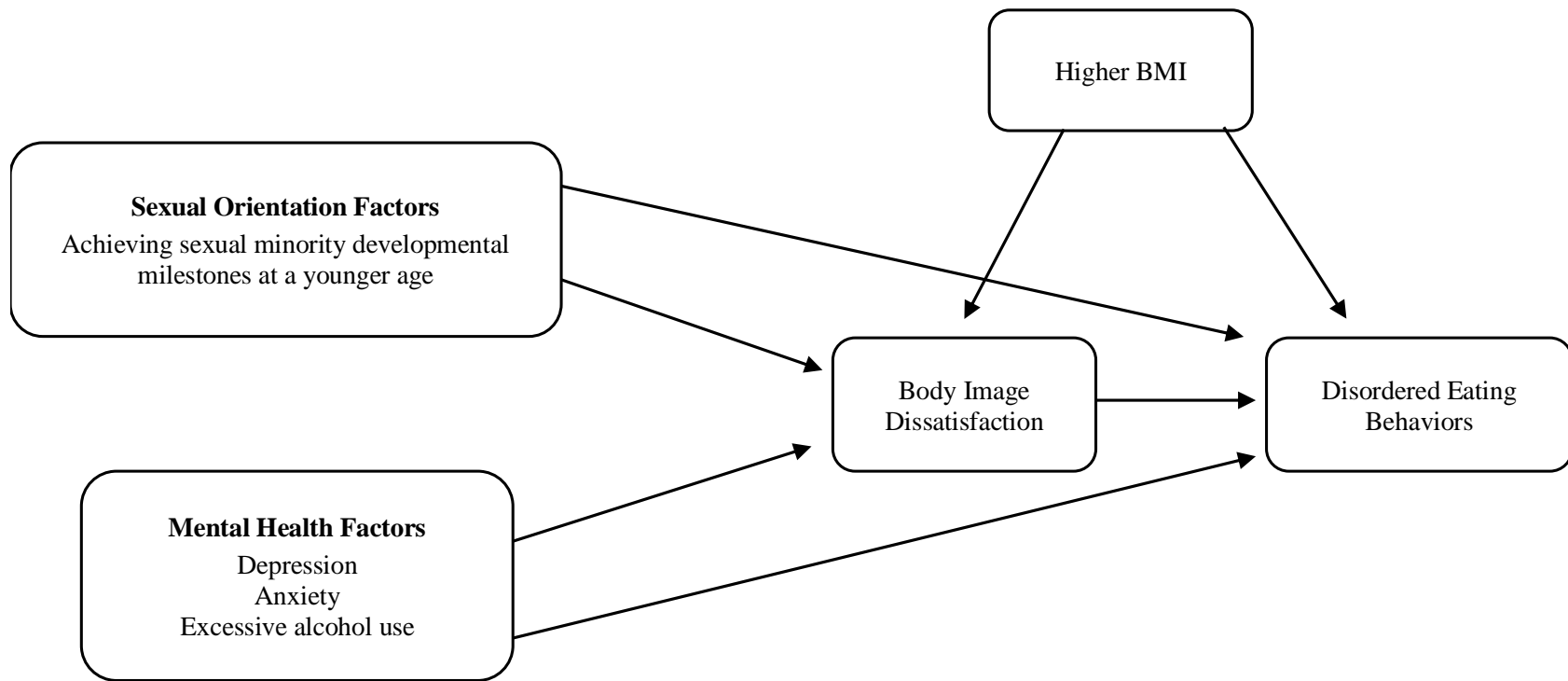


Figure 3. Model of factors that contribute to disordered eating behaviors in lesbian adolescents.

Gay Men and Adolescents

Frequencies and Types of Eating Disorders and Disordered Eating Behaviors

In their study, Bell et al. (2019) found that 14% of their sample of gay men reported that they currently or previously suffered from an eating disorder, which is a significantly higher frequency than heterosexual men (Hudson et al., 2007). And an additional one-half of their gay participants reported significant clinical risk factors in which they were likely to develop an eating disorder. Other studies also found gay men to be at a higher risk for being diagnosed for an eating disorder than their heterosexual counterparts (Diemer et al., 2015; Feldman & Meyer, 2007).

Overall, the research literature has indicated that both adult and adolescent gay males were more likely to engage in disordered eating behaviors compared to heterosexual males, with little variance in the studies. Early research findings suggest that gay men reported more frequent dieting and greater dietary restraint, more binge eating, less control over their eating behaviors, more purging, and more exercise (French et al., 1996; Lakkis et al., 1999; Schneider et al., 1995).

These findings are supported by more contemporary research. Compared to heterosexual men, gay men reported increased rates of binge eating, disordered eating behaviors, unhealthy weight control behaviors, food addiction, and diagnosed clinical eating disorders, in addition to poorer physical activity (Bankoff et al., 2016; Boisvert & Harrell, 2009; Brown & Keel, 2012; Gigi et al., 2016; Hadland et al., 2014; Matthews-Ewald et al., 2014; Murray, 2018; Russel & Keel, 2002; Shearer et al., 2015; Smith et al.,

2011; Strübel & Petrie, 2019; VanKim et al., 2016b; Von Schell et al., 2018; Yean et al., 2013; Yelland & Tiggemann, 2003).

Further, it was found that in comparison to their heterosexual counterparts, gay adolescent and young adult males were more likely to engage in exercising with intention to lose weight, restrictive eating, fasting, bingeing, purging, and use of diet pills, putting them at an increased risk for eating disorders (Austin et al., 2004; Austin et al., 2009; Calzo et al., 2018; Watson et al., 2017; Watson et al., 2018; Zullig et al., 2017). Additionally, it was found that they were less likely to attempt to gain weight, experienced a decrease in BMI from adolescence to early adulthood, were less likely to engage in physical activity or team sports (Calzo et al., 2013; Katz-Wise et al., 2014; Mereish & Poteat, 2015).

Despite the findings reported above, Picot (2006) reported that there does appear to be some variation in research results regarding the rates of eating disorders and disordered eating behaviors compared to their heterosexual counterparts. Furthermore, sexual minority male adolescents reportedly were likely to improve their disordered eating behaviors over time (Tabler et al., 2019; Watson et al., 2017).

Proximal and Distal Risk and Protective Factors

The results discussed above are further supported by findings of greater body dissatisfaction, (i.e., poor body image, body image anxiety, drive for thinness, drive for muscularity, shape concerns, weight concerns), sociocultural influence (i.e., internalization of the thin ideal, susceptibility to advertising on physical appearances), eating concerns, frequency of engaging in conversations about appearances, and

appearance orientation in gay men compared to heterosexual men (Allewaert et al., 2018; Beren et al., 1996; Carper et al., 2010; French et al., 1996; Gigi et al., 2016; Jankowski et al., 2014; Lakkis et al., 1999; Laska et al., 2015; Morrison et al., 2004; Smith et al., 2011; Yean et al., 2013; Yelland & Tiggemann, 2003). Additionally, in one study, 63% of the gay participants reported basing their self-worth on their weight status, in addition to approximately one-half experiencing dissatisfaction with their eating patterns (Bell et al., 2019).

Furthermore, for gay men, the discrepancy between current body shape and the body shape they believed they should have to attract a partner was significantly greater than their current body shape and ideal body shape. This discrepancy is associated with greater eating, shape, and weight concerns, suggesting that beliefs of partner body image preferences contribute to disordered eating in gay men (Fussner & Smith, 2015).

Additionally, it was found that in comparison to their heterosexual counterparts, gay adolescent and young adult males reported greater body dissatisfaction, reported greater desire for toned muscles, experienced a greater increase in weight and shape concern over time, were more concerned with trying to look like men in the media, and were more focused on being lean (Austin et al., 2004; Calzo et al., 2013; Calzo et al., 2015; Calzo et al., 2018).

Moreover, as previously discussed, being of a higher BMI is associated with increased disordered eating behaviors in adults (Douglas & Varnado-Sullivan, 2016; Hagen et al., 2017). For gay men, having a higher BMI, experiencing more peer pressure, and lower levels of masculinity were associated with increased body dissatisfaction, which, in turn, was associated with greater disordered eating behaviors (Hospers &

Jansen, 2005). Having a higher BMI was predicted by age, employment status, depression, anxiety, and stress level (Warren et al., 2016).

Investigators have theorized that gay men were less satisfied with their bodies and thus were more vulnerable to disordered eating behaviors due to the importance of physical attraction, and by extension thinness, in order to attract men via intrasexual competition (Li et al., 2010; Siever, 1994). In a qualitative study conducted by VanKim et al. (2016c), gay men reported feeling pressure to conform to the particular physical aesthetic ascribed to gay men, which was associated with needing to be viewed as sexually attractive to other gay men. Additionally, many described this ideal body shape as both muscular and thin, noting that thinness was unique to the gay male community (in comparison to heterosexual men), and that their masculinity influenced their body image and weight-related behaviors. Indeed, one of the participants was quoted as saying, “I feel in the gay [male] community it’s really competitive as far as really superficial things or concern [with] appearance... there’s this pressure I feel I need to just look the best that I can. I mean ..., so... I fit in with the cool gay people” (VanKim et al., 2016c, table 3). Similarly, another participant stated, “Being a male, in general, you are expected to be a bigger and more athletic looking person to maintain that standard of masculinity. So like you are already expected to be masculine but then you have to be like this kind of like processed masculine for the queer community... we all want to be simultaneously slim and muscular at the same time” (VanKim et al., 2016c, table 3).

In an additional theory, it was hypothesized that because gay men experienced greater levels of body shame and body objectification than heterosexual men, this, in turn, predicted increased rates of eating disorder symptomology among gay men (Lyders,

1999). However, other research found that gay men did not significantly differ from heterosexual men in terms of body esteem, body dissatisfaction, ideal body image, body image distortion, and drive for thinness (Hausmann et al., 2004; Picot, 2006; Yelland & Tiggemann, 2003).

Research has identified more distal risk factors that may contribute to making gay men particularly vulnerable to eating disorders. Specifically, risk factors related to sexual orientation included ambivalence about their sexual orientation, concern about the perception of others regarding their sexual orientation, attending a gay recreational group, and sexual objectification experiences (Feldman & Meyer, 2007; Siconolfi et al., 2009; Wiseman & Moradi, 2010). Risk factors related to relationship dynamics included social media use (Griffiths et al., 2018). Risk factors related to mental health included anxiety, depression, substance use disorder, specific phobia, diagnosis of any other psychiatric disorder, and childhood sexual abuse (Feldman & Meyer, 2010; Siconolfi et al., 2009). Risk factors related to demographics included being of Latino/Hispanic or black ethnicity (Feldman & Meyer, 2007). Risk factors related to gender attitudes included conforming to masculine norms and recalled childhood harassment for gender nonconformity (Alleva et al., 2018; Wiseman & Moradi, 2010). Risk factors related to body image included longer exercise sessions, internalization of cultural standards of attractiveness, body surveillance, steroid use, athletic appearance-ideal internalization, and upward appearance-based social comparisons (Alleva et al., 2018; Griffiths et al., 2017; Siconolfi et al., 2009; Wiseman & Moradi, 2010). It should be noted that no empirical evidence of distal risk factors for eating disorders were found for adolescent gay males; more research in this area is needed.

