ABSTRACT

Title of Thesis: Evaluating the Perceptions of Disordered Eating in Men and Its Impacts on Health-Seeking Behaviors

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Disordered eating (DE) is a term that captures all maladaptive attitudes and behaviors around food consumption, often as a result of poor body image. The continuation of DE can progress into an eating disorder (ED), which results in inadequate nutrition. Individuals with ED are also at a higher deposition for developing psychiatric and medical comorbidities. Current research on DE and ED has historically centered on skinny, White, affluent girls (SWAG), inherently excluding marginalized identities from the majority of existing literature. Furthermore, there exists a severe gap in knowledge regarding ED and DE in boys and men. Factors that contribute to this gap include the underdiagnosis of ED, stigma towards masculine identities, barriers to care, and health literacy. The purpose of this study was to establish the relationship between the negative perceptions associated with DE and ED and its impact on the prevalence of DE

symptoms and ability to engage in health-seeking behaviors among young men and those with marginalized identities. Data on DE, stigma, access to health care services, and general help-seeking was collected from a sample of college-aged undergraduate students at the University of Maryland, College Park ($N = 257$). Participants assigned male at birth (AMAB) were roughly twice as likely than participants assigned female at birth (AFAB) to be seen as weak for having a mental health problem (OR = 1.996, 95% CI = 1.10-3.62, p = .023). Findings indicate a cultural adherence to hegemonic ideals of masculinity which is a major aspect contributing to the stigma surrounding ED/DE in males. With the focus of this study being on a campus community, destigmatization efforts in male spaces and educational wellness resources that target at-risk individuals should be implemented. Future studies may examine the benefits and efficacy of such intervention and educational programs.

EVALUATING THE PERCEPTIONS OF DISORDERED EATING IN MEN AND ITS IMPACTS ON HEALTH-SEEKING BEHAVIORS

by

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Chapter 1: Introduction

Eating Disorders and Disordered Eating

An eating disorder (ED) is a psychiatric illness marked by severe disturbances to one's eating and/or weight-control behaviors, as well as their related thoughts and emotions (Treasure et al., 2020; *Eating Disorders: About More Than Food*, n.d.). EDs are diagnosed using the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5), which outlines six EDs. Three of these EDs–avoidant-restrictive food intake disorder (ARFID), pica, and rumination disorder–are common childhood disorders characterized by abnormal feeding behaviors as opposed to weight-control behaviors (Treasure et al., 2020). The other three DSM-5 recognized EDs–anorexia nervosa, bulimia nervosa, and binge eating disorder–similarly involve abnormal feeding behaviors but are also commonly paired with a mental engrossment of food, body weight, shape, and physical perception, both from oneself and others (*Eating Disorders*, n.d.).

The specific abnormal eating and/or weight-control behaviors exhibited by those with EDs are often described as disordered eating (DE) behaviors, which can exist independently of EDs as well. That is, an individual can experience DE without having an ED (Sarra & Abar, 2022). This is why DE is sometimes referred to as a subclinical spectrum of EDs–it is a set of maladaptive eating and related weight-control behaviors that can be exhibited without reaching the threshold for classification and diagnosis as an ED by the DSM-5 (Gusfa et al., 2022). More individuals than those diagnosed with an ED will exhibit subthreshold symptoms of the different EDs. Because these individuals do not meet the requirements for diagnosis, many instances of DE remain underdiagnosed and under-treated (Sonneville & Lipson, 2018). While existing at an undiagnosable threshold, DE behaviors on their own are still dangerous and can create and

influence a wide variety of health complications. DE behaviors such as restricting food intake, abuse of weight-loss pills and/or laxatives, extreme dieting, subthreshold levels of binging and purging, and excessive exercise are not only potential precursors to diagnosable EDs but are also incredibly harmful to the physical and mental health of the individual exhibiting these behaviors (Schaefer & Thompson, 2018; Zhan et al., 2022).

Eating Disorder Stereotypes

Historically and stereotypically, EDs have been attributed to "skinny, White, affluent girls," which is often referred to as SWAG. This stereotype is persistent, despite different studies and epidemiological data demonstrating a great diversity in individuals with EDs based on weight, sex, socioeconomic background, and race/ethnicity (Sonneville & Lipson, 2018). Although this diversity has been demonstrated, the SWAG stereotype persists even further considering that the vast majority of research conducted on EDs and developed ED assessments, screenings, and diagnostic tools have been specifically conducted on and developed from White women alone (Douglas, et al., 2019; Rodgers et al., 2018). Furthermore, research and clinical studies that include only White women can contribute to inequities in populations seeking out treatment, further perpetuating and strengthening the false notion that only White women can develop ED (Sonneville & Lipson, 2018).

With both social beliefs and academic literature reinforcing cultural stereotypes that EDs are a disease that only White women suffer from, it becomes clearer as to why marginalized individuals, such as men, are vastly under-researched and undertreated when it comes to EDs. Clinicians may also lack the proper ability to identify symptoms because of preconceived notions, or if they do, they still may be less likely to screen racial, ethnic and sexual minority individuals. Research on cultural-specific clinical presentations, barriers, and facilitators to

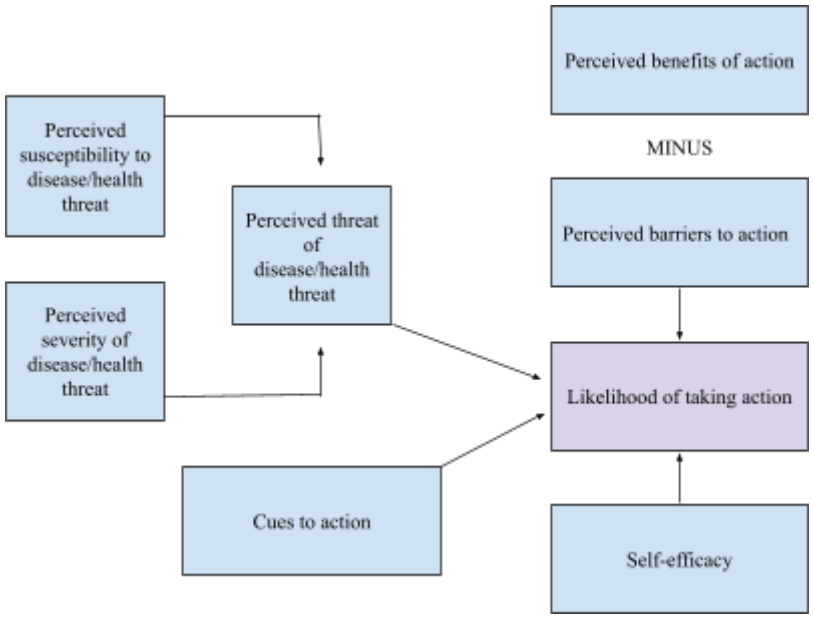
treatment-seeking as well as effective interventions for diverse groups have only recently started to be done (Rodgers et al., 2018).

Health Belief Model

The Health Belief Model (HBM) is a theoretical framework in behavioral science that asserts that individuals will engage in healthy behaviors if (1) they value the outcome related to the behavior and (2) believe the behavior is likely to result in that outcome (Daniati et al., 2021).

Figure 1

The Health Belief Model



Note. Figure 1 has been adapted from Daniati et al (2021).

The HBM asserts seven factors influence the likelihood of an individual to engage in health-seeking behaviors. Within the context of the current study, these factors include:

1. Perceived susceptibility to disease: beliefs individuals hold about their likelihood of developing ED or DE patterns.

2. Perceived severity of disease: beliefs individuals hold about the seriousness of the ED/DE symptoms they are exhibiting and the health consequences of such behaviors.
3. Perceived threat of disease: an individual's assessment of their susceptibility to ED/DE and the severity of ED/DE (susceptibility + severity = threat)
4. Perceived benefits of action: individual beliefs about the benefits of taking action to reduce their risk of developing an ED, or to reduce their engagement in DE behaviors.
5. Perceived barriers to action: individual beliefs about the psychological and tangible costs of taking action to reduce the risk of developing an ED or engagement in DE behaviors.
6. Cues to action: internal or external influences to act to reduce individual risk of developing ED or DE behaviors.
7. Self-efficacy: one's confidence in their ability to take action to reduce their risk of developing an ED or engagement in DE behaviors.

The likelihood of individuals (regardless of sex assigned at birth (SAB)) seeking social support for eating disorders is dependent on their perceived susceptibility to ED, perceived severity of the ED, perceived benefit of health-seeking behaviors, and perceived barriers to these health-seeking behaviors (Akey et al., 2013). Simply put, if individuals do not believe (1) they are at risk of developing an ED, (2) any ED symptoms they are exhibiting are not severe, (3) there is little to no benefit in seeking help for their ED symptoms, and/or (4) there are too many obstacles preventing them from seeking help, it is less likely that they will engage in health-seeking behaviors.

There are limited studies applying the HBM to diverse populations with ED or DE symptoms, so it is unclear how individual perceptions may vary based on their intersecting identities. Due to pervasive stereotypes about who can have EDs and what DE looks like (i.e.,

the SWAG myth), men, POC, and their clinicians may believe they are less susceptible to developing EDs. Thus, these groups may also perceive EDs/DE as a minor threat to their well-being. One's assessment of the threat ED/DE poses to them will directly impact whether they believe health-seeking behaviors will be beneficial. Because men and POC may believe ED/DE poses minimal to no threat to them, they may see less value in taking action. Cultural contexts and stigma, clinician biases, and "the use of Eurocentric symptom assessments" can further discourage Black, Indigenous, Latino, and other people of color (BIPOC) from seeking help and diminish the perceived benefits of doing so (Gordon et al., 2023). For example, current studies tend to emphasize thin idealization as a primary indicator of ED/DE susceptibility. However, such criteria may not be relevant for all groups. African Americans, for instance, tend to indicate lower rates of idealizing thinness despite being just as likely to develop an ED compared to other racial/ethnic groups (Cheng et al., 2018). This directly contributes to both a lack of perceived need for treatment and clinical underdiagnoses (Sonneville & Lipson, 2018). Likewise, the belief that men and POC are less susceptible to EDs may lead to these individuals downplaying the severity of their DE behaviors/ED symptoms when they arise. Alongside stigma and the additional challenges that come along with intersecting identities (e.g., structural and systematic racism, homophobia, sexism), the social contexts in which people live can produce additional perceived barriers to action. A common example is financial constraints limiting access to mental health care, which is especially relevant to POCs and LGBTQIA+ populations who on average have higher rates of poverty (Wilson et al., 2023; Ross & Dorazio, 2022). All of these factors coupled with diminished cues to action can negatively impact one's self-efficacy (i.e., one's confidence in their ability to seek help for ED/DE).

In this current study, the HBM is applied to determine intervention solutions for addressing ED/DE prevalence on the University of Maryland, College Park campus. We aim to identify common factors associated with DE behaviors and perceived barriers to action in a diverse subset of college-aged students. This data will inform university-based interventions aimed at shifting student perception of their susceptibility to disease, the threat of disease, and self-efficacy around ED and DE behaviors.

Chapter 2: Literature Review

Demographic Factors

Studies have shown that various demographic factors are related to the risk of developing and dealing with the effects of EDs. In 2017, O'Brien et al. were able to determine that being non-Hispanic White, having a higher childhood socioeconomic status (SES), higher education, younger birth cohort were all clear, identifiable risk factors that increased the likelihood of developing an ED.

