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Food addiction among sexual minorities

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ABSTRACT

Although sexual minorities represent a small proportion of the general population, this group has been observed to be at an increased risk of developing various pathologies, including substance use and eating disorders. Research suggests that foods high in added fat and refined carbohydrates may trigger an addictive response, especially in at-risk individuals. Consequently, food addiction is associated with elevated risk for obesity, diet-related disease, and psychological distress. However, there is limited research on whether food addiction, like substance use, may be elevated among sexual minorities, and whether self-compassion may be a protective factor. Thus, the current study aims to test whether food addiction is elevated in sexual minorities (relative to heterosexuals) and if discrimination and self-compassion may be related to food addiction among sexual minorities. In a community sample of 356 participants (43.3% sexual minority), sexual minorities had almost twice the prevalence of food addiction (16.9%) as heterosexuals (8.9%). Also, sexual minorities on average experienced more food addiction symptoms ($M = 2.73$, $SD = 1.76$) than heterosexuals ($M = 1.95$, $SD = 1.59$). For sexual minorities, heterosexist harassment was associated with increased food addiction, while self-compassion appeared to be a protective factor. Further research needs to examine between-group differences among sexual minorities for better treatment and interventions for food addiction.

1. Introduction

Even though individuals that identify as sexual minorities represent a relatively small percentage of the general population (estimated prevalence gay 1%, lesbian 2.3%, bisexual 0.7–2.9%) (Carpenter, 2013), these groups compose a significant proportion of individuals who have mental and physical health conditions, including depression (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; Bruce, Harper, & Bauermeister, 2015; Smith, Armelie, Boarts, Brazil, & Delahanty, 2016), eating disorders and problematic eating (Andersen, 1999; Austin et al., 2009; Carlat, Camargo, & Herzog, 1997; Harvey & Robinson, 2003; Russell & Keel, 2002), and weight problems. (Austin, Nelson, Birkett, Calzo, & Everett, 2013; Brand, Rothblum, & Solomon, 1992; Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ell, 2013; Guadamuz et al., 2012; Mason & Lewis, 2014). One particular area of concern is the increased prevalence of substance use disorders among sexual minorities (Weber, 2008). According to the Center for Substance Abuse Treatment [CSAT], lesbian, gay, and bisexual individuals are more likely to use alcohol and other drugs and are at a greater risk of heavily using drugs into later adulthood (CSAT, 2001). Likewise, lesbian, gay, bisexual, and transgender (LGBT) youth and adults report more use of alcohol, tobacco, and other drugs than their heterosexual counterparts; and LGBT youth begin using drugs at younger ages than their heterosexual counterparts (Institute of Medicine, 2011, pp. 159–161).

The scientific understanding of addiction is changing. Substances that have the potential to induce addictive-like effects were once only believed to include items such as alcohol, tobacco, and other such drugs. However, there is increasing scientific interest in whether certain types of foods (e.g., high in added fat and refined carbohydrates) may be capable of triggering an addictive response for some individuals (Fortuna, 2012; Gearhardt & Brownell, 2013; Gearhardt, Grilo, DiLeone, & Potenza, 2011). Consistent with this hypothesis, substance addiction and problematic eating have related biological, psychological, and behavioral factors. For example, elevated craving, increased impulsivity, and heightened emotion dysregulation are associated with both overeating and excessive substance use (Gold, Frost-Pineda, & Jacobs, 2003). Biologically, the mesolimbic dopaminergic system plays a key role in both food intake and substance use, and dysfunction in this system contributes to overeating and substance use disorders (Volkow,

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Wang, Tomasi, & Baler, 2013).

The Yale Food Addiction Scale (YFAS; Gearhardt, Corbin, & Brownell, 2009; Gearhardt, Corbin, & Brownell, 2016) was developed to operationalize food addiction. The YFAS is a psychometrically valid measure that applies the diagnostic criteria for substance use disorders to the consumption of highly rewarding foods (e.g., chocolate, ice cream, pizza). Elevated scores on the YFAS are associated with higher rates of obesity, greater prevalence of dietary disease, increased episodes of binge eating, more intense food cravings, and greater inhibitory difficulties, as well as patterns of neural response and genetic alleles associated with substance use disorders (Meule & Kübler, 2012; Meule, de Zwaan, & Müller, 2017; Meule & Gearhardt, 2014; Davis et al., 2013).

The occurrence of food addiction ranges from 5.4% in a healthy community sample to 56.8% in a clinical sample of patients with obesity and binge eating disorder (Pursey, Stanwell, Gearhardt, Collins, & Burrows, 2014). Given the elevated risk for substance use disorders in sexual minorities (Weber, 2008), it is important to evaluate whether food addiction symptoms are also elevated for this group. However, the literature on the prevalence of food addiction among sexual minorities is scarce. One study that included 24 gay and bisexual male veterans found that these individuals had more food addiction symptoms than their heterosexual counterparts (Bankoff, Richards, Bartlett, Wolf, & Mitchell, 2016). Although this was observed, future research is needed, especially in community samples that contain both females and males, to further understand the association of food addiction and sexual orientation.