Further distal risk factors were identified by research findings for disordered eating behaviors. For gay men, risk factors related to sexual orientation included discrimination, concealment of sexual orientation, rumination on discriminatory experiences, internalized homophobia, internalized homonegativity, gay community identification (for thinner men), and belonging to the gay community (Bankoff et al., 2016; Brennan et al., 2012; Doyle & Engeln, 2014; Hunt et al., 2012; Kousari-Rad & McLaren, 2013; Reilly & Rudd, 2006; Torres, 2008; Wang, 2017; Wang & Borders, 2016). Risk factors related to relationship dynamics included lower relationship satisfaction, high-risk sexual behaviors, having an unmet need to belong, social sensitivity, and being single (Bell et al., 2019; Blashill, & Vander Wal, 2009; Brown & Keel, 2012; Brown & Keel, 2015; De Santis et al., 2012). Risk factors related to mental health included childhood sexual abuse, negative affect, depression, and alcohol abuse (Blashill, & Vander Wal, 2009; Brennan et al., 2011; De Santis et al., 2012). Risk factors related to demographics included being of Caucasian ethnicity, being of an older age, and, conversely, being of a younger age (Brennan et al., 2011; Picot, 2006; Siconolfi et al., 2009). Factors related to gender attitudes included negative femininity, gender role conflict, and greater levels of femininity (Blashill, & Vander Wal, 2009; Lakkis et al., 1999; Picot, 2006). Factors related to intrapsychic functioning included susceptibility to social messages, low self-esteem, low self-compassion, and media internalization (Bell et al., 2019; Beren et al., 1996; Carper et al., 2010; De Santis et al., 2012; Gigi et al., 2016; Hunt et al., 2012; Kousari-Rad & McLaren, 2013; Picot, 2006; Reilly & Rudd, 2006; Torres, 2008). Factors related to body image included awareness of sociocultural norms regarding weight, implicit and explicit attitudes regarding weight, external motivation for

working out, engaging in behaviors to increase muscle mass, pressure to diet, and body image disturbance (Bankoff et al., 2016; Beren et al., 1996; Brennan et al., 2011; De Santis et al., 2012; Engeln-Maddox et al., 2011; Siconolfi et al., 2009; Smith et al., 2011; Torres, 2008).

More specific pathways to disordered eating behaviors have been identified in the literature. It was found that an unmet need to belong and perceived stigma were predictive of increased depression and decreased self-compassion, which in turn were associated with higher levels of disordered eating behaviors among gay men (Bell et al., 2019). Moreover, gender role conflict (i.e., the incongruence between societal messages about gender norms and beliefs about what is achievable, resulting in psychological distress) was associated with negative affect and social sensitivity, which in turn were associated with body dissatisfaction and disordered eating behaviors (Blashill, & Vander Wal, 2009).

Conversely, it was found that being in a satisfying relationship, masculinity, and gay community identification worked as protective factors against disordered eating behaviors among gay men (Brown & Keel, 2012; Doyle & Engeln, 2014; Hospers & Jansen, 2005). Similarly, body appreciation was positively correlated with body satisfaction and physical activity, while inversely correlated with conformity to masculine norms, upward appearance-based social comparisons, perceived media pressure, and disordered eating behaviors (Alleva et al., 2018).

Distal risk factors for disordered eating behaviors identified among gay male adolescents included earlier age of achievement of sexual minority developmental milestones, bullying, lack of support from adults, being of an older age, and lack of

engagement physical activity (Calzo et al., 2013; Katz-Wise et al., 2015; Pistella et al., 2019). These risk factors were found to be both directly predictive of disordered eating, and indirectly via body dissatisfaction.

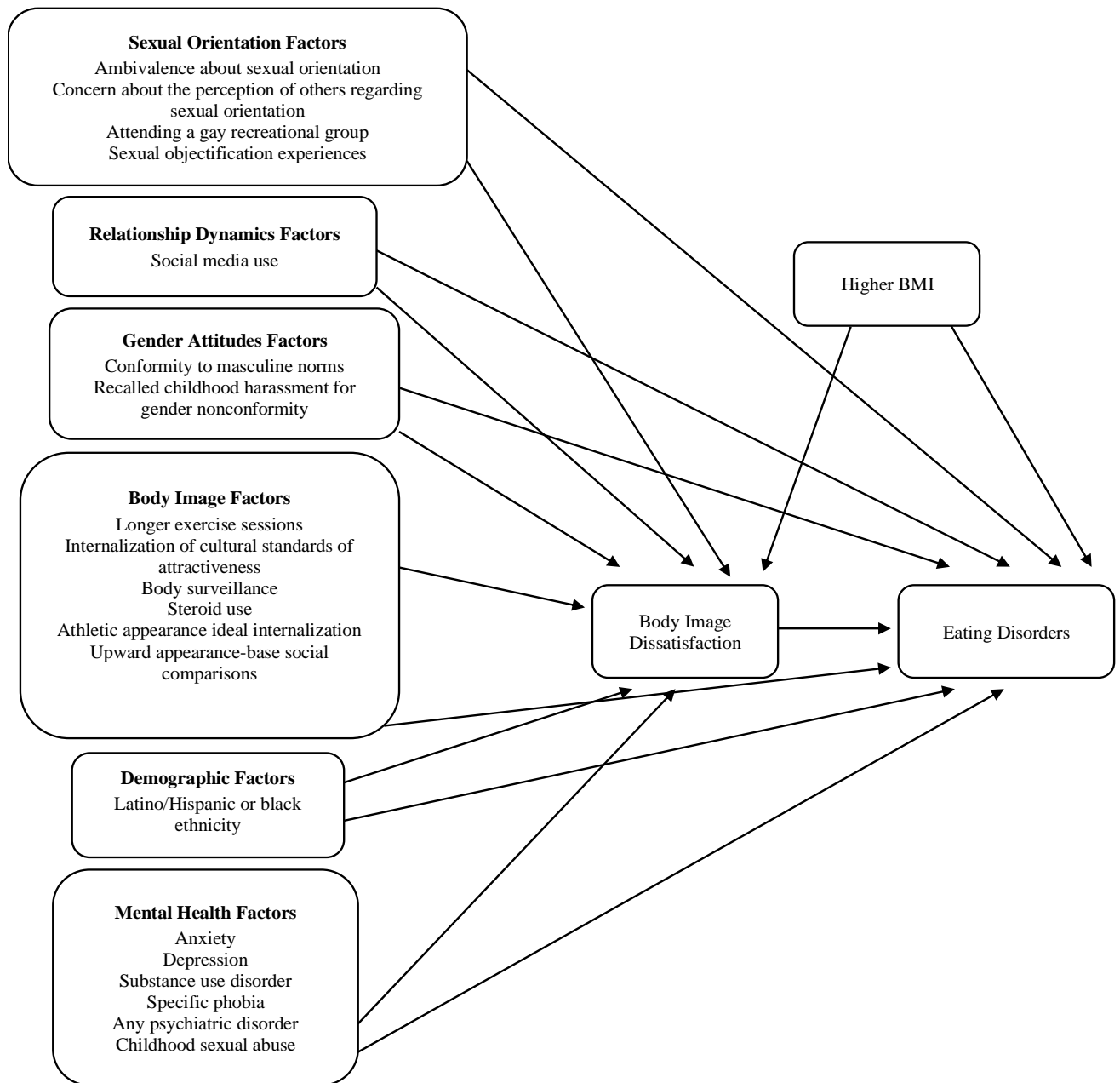


Figure 4. Model of factors that contribute to eating disorders in gay men.

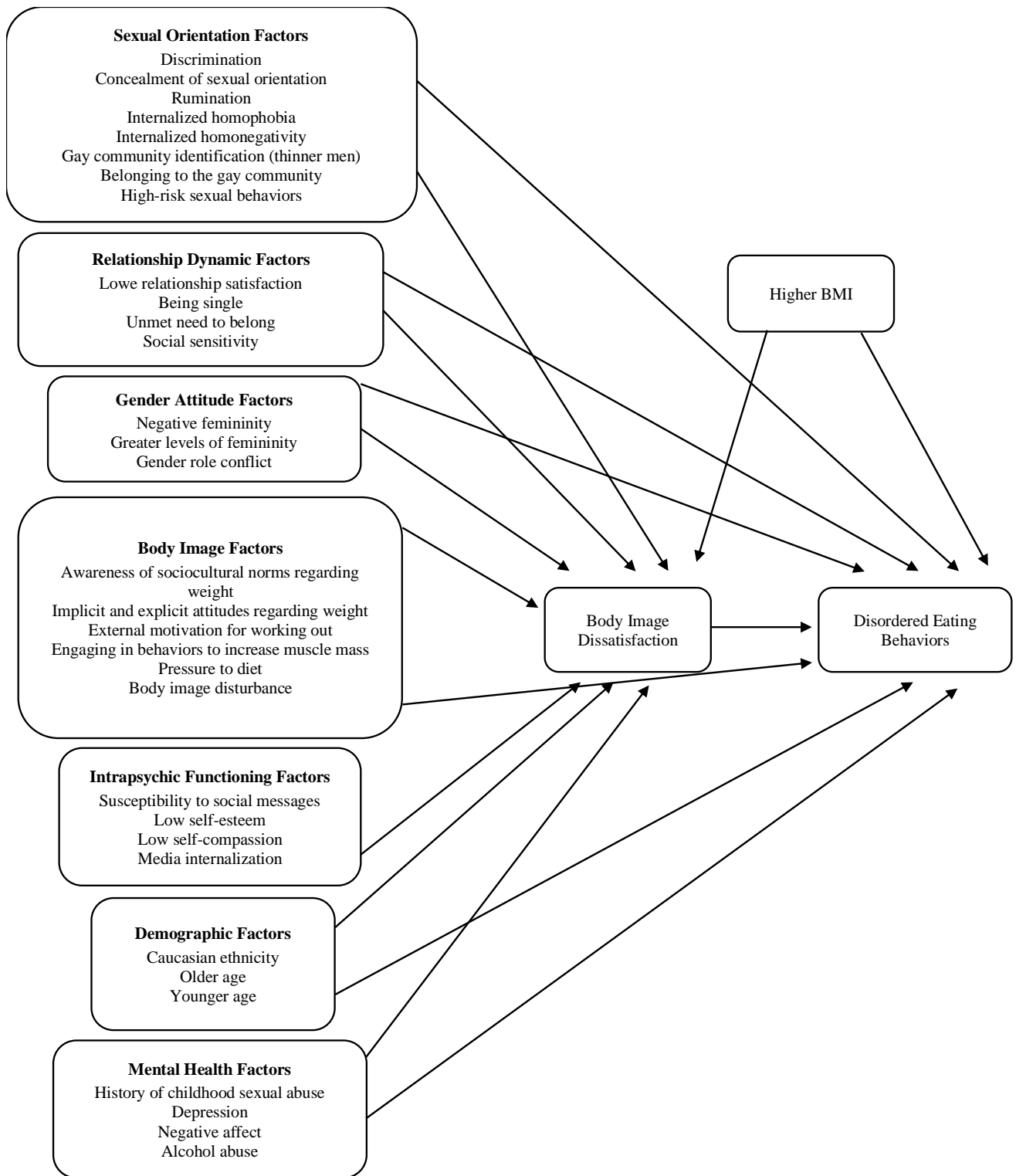


Figure 5. Model of factors that contribute to disordered eating behaviors in gay men.