Age

Adolescence is the most pivotal developmental period of the onset of ED symptoms. Studies have shown that the largest increase in these symptoms occurs between the ages of 12 and 15, in both girls and boys (Breton et al., 2022). Among this key demographic population, it is reported that approximately 30% of adolescent girls and 15% of adolescent boys present subclinical symptoms of EDs (Zeiler et al., 2016). While a concerning amount of adolescents are at risk of developing or having ED, only a slim minority of adolescents seek out services tailored toward eating and weight problems (Swanson et al., 2011). Without proper prevention and/or treatment at any time point of the development of EDs, this condition will likely progress with them as a young adult and then throughout their life (Neumark-Sztainer et al., 2018). As mentioned previously, the psychiatric nature of EDs has the capacity to generate negative outcomes and decrease the quality of life for individuals. Furthermore, the developmental period of adolescence is critical when examining nutritional intake as a significant amount of adult body weight and height derives from this period (Lassi et al., 2017). It is imperative to examine the role of DE and EDs from the transition from adolescence into the first stage of adulthood, as baseline EDs symptoms can predict symptoms in the future (Eisenberg et al., 2011).

A myriad of risk factors contribute to the development of DE in youth populations, with the biological and psychosocial changes during puberty being a major contributor. The increase in circulating gonadal steroids (sex hormones such as androgens, estrogens, and progestogens) during puberty has been linked to changes in eating habits stemming from biochemical mechanisms. For example, the dysfunction of gonadotropin-releasing hormone, the hormone responsible for regulating luteinizing hormone and follicle-stimulating hormone, is persistent in many individuals diagnosed with anorexia nervosa (Castellini et al., 2019). Rates in which boys and girls mature through puberty are pivotal in the onset of eating disorders, as those who experience these processes earlier are more likely to develop these symptoms (Zehr et al., 2007). Moreover, the susceptibility of adolescents and young adults to establish normative expectations that drive prosocial behaviors from their peers (Pinho et al., 2021). Western ideals surrounding body image have reinforced the necessity for thinness in women and athletic builds in men, hence many adolescents are susceptible to adhering to societal ideals.

Race and Ethnicity

Despite the persistence of the SWAG stereotype, racial and ethnic minority groups, as well as men, are also at serious risk of developing such disorders (Chen et al., 2019; Striegel-Moore et al., 2009). The persistence of the stereotype has led people of color and men to be continuously underrepresented in ED diagnosis, treatment, and research.

In a study conducted by Marques et al. (2011), it was found that the 12-month and lifetime prevalence of anorexia nervosa, bulimia nervosa, and binge eating disorder are similar across racial and ethnic groups including Latino and non-Latino Whites, Blacks, Asians/Pacific Islanders, and Native Americans. Furthermore, the 12-month and lifetime prevalence of bulimia nervosa is significantly higher in Black and Latino people than in non-Latino White people. It is

important to note that the prevalence of anorexia nervosa is not significantly different across race groups and its occurrence is relatively low, which presents a problem when we consider the large emphasis on anorexia nervosa among ED research and the further emphasis of the SWAG stereotype. Asians, Latinos, and Blacks all report higher rates of binge eating disorder and binge eating behaviors than non-Latino Whites. Additionally, Blacks report higher rates of functional impairment due to histories with EDs than the other racial and ethnic groups in the study.

Despite these similarities in ED prevalence, diagnosis, and treatment referrals disproportionately exclude minorities. Latinos, Black people, and Asians all report lower rates of utilization of mental health services to treat their EDs than non-Latino Whites. A UK-based study conducted by Waller et al. (2009), found that referrals for ED services in urban areas were not representative of the population makeup, with Whites being overrepresented by 25% and Afro-Carribeans being underrepresented by about 70%. These findings most likely suggest that EDs within ethnic groups in this area were not being caught in primary care, thus services are not recommended accordingly. Furthermore, women of color were notably less likely to receive referrals for treatment compared to their White counterparts, suggesting that clinicians were not identifying the same risk factors in non-White women as they were in White women.

Waller et al. (2009) notes that people of color were more likely to suffer from bulimia than their White counterparts, a sentiment also noted by Marques et al. (2011). The Waller et al. (2009) study concluded that patient ethnicity is a barrier to receiving treatment from local ED specialists, however, once treatment was received, the services offered were comparable to those received by White counterparts. These trends are also displayed amongst other similar studies. In a study conducted by Sonneville (2018), college students of color were significantly less likely to receive a diagnosis than their White peers and non-significantly less likely to receive treatment.

Becker, Franco, Speck, and Herzog (2003) found that racial and ethnic minorities were significantly less likely to have a clinician ask about ED symptoms and Latino and Native American patients were significantly less likely to receive a referral or further care. Furthermore, racial and ethnic minorities face their own set of unique risk factors that may put them at risk for the development of EDs. For example, Black women have been seen to possibly use food as a coping mechanism for stressors such as racism, sexism, classism, and acculturation into a predominantly White society (Hoggards et al., 2019; Smolak & Striegel Moore, 2001). Similarly, a 2007 study conducted by Ayala et al. found that young Latina women who were both overweight and acculturated into a predominantly White society were more likely to develop body image issues and DE. Men of color experience many of the same stressors as their female counterparts, and thus are also at risk for developing body image issues and DE behaviors. Acculturation plays a notable role in the development of body image issues and DE behaviors in people of color as the adoption of White culture and norms also leads to the adoption of White beauty standards and body ideals (Stewardson et al., 2020).

Those with muscle dysmorphia have been seen to restrict their diets even more than those with anorexia nervosa, making this condition especially dangerous (Stewardson et al., 2020). Asian men have been researched as especially being at risk for suffering from feelings of wanting more muscle. Risk factors for EDs in men of color include media exposure, concerns over muscularity, sexual orientation, a history of being overweight or obese, and substance use. Similarly to women of color, factors relating to racial identity and development combined with stressors relating to adapting to the cultural norms of a majorly White society presents itself as a serious risk factor for the development of EDs in men of color (Stewardson et al., 2020). For example, in a study conducted by Kelly. et al. (2018), binge eating behaviors were observed in

Black and Latino men who had experiences of discrimination. However, this same trend was not observed in Asian men who had a strong sense of ethnic identity, which may suggest that greater affiliation with one's racial or ethnic group may serve as a coping mechanism that defends against the negative impact of racism and discrimination on eating behaviors.

Sexual orientation can also be an important predictor of EDs among men of color. Media meant to target men who are in the LGBTQ+ community often lacks representation of men of color. Furthermore, when they are featured in media, they are often portrayed in stereotypical ways such as Black men being large and muscular or Asian men being smaller and less muscular (Grimm and Schwartz, 2017). Moreover, Brennan et al. (2013) found that body image issues were present in gay and bisexual men of color who had experienced forms of racism and stereotyping.

Queer Identities

Patient equality is essential to the healthcare system, which is why treatment regarding sexuality as a part of human identity is significant to the danger medical bias poses. One of the largest areas of discrepancy regarding sexuality in healthcare is the lack of education in LGBTQ+ communication and care (Fadus, 2019). That is, the medical field is constantly evolving around the ethical, social, and cultural changes in societal standards. This discrepancy in evolution with the LGBTQ+ community can prove harmful to patient-doctor relationships.

According to Goldhammer (2019), ED and poor body image disproportionately affect sexual and gender minority adolescents (SGMs). The study notes that issues with body dissatisfaction and eating habits crop out at the onset of individuals' gender and sexual awareness. The risk factors and prevalence vary, but physical appearance norms coupled with discrimination augment emotional distress. With a lack of research on this minority community

and a lack of medical background in supporting this community, individuals are left with a significant reduction in support for their EDs.

Another study found that sexual minorities were disproportionately affected by EDs when compared to individuals that identify as heterosexual (Kamody et al., 2019). Sexual minorities experience 1.9–3.6 times greater odds of the specific symptoms of anorexia nervosa, bulimia nervosa, and binge eating disorder compared to heterosexual respondents. It was theorized that the reason behind this is largely due to the minority stress model (Meyer, 2003): the hostile stress sexual minorities face solely for their identity. Experiences with discrimination were associated with fewer feelings of self-control, ultimately leading those to turn to disordered behaviors. The stigma control model further justifies these behaviors, as experiences rooted in stigma and discrimination result in a lack of external affirmation of one's identity, leading to seeking internal emotional coping strategies that are affirming to relieve these stressors. Among the numerous coping methods, one of these methods that are relevant to this content includes maladaptive eating patterns (Mason et al., 2019). For example, a 2009 study found that within a sample of gay and bisexual men in New York City, EDs were positively correlated with "concerns about the perceptions of others" and many other factors relating to participants' sexual orientation (i.e. need for acceptance, identity confusion, and many more) (Siconolfi). According to Smith et al. (2019), practices of thought suppression are common among both genders, yet produce different types of DE incidence. The study found that while thought suppression induced a higher fasting and vomiting frequency among men and women, the association was stronger among men. It also found that ruminative brooding was closely associated with higher binge eating rates among women.

According to Geilhufe (2021), transgender youths were found to have a higher risk for developing EDs due to the emotional distress carried by discrimination and negative body image. Transgender individuals make up a minority of the medical field as is, and this disparity is compounded by issues of discrimination. Six main sub-themes were identified in the results of a 2020 qualitative review on barriers to quality of care among Transgender and gender-nonconforming (TGNC) including provider training and knowledge of TGNC care, provider and staff interactions with TGNC patients, case management, misgendering, access, and continuity of care, and bias and discrimination (Vupputuri, 2020). Furthermore, despite being understudied, barriers to accessing gender-affirming care may increase risk of participating in disordered eating behaviors. For transgender and gender non-conforming individuals experiencing heightened feelings of body dysmorphia and lack of control over their appearance, disordered eating behaviors may provide a sense of internal control which may be more attainable than accessing care through a medical provider (Chang et al., 2018). Applying these barriers to ED treatment and care points to a significantly influential outcome factor.

Socioeconomic Status

The demographic makeup of a community plays a key role in the development of institutions and services provided. That is, the background of the area may even define the quality of services afforded as well as the accessibility. Poverty and lack of healthcare insurance are significant structural determinants regarding healthcare outcomes. According to the study conducted by Stepanikova (2008), living in poverty and/or being uninsured was positively associated with racial and ethnic bias in healthcare.

A medical bias based on socioeconomic background means a bias based on individuals' health insurance or lack thereof. For those that health care is an option, being met with poor

quality or insufficient treatment is not only disheartening but threatening to the patient's well-being. Socioeconomic background and EDs were found to depict a linkage between food insecurity and financial distress. According to Becker (2017), the participants with the highest levels of food insecurity demonstrated higher levels of binge eating, overall ED pathology, any-reason dietary restraint, weight self-stigma, and overall stress. The inadequate access to food attributed to low-income families and individuals causes EDs to uniquely affect this demographic. Many studies have documented a link between financial insecurity and certain psychopathologies like depression and anxiety. DE is a direct product of financial insecurity for many, and this coupled with symptoms of depression and anxiety, feed into negative body image.

With differences in socioeconomic background, pursuing treatment for an ED may not be an option for low-income individuals. Socioeconomic background in regard to EDs and DE has been found to depict a scarcity in health literacy. In a 2012 study, those demonstrating low socioeconomic status were found to be less knowledgeable on a series of symptoms associated with mental illness. For the purpose of this paper, one area lacking health literacy in this study was that of DE. Furthermore, according to the data from the telephone survey, those demonstrating high socioeconomic status were "less likely to believe that a weak will is a possible cause of depression, schizophrenia and eating disorders" (von dem Knesebeck et al., 2013). That is the very perception of EDs changes across socioeconomic backgrounds. This can affect treatment outcomes as well as how individuals view ED treatment.