The elevated risk for addiction and substance use among sexual minorities is potentially related to experienced homophobia (Anderson & Henderson, 1985; Cabaj, 2000). For example, experiencing heterosexist harassment, rejection, and discrimination are significantly correlated with other measures examining psychological pathology, such as depression, anxiety, and overall psychological distress (Szymanski, 2006, 2009). Heterosexist harassment can be defined as various behaviors that include, but are not limited to, verbal insults, physical and sexual assault, and threats against those perceived to be sexual minorities (Herek, 1990). As a result of discrimination being correlated with significant mental health problems among sexual minorities, sexual minorities may be at a heightened risk of using addictive substances as a way to cope with various mental health consequences (Kelly, Davis, & Schlesinger, 2015; McCabe, Bostwick, Hughes, West, & Boyd, 2010; Cabaj, 2000; Weber, 2008). While sexual minorities are at an increased risk of using addictive substances, to our knowledge there are currently no studies that examine the relationship between experienced homophobia and food addiction among a community sample.

Although sexual minorities have been observed to be at heightened risks for experiencing substance use, self-compassion might be protective against the development of addictive disorders. Self-compassion may be defined as being kind to oneself and knowing that failures are an unavoidable experience among humanity (Brooks, Kay-Lambkin, Bowman, & Childs, 2012). It has been observed that individuals in the general public with high self-compassion have less extreme reactions, less negative emotions, less mental health issues, and more accepting thoughts (Leary, Tate, Adams, Allen, & Hancock, 2007; Miron, Orcutt, Hannan, & Thompson, 2014; Neff, 2003a; Neff, Kirkpatrick, & Rude, 2007). Self-compassion has been found to reduce the risk of alcohol and drug use disorders in the general population (Brooks et al., 2012; Neff, 2003a, 2003b; Rendon, 2007). Despite the potential protective effects of self-compassion (Greene & Britton, 2015; Jennings & Tan, 2014), no prior research to our knowledge has investigated the influence between self-compassion and addiction in general (nor food addiction) among sexual minorities.

In the current study, we aim to address these gaps in the literature regarding the presence of food addiction in sexual minorities. Therefore, the current study investigates the prevalence of addictive-like eating in sexual minorities relative to heterosexuals in a community sample, as well as which factors (i.e., experienced discrimination, self-compassion) may be associated with an increased prevalence of addictive-like eating in sexual minorities. First, we hypothesize that, similar to other addictions and eating-related problems, food addiction will be higher for sexual minority participants than for their heterosexual counterparts. If sexual minorities exhibit higher rates of food addiction, this may highlight the importance of prevention and treatment efforts for this community. Second, we hypothesize that for sexual minorities, those with more experiences of discrimination will have more addictive-like eating. However, we predict that higher levels of self-compassion will be associated with fewer symptoms of food addiction, which may highlight the development of self-compassion as a potentially important intervention target.

2. Method

2.1. Procedure

This study was approved by the University of Michigan Health and Behavioral Sciences Institutional Review Board, and informed consent was gathered from participants before beginning the survey using Amazon Mechanical Turk (MTurk). MTurk has been shown to be comparable to traditional convenience samples (Paolacci & Chandler, 2014). To take the survey participants were required to live within the United States, be 18 years of age or older, and provide consent. Participants were compensated $.25, similar to other MTurk studies of this involvement (Paolacci & Chandler, 2014). "Catch questions" were used to ensure that participants were actually reading the questions instead of just selecting random answers (e.g., "What does 2 + 2 equal?").

Data for this study was gathered in two separate recruitment periods ($n = 231$ and 166 for the respective collection periods), due to the first sample of participants being 91.5% heterosexual and only 4.5% bisexual and 4.0% either gay or lesbian. For the second round of data collection, participants were prescreened ($n = 1918$) in order to only include sexual minorities. Of those prescreened, 166 reported being a sexual minority and were included in the sample. This second round of data collection included additional scales to examine sexual minorities' experiences with harassment, rejection, discrimination, and self-compassion.

2.2. Participants

Of the participants recruited during the first round of data collection ($n = 231$), individuals were excluded for answering any of the "catch questions" incorrectly ($n = 10$). Of the participants recruited during the second round of data collection ($n = 166$), individuals were excluded because they had weight outlier data (i.e., BMI less than 15.0) ($n = 4$), had missing data ($n = 9$), declined to consent ($n = 1$), answered a "catch question" incorrectly ($n = 1$) reported that they were older than 1000 years old ($n = 3$), and as previously mentioned described their sexuality as "something else" other than gay, lesbian, and bisexual ($n = 12$) or reported that they "do not know" their sexuality ($n = 1$). This resulted in a total of 356 participants from both rounds of data collection (Aim 1), with 135 sexual minority participants from the second round of data collection (which also included assessments of heterosexist harassment, rejection, discrimination, and self-compassion (Aim 2)).