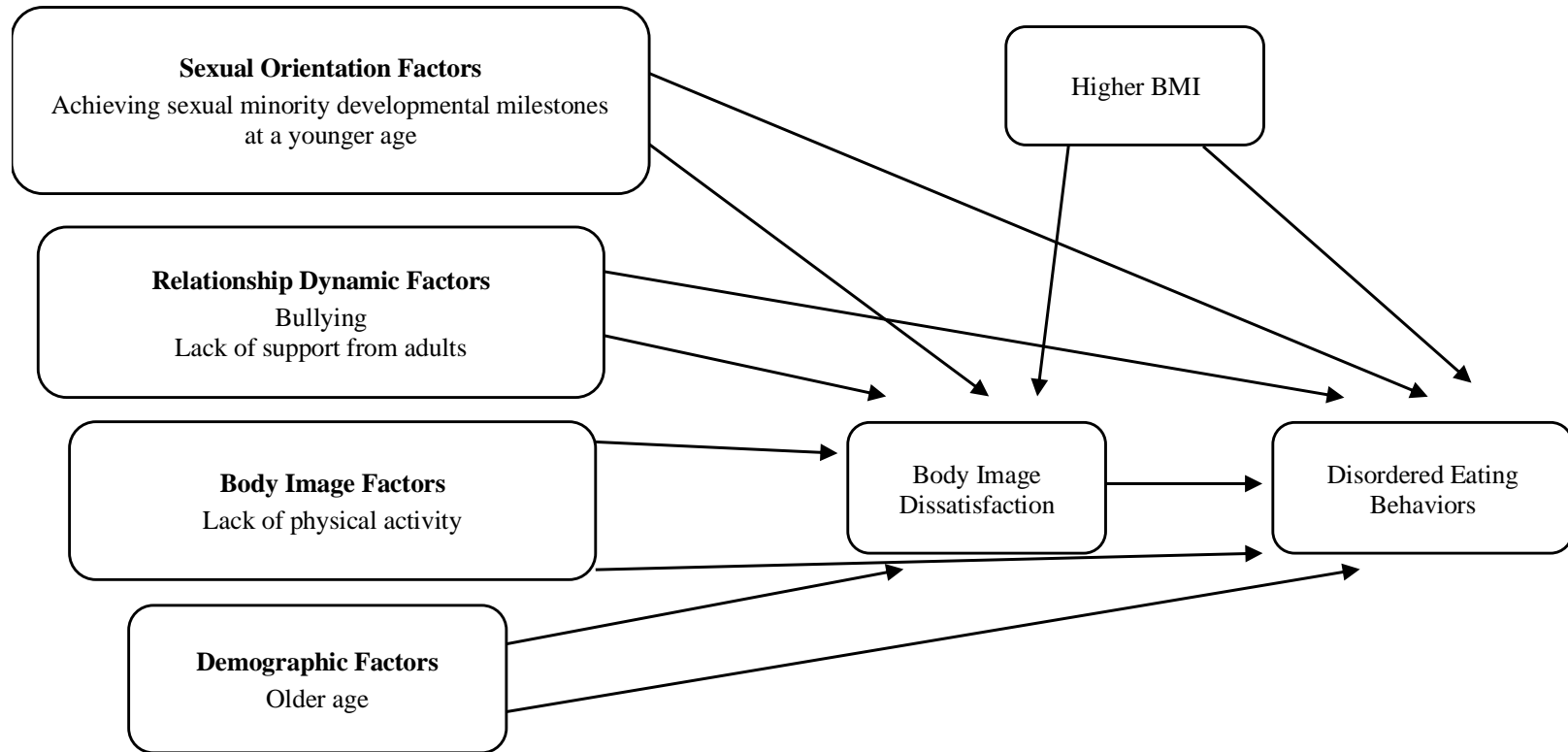


Figure 6. Model of factors that contribute to disordered eating behaviors in gay male adolescents.

Bisexual, Mostly Heterosexual, and Questioning Adults and Adolescents

Frequencies and Types of Eating Disorders and Disordered Eating Behaviors

It should be noted that because bisexuality is a relatively new area of study, the research on the topics of eating disorders and disordered eating behaviors is recent and relatively limited. It does appear that the research findings to date on bisexuality suggest that there is a higher incidence of disordered eating behaviors, and by extension, eating disorders among bisexual, mostly heterosexual, and questioning men and women; however, there is some conflicting evidence that the rates might not differ from that of heterosexual women.

Research findings indicated that bisexual adults tended to experience increased disorder eating behaviors in comparison to their heterosexual counterparts (Davids & Green, 2011). More specifically, bisexual adolescents and young adults were more likely to report increased binge eating, purging, and other disordered eating behaviors (Austin et al., 2004; Austin et al., 2009; Calzo et al., 2018). Further, adolescent and adult bisexual females reported greater frequencies of fasting, purging, diet pill usage, laxative usage, weight cycling, smoking with intention to lose weight, skipping meals, body dissatisfaction, and overall disordered eating, and were less likely to report engaging in healthy eating behaviors and physical activity in comparison to heterosexual females, although they were less likely to engage in over-exercising with intention of weight loss (Austin et al., 2004; Jones et al., 2019; Laska et al., 2015; Luk et al., 2019; Polimeni et al., 2009; Shearer et al., 2015; VanKim et al., 2016b; Watson et al., 2018; Zullig et al., 2017). Additionally, it was found that, unlike their heterosexual peers whose disordered

eating rates improved with time, female bisexual adolescents saw no such improvement in their fasting, purging, and diet pill usage (Watson et al., 2017).

Additionally, adolescent bisexual males were found to be more likely to fast, use diet pills, purge, engage in poor physical activity patterns, and experience weight and shape concern, in addition to being less likely to attempt to gain weight (Calzo et al., 2013; Hadland et al., 2014; Laska et al., 2015; Watson et al., 2018). Further, bisexual and mostly heterosexual men were more likely to engage in unhealthy weight control behaviors in comparison to heterosexual and gay men (VanKim et al., 2016b). Conversely, other investigators also found no difference in the prevalence of disordered eating behaviors between bisexual and heterosexual adult women (Feldman & Meyer, 2007).

Proximal and Distal Risk and Protective Factors

Results of studies show adolescent and young adult bisexuals to experience greater body dissatisfaction and weight and appearance concerns in comparison to heterosexuals, suggesting elevated risk for developing eating disorders (Austin et al., 2004; Calzo et al., 2018). More specifically, adolescent bisexual males were found to be more likely to view themselves as overweight or obese despite having a normal BMI and desire more toned muscles (Hadland et al., 2014; Laska et al., 2015).

Several studies have found that bisexual youth and adults were at greater risk for having an obese BMI than their heterosexual peers (Austin et al., 2013; Boehmer & Bowen, 2009; Jones et al., 2019; Katz-Wise et al., 2014; Laska et al., 2015; Mereish & Poteat, 2015), which in turn increased their risk for disordered eating behaviors (Douglas

& Varnado-Sullivan, 2016; Hagen et al., 2017; Pistella et al., 2019). However, there is conflicting research that bisexual individuals did not evidence a higher BMI than their heterosexual peers (Boehmer et al., 2007).

Interestingly, investigators have also found that bisexual girls were more satisfied with their bodies, and less concerned with attempting to look like women in the media (Austin et al., 2004), and were more likely to view their overweight or obese BMI as a normal or underweight BMI (Hadland et al., 2014).

Specific distal risk factors for eating disorders among bisexual adults have been identified by research. For bisexual adults (regardless of gender), risk factors included antibisexual discrimination, internalized biphobia, sexual objectification experiences, being of Latinx/Hispanic or black ethnicity, internalization of sociocultural standards of attractiveness, and body surveillance (Brewster et al., 2014; Feldman & Meyer, 2007).

For bisexual men, distal risk factors for eating disorders related to sexual orientation included attending a gay recreational group, ambivalence regarding their sexual orientation, concern about perception of others regarding their sexual orientation, gay community involvement, and sexual objectification experiences (Davids & Green, 2011; Feldman & Meyer, 2007; Wiseman & Moradi, 2010). Risk factors related to relationship dynamics included social media use (Griffiths et al., 2018). Risk factors related to mental health included anxiety, substance use disorder, specific phobia, diagnosis of any psychiatric disorder, and childhood sexual abuse (Feldman & Meyer, 2010). Risk factors related to demographics included being of Latino/Hispanic or black ethnicity (Feldman & Meyer, 2007). Risk factors related to gender attitudes included gender role orientation, recalled childhood harassment for gender nonconformity, and

conformity to masculine norms (Alleva et al., 2018; Davids & Green, 2011; Wiseman & Moradi, 2010). Risk factors related to intrapsychic functioning included low self-esteem and maladaptive social comparison (Davids & Green, 2011). Risk factors related to body image included drive for muscularity, greater exercise frequency, internalization of cultural standards of attractiveness, body surveillance, steroid use, and upward appearance-based social comparisons (Alleva et al., 2018; Davids & Green, 2011; Griffiths et al., 2017; Wiseman & Moradi, 2010).

For bisexual women, distal risk factors for eating disorders included gay community involvement, relationship dissatisfaction, depression, being of Latina/Hispanic or black ethnicity, gender role orientation, low self-esteem, maladaptive social comparison, objectified body consciousness, and self-consciousness during physical intimacy (Davids & Green, 2011; Feldman & Meyer, 2007; Feldman & Meyer, 2010; Siconolfi et al., 2009). It should be noted that no empirical evidence to date has identified distal risk factors for eating disorders for bisexual adolescents; more research in this area is needed.

Additional research indicated distal risk factors for disordered eating behaviors. For bisexual adults (regardless of gender), risk factors included discrimination, concealment of sexual orientation, sexual objectification experiences, internalized binegativity, internalized biphobia, depression, sexual objectification, internalization of sociocultural standards of attractiveness, and body surveillance (Brewster et al., 2014; Tabler et al., 2019; Wang, 2017; Watson et al., 2016). These risk factors predicted disordered eating behaviors directly, and indirectly via body dissatisfaction.

For bisexual men, distal risk factors for disordered eating behaviors related to

sexual orientation included discrimination, concealment of sexual orientation, rumination about discrimination, internalized homophobia, internalized homonegativity, and gay community identification (for thinner men) (Bankoff et al., 2016; Brennan et al., 2012; Doyle & Engeln, 2014; Torres, 2008; Wang & Borders, 2016; Wang, 2017). Risk factors related to relationship dynamics included lower relationship satisfaction and being single (Brown & Keel, 2012; Brown & Keel, 2015). Risk factors related to mental health included childhood sexual abuse and depression (Brennan et al., 2011). Risk factors related to demographics included being of an older age and being of Caucasian ethnicity (Brennan et al., 2011; Siconolfi et al., 2009). Risk factors related to intrapsychic functioning included greater susceptibility to social messages, low self-esteem, and reduced self-awareness (Beren et al., 1996; Gigi et al., 2016; Torres, 2008). Risk factors related to body image included awareness of sociocultural norms regarding weight, implicit and explicit attitudes regarding weight, external motivation for working out, engaging in behaviors to increase muscle mass, and experiencing pressure to diet (Bankoff et al., 2016; Beren et al., 1996; Brennan et al., 2011; Siconolfi et al., 2009; Torres, 2008). These risk factors predicted disordered eating behaviors directly, and indirectly via body dissatisfaction.

For bisexual women, distal risk factors for disordered eating behaviors related to sexual orientation included discrimination, concealment of sexual orientation, internalized homophobia, and heterosexist experiences (Heffernan, 1996; Wang, 2017; Wang & Borders, 2017; Watson et al., 2015; Watson et al., 2016). Risk factors related to relationship dynamics included self-consciousness during physical intimacy, pressure from female partners, pressure from male partners, pressure from family, and pressure

from LGB friends (Huxley et al., 2011; Kashubeck-West et al., 2018). Risk factors related to mental health included eating as negative affect regulation (Heffernan, 1996). Risk factors related to demographics included being of an older age and being of Caucasian ethnicity (Heffernan, 1996; Jones et al., 2019). Risk factors related to intrapsychic functioning included low self-esteem and coping via internalization (Bayer et al., 2017; Heffernan, 1996; Watson et al., 2016). Risk factors related to body image included actual to ideal weight discrepancy, internalized sociocultural standards of beauty, media pressure to be thin, thin ideal internalization, and higher perceived weight status (Heffernan, 1996; Huxley et al., 2011; Jones et al., 2019; Kashubeck-West et al., 2018; Luk et al., 2019; Watson et al., 2015). These risk factors predicted disordered eating behaviors directly, and indirectly via body dissatisfaction.

More specific pathways linking risk factors to disordered eating behaviors for bisexual adults have been identified in the literature. Antibisexual discrimination and internalized biphobia appeared to be associated with internalization of sociocultural standards of attractiveness, which increased body surveillance, sexual objectification, and body shame, which then predicted disordered eating behaviors among both men and women (Brewster et al., 2014; Watson et al., 2016). Additionally, depression was found to be associated with disordered eating behaviors among bisexual adults, and, unlike their gay and lesbian counterparts, did not decrease with age (Tabler et al., 2019). Similarly, internalized homonegativity increased body surveillance, which increased body shame, and then disordered eating behaviors (Watson et al., 2015). Conversely, having a lower BMI, less weight discrimination and depressive symptoms, and more self-esteem was associated with having greater body esteem, and, subsequently, less disordered eating

behaviors (Johns et al., 2017).