Psychosocial & Structural Influences

In addition to demographics, the Health Belief Model analyzes the impact of psychosocial characteristics and structural influences on the perceptions of health-related

matters. These psychosocial and structural factors act as modifying variables in the decision making process through the construction of certain perceptions.

Masculinity

Masculinity is commonly defined as the social construction of gendered norms and practices that institutionally govern men and boys. Masculinity, not to be confused with biological maleness, is characterized by psychological traits that exhibit social dominance, self-assurance, aggression, and more, and is not limited to only men (Malonda-Vidal et al., 2021). Both males and females can dictate their gender identity and gender expression, however, interpersonal, societal, and institutional pressures often result in a parallel representation of biological sex and gender.

Nonetheless, the masculinity that is instilled upon boys during childhood and adolescence through the socialization from mainly peers and parents has become generational. In efforts to showcase masculinity, boys during this developmental phase of life engage in risky behaviors, acts of toughness, displaying themselves as emotional stoics, and the exhibition of heterosexuality (Amin et al., 2018). The continuation of "ideal" masculinity perpetuates itself through Joseph Peck's Masculine Gender Role Strain Paradigm. As a result of this societal strain to adhere to masculinity, boys and men result in adverse reactions when either they cannot fulfill these expectations or are constantly meeting the demands of the masculine identity. In conjunction with this paradigm, the intertwining of sociocultural and economic factors during the 18th century facilitated a permeating effect of masculinity into the workforce, propagating masculinity into adulthood (Su, 2023). Up until the end of the 19th century, systems of power and oppression were maintained through the strong association between the "true man" and the guidelines behind traditional masculinity.

As history progressed, the notion of multiple masculinity emerged in the 1980s, as the hegemonic version was becoming outdated. Raewyn Connell in her 1993 book "Masculinities" coined the four main masculinities classifications: hegemonic, complicit, marginalized, and subordinate, with the hegemonic and subordinate masculinities acting as two ends of a spectrum that characterizes dominance (Messerschmidt, 2019). This contextualizes the wide-range of expression of masculinity that individuals can take on.

Masculinity works as an influencer on health-seeking behaviors. Where the hegemonic masculinity is self-reliant, autonomous, and internalizes emotions, the subordinate masculinity is more likely to be cooperative, seek resources, and has no issue expressing emotion. These factors are extremely important in the utilization of health resources, as the hegemonic masculine identity is more willing to hide pain or discomfort, and not seek out medical advice or assistance. While still attributable to many different factors, there exists a critical disparity in health outcomes between males and females, globally. The 2010 Global Burden of Disease Study, which sought to document age-specific and sex-specific mortalities from 1970 to 2010 among 187 countries, found that females have higher life expectancies. Whereas female life expectancy increased 61.2 years to 73.3 from 1970 to 2010, male life expectancy surged 56.4 years to 67.5 years during the same time period (Wang et al., 2012).

This gender-based discrepancy is mainly driven by biological and socio-cultural factors. Biological factors, such as genetics and hormones, can be linked to excess male mortality from chromosomal disorders and other gender-specific diseases (de Kretser, 2010). However, various studies uphold the notion that socio-cultural factors are primarily responsible for poorer health outcomes for males. Numerous studies have shown that males are more likely to engage in risky health behaviors, such as smoking tobacco, alcohol abuse, reckless driving, and participate in

high-risk sexual activities (Courtenay, 2000). Males are also less likely than females to utilize health care services, with females more likely to take advantage of diagnostic and primary care services (Bertakis et al., 2000). Congruently, males are less likely to seek out mental health care resources, citing negative attitudes towards mental health treatment (Gonzalez et al., 2011). Furthermore, it is difficult for males to receive adept treatment when the treatment paradigms that exist for EDs have been designed with females in mind, leaving few resources available for males specifically (Strother et al., 2012).

In the lens of DE, several factors mask its manifestation. From the underutilization and the lack of acknowledging health issues, DE becomes increasingly more difficult to capture in a vulnerable population. The maintenance of detrimental masculine norms and attitudes through health behaviors encourages boys and men to uphold ED symptoms (Drummond, 2002). The masking of unhealthy practices through the mass socialization of masculinity leaves little room for the ability to provide adequate interventions and treatment.

When examining the implications of masculinity on ED prevalence, men represent 10-20% of anorexia nervosa and bulimia nervosa cases and up to 40% of cases of binge eating disorder (Jones & Morgan, 2010). Men also tend to be disproportionately at risk for developing muscle dysmorphia disorder, a subclass of body dysmorphic disorder (Suffolk et al., 2013). 2010 data collected using the Eating Disorder Examination Questionnaire (EDE-Q) found that 1 in 4 undergraduate men reported binge eating and intentional food restriction for periods of at least 8 waking hours over the previous four weeks (Lavender et al., 2010). Although 30% of men engaged in “driven” or “compulsive” exercise, which may be considered a purging behavior, rates of other purging behaviors such as self-induced vomiting were significantly lower (Lavender et al., 2010). This is one aspect where disordered behaviors may differ in males and

females. In a 2011 study conducted by Nuñez-Navarro et al., 60 men with EDs were studied alongside 60 female ED patients. Although clinical features of the EDs were found to be similar across the genders, differences exist between behaviors such as laxative abuse and vomiting episodes, which were found to be significantly lower in males than in females. However, differences also existed in the drive for thinness, body dissatisfaction, and on some symptom scales. Notably, men scored significantly lower on harm avoidance, reward dependence, and cooperativeness than their female counterparts (Núñez-Navarro et al., 2012).

Stigma

Stigma against EDs evolves from a variety of sources. Whether it is due to culture, media, or self-perception, stigma regarding DE persists within society. In 2015, Griffiths examined the correlation between self-stigma, being male, and having an undiagnosed ED. This particular study examines the self-stigma associated with having an ED (diagnosed or not) (Griffiths et al., 2015). Findings indicated high ED psychopathology for both diagnosed and undiagnosed groups, and it was more likely for males to have an undiagnosed ED than females. Thus, self-stigma differs from typical stigma, as it involves internalizing the public/worldview and imposing it on oneself.

Additionally, self-stigma towards seeking help was associated with a higher likelihood of having an undiagnosed ED in males. Unfortunately, the study did include fewer males than females, so there are limitations to the data and findings, but they also exist to highlight the barriers men face in getting help for DE (Griffiths, 2015). Additionally, in a survey of college students that assessed the level of DE, self-stigma, and attitude toward counseling, it was found that males were more likely to have a self-stigmatizing attitude toward DE (Hackler, 2010). Meanwhile, women were more likely than men to have a positive outlook on seeking help

(Hackler, 2010). These findings supported a previous study conducted by Vogel and Wester (2003).

Self-stigma is not the only aspect of stigmatizing beliefs. Many of the perspectives on DE come from well-known, but perhaps over-cited and outdated literature. For example, much of current literature operates under the idea that EDs affect women more than they do men. While this may be true as far as current knowledge goes, it may be harmful and misleading to portray adolescent girls as the face of EDs as they have in the past (e.g., previously mentioned acronym SWAG). As new ED diagnoses become widely recognized (e.g., binge eating disorder, ARFID), it is likely that the proportion of male ED sufferers will increase. However, by continuing to generalize EDs as a 'girls issue,'men in need of help or support will continue to experience stigma and self-stigma. Additionally, much of the criteria and assessments given to determine and diagnose DE were written to target the experiences of women, creating an inherent bias built into medical examination. It becomes increasingly more difficult for males to receive adept treatment when the treatment paradigms that exist for EDs have been designed with females in mind, leaving few resources available for males specifically (Strother et al., 2012).

Research that focuses on ED stigma within ethnic and racial minorities is only beginning to gain recognition within the last few years. To provide effective treatment options for ethnic and racial minorities with EDs, understanding the different types (e.g., self-stigma, structural stigma, stigma by association) and sources (i.e., internal or external) of stigma, and how they can manifest differently across diverse populations is crucial. One study surveyed 1,534 participants with diverse ethnic backgrounds on weight control behaviors, weight status, and factors that contributed to these outcomes in a difference of eight years' time (Hooper et al., 2021). In the first survey given the participants while they were young teenagers in 2010 and young adults in

2018, all non-White participants had a higher percentage of being teased about their weight in their respective demographics and non-White participants had a higher increase in teasing compared to White participants. 52.4% of non-White participants in 2018 reported unhealthy weight control behaviors while 41.9% of White participants reported these behaviors. This highlights how different minority communities deal with ED stigma and how strong the stigma is within each community. Universal programs that help reduce common forms of stigma against EDs can be developed in addition to programs that focus on reducing stigma in specific demographics when more research is done on ethnic/minority groups.

Mental Health Literacy and Barriers

The concept of mental health literacy is generally defined as knowledge and beliefs held about mental disorders, but there are many more important components to consider (Jorn, 2000). Knowledge is linked to someone taking action steps to improve their mental health. There are also many different kinds of knowledge associated with mental health literacy such as recognition, prevention, treatment options, self-help strategies, and mental first aid skills for crises (Jorm, 2012).

Much of the struggle is turning that knowledge into actual help-seeking behavior. Although a majority of people have positive attitudes towards professional help, most still prefer to talk to a family member or friend. This translates to seeking help for others as well with only about a quarter of a sample of 13-16-year-olds saying they would seek adult help for a friend struggling, and half saying they would try to help only with positive social support. This pattern appears in parents as well with parents preferring generalized and informal sources of support rather than specialized services (Kelly, 2007). Females (60.7%) are more likely to correctly identify depression than males (34.5%) and males are less likely to endorse seeking professional

help than females (Cotton, 2006). Additionally, a different twelve-month longitudinal study found that “only 22.1% of those with a mild disorder and 30.2% of those with severe disorders received treatment” received treatment for their ED status (Stagnaro et al., 2018).

These sources also describe possible methods for combating these barriers such as information campaigns, educational interventions, and training programs (Kelly, 2007). While many of these papers offered valuable information on methods to improve mental health literacy, we found significant gaps as well. A review of available mental health literacy measures found that most measures evaluated stigma, followed by knowledge and then help-seeking, with only a small portion of measures having psychometric validation (Wei, 2015). They also did not discuss the many social factors that create barriers to self-help such as SES, health insurance, and location. As discussed in “Social Determinants of Mental Health,” these have a large impact on one’s access to quality healthcare and possible treatment options, especially in the mental health field where prices for therapy are unaffordable for the majority of people. One way in which these social factors impact mental health literacy is through the stigma associated with mental health.

In terms of EDs, there are clear gender-based differences in identification, quality of care, and treatment. Men make up a minority of those diagnosed as well as a substantial minority in reporting symptoms (Smith, 2017). The SWAG effect plays an obvious role in the generalization of EDs. This generalization proves to be dangerous to the communities that do not fall within this background, but also those who suffer from EDs outside of anorexia nervosa. Yu (2015) touches on these dangers as male body dissatisfaction has grown three-fold to 43% over the past three decades in Western countries. It is this dissatisfaction that provides fuel to ED development.

The lack of male-specific paradigms is harmful and inhibiting to male ED treatment and health considering how different EDs will develop and present between males and females. One considerable difference is that males who have developed EDs were often overweight or obese before the development. EDs can then develop alongside and be propelled by compensatory behaviors. One compensatory behavior that is common in males is excessive exercise, which occurs as a way to lose undesired weight or to prevent medical conditions that might present in other males in that individual's family history. This is in contrast to females, who are commonly not overweight or obese before developing EDs. Typically, females "feel" overweight, or "fat," before ED development, even when they have normal weight histories. Therefore, compensatory behaviors in females, such as excessive exercise, more commonly form as a method of becoming "thin" and achieving a lower weight, compared to males who seek out… (Andersen, 1999, as cited in Strother et al., 2012). This disparity in ED treatment paradigms between males and females is reflective of the medical bias that exists around EDs and other mental health treatments.