For bisexual adolescent males, distal risk factors for disordered eating behaviors included cyberbullying, lack of support from adults, being of an older age, being obese, and lack of engagement in physical activity (Calzo et al., 2013; Pistella et al., 2019). For bisexual female adolescents, distal risk factors included earlier age of achievement of sexual minority developmental milestones, bullying, depression, anxiety, and excessive alcohol use (Calzo et al., 2019; Katz-Wise et al., 2015). These risk factors predicted disordered eating directly, as well as indirectly via body dissatisfaction.

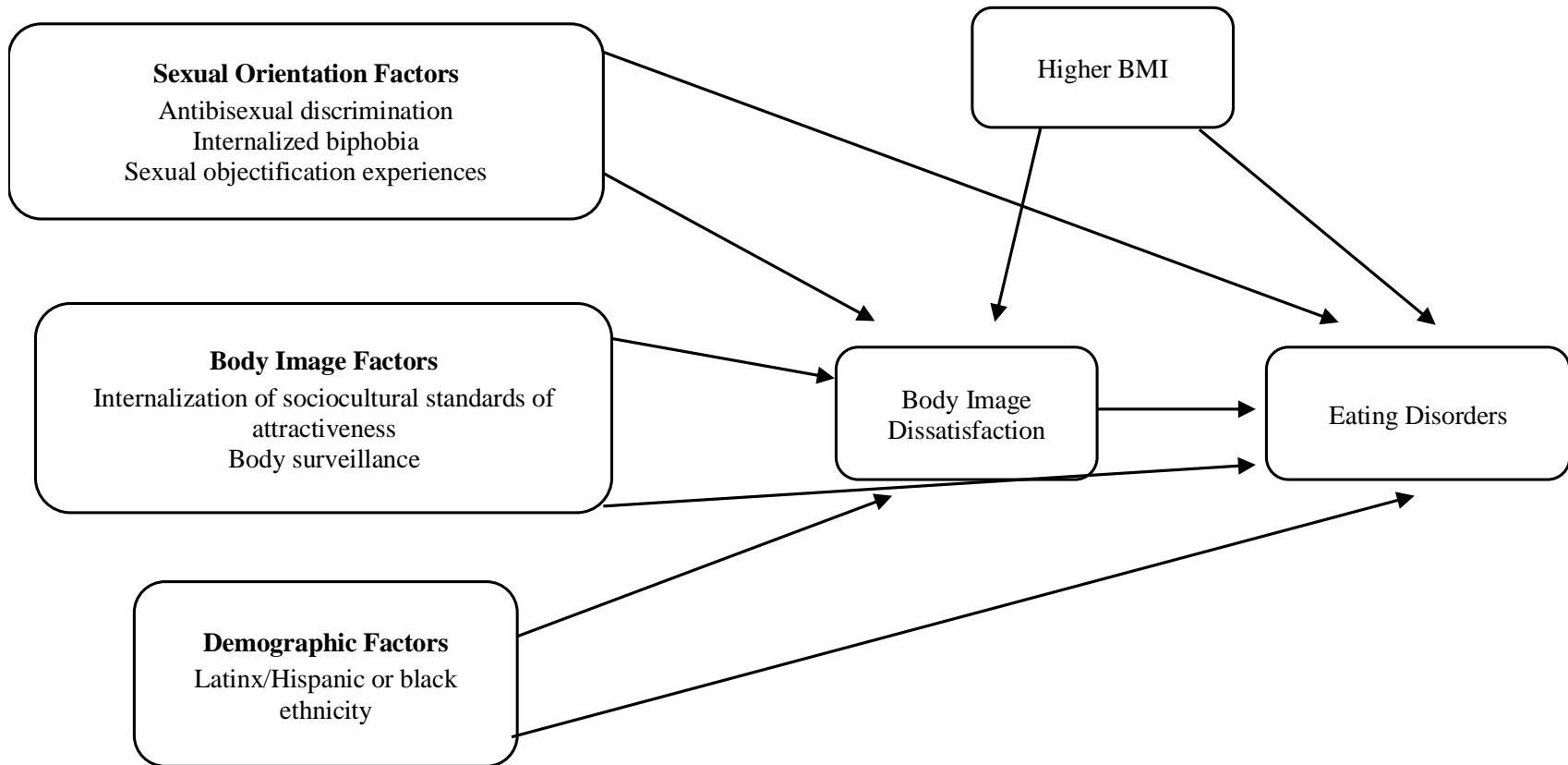


Figure 7. Model of factors that contribute to eating disorders in bisexual adults.

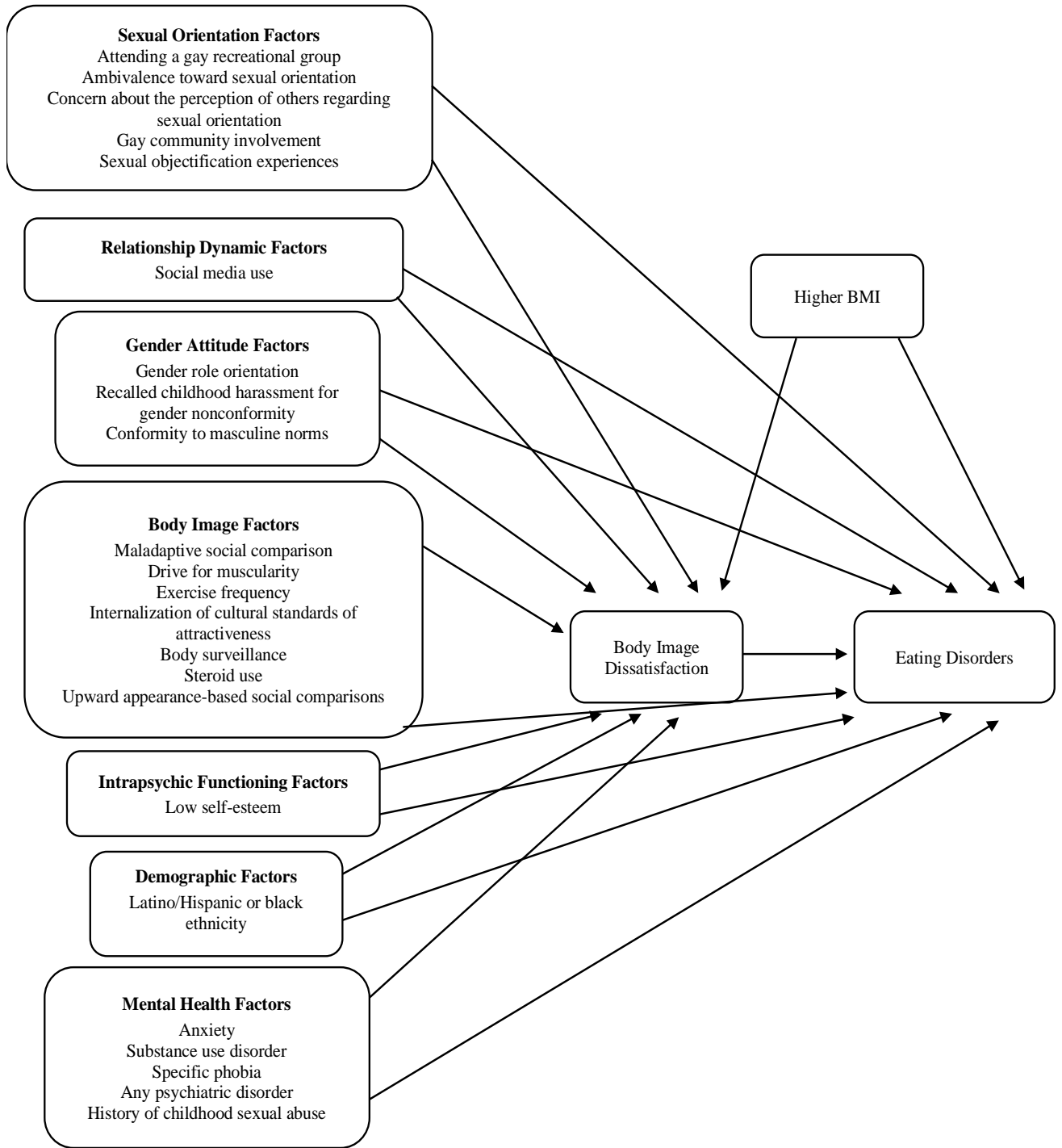


Figure 8. Model of factors that contribute to eating disorders in bisexual men.

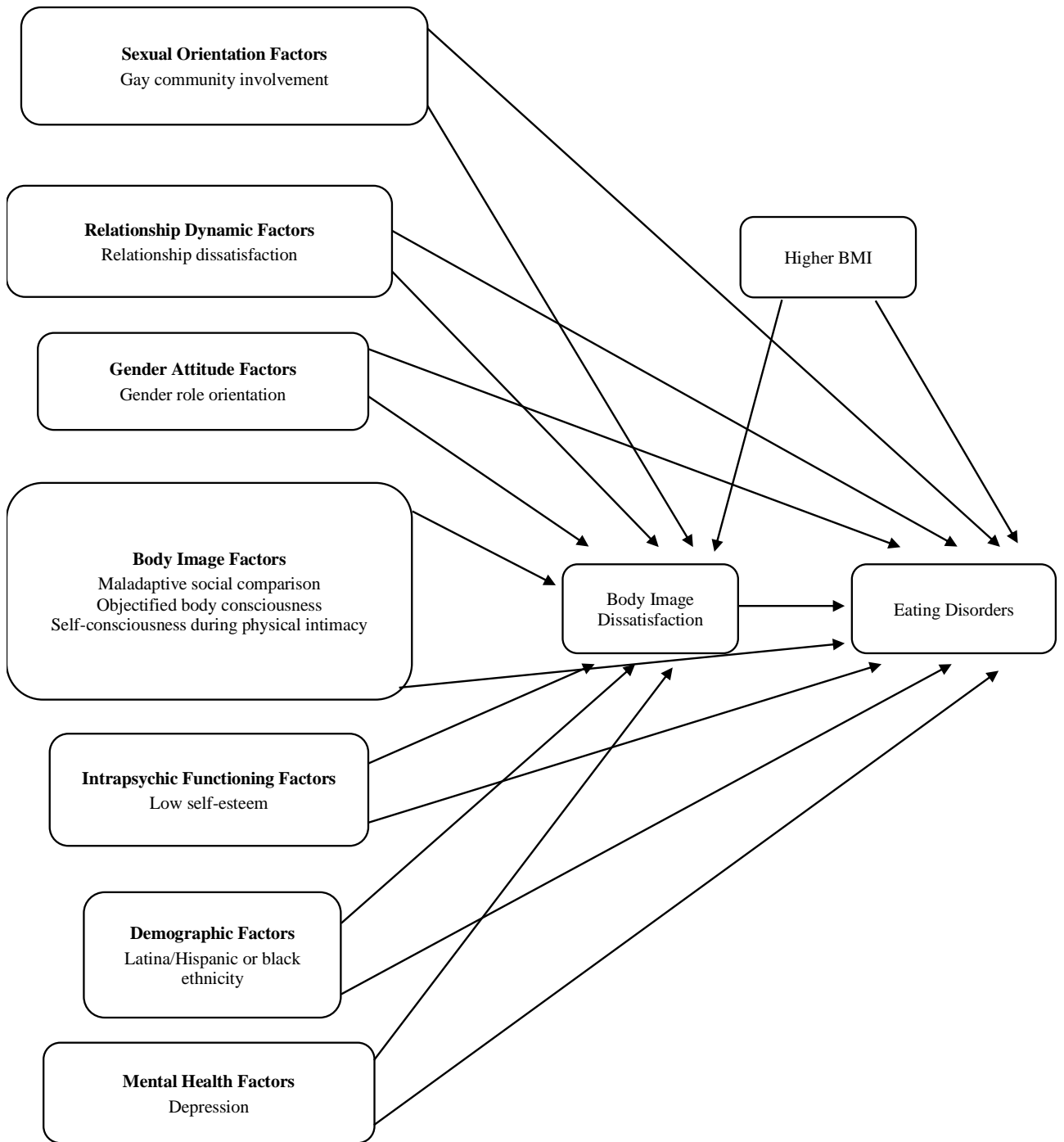


Figure 9. Model of factors that contribute to eating disorders in bisexual women.

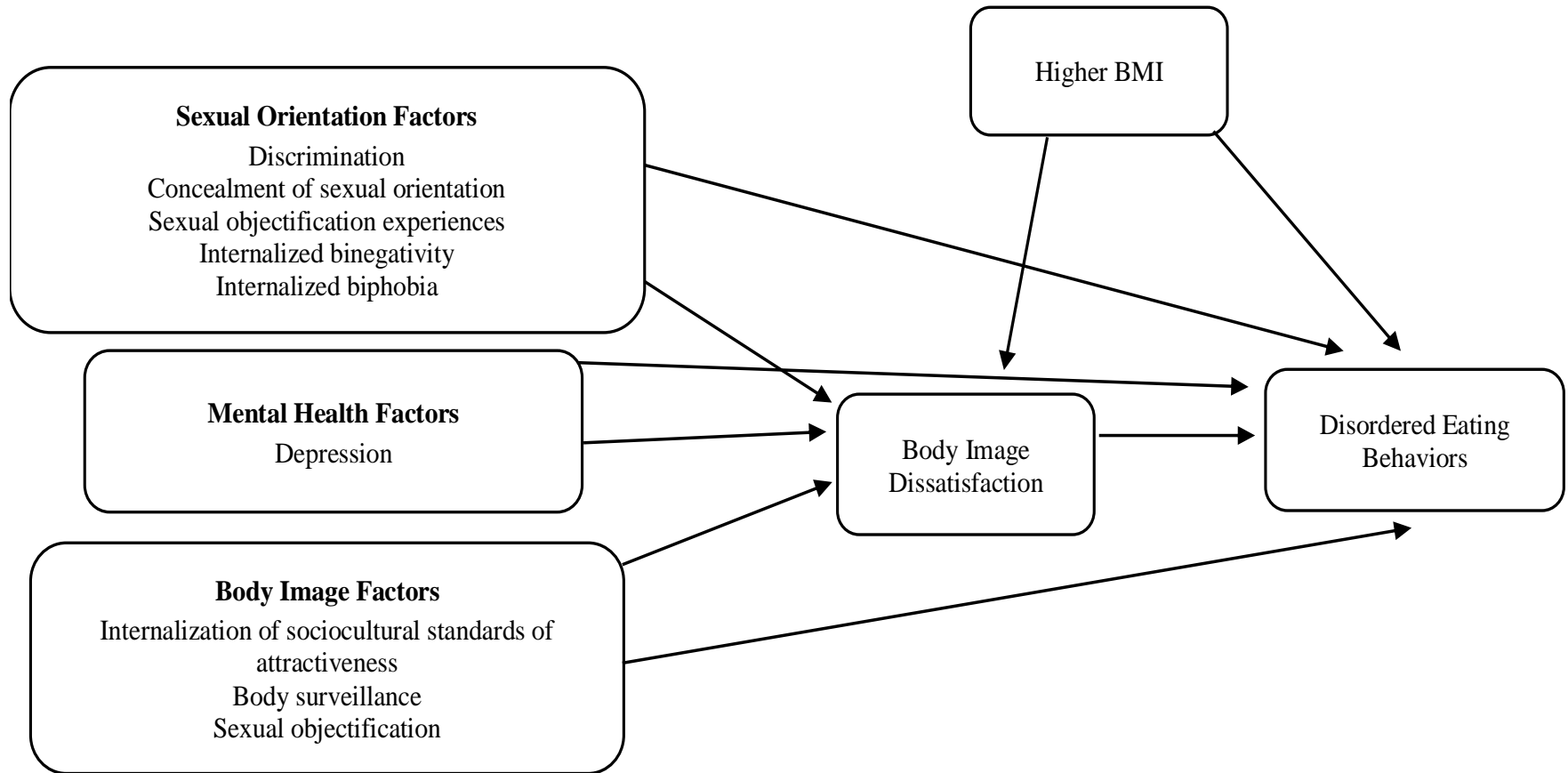


Figure 10. Model of factors that contribute to disordered eating behaviors in bisexual adults.

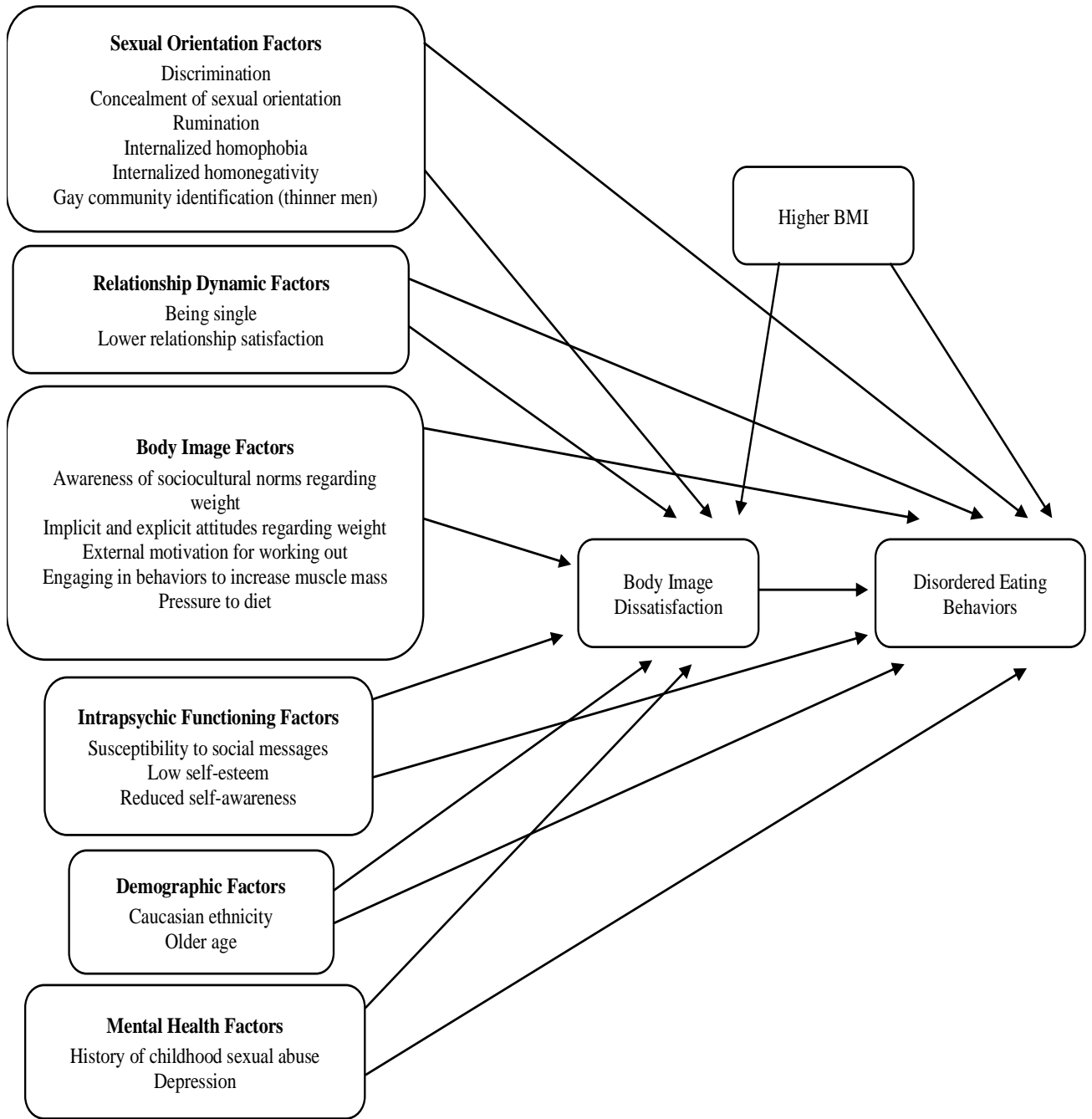


Figure 11. Model of factors that contribute to disordered eating behaviors in bisexual men.

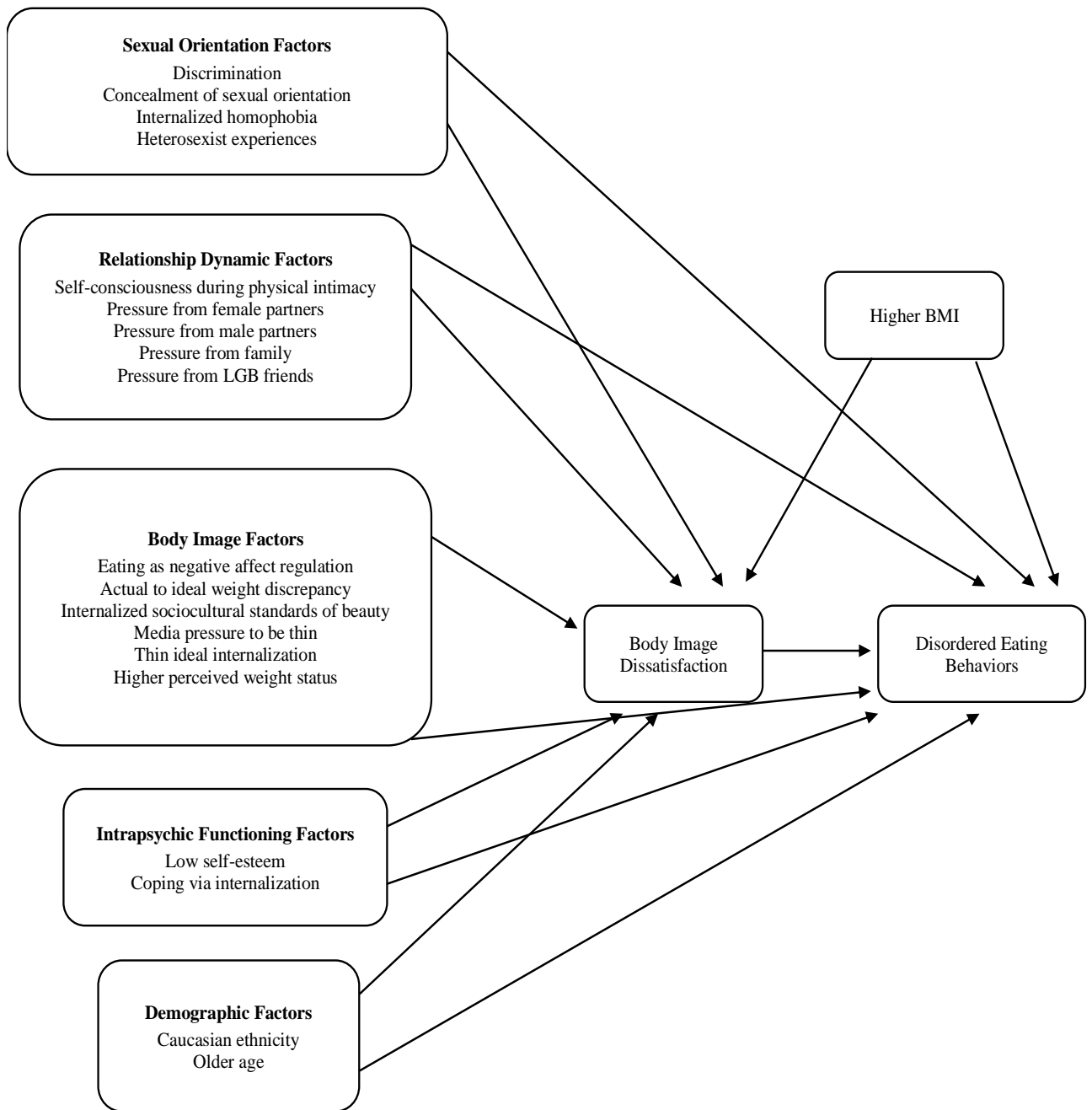


Figure 12. Model of factors that contribute to disordered eating behaviors in bisexual women.