According to Hoggard (2019), the Environmental Affordances (EA) model displays an association between racial discrimination and negative physical health practices. That is, the emotional distress experienced by minority communities as a result of racial discrimination manifests in poorer health choices and contributes to the depressive symptoms associated with DE. These conditions are compounded within the United States healthcare system. As mentioned previously, medical bias and racial discrimination pervade healthcare quality and access. These disparities are no different under the lens of ED and require further examination into their role in diagnosis, treatment, and access.

Furthermore, medical bias can act as a significant barrier to prevent, diagnosis and treatment among marginalized communities. Medical bias is characterized by both implicit and explicit actions, which affect patients according to varying social determinants. The social determinants include race, sexuality, gender, and socioeconomic background. Medical bias is not only harmful to patient and professional morale but has mortal costs. It can lead to microaggressions, misdiagnosis, dismissal of reported symptoms, or other instances of prejudicial behavior. Medical bias contributes directly to health disparities and patients subject to intersectional identities feel the full weight of its consequences.

Because medical bias is such a significant factor in healthcare outcomes, examining it in the context of ED treatment and diagnosis is especially consequential. The aforementioned social determinants within medical bias permeate ED care, treatment, and diagnosis. As such, biological, environmental, and social conditions are every bit as significant to understanding the onset, development, severity, and prevalence of ED and DE habits. Overall, ED conditions and social determinants within medical bias have a unique relationship in defining characterization.

Racial discrimination in healthcare can be described as pervasive, as it affects not only patient-doctor relationships but the medical curriculum as well. The harm applied due to these discriminatory practices exceeds procedural barriers and seeps into all medical professions. According to Jones' (2002) article "Confronting Institutionalized Racism," racism is defined as a system that structures opportunities, advantages, and or values based on race. Racial minority populations are subject to social stigmas, fewer employment opportunities, higher mortality rates, and higher rates of incarceration to name a few of the institutional boundaries (Williams, 2013). With the impact of these structures relevant to the quality of life, racism's presence in the healthcare system possesses a devastating risk to minority populations.

The distrust of the healthcare system is, however, uncommon among White Americans, with 1% acknowledging being treated unfairly due to race (Lillie-Blanton, 2000). That is, racial discrimination in healthcare is leveled against racial minorities. This can be due to stereotypes, implicit bias, or even a lack of representation. According to a 2003 article in the International Journal of Health Services, 23% of African Americans and 15% of Hispanic Americans believed they would receive desirable healthcare if they were of a different race (LaVeist, 2003).

Applying these statistics under the area of ED treatment and diagnosis, patients experiencing acculturation or loss of ethnic identity are at a heightened risk for EDs. This risk differs across racial identities. In the study conducted by Sahi Iyer (2003), 122 college-age women of South Asian descent completed a questionnaire that found a strong linkage between racial teasing and eating and body image issues. Furthermore, in Clark (2012), 296 Native American women completed a questionnaire in which a strong link between binge eating disorder and emotional distress symptoms was established. Overall, there is a strong relationship between EDs and struggles regarding ethnic identity.

Chapter 3: Methods

Research Questions

Our overarching research question is: How does the perception of disordered eating in young adult men relate to help-seeking behaviors? Through our study, we addressed additional questions, including: What barriers to action and self-efficacy exist in seeking help for DE behaviors? Is there a significant difference between DE attitudes and behaviors between individuals assigned female at birth and those assigned male at birth participants? We addressed our primary research question using quantitative survey data.

Study Design

Our study employed a cross-sectional observational survey design. Our team built a quantitative survey in Qualtrics, including demographic variables and modified items from existing measures, including the Eating Disorder Examination Questionnaire (EDE-Q) (Fairburn & Beglin, 1994, 2008), Barriers to Access to Care Evaluation (BACE) (Clement et al., 2012), Muscularity-Oriented Eating Test (MOET) (Murray et al., 2019), General Help Seeking Questionnaire (GHSQ), Stigma-9 Questionnaire (STIG-9) (Wilson et al., 2005), and a series of modified vignettes as described in the methodology of Griffiths et al. (2014). Modifications were made to assess participants' perceptions and behavior in a shorter timeframe and to reduce redundancy in the survey given overlap in items across the measures. These modifications are described in detail below. This study was reviewed and approved by the University of Maryland College Park (UMCP) Institutional Review Board (IRB) prior to beginning recruitment. The IRB approval letter is attached in Appendix A. An a priori power analysis was conducted using G*Power version 3.1.9.7 to determine the minimum number of participants needed to

appropriately power planned study analyses. In order to achieve an 80% power for detecting significant findings at $\alpha = 0.05$, $N = 217$ was the minimum sample size needed. Additionally, we intended on having an equal proportion of assigned SAB of males and females in our sample in order to compare behaviors and perceptions between these groups. Measures are discussed in detail in a later section.

Sample and Recruitment

The inclusion criteria for this study were (1) being an undergraduate student at the University of Maryland, College Park and (2) being within the age range of 18-25 years old. There were no exclusions to eligibility based on SAB, gender, race, ethnicity, immigration status, sexuality, or socioeconomic status. Demographic characteristics of the sample are reported in the Results chapter. Participants were recruited using a range of approaches, including emailing listservs, posting on social media, and distributing paper flyers. If interested, they would refer to an URL link that would then prompt them to an eligibility check, consent form, and the survey. Recruitment continued until a sample exceeding the target of 217 complete survey responses from a group of participants relatively demographically similar to the population of University of Maryland was achieved. Several efforts were made to recruit minoritized populations to ensure their experiences were included in study results.

Procedure

Prior to completing the survey, potential participants were prompted with two questions to check their eligibility. The first question related to the participant's age by prompting the individual to answer the following question: "Which of the following describes your age range?" with the options being under 18, 18-25, and 26+. Only those who selected 18-25 moved on to the next question: "Are you an undergraduate student at The University of Maryland, College Park?"

Only participants who answered yes were directed to the consent form, where they were instructed to thoroughly read the document.

Participants were then prompted to thoroughly read through the details on the purpose, procedures, potential risks and discomforts, potential benefits, confidentiality, compensation, rights to withdraw and questions, and participant rights relating to the study. After reading through the information, participants were asked to agree to the Statement of Consent to enroll in the study. 'Terpmail' email addresses were immediately separated from the responses and only utilized to contact those of whom were selected for the raffle. In lieu of an email address, each participant was given a unique numerical study identifier. Only the Principal Investigator and co-investigators had access to the collected data, which was stored on a confidential Box account.

Measures

Demographic Variables

Participants were asked to report their ethnicity (Hispanic/Latino or not), racial heritage (American Indian/Alaskan Native, Asian, Black/African American, White, or other), SAB (male, female or intersex), gender identity (cisgender male, cisgender female, transgender male, transgender female, non-binary or other), sexuality (heterosexual/straight, gay/lesbian, bisexual, asexual, queer, questioning/unsure or other), household income (less than $20,000, between $20,000 and $34,999, between $35,000 and $49,999, between $50,000 and $74,999, between $75,000 and $94,999, or over $100,000), highest level of education attained (less than a high school diploma, high school diploma/GED, some college and no degree, associate's degree, bachelor's degree, master's degree, professional degree, or doctorate), highest level of education

attained by parents or guardians, immigration status (first-generation immigrant, second-generation immigrant or neither), and international student status (yes or no).

Eating Disorder Examination Questionnaire (EDE-Q)

Originally developed by Fairburn & Beglin, 1994 and later revised in Fairburn & Beglin, 2008, the Eating Disorder Examination Questionnaire (EDE-Q) is a self-report questionnaire meant to indicate the frequency of key behavioral features of EDs as well as the severity of symptoms exhibited. The current study used a portion of the EDE-Q 6.0 (Fairburn & Beglin, 1994, 2008). Of the original 28 questions in the EDE-Q, 11 questions were adopted into Team UNITED's survey and 2 of the original questions were combined into one, resulting in 12 total EDE-Q-adapted questions in the distributed survey. Questions were primarily removed to account for redundancy between the questionnaire's original questions as well as to limit the overall length of the survey and resulting time to complete. Furthermore, the scale of most of the EDE-Q's questions was also adapted from the original, which was broken down into "No Days," "1-5 Days," "6-12 Days," "13-15 Days," "16-22 Days," "23-27 Days," and "Every Day." This scale is meant to capture the frequency of eating disorder behaviors exhibited in the last 28 days. In Team UNITED's survey, this scale was adapted to examine behavioral frequency in the last 7 days on a 1-4 point Likert scale, broken down into "0 Days," "1-2 Days," "3-5 Days," and "6-7 Days." This transition was made with the intention that questioning participants on a more recent and shorter timeframe would result in more accurate responses.

Muscularity-Oriented Eating Test (MOET)

The Muscularity-Oriented Eating Test (MOET), developed by Murray et al. (2019), is a questionnaire designed to measure muscularity-oriented DE behaviors in participants. The MOET was adapted for Team UNITED's survey by reducing the number of questions from the

original 44 to 33. These 11 questions were removed due to similarities between questions and to reduce the overall length of the final survey. The MOET's response options followed a traditional Likert scale ranging from 1-5, "Never True," "Rarely True," "Sometimes True," "Usually True," and "Always True," which was also used in Team UNITED's survey with no alterations.

Barriers to Access to Care Evaluation (BACE)

Clement et al. (2012) developed the Barriers to Access to Care Evaluation (BACE) to establish a self-report questionnaire of barriers to care-seeking for mental health and mental illnesses. Team UNITED removed 3 of the original BACE questions from the final survey and used the other 27, primarily to be conscious of the overall survey's length and estimated time to complete. Responses to BACE's questions ranged from 1-4, with response options "Not at all," "A little," "Quite a lot," to "A lot." This scale was implemented in Team UNITED's final survey with no changes.

General Help Seeking Questionnaire (GHSQ)

The General Help Seeking Questionnaire was developed and validated by Wilson et al. (2005) in order to assess help-seeking intentions from different sources for different problems. All but one of the original questions were included in Team UNITED's final survey, with the omitted question being a free-response question. This question was removed due to the belief that most participants would be unlikely to complete the question and could potentially be deterred from completing the survey if they believed there to be more free-response questions. The original GHSQ response scale ranged from 1-7, with 1 representing "Extremely Unlikely" in response to the question asked and 7 representing "Extremely Likely." A sum score was calculated, ranging from 10 to 48. This scale was unaltered in Team UNITED's final survey.

Stigma-9 Questionnaire (STIG-9)

The Stigma-9 Questionnaire (STIG-9), developed and assessed by Gierk et al. in 2018, is designed to measure perceived stigma on mental health. Of the 28 questions in the original STIG-9, Team UNITED's final survey used 9. The STIG-9 responses follow the Likert scale and Team UNITED adapted this scale to range from 0-4, with 0 corresponding to "Disagree," 1 corresponding to "Somewhat Disagree," 2 corresponding to "Somewhat Agree," 3 corresponding to "Agree," and 4 corresponding to "A Great Deal." Ultimately, responses to the adapted STIG-9 were omitted from the final analysis due to an error in how the Qualtric survey was programmed.

Vignettes

Two vignettes originally created by Mond et al., (2006) and modified by Griffiths et al. in 2013 were included as the final section of the survey. The vignettes describe two male fictional characters, "Michael" and "Jason" that present with clinical symptoms of anorexia nervosa or muscle dysmorphia without explicitly stating the diagnosis. Participants were provided with a series of statements regarding opinions and perceptions of the characters and were asked to rank their agreement with each statement on a five-point likert scale.