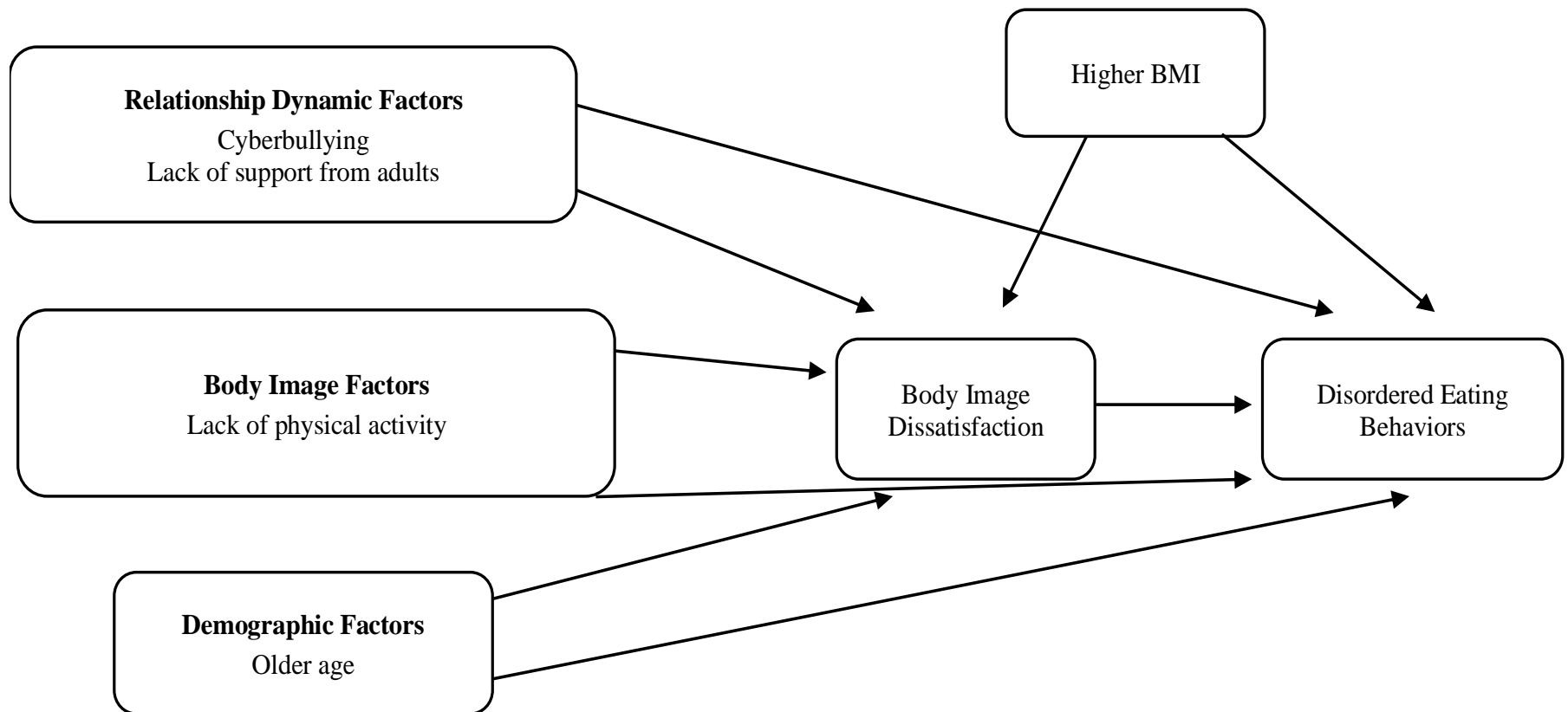


Figure 13. Model of factors that contribute to disordered eating behaviors in bisexual adolescent males.

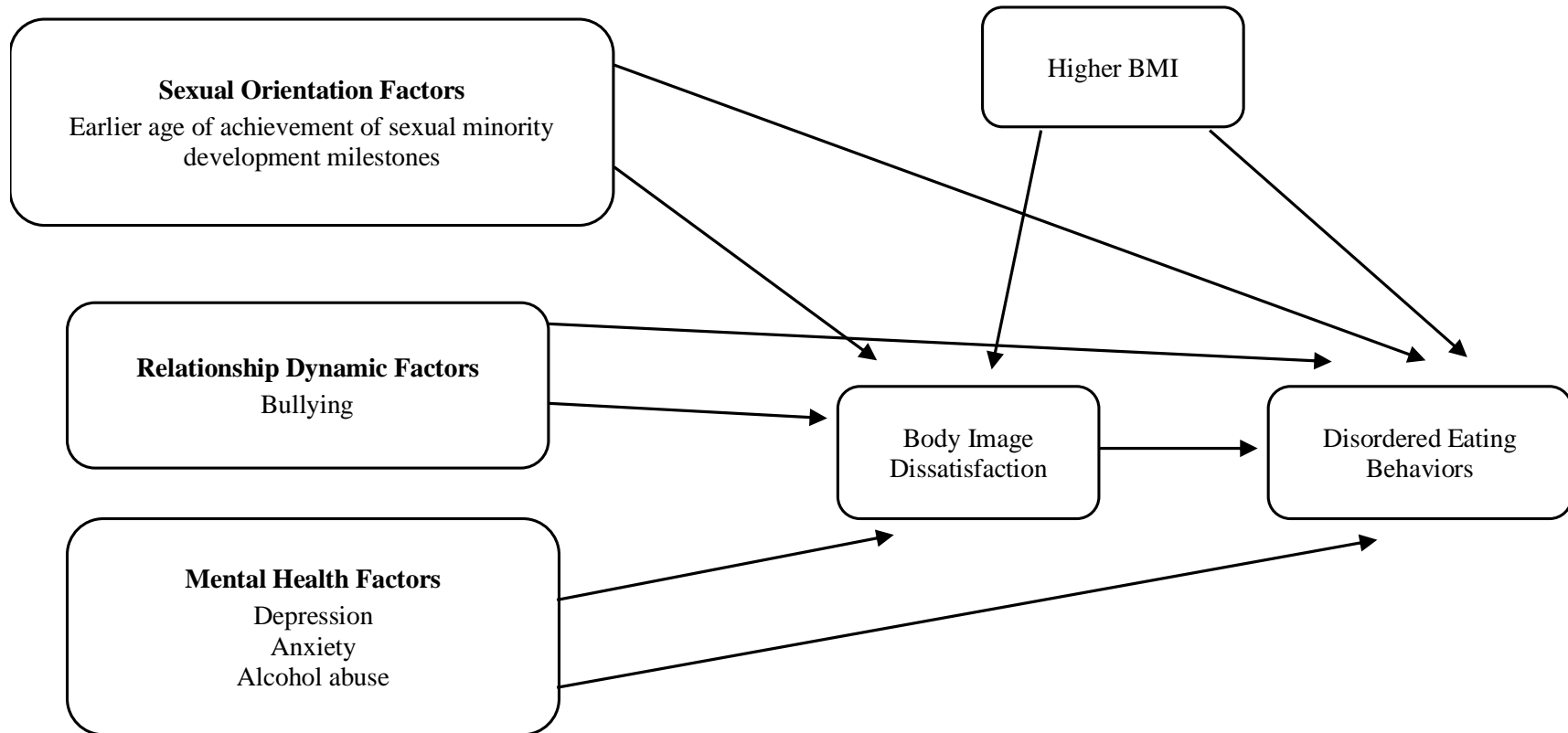


Figure 14. Model of factors that contribute to disordered eating behaviors in bisexual adolescent females.

Transgender and Gender Non-Conforming Adults and Adolescents

Frequencies and Types of Eating Disorders and Disordered Eating Behaviors

Research findings revealed that 30.2% of transgender and gender non-conforming adults reported either currently suffering or having been previously diagnosed with an eating disorder, and an additional 62.7% reported significant clinical risk factors in which they were likely to develop an eating disorder (Bell et al., 2019). Additionally, other investigators found that transgender adults experience eating disorders at a higher rate than their cisgender counterparts do (Diemer et al., 2015).

Research findings also have indicated that individuals who identify as transgender were more likely to engage in disordered eating behaviors than their cisgender counterparts. Transgender and gender non-conforming youth appear to be at particular risk for disordered eating behaviors (Donaldson et al., 2018). Researchers have presented findings that transgender adolescents and adults had higher incidences of fasting more than 24 hours, laxative usage, diet pill usage, steroid usage without prescription, bingeing, purging, and general disordered eating behaviors, with half to three-quarters of transgender individuals engaging in such behaviors (Algars et al., 2012; Feder et al., 2017; Gordon et al., 2016; Guss et al., 2017; Watson et al., 2017). Similarly, early research findings suggested that women who desired to have been born male were also more likely to report disordered eating behaviors (Silverstein & Carpman, 1990).

To date, two studies have presented contradictory evidence, with findings that disordered eating among transgender individuals were either comparable to that of their

cisgender counterparts (Khoosal et al., 2009), or were rarely experienced (Wiseman & Moradi, 2010).

Proximal and Distal Risk and Protective Factors

Body dissatisfaction appears to be a significant issue for transgender individuals. One study (McGuire et al., 2016) found that approximately 70% of their transgender participants (adolescents and young adults) experienced body dissatisfaction, well-documented as a proximal risk factor for eating disorders and disordered eating behaviors. The themes around body dissatisfaction included: (1) feeling disconnected from one's body as a result of the presence of secondary sex characteristics associated with their gender assigned at birth, rather than internal gender, for which participants coped with by distancing themselves from these characteristics (e.g., hiding them, refusing to acknowledge them), which the authors termed "gender dissociation;" (2) body size dissatisfaction, and (3) the interaction between the two former themes, in that participants believed that a change in their body size would subsequently change levels of masculinity and/or femininity in their appearance.

Conversely, some research has found that body dissatisfaction among transgender individuals were either comparable to that of their cisgender counterparts (Khoosal et al., 2009), or were rarely experienced (Wiseman & Moradi, 2010).

Further, several studies found that transgender adults were more likely to report believing themselves to be of a normal BMI with an actual BMI of overweight or obese, body dissatisfaction, and drive for thinness in comparison to their cisgender counterparts (Guss et al., 2017; McGuire et al., 2016; Witcomb et al., 2015). And, in one study, almost

70% of the transgender and gender non-conforming adult participants reported dissatisfaction in their eating patterns, and 67.2% reported basing their self-worth on their weight status (Bell et al., 2019). Moreover, transgender men appeared to be at a greater risk for having a higher BMI (Warren et al., 2016), which was associated with higher levels of disordered eating behaviors (Douglas & Varnado-Sullivan, 2016; Hagen et al., 2017).

In a qualitative study by McGuire et al. (2016), one participant (transgender woman) was quoted as saying, “Honestly, I hate what I see. I feel I am fat, my anatomy doesn’t fit with the way I feel, and a lot of times I have been tempted to cut if off. It makes me sick” (McGuire et al., 2016, p. 100). Additionally, another participant (transgender man) was quoted as saying, “I still struggle every day. I have a real insecurity where I worry that I’m fat and I don’t like having my chest at all. I look at myself every day in the mirror and worry about it” (McGuire et al., 2016, p. 100).

Gender dysphoria (i.e., extreme distress resulting from the incongruence between one’s internal gender and sex assigned at birth) also appears to be a risk factor for disordered eating behaviors in transgender and gender non-conforming youth. They were found to be likely to engage in disordered eating behaviors in order to attempt to manipulate their body shape and size, as to feel more aligned with their authentic gender, while suppressing the secondary sex characteristics associated with their sex assigned at birth, implying body dissatisfaction. These disordered eating behaviors were further exacerbated upon encountering barriers to gender confirmation treatment, such as lack of parental consent and lack of timely referral to treatment (Donaldson et al., 2018).

Indeed, the experience of gender dysphoria appears to be a significant motivation,

and thus a distal risk factor related to body dissatisfaction, for transgender individuals to develop eating disorders, as evidenced by various case studies. In a case study conducted by Turan et al. (2015), a transgender male suffered from anorexia nervosa for 20 years; he reported the purpose of suppressing his weight was to subsequently suppress his secondary sexual characteristics and his menstrual cycle, indicating that the presence of his eating disorder symptoms were to reject any potential feminine features. Additionally, he stated that if gaining weight would help him appear more masculine, he would do so. Once he started his transition (i.e., HRT and gender confirmation surgeries), his eating disorder symptoms were alleviated.

Similarly, in a case study conducted by Strandjord et al. (2015), a transgender adolescent male presented for treatment for anorexia nervosa, before he revealed he was experiencing gender dysphoria. Upon revelation of his gender dysphoria, he reported engaging in his eating disorder behaviors in order to appear less feminine, stating the purpose of his daily exercise was due to his “desire for a different body shape,” which was a “more toned and muscular appearance” (Strandjord et al., 2015, p. 943). Additionally, he stated, “I dislike my curves, my breasts, my hips, my face. I wish I had more defined muscles in my arms and a more angular face” (Strandjord et al., 2015, p. 943). It should be noted that although he remained weight-restored for approximately nine months post-transition (i.e., after a gender-confirmation surgery), his symptoms later appeared and he became underweight in the presence of increased stress, suggesting that disordered eating can become a maladaptive behavior in order to cope with anxiety, and that disordered eating tendencies should be replaced with more adaptive coping skills.

The pattern of using eating disorder symptomology and weight suppression as a

means of combatting gender dysphoria is also present among transgender women. In a case study conducted by Ewan et al. (2016), a transgender woman was hospitalized due to her eating disorder, which consisted of restrictive eating, purging, and weight-loss, resulting in a severely underweight BMI. Although she had been living as a female for approximately one year at the time of her hospitalization, she had not yet started HRT or undergone any gender confirmation surgeries. Similar to the case studies previously described, this woman also reported that her desire to lose weight, and thus her eating disorder symptoms, were due to her desire to appear more feminine and fear of appearing masculine. Additionally, she reported if gaining weight would help her to appear more feminine, she would be willing to do so, providing further evidence that gender dysphoria is the primary driver for eating disorder behaviors in many transgender individuals.

Research findings have identified more distal risk factors that make transgender individuals more vulnerable to eating disorders. Specifically, risk factors for transgender adults included not being on HRT, non-affirmation of their gender identity, anxiety, perfectionism, and low self-esteem (Jones et al., 2018; Khoosal et al., 2009; Testa et al., 2017). For transgender adolescents, risk factors included lack of timely gender dysphoria management, suicidal ideation, suicide attempt, and self-injurious behaviors (Donaldson et al., 2018; Watson et al., 2017).

Furthermore, additional research identified distal risk factors for disordered eating behaviors among transgender and gender non-conforming individuals. Risk factors for transgender adults included antitransgender discrimination, social distress, self-criticism, sexual objectification, internalization of sociocultural standards of attractiveness, and body surveillance (Brewster et al., 2019; McGuire et al., 2016). Risk factors for

transgender adolescents included harassment, discrimination, stigma, social distress, and self-criticism (McGuire et al., 2016; Watson et al., 2017). These risk factors predicted disordered eating directly, as well as indirectly via body dissatisfaction.

Additional research indicated more specific complex pathways linking proximal and distal risk factors to disordered eating behaviors among transgender and gender non-conforming adults. McGuire et al. (2016) found that self-criticism and social distress were associated with body dissatisfaction. Additionally, in accordance with the interpersonal theory of eating disorders, experiencing an unmet need to belong and perceived stigma were associated with less self-compassion, which then predicted likelihood of developing an eating disorder (Bell et al., 2019). Furthermore, for transgender women in particular, in accordance with the objectification theory, experiencing dehumanization led to greater internalization of sociocultural standards of attractiveness, which in turn was associated with greater body surveillance, body dissatisfaction, and disordered eating behaviors (Brewster et al., 2019).

Conversely, the following factors were found to be more protective against disordered eating behaviors in transgender individuals: medical interventions (i.e., HRT, gender confirmation surgeries), familial support, self-compassion, and social support (e.g., school system, friends; Algars et al., 2012; Bell et al., 2019; Jones et al., 2018; Testa et al., 2017; Watson et al., 2017). More specifically, it was found that undergoing gender-confirming medical interventions reduced experiences and feelings of not being affirmed, which then increased body satisfaction, in turn decreasing disordered eating behaviors (Testa et al., 2017). Similarly, self-acceptance and feeling accepted by others were found to be associated with body image satisfaction; this was especially true for

those further along in the transition process, suggesting that the reduction in feelings of gender dysphoria in turn increases body satisfaction (McGuire et al., 2016).

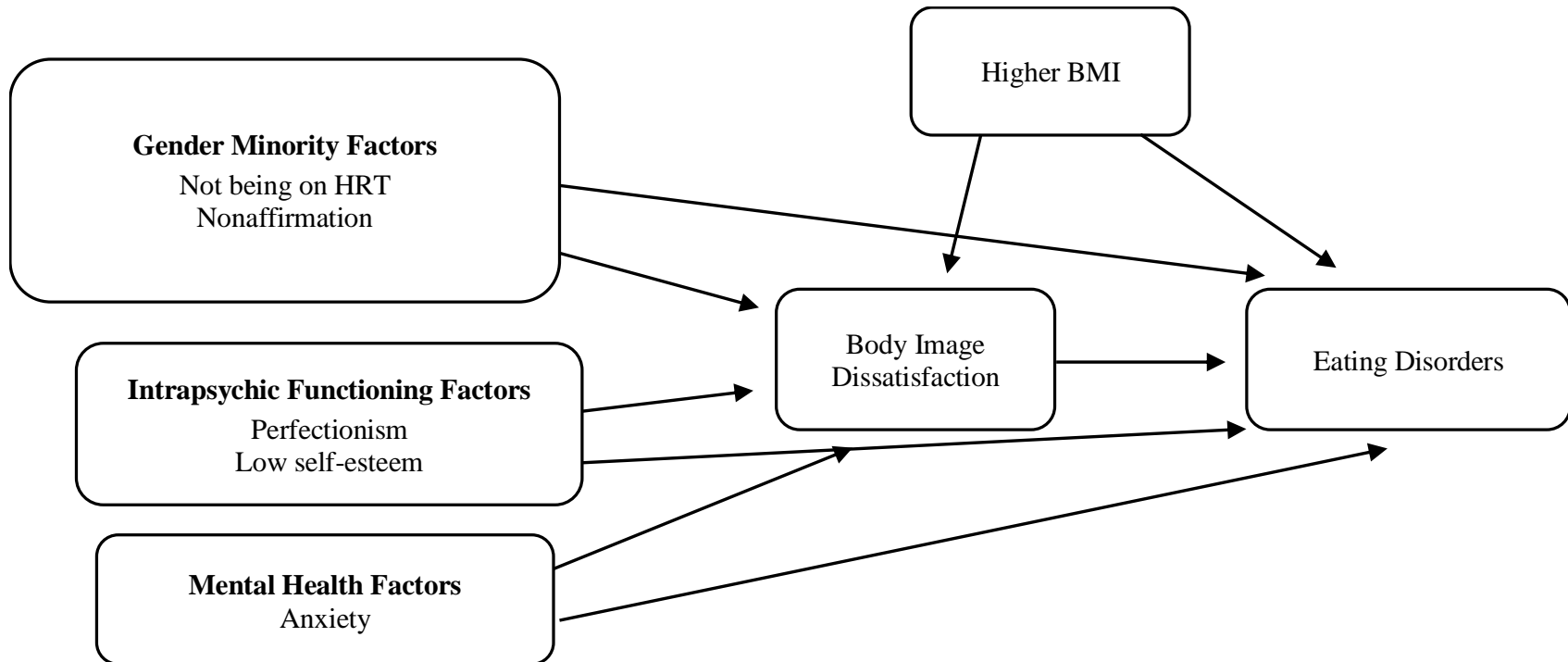


Figure 15. Model of factors that contribute to eating disorders in transgender adults.

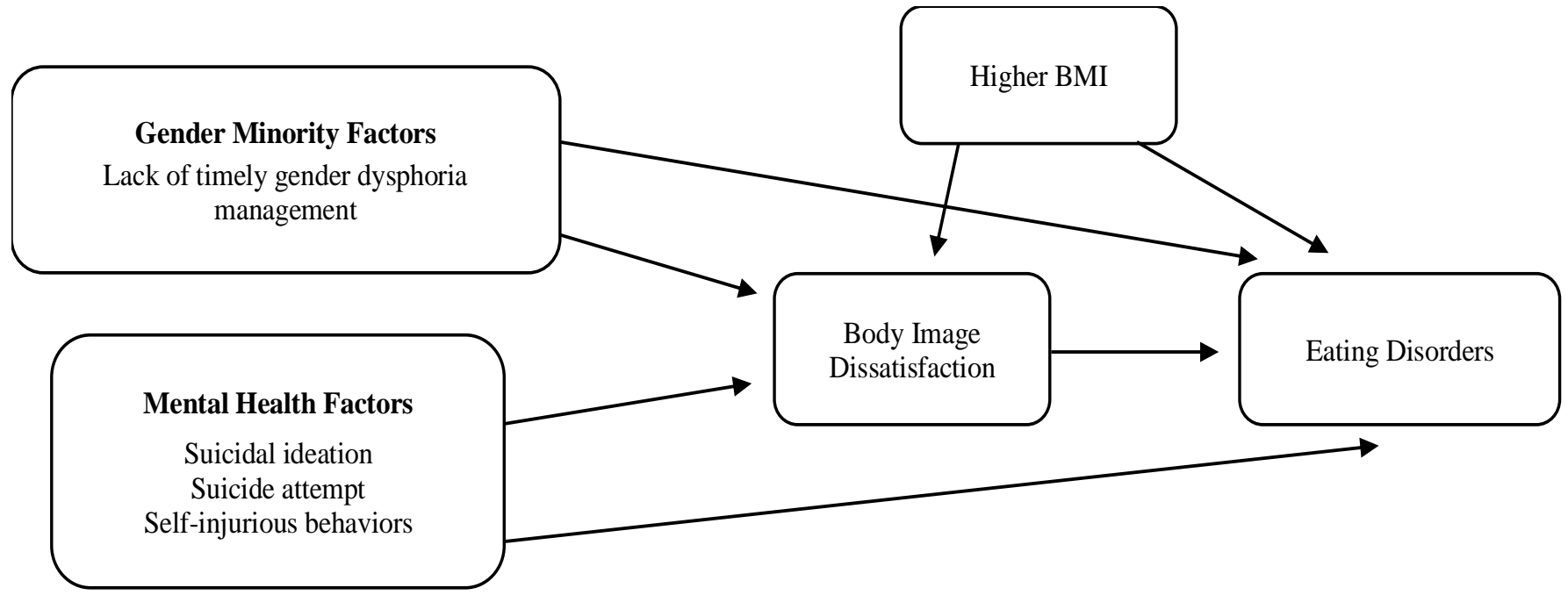


Figure 16. Model of factors that contribute to eating disorders in transgender adolescents.