Data Collection

Data was collected using the Qualtrics electronic survey platform. Upon completing the survey, participants were asked if they wanted to enter into a raffle to win one of 30 incentives that ranged from iPads and Bluetooth speakers to Nintendo Switch Lites and AirPods. Lastly, participants were asked if they would like to be sent the findings of the study once made available via email.

Data collection began on February 2nd, 2023, and concluded on April 24th, 2023. The final survey consisted of 154 questions. The survey was designed to take 20 minutes to complete

and sought to collect data on behaviors of disordered eating, healthcare attitudes, and perceptions of men with disordered eating. During this period, we received 477 responses. After removing responses disqualified based on inclusion criteria, incomplete responses, or concerns about the survey being conducted in too short of a time frame (under 5 minutes), 257 valid responses remained for data analysis. The median completion time was approximately 20 minutes and 9 seconds, with the fastest duration being 5 minutes and 51 seconds and the longest duration being over 6 days and 6 hours. Several attention-check questions were incorporated into the survey in order to mitigate responses from online bots. Statistical analysis of survey responses was conducted using IBM® SPSS Statistics Software.

Data Analysis

First, a correlation analysis was run between all demographic variables and continuous items drawn from the EDE-Q, MOET, BACE, GHSQ, VIGN-1, and VIGN-2. We did not have enough intersex participants to include in the analysis. Whereas some of the correlations we found may be a result of multicollinearity (coefficients of determination larger than -0.8 and 0.8), the results provided a foundation for selecting variables to focus on for further testing, in conjunction with considering existing literature and our theoretical model. The results of the correlation analysis were reviewed. We then selected statistically significant correlations with correlation coefficients of at least 0.4/-.4 and less than .8/-.8 (to reduce potential issues due to multicollinearity).

Next a series of independent sample t-tests were run to describe the differences in the mean score of key items of greatest interest between females and males (assigned sex at birth). Question sets from VIGN-1 and VIGN-2 were not included among the selected correlations as

they did not meet the minimum correlation coefficient of 0.4. These results were also reviewed for significant findings to further inform the variables we chose to test using inferential statistics.

Finally, based on the literature, our theoretical model, and bivariate analyses, we ran a multiple regression analysis to examine the predictive value of a series of independent variables on help-seeking as measured by the sum score of the GHSQ. Independent variables included in the model were: SAB, LGBTQ status (yes/no), ethnicity (Hispanic/Latino/non-Hispanic/Latino), racial identity (POC/non-POC), and the items: “Have you had a definite fear that you might gain weight,” “Have you had a sense of having lost control over your eating (at the time that you were eating),” “Has your weight or shape influenced how you think about (judge) yourself as a person,” “Have you had a strong desire to lose weight,” “How dissatisfied have you been with your weight or shape,” “I have felt guilty or bad about myself if I ate food outside of my diet ideals,” “I have felt anxious or worried when I am hungry,” “I have felt anxious about others knowing the rules I have around what I eat,” “Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in,” and “Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.”

We also ran a series of logistic regressions to ascertain the predictive value of a series of independent variables SAB, LGBTQ status (yes/no), ethnicity (Hispanic/Latino/non-Hispanic /Latino), racial identity (POC/non-POC), and the items: “Have you had a definite fear that you might gain weight,” “Have you had a sense of having lost control over your eating,” “Has your weight or shape influenced how you think about yourself as a person,” “Have you had a strong desire to lose weight,” “How dissatisfied have you been with your weight or shape,” “I have felt guilty or bad about myself if I ate food outside of my diet ideals,” “I have felt anxious or worried when I am hungry,” “I have felt anxious about others knowing the rules I have around what I

eat," "Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in," and "Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in" on each of the following dependent variabbles: "I adhere to a rigid diet structure," "Concern that I might be seen as weak for having a mental health problem," "Concern about what my friends might think, say or do," "Have you been deliberately trying to limit the amount of food you eat to influence your weight or shape," "Having no one who could help me get professional care," "Have you exercised in a driven or compulsive way as a means of controlling your weight, shape or body fat, or to burn off calories," "I have been deliberately trying to limit the overall volume of some foods, so that my muscles look more defined," "Have you tried to control your weight or shape by making yourself sick or taking laxatives," and "Has thinking about your weight or shape made it very difficult to concentrate on things you are interested in?"

Chapter 4: Results

Description of Sample

Two hundred and fifty-seven (*N*=257) participants aged 18-25 completed the survey. The majority of participants identified as cisgender (89.5%), whereas cisgender women comprised 51.0% and cisgender men comprised 38.5% of the sample. Approximately seven percent (7.4%) of participants identified as non-binary. Participants were most likely to identify as Asian (38.9%) or White (37.7%), and the majority of participants were non-Hispanic or Latino (92.2%). Heterosexuality (58.0%) was the most frequent sexuality, followed by bisexuality (20.2%). Approximately half (56.4%) of participants reported a household income of over $100,000. The highest level of education of the majority of participants was a high school diploma, GED, or equivalent (90.7%) followed by 6.6% with an associate's degree. Parental educational backgrounds varied greatly with 36.6% having a parent with a Master's degree, 25.7% with a Bachelor's degree, and 16.0% with a Doctorate. One in five (20.2%) participants were first-generation immigrants, 34.6% were second-generation immigrants, and 45.1% were neither. A small minority of participants were international students (3.1%). Demographics are further summarized in Table 1.

Table 1

Sample Demographics (N=257)

Characteristic	n	%
Ethnicity		
Hispanic or Latino	20	7.8
Not Hispanic or Latino	237	92.2
Race		
American Indian or Alaska Native	0	0
Asian	100	38.9
Black or African American	30	11.7

Multiracial	23	8.9
White	97	37.7
Other	7	2.7
Sex assigned at birth		
Female		
Male	152	59.1
	104	40.5
Intersex	0	0.0
Not mentioned	1	0.4
Gender Identity		
Cisgender woman	131	51.0
Cisgender man	99	38.5
Non-binary	19	7.4
Transgender woman	1	0.4
Transgender man	2	0.8
Not mentioned	5	1.9
Sexuality		
Asexual	8	3.1
Bisexual	52	20.2
Gay or lesbian	9	3.5
Heterosexual or straight	149	58.0
Queer	14	5.4
Questioning or unsure	15	5.8
Other	2	0.8
Decline to state	8	3.1
Household income		
Less than $20,000	19	7.4
$20,000 to $34,999	8	3.1
$35,000 to $49,999	13	5.1
$50,000 to $74,999	27	10.5
$75,000 to $99,999	45	17.5
Over $100,000	145	56.4
Highest level of education		
Less than high school diploma	1	0.4
High school diploma, GED, or equivalent	233	90.7
Some college, no degree	0	0
Associate’s degree	17	6.6
Bachelor's degree	6	2.3
Master’s degree	0	0
Professional degree	0	0
Doctorate	0	0
Parent(s)/guardian(s) highest level of education		

Less than high school diploma	6	2.3
High school diploma, GED, or equivalent	19	7.4
Some college, no degree	10	3.9
Associate's degree	3	1.2
Bachelor's degree	66	25.7
Master's degree	94	36.6
Professional degree	18	7.0
Doctorate	41	16.0
Immigrant status		
First generation immigrant	52	20.2
Second generation immigrant	89	34.6
Neither	116	45.1
International student status		
International student	8	3.1
Not international student	249	96.9

Correlation Results

The correlation analysis between all continuous variables in the survey revealed numerous statistically significant correlations. Several questions adapted from the EDE-Q had statistically significant correlations with questions adapted from the MOET, BACE, and GHSQ. For example, the question, "Have you been deliberately trying to limit the amount of food you eat to influence your weight or shape (whether or not you have succeeded)?" was significantly correlated with 59 other survey items, with the strongest being "I have felt guilty or bad about myself if I ate food outside of my diet ideals" (r = .512). Another question, "Have you gone for long periods of time (e.g., 8 or more waking hours) without eating anything at all in order to influence your weight?" was significantly correlated with 59 other survey items as well, with the strongest being "I have skipped eating despite feeling hungry, so that my muscles look more defined" (r = .491). "How dissatisfied have you been with your weight or shape?" was significantly correlated with 70 other survey items, with the strongest being "Have you had a strong desire to lose weight?" (r = .638). "Has your weight or shape influenced how you think

about (judge) yourself as a person?" was significantly correlated with 64 other survey items, with the strongest being “How dissatisfied have you been with your weight or shape?" (r = .686) and “Has thinking about your weight or shape made it very difficult to concentrate on things you are interested in?” (r = .601). The remainder of the questions on the EDE-Q were significantly correlated with less survey items.

Several items from the MOET had statistically significant correlations with other items from the MOET and the EDE-Q. The strongest correlations were between “I have continued eating despite feeling full, in attempting to influence my muscularity” and “I have been deliberately trying to increase the overall volume of food I eat in order to influence my muscularity” (r = .633), “I have felt anxious when I run out of protein-based supplements” and “Protein-based supplements form an essential part of my diet” (r = .689), “I have been deliberately trying to limit the overall volume of some foods, so that my muscles look more defined” and “If I broke any of my food rules, I attempted to make up for it with extra time in the gym” (r = .603), and “I have felt anxious about others knowing the rules I have around what I eat” and “Other people do not seem to understand how important my food choices are to me” (r = .743). There were another 75 statistically significant correlations between items on the MOET and other items in the survey with correlation coefficients between 0.5 and 0.6.

One question on the BACE had numerous significant correlations with other items. “Concern about what my friends might think, say or do" was significantly correlated with 47 other survey items, including, most strongly, “I have felt anxious about others knowing the rules I have around what I eat” (r = .434).

Independent Samples T-test Results

A series of independent samples t-tests showed that people assigned female at birth (AFAB) had higher mean scores than people assigned male at birth (AMAB) on several items.

Table 2

Results of Independent Samples T-test

Logistic parameter	AFAB		AMAB		*t*(254)	*p*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Have you exercised in a driven or compulsive way as a means of controlling your weight, shape or body fat, or to burn off calories?	1.46	0.76	1.73	1.03	-2.42	0.016	-0.31
Have you had a definite fear that you might gain weight?	2.16	1.11	1.86	1.03	2.20	0.029	0.28
If I broke any of my food rules, I attempted to make up for it with extra time in the gym.	1.71	1.05	1.60	0.88	0.92	0.048	0.12
I have felt anxious about others knowing the rules I have around what I eat.	1.84	1.26	1.63	1.03	1.40	0.029	0.18

AMAB (M = 1.73, SD = 1.03) were more likely than AFAB (M = 1.46, SD = 0.76) to have exercised in a driven or compulsive way as a means of controlling their weight, shape, body fat, or to burn off calories (t = -2.42, p = 0.016, d = -0.31). AFAB (M = 2.16, SD = 1.11) were more likely than AMAB (M = 1.86, SD = 1.03) to have a definite fear that they might gain weight (t = 2.20, p = 0.029, d = 0.28). AFAB (M = 1.71, SD = 1.05) were more likely than AMAB (M = 1.60, SD = 0.88) to report that if they broke any of my food rules, they attempted to make up for it with extra time in the gym (t = 0.92, p = 0.048, d = 0.12) and that AFAB (M = 1.84, SD = 1.26) have felt anxious about others knowing the rules they have around what they eat than AMAB (M = 1.63, SD = 1.03) (t = 1.40, p = 0.029, d = 0.18).

A series of independent samples t-tests showed that people assigned male at birth (AMAB) on several items had higher mean scores than people assigned female at birth (AFAB).

Table 3

Results of Independent Samples t-test

Logistic parameter	AMAB		AFAB		*t*(254)	*p*	Cohen's *d*
	M	*SD*	*M*	*SD*			
I have roughly known the macro-nutritional content of all the foods I eat.	2.54	1.21	1.98	0.860	-3.62	≤ 0.001	-0.46
I adhere to a rigid diet structure (i.e., 3 g of protein per lb of bodyweight).	1.76	1.04	1.55	0.86	-1.79	0.015	-0.23
I cannot become adequately muscular without paying	2.46	1.31	1.81	1.03	-4.45	≤ 0.001	-0.57

rigorous attention to what I eat.							
Protein-based supplements form an essential part of my diet.	1.85	1.18	1.49	0.96	-2.68	0.004	-0.34
I have felt anxious when I run out of protein-based supplements.	1.38	0.80	1.25	0.69	-1.43	0.015	-0.18
When I see other muscular guys, I would rather know about their dietary regime than any other aspect of their life.	1.88	1.10	1.36	0.81	-4.29	≤ 0.001	-0.55
I have continued eating despite feeling full, in attempting to influence my muscularity.	1.82	1.17	1.40	0.82	-3.35	≤ 0.001	-0.43

AMAB had higher mean scores than AFAB on a number of other items. AMAB (M = 2.54, SD = 1.21) were significantly more likely to have roughly known the macro-nutritional content of all the foods they eat than (M = 1.98, SD = 0.860) (t = -3.62, p ≤ 0.001, d = -0.46). AMAB (M = 1.76, SD = 1.04) were also significantly more likely to adhere to a rigid diet structure compared to those AFAB (M = 1.55, SD = 0.86) (t = -1.79, p = 0.015, d = -0.23). AMAB (M = 2.46, SD = 1.31) were significantly more likely than AFAB (M = 1.81, SD = 1.03) to believe that they cannot become adequately muscular without paying rigorous attention to

what they eat ($t = -4.45$, $p \leq 0.001$, $d = -0.57$); believe that protein-based supplements form an essential part of their diet (AMAB: $M = 1.85$, $SD = 1.18$; AFAB: $M = 1.49$, $SD = 0.96$) ($t = -2.68$, $p = 0.004$, $d = -0.34$); felt anxious when they ran out of protein-based supplements (AMAB: $M = 1.38$, $SD = 0.80$; AFAB: $M = 1.25$, $SD = 0.69$) ($t = -1.43$, $p = 0.015$, $d = -0.18$); report that when they see other muscular guys, they would rather know about their dietary regime than any other aspect of their life (AMAB = 1.88 SD = 1.10; AFAB: $M = 1.36$, $SD = 0.81$) ($t = -4.29$, $p \leq 0.001$, $d = -0.55$); and have continued eating despite feeling full, in attempting to influence their muscularity (AMAB: $M = 1.82$, $SD = 1.17$; AFAB: $M = 1.40$, $SD = 0.82$) ($t = -3.35$, $p \leq 0.001$, $d = -0.43$).

Regression Results

Multiple linear regression analysis was used to develop a model for predicting young adults' general help-seeking intentions from their SAB, LGBTQ status, ethnicity, racial identity, negative thoughts about aspects of weight gain and eating, and impacts of worries about food on concentration. Specifically, these items were "Have you had a definite fear that you might gain weight," "Have you had a sense of having lost control over your eating (at the time that you were eating)," "Has your weight or shape influenced how you think about (judge) yourself as a person," "Have you had a strong desire to lose weight," "How dissatisfied have you been with your weight or shape," "I have felt guilty or bad about myself if I ate food outside of my diet ideals," "I have felt anxious or worried when I am hungry," "I have felt anxious about others knowing the rules I have around what I eat," "Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in," and "Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in." Together, these variables statistically significantly predicted help-seeking intentions, accounting

for 16% in the variance in help-seeking intentions ($F(14, 241) = 3.367$, $p < .001$, $R^2 = .164$). Three variables added statistically significant ($p < .05$) partial effects to the model: SAB, LGBTQ status, and dissatisfaction with weight or shape.

Table 4

Regression Coefficients for General Help-Seeking Behaviors

Variable	B	*SE*	95% CI		*p*
			LL	*UL*	
Demographic variables					
SAB	-.129	.459	-1.834	-.025	.044
LGBTQ	-.210	.914	-4.840	-1.240	.001
Racial Identity	-.001	.908	-1.810	1.767	.981
Ethnicity	-.074	1.624	-5.222	1.174	.214
Survey items					
Have you had a definite fear that you might gain weight?	-.070	.608	-1.658	.736	.449
Have you had a sense of having lost control over your eating?	.066	.637	-.692	1.820	.377
Has your weight or shape influenced how you think about yourself as a person?	-.146	.666	-2.415	.207	.099
Have you had a strong desire to lose weight?	.090	.557	-.572	1.621	.347
How dissatisfied have you been with your weight or shape?	-.230	.749	-3.326	-.375	.014
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	.111	.447	-.219	1.542	.140
I have felt anxious or worried when I am hungry.	.082	.478	-.410	1.474	.267
I have felt anxious about others knowing the rules I have around what I eat.	-.095	.489	-1.542	.385	.238
Has thinking about food, eating or calories made it very difficult to	-.047	.682	-1.754	.932	.548

concentrate on things you are interested in?					
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.035	.683	-1.048	1.643	.664

A series of logistic regression analyses were used to develop models predicting whether or not young adults reported:

1. adhering to a rigid diet structure over the past 4 weeks;
2. concern that they might be seen as weak for having a mental health problem ever stopping, delaying or discouraging them from getting, or continuing with, professional care
3. concern about what their friends might think, say, do, or feel ever stopping, delaying or discouraging them from getting, or continuing with, professional care;
4. deliberately trying to limit the amount of food they eat to influence their weight or shape over the past 7 days;
5. having no one to help them ever stopping, delaying or discouraging them from getting, or continuing with, professional care;
6. exercising in a driven or compulsive way as a means of controlling their weight, shape or body fat, or to burn off calories over the past 7 days;
7. deliberately trying to limit the overall volume of some foods, so that their muscles look more defined over the past 4 weeks;
8. trying to control their weight or shape by making themselves sick or taking laxatives over the past 7 days;

9. thinking about their weight or shape making it very difficult to concentrate on things they are interested in over the past 7 days;

Independent variables for these models included SAB, LGBTQ status, ethnicity, racial identity(white vs. POC), a series of perceptions related to weight and eating, and impacts of preoccupation with food on concentration. Specifically, we included the items: “Have you had a definite fear that you might gain weight,” “Have you had a sense of having lost control over your eating,” “Has your weight or shape influenced how you think about yourself as a person,” “Have you had a strong desire to lose weight,” “How dissatisfied have you been with your weight or shape,” “I have felt guilty or bad about myself if I ate food outside of my diet ideals,” “I have felt anxious or worried when I am hungry,” “I have felt anxious about others knowing the rules I have around what I eat,” “Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in,” and “Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in.”

The first logistic regression model was statistically significant ($p < .001$). The model explained 44.3% (Nagelkerke R^2) or 32.7% (Cox & Snell R^2) of the variance in adhering to a rigid diet structure and correctly classified 75.8% of cases. Participants that reported that thinking about food or its protein content has sometimes made it difficult for them to concentrate on things were 2.352 times more likely to report adhering to a rigid diet structure. Reporting having a strong desire to lose weight and having felt guilty or bad about myself if they ate food outside their diet goals were associated with an increased likelihood of adhering to a rigid diet structure as well by a factor of 1.585 and 1.429, respectively.

Table 5

Regression Coefficients for Diet Rigidity

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.545	.359	.853	3.484	.129	1.724
LGBTQ	-.571	.356	.281	1.135	.108	.565
Racial Identity	-.346	.352	.355	1.409	.325	.707
Ethnicity	-.226	.590	.251	2.537	.702	.798
Survey items						
Have you had a definite fear that you might gain weight?	-.108	.230	.572	1.408	.637	.897
Have you had a sense of having lost control over your eating?	.060	.235	.669	1.683	.800	1.061
Has your weight or shape influenced how you think about yourself as a person?	.429	.249	.943	2.502	.085	1.536
Have you had a strong desire to lose weight?	.460	.202	1.066	2.355	.023	1.585
How dissatisfied have you been with your weight or shape?	-.175	.284	.481	1.466	.539	.840
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	.357	.166	1.033	1.978	.031	1.429
I have felt anxious or worried when I am hungry.	.128	.182	.795	1.624	.484	1.136
I have felt anxious about others knowing the rules I have around what I eat.	.294	.186	.933	1.931	.113	1.342
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.855	.269	1.389	3.981	.001	2.352
Has thinking about food, eating or calories made it very difficult to	-.069	.254	.568	1.535	.786	.934

concentrate on things you are interested in?						

The second logistic regression model was statistically significant ($p < .007$). The model explained 15.9% (Nagelkerke R^2), 11.7% (Cox & Snell R^2) of the variance in concern about being seen as weak for having a mental health problem being a barrier to care and correctly classified 68.4% of cases. Participants who reported their SAB as male were 1.996 times more likely to report "concern that I might be seen as weak for having a mental health problem" as a barrier to care.

Table 6

Regression Coefficients for Concern about Being Seen as Weak

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.691	.304	1.101	3.619	.023	1.996
LGBTQ	.451	.299	.874	2.818	.131	1.569
Racial Identity	.303	.295	.760	2.412	.304	1.354
Ethnicity	.457	.529	.560	4.457	.388	1.580
Survey items						
Have you had a definite fear that you might gain weight?	.216	.202	.835	1.845	.285	1.241
Have you had a sense of having lost control over your eating?	-.062	.219	.612	1.442	.776	.940
Has your weight or shape influenced how you think about yourself as a person?	.295	.218	.875	2.060	.177	1.342
Have you had a strong desire to lose weight?	-.200	.182	.573	1.170	.272	.819

How dissatisfied have you been with your weight or shape?	-.061	.243	.585	1.514	.802	.941
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	.034	.149	.772	1.386	.819	1.035
I have felt anxious or worried when I am hungry.	.018	.154	.753	1.378	.905	1.019
I have felt anxious about others knowing the rules I have around what I eat.	.159	.170	.840	1.635	.350	1.172
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.463	.252	.970	2.603	.066	1.589
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	.048	.238	.658	1.673	.840	1.049

The third logistic regression model was statistically significant ($p < .001$). The model explained 25.0% (Nagelkerke R^2), 18.7% (Cox & Snell R^2) of the variance in concern about what friends might think, say, do, or feel as a barrier to care and correctly classified 70.3% of cases. Participants who reported having felt anxious or worried when they were hungry were 1.778 times more likely to report concern about what friends might think, say or do as a barrier to care.