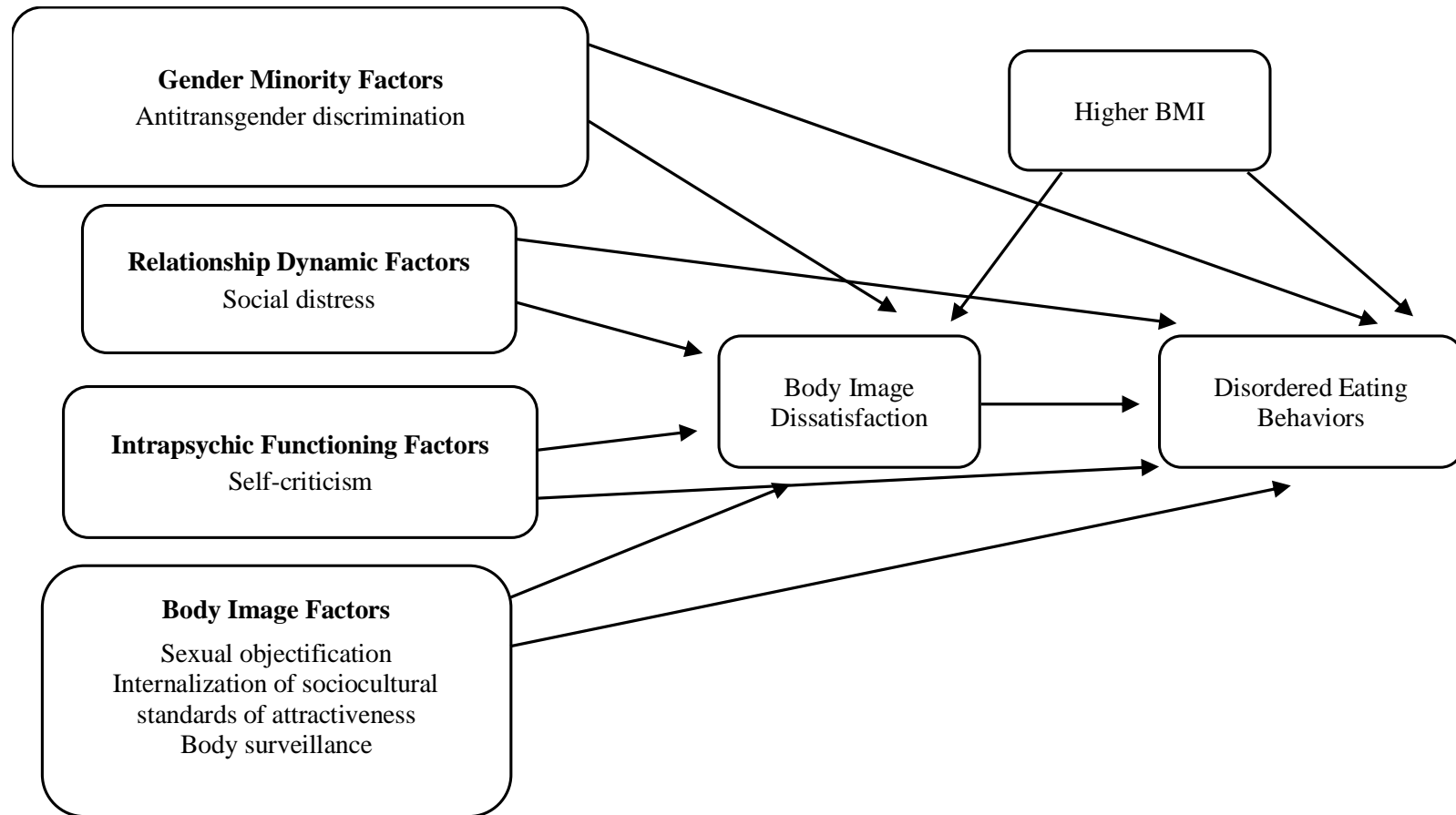


Figure 17. Model of factors that contribute to disordered eating behaviors in transgender adults.

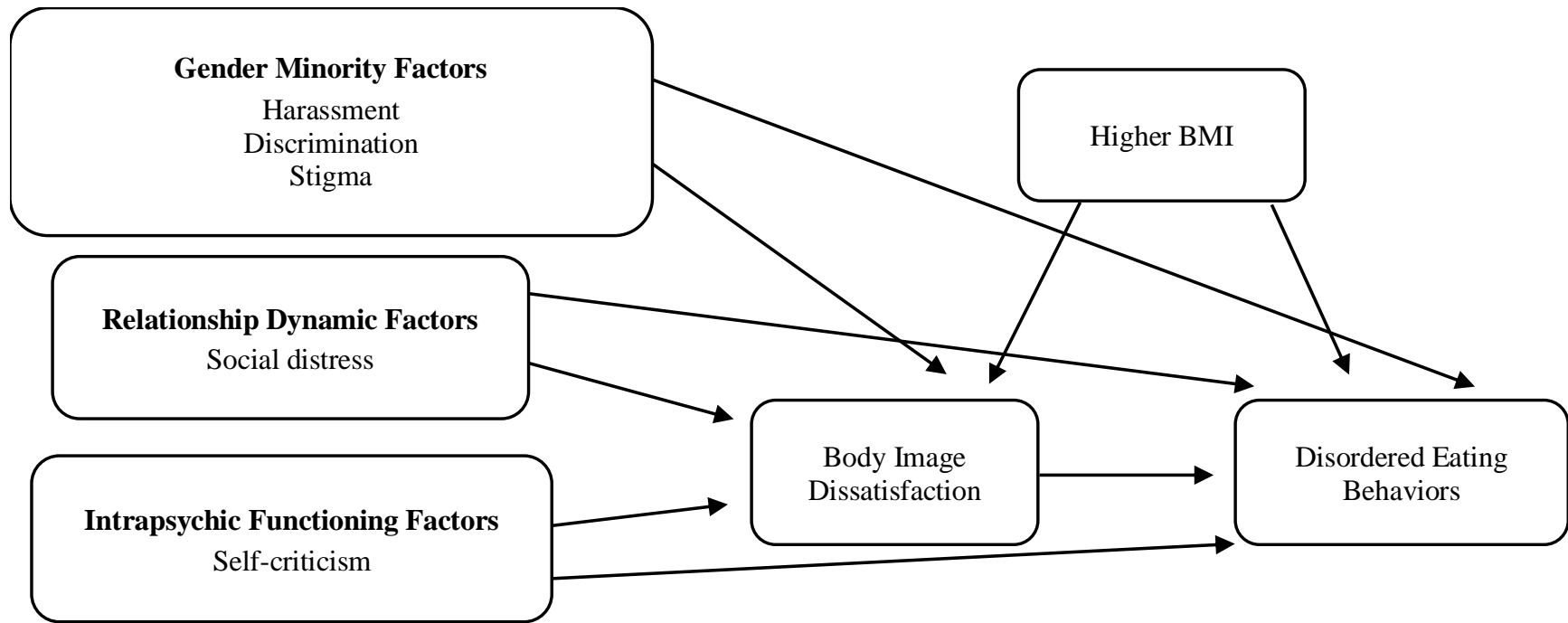


Figure 18. Model of factors that contribute to disordered eating behaviors in transgender adolescents.

CHAPTER FIVE

DISCUSSION AND CLINICAL RECOMMENDATIONS

In congruence with Meyer's sexual minority stress model (2003), and its expansion to include transgender individuals (Testa, 2012), the research findings reviewed here indicated that adolescents and adults in the LGBT population tended to be at greater risk for both subclinical disordered eating behaviors, as well as full-syndrome eating disorders. Although there is some variation within the trends of the results, especially for lesbian individuals, overall the findings suggested higher rates of both eating disorders and disordered eating behaviors in the LGBT adolescent and adult populations in comparison to their heterosexual and cisgender counterparts.

Examination of the risk factors that appear to contribute to higher frequencies of eating disorders and disordered eating behaviors among LGBT adolescent and adults revealed, seven overarching categories emerged: sexual orientation/gender minority factors, relationship dynamic factors, gender attitude factors, body image factors, intrapsychic functioning factors, demographic factors, and mental health factors. Models for these factors and their contributions to eating disorders and disordered eating behaviors are outlined for each specific LGBT subgroup in Figures 1 through 18.

Research Implications

As previously discussed, findings regarding the rates of eating disorders and disordered eating behaviors among lesbian adults and adolescents are varied and inconclusive. One possible explanation for this inconsistency could potentially be due to the social climate regarding sexual minorities at the time that the research was conducted.

Indeed, the earlier publication date of some of these studies suggest that the data was gathered when people were less open about their sexual orientation, perhaps limiting the samples of self-identified lesbian adults and adolescents. With growing wider acceptance of sexual minorities in the general public over time, it is likely that more recent studies were able to obtain a larger and more varied sample of lesbian participants. With less social stigma and greater variance in the samples of participants, more recent research may have captured the presence of protective factors not operating within earlier samples (e.g., stronger LGBT community affiliation, the presence of different “types” of lesbians [i.e., “femme” or “butch”]). Future researchers should analyze such differences among samples obtained in the lesbian adult and adolescent subpopulations in past studies that may account for the varied findings in rates of eating disorders and disordered eating behaviors.

Further, the risk factor of race and ethnicity needs to be addressed. Although research indicated being of White/Caucasian ethnicity was a risk factor for disordered eating behaviors among the LGBT subgroups, it should also be recognized that historically, there has been a racial disparity in access to mental health care, with racial minorities being less likely to seek treatment for mental health. Therefore, future research should assess if racial identity is truly a risk factor, or if the difference in rates of disordered eating behaviors is due to lack of access to the necessary mental health care.

Additionally, it should be noted that more research is needed in the following areas: rates of eating disorders and disordered eating behaviors in lesbian adolescents and adults, meta-analyses of participants and methods used in previous studies about the rates of eating disorders and disordered eating behaviors in lesbian adolescents and adults, risk

factors for eating disorders in lesbian adolescents, risk factors for eating disorders in gay adolescents, and risk factors for eating disorders in bisexual male and female adolescents.

Finally, it is essential that future research clearly define each proximal or distal risk factor variable. For example, body dissatisfaction among gay men and adolescents is different from body dissatisfaction among other groups in that it includes both dissatisfaction with size (i.e., the thin ideal) and shape (i.e., the muscular ideal). Similarly, body dissatisfaction among transgender adults and adolescents includes not only the standard dissatisfaction with size, but also dissatisfaction with the presence of secondary sex characteristics associated with their sex assigned at birth, with the overlapping factor of gender dysphoria.

Clinical Relevance

Due to the research findings indicating that adolescents and adults in the LGBT population tended to be at greater risk for both subclinical disordered eating behaviors, as well as full-syndrome eating disorders, it is of the utmost importance that clinicians working with individuals from this population thoroughly assess for disordered eating behaviors, in addition to any proximal and/or distal risk factors present for eating disorders and disordered eating behaviors. This is especially important given that this population is more likely to experience other significant stressors, making it less likely for these individuals to endorse disordered eating as their presenting problem in treatment settings.

Given the high likelihood of experiencing stigma, it is crucial that clinicians are educated on how to respectfully interact with the LGBT population, as not doing so can

further alienate LGBT individuals and be detrimental to treatment. Indeed, one study identified that transgender individuals in eating disorder treatment frequently reported deficits in their clinician's gender competence, leading them to believe receiving treatment for their eating disorder was ineffective and harmful (Duffy et al., 2016). Similarly, another study identified specific improvements clinicians can implement when working with transgender individuals diagnosed with eating disorders, including using patients' preferred gender pronouns, receiving training in cultural and clinical competency in transgender health, and facilitating access to gender-affirming interventions (Bowman, 2018).

Other studies have identified specific components to include in eating disorder treatment for the LGBT population, including nutritional counseling, media literacy, body image cognitive dissonance, avoiding negative body talk, and body activism, while attending to the particular vulnerabilities of the LGBT population (e.g., sexual and gender minority stress due to greater discrimination and stigma), and while affirming their sexual orientation and/or gender minority status (Brown & Keel, 2015; Feldman et al., 2011).

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