Table 7

Regression Coefficients for Concern about Friend's Perceptions

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.207	.307	.674	2.244	.501	1.229
LGBTQ	.031	.303	.569	1.869	.920	1.031

Racial Identity	.149	.302	.643	2.096	.622	1.160
Ethnicity	.168	.506	.439	3.189	.739	1.183
Survey items						
Have you had a definite fear that you might gain weight?	-.047	.203	.641	1.419	.816	.954
Have you had a sense of having lost control over your eating?	.020	.220	.663	1.568	.929	1.020
Has your weight or shape influenced how you think about yourself as a person?	.094	.220	.713	1.691	.671	1.098
Have you had a strong desire to lose weight?	.034	.183	.722	1.481	.854	1.034
How dissatisfied have you been with your weight or shape?	.307	.249	.834	2.216	.218	1.359
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	-.087	.152	.680	1.235	.566	.916
I have felt anxious or worried when I am hungry.	.033	.157	.760	1.405	.833	1.034
I have felt anxious about others knowing the rules I have around what I eat.	.576	.172	1.270	2.489	<.001	1.778
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.264	.232	.826	2.052	.255	1.302
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	.189	.230	.770	1.897	.410	1.209

The fourth logistic regression model was statistically significant ($p < .001$). The model explained 53.6% (Nagelkerke R^2), 39.9% (Cox & Snell R^2) of the variance in trying to limit

eating to influence weight or shape, and correctly classified 81.6% of cases. Participants who reported having a strong desire to lose weight were 2.597 times more likely to report limiting the amount of food they ate to influence their weight or shape over the past 7 days.

Table 8

Regression Coefficients for Limiting Eating to Influence Weight

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.203	.367	.597	2.513	.580	1.225
LGBTQ	-.271	.368	.371	1.568	.462	.763
Racial Identity	-.405	.371	.322	1.380	.275	.667
Ethnicity	.236	.626	.371	4.316	.707	1.266
Survey items						
Have you had a definite fear that you might gain weight?	.350	.249	.871	2.311	.160	1.419
Have you had a sense of having lost control over your eating?	.053	.299	.587	1.895	.858	1.055
Has your weight or shape influenced how you think about yourself as a person?	.534	.284	.977	2.979	.060	1.706
Have you had a strong desire to lose weight?	.954	.232	1.648	4.092	<.001	2.597
How dissatisfied have you been with your weight or shape?	-.289	.315	.404	1.390	.359	.749
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	.305	.180	.953	1.932	.090	1.357
I have felt anxious or worried when I am hungry.	-.095	.199	.616	1.343	.633	.909
I have felt anxious about others knowing the rules I have around what I eat.	.088	.231	.695	1.716	.702	1.092

Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.092	.311	.596	2.017	.767	1.096
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	.427	.327	.808	2.909	.191	1.533

The fifth logistic regression model was statistically significant (p = .034). The model explained 13.4% (Nagelkerke R^2), 9.8% (Cox & Snell R^2) of the variance in having no one to help them being a barrier to care and correctly classified 68.0% of cases. Participants who reported thinking about food, eating or calories making it very difficult to concentrate on things they are interested in were 1.778 times more likely to report having no one who could help as a barrier to care.

Table 9

Regression Coefficients for Having No One to Help Access Care

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.015	.306	.557	1.849	.962	1.015
LGBTQ	.294	.294	.754	2.389	.317	1.342
Racial Identity	-.403	.303	.369	1.211	.184	.669
Ethnicity	.872	.501	.895	6.387	.082	2.391
Survey items						
Have you had a definite fear that you might gain weight?	-.089	.197	.622	1.346	.652	.915
Have you had a sense of having lost control over your eating?	-.077	.206	.619	1.385	.707	.926

Has your weight or shape influenced how you think about yourself as a person?	-.216	.218	.525	1.235	.322	.806
Have you had a strong desire to lose weight?	.075	.179	.759	1.530	.675	1.078
How dissatisfied have you been with your weight or shape?	.340	.245	.869	2.274	.166	1.405
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	-.097	.147	.680	1.211	.509	.907
I have felt anxious or worried when I am hungry.	.084	.153	.806	1.467	.582	1.088
I have felt anxious about others knowing the rules I have around what I eat.	.072	.158	.789	1.464	.647	1.075
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.122	.214	.743	1.717	.569	1.129
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	.576	.218	1.161	2.724	.008	1.778

The sixth logistic regression model was statistically significant ($p < .001$). The model explained 26.0% (Nagelkerke R^2), 18.9% (Cox & Snell R^2) of the variance in exercising to control weight or shape and correctly classified 73.0% of cases. Identifying as LGBTQ was associated with a decreased likelihood of exercising in a driven or compulsive way to control their weight by a factor of .481.

Table 10

Regression Coefficients for Exercising to Control Weight

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.392	.325	.782	2.797	.228	1.479
LGBTQ	-.733	.327	.253	.912	.025	.481
Racial Identity	-.086	.317	.493	1.707	.786	.918
Ethnicity	-.346	.590	.223	2.246	.557	.707
Survey items						
Have you had a definite fear that you might gain weight?	.316	.206	.916	2.052	.125	1.371
Have you had a sense of having lost control over your eating?	.117	.216	.735	1.718	.589	1.124
Has your weight or shape influenced how you think about yourself as a person?	.233	.231	.803	1.986	.313	1.263
Have you had a strong desire to lose weight?	.362	.187	.996	2.073	.053	1.437
How dissatisfied have you been with your weight or shape?	-.479	.266	.368	1.043	.072	.619
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	.240	.153	.942	1.715	.117	1.271
I have felt anxious or worried when I am hungry.	-.155	.173	.610	1.202	.370	.856
I have felt anxious about others knowing the rules I have around what I eat.	.045	.164	.758	1.444	.784	1.046
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.281	.231	.842	2.082	.224	1.324
Has thinking about food, eating or calories made it very difficult to	.026	.232	.652	1.616	.911	1.026

concentrate on things you are interested in?						

The seventh logistic regression model was statistically significant ($p < .001$). The model explained 38.4% (Nagelkerke R^2), 27.7% (Cox & Snell R^2) of the variance in trying to limit food for more defined muscles and correctly classified 78.1% of cases. Identifying as LGBTQ was associated with a decreased likelihood of reporting limiting food for more defined muscles by a factor of .346. Participants who reported having a strong desire to lose weight were 2.094 times more likely to report limiting food for more defined muscles, and participants who reported feeling anxious about others knowing the rules they have around what they eat were 1.620 times more likely to report the same.

Table 11

Regression Coefficients for Limiting Food for Defined Muscles

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	.181	.349	.605	1.198	.604	2.374
LGBTQ	-1.063	.365	.169	.707	.004	.346
Racial Identity	-.353	.347	.356	1.386	.309	.703
Ethnicity	.606	.576	.592	5.670	.293	1.832
Survey items						
Have you had a definite fear that you might gain weight?	-.455	.241	.396	1.017	.059	.634
Have you had a sense of having lost control over your eating?	-.111	.229	.571	1.402	.628	.895
Has your weight or shape influenced how you think about yourself as a person?	.271	.251	.801	2.145	.282	1.311

Have you had a strong desire to lose weight?	.739	.210	1.389	3.158	<.001	2.094
How dissatisfied have you been with your weight or shape?	-.132	.285	.501	1.534	.644	.876
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	.316	.164	.994	1.892	.054	1.372
I have felt anxious or worried when I am hungry.	-.201	.184	.570	1.174	.276	.818
I have felt anxious about others knowing the rules I have around what I eat.	.483	.185	1.126	2.331	.009	1.620
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	.446	.244	.968	2.522	.068	1.562
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	-.020	.245	.607	1.584	.935	.980

The eighth logistic regression model was statistically significant ($p < .001$). The model explained 63.5% (Nagelkerke R^2), 17.9% (Cox & Snell R^2) of the variance in using vomiting or laxatives to control weight or shape and correctly classified 96.5% of cases. Reporting having a definite fear that they might gain weight was associated with a decreased likelihood of making yourself sick or taking laxatives to control your weight by a factor of .084. However, participants who reported dissatisfaction with their weight or shape were 16.230 times more likely to report trying to control their weight with vomiting or laxatives and participants who reported thinking about food, eating or calories made it very difficult to concentrate on things they are interested in were 5.070 times more likely to report the same.

Table 12

Regression Coefficients for Using Vomiting or Laxatives to Control Weight

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	-1.423	1.322	.018	3.215	.282	.241
LGBTQ	-2.006	1.265	.011	1.606	.113	.135
Racial Identity	-1.832	1.321	.012	2.133	.166	.160
Ethnicity	-15.475	7697.739	.000	.	.998	.000
Survey items						
Have you had a definite fear that you might gain weight?	-2.476	1.004	.012	.601	.014	.084
Have you had a sense of having lost control over your eating?	.338	.553	.475	4.145	.541	1.403
Has your weight or shape influenced how you think about yourself as a person?	.433	.861	.285	8.340	.615	1.542
Have you had a strong desire to lose weight?	.847	.717	.572	9.514	.238	2.332
How dissatisfied have you been with your weight or shape?	2.787	1.279	1.324	198.901	.029	16.230
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	-.457	.543	.218	1.837	.401	.633
I have felt anxious or worried when I am hungry.	.232	.450	.522	3.049	.607	1.261
I have felt anxious about others knowing the rules I have around what I eat.	.314	.526	.489	3.836	.550	1.369
Thinking about food or its protein content has sometimes made it	1.517	.980	.668	31.129	.122	4.560

difficult for me to concentrate on things I'm interested in.						
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	1.623	.666	1.373	18.723	.015	5.070

The ninth logistic regression model was statistically significant ($p < .001$). The model explained 66.9% (Nagelkerke R^2), 48.5% (Cox & Snell R^2) of the variance in difficulty concentrating due to thinking about weight or shape and correctly classified 87.9% of cases. Participants who reported having a sense of losing control over their eating were 2.042 times more likely to report difficulty concentrating due to thinking about weight or shape and participants who reported their weight or shape influenced how they think about themselves as a person were 3.119 times more likely to report the same. Participants who reported feeling anxious about others knowing the rules they have around what they eat were 1.770 times more likely to report difficulty concentrating along with participants who reported thinking about food, eating or calories made it very difficult to concentrate on things they are interested in that were 4.946 times more likely to report the same.

Table 13

Regression Coefficients for Difficulty Concentrating due to Thinking about Weight

Variable	B	*SE*	95% CI		*p*	*Odds Ratio*
			LL	*UL*		
Demographic variables						
SAB	-.482	.452	.254	1.499	.287	.617
LGBTQ	.636	.433	.808	4.414	.142	1.889
Racial Identity	-.041	.439	.406	2.270	.925	.960
Ethnicity	-.309	.731	.175	3.076	.672	.734

Survey items						
Have you had a definite fear that you might gain weight?	.218	.273	.728	2.125	.424	1.244
Have you had a sense of having lost control over your eating?	.714	.331	1.067	3.908	.031	2.042
Has your weight or shape influenced how you think about yourself as a person?	1.138	.321	1.662	5.856	<.001	3.119
Have you had a strong desire to lose weight?	.335	.257	.846	2.312	.191	1.399
How dissatisfied have you been with your weight or shape?	.148	.358	.575	2.338	.680	1.159
I have felt guilty or bad about myself if I ate food outside of my diet ideals.	-.461	.242	.393	1.013	.057	.631
I have felt anxious or worried when I am hungry.	-.104	.225	.579	1.401	.643	.901
I have felt anxious about others knowing the rules I have around what I eat.	.571	.228	1.133	2.766	.012	1.770
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in.	-.271	.296	.427	1.362	.360	.763
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in?	1.599	.363	2.430	10.069	<.001	4.946

ANOVA

A series of one-way analysis of variance (ANOVA) tests were conducted to compare how mean responses to key variables differ between different racial groups, those with varying

household incomes, and those with parents of differing education levels. During this analysis, five questions were observed to yield significant differences between groups.

Table 14

Means, Standard Deviations, and One-Way Analyses of Variance Between Racial Groups

Measure	Asian		Black or African American		Multiracial		Other		White		$F(5, 256)$	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
"I have felt guilty or bad about myself if I ate food outside of my diet ideals."	2.65	1.17	1.93*	1.14	2.48	1.24	2.29	0.95	2.56	1.19	2.751*	.042
"I have roughly known the macro-nutritional content of all the foods I eat.	2.39	1.23	1.06	0.93	2.22	1.13	2.29	1.49	2.21	1.24	2.406	.037

*$p < .05$.

The one-way ANOVA revealed that there was a significant difference by racial group in how often young adults report feelings of guilt in the past month when eating outside of their dietary ideals ($p < .05$, $F(4, 252) = 2.751$, $p = .0029$). Tukey HSD post hoc test results revealed that Black/African American young adults ($M = 1.93$, $SD = 1.143$) were significantly less likely to report feelings of guilt when straying from dietary ideals compared to White young adults (M

= 2.70, SD = 1.183) and Asian young adults (M = 2.65, SD = 1.175). There was no significant difference in self-reported feelings of guilt when eating outside of dietary ideals between students who identify as multiracial or other compared to all other racial groups. While the groups were homogenous for responses to the statement "I have felt guilty or bad about myself if I ate food outside of my diet ideals," non-homogeneity was observed in response to "I have roughly known the macro-nutritional content of all the foods I eat."

A second ANOVA test revealed differences among racial groups in how often participants reported roughly knowing the macro-nutritional content of all the foods I ate in the past month ($p < 0.05$, $F(4, 252) = 2.406$, $p = .050$). Games-Howell post hoc test results revealed Black/African American students (M = 0.60, SD = 0.932) were significantly less likely to report knowing the macro nutritional content of all the foods they eat compared to White students (M = 2.21, SD = 1.299) and Asian students (M = 2.391, SD = 1.230).

Table 15

Means, Standard Deviations, and One-Way Analyses of Variance Between Young Adults with Varying Household Incomes

Measure	<$20,000		$20,000 to $34,999		$35,000 to $49,999		$50,000 to $74,999		$75,000 to $99,999		>$100,000		*F*(5, 251)	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
"What I ate has influenced how I think about myself as a person."	3.42	1.26	2.00	1.41	2.38	1.26	2.78	1.22	2.38	1.13	2.67	1.14	2.842*	.054

"Concern about what my friends might think, say or do."	1.26	1.15	0.75	1.03	0.92	1.11	0.37	0.49	0.69	0.85	0.63	0.89	2.601*	.049

*$p < .05$.

Analysis of mean values of key variables by household income showed additional differences by group status. A one-way ANOVA showed there are significant differences in how participants of varying household incomes report that what they ate influenced their self-image in the past month ($p < .05$, $F(5, 251) = 2.481$, $p = .016$). Tukey HSD post hoc tests found significant differences between students with household incomes of less than $20,000 compared to those with incomes between $20,000 and $34,999 and those between $75,000 and $99,999.

Those of different household incomes also significantly differed in their rates of reporting concern about their friends' opinions as a barrier to seeking help at the .05 significance level. Non-homogeneity was observed in the responses of those reporting household incomes less than $20,000 per year relative to those reporting $50,000-$74,999 annually. However, this group (i.e., those reporting less than $20,000 per year) was homogenous relative to those reporting $75,000-$99,999 and over $100,000 annually. Tukey HSD post hoc tests found a significant difference between students with household incomes of less than $20,000 compared to those with incomes more than $100,000. Games-Howell post hoc tests found significant differences between students with household incomes less than $20,000 compared to those with incomes between $50,000 and $74,999.

Table 16

Means, Standard Deviations, and One-Way Analyses of Variance Between Young Adults Based on Parent/Guardian Education Level

Measure	<High school diploma		High school diploma, GED, or equiv.		Some college, no degree		Associate's degree		Bachelor's degree		Master's degree		Prof. degree		PhD		$F(7, 249)$	η^2
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
I would not seek help from anyone.	6.00	0.89	3.74	2.13	4.20	1.81	5.67	1.15	4.02	1.8	3.62	1.90	4.44	1.69	3.83	2.01	2.079*	.055

*$p < .05$.

A significant difference was also observed in students reporting that they would not seek help from anyone based on the highest educational attainment of their parent or guardian at the $p < .05$ level, $F(7, 249) = 2.079$. However, non-homogeneity was observed in those reporting less than a high school diploma as their parents'/guardians' highest level of education relative to those reporting their parent/guardian received a high school diploma, GED, or equivalent, some college with no degree, a Master's degree, or a doctoral degree. Those reporting less than a high school diploma as their parents'/guardians' highest level of education was homogenous relative to those reporting their parent/guardian received a Bachelor's degree or a professional degree. Tukey HSD post hoc tests did not reveal significant differences between that those whose parents or guardians obtained less than a high school diploma ($M = 6.00$, $SD = 0.894$) and those whose parent/guardian received a Bachelor's degree ($M = 4.02$, $SD = 1.814$) or a professional degree ($M = 4.44$, $SD = 1.688$). However, the Games-Howell post hoc test revealed that those whose parents'/guardians' highest level of education was less than a high school diploma were

significantly more likely to report not seeking help from anyone compared to those whose parents or guardians have a high school diploma, GED, or equivalency (M = 3.74, SD = 2.130), a Master's degree (M = 3.62, SD = 1.896), or a doctoral degree (M = 3.83, SD = 2.011).

Chapter 5: Discussion

Comparison of Disordered Eating Behaviors, Perceptions, and Attitudes

A comparison of the self-reported perceptions and behaviors around DE among young adults revealed key differences between AMAB and AFAB individuals. As hypothesized, those AMAB reported higher rates of muscularity-oriented disordered behaviors and thoughts. These individuals were significantly more likely to report the use of compulsive exercise to control their weight, shape, body fat, or to burn calories. However, those AFAB were more likely to report using exercise to compensate for "breaking food rules." This may indicate that those AMAB are more likely to adhere to regular exercise routines to control their weight long-term, while those AFAB are more likely to resort to exercise as a form of compensatory purging behavior. Those AMAB were also more likely to report knowing the macro-nutritional content of all the foods they eat, adhering to a rigid diet, relying on protein-based supplements as a large part of their diet, and continuing to eat past the point of satiety to influence their muscularity. Continuing to eat past the point of satiety to fulfill muscularity goals was also associated with limiting food intake to increase the appearance of muscle definition, using exercise to compensate for "breaking food rules," anxiety around others knowing their food rules, and the belief that others don't understand the importance of these food rules. With these behaviors came anxiety about running out of protein-based supplements and a preoccupation with the dietary habits of other muscular men. This preoccupation with the diets of other men was also associated

with concerns about being seen as weak for having a mental health problem and a desire to not seek help from anyone. While the main drivers for these behaviors and thoughts remain unclear, they may be related to the perception that one cannot be muscular without rigorous attention to what one eats. AMAB were significantly more likely to report having this belief compared to AFAB.

These results indicate that young adult AMAB are more likely to engage in certain restrictive eating behaviors and rigid attitudes and habits, despite these behaviors and attitudes often being associated with the SWAG population. Despite those AMAB being more likely to engage in these disordered behaviors, AFAB were significantly more likely to report a definite fear of weight gain. This finding aligns with that of previous studies but further suggests that thin ideation should not be used as a key indicator of ED/DE risk in diverse populations (Rakhkovskaya & Warren, 2014; Halbeisen, 2022). Those AFAB were also more likely to report anxiety around others knowing their food rules, which was correlated with anxiety around how their friends might perceive them. For each population, the perceptions of others were a key barrier to seeking help, which suggests that reducing stigma should be a primary target for intervention. It is particularly concerning that these thoughts and behaviors in young adult AMAB were associated with a desire to not seek help at all. However, this finding may be indicative of why men remain underrepresented across ED/DE studies. While these key differences were observed in this study, for many of the behaviors and attitudes evaluated by the questionnaire, those AMAB and AFAB did not significantly differ in their responses. This may suggest that the prevalence of ED/DE is not significantly different between these populations. Instead, how ED/DE manifests itself is what sets these two groups apart.

Perceived Barriers

Perceived barriers to action consist of individual beliefs about the psychological and tangible costs of taking action to reduce the risk of developing an ED or engagement in DE behaviors. These obstacles include perceptions of stigma associated with masculinity, feelings of anxiety and worry around hunger, preoccupation with food and eating, and dissatisfaction with their weight or shape. In our further analysis of help-seeking intentions, SAB, sexuality, and dissatisfaction with weight or shape added significantly to the prediction when controlling for other variables. AMAB were nearly twice as likely to express concern that they might be seen as weak for having a mental health problem as a barrier to care. This finding suggests stigma and expectations around masculinity and mental health may be a contributing factor in stopping AMAB individuals from seeking help, similarly to what current literature suggests regarding DE.

In a similar vein, participants who feel anxiety or worry when hungry are 1.778 times more likely to not seek help due to concern about what friends might think, say, or do. Possible mental health comorbidities may contribute to help-seeking behavior through negative feelings associated with the perceptions of their peers. Participants that reported preoccupation with food or eating were 1.778 times more likely to not seek help due to having no one that could help them with the process. Preoccupation with food and eating may be related to larger struggles with anxiety that interfere with the individual's perception of having support, or interfere with their ability to reach out for this kind of support. Preoccupation with food was also associated with a 5.070 times greater likelihood of using vomiting or laxatives to control weight, indicating that this preoccupation may interfere with the ability to choose healthier eating behaviors. Dissatisfaction with weight or shape was also associated with a 16.230 times greater likelihood of using vomiting or laxatives to control weight, suggesting dissatisfaction with weight is another

key factor affecting DE behaviors. This study contextualizes existing barriers found in prior studies through the lens of a cross-sectional study that uses an audience at high risk for further complications should DE persist.

Sociocultural Context

This study shows how DE can present itself in various forms and varying degrees of severity. Our study findings suggest that various psychosocial and sociocultural influences may relate to DE-related thoughts, feelings, and behaviors. Young adults' experience with DE impacts their self-esteem, confidence, and desire to take measures to receive appropriate healthcare services. While our study did not directly assess stigma directed towards young adults exhibiting DE, the results indicate that introspective self-stigma may hinder self-efficacy related to help-seeking. The multiple regression analysis found three factors that significantly predictors of DE, controlling for other relevant factors: SAB, non-heterosexuality, and body image. Given that differences in DE by SAB and sexual minorities indicate structural barriers and a larger context of sociocultural norms and values producing higher risk, the psychosocial nature of body image offers us further insight into the actualization of DEs.

In the context of DE regardless of demographic stratification, participants that expressed losing control over their eating habits and placed heavy emphasis on how their weight/shape is representative of themselves were more likely to have difficulty concentrating due to their weight and/or shape. This reaffirms previous ED and DE research that found DE can be associated with holding generally negative attitudes (e.g., loss of control and body dissatisfaction) about one's own identity. Negative appearance schemas, such as body shape and weight, reinforce ED symptomatology and seek to maintain ED psychopathology (Williams-Kerver & Crowther, 2020). We did not find statistically significant results that indicated any differences in these two

schemas between AFAB and AMAB. This data suggests that both those AMAB and AFAB hold similar negative attitudes towards their body image, a notion that has surged in recent years with the increase in research towards EDs in AMAB as most previous studies have only denoted AFAB as vulnerable populations (MacNeill et al., 2017). The transformation of male body image expectations in Western society may have fueled body dissatisfaction among young AMAB.

Building upon assessing the correlation between confidence and healthier eating behaviors and habits, this study considered SAB and queer identities as potential groupings that would offer additional insight. When examining differences by whether or not participants identified as queer sexual minorities, however, heterosexual participants were more likely to seek out doctors or general practitioners if they thought they were experiencing DE. This shows that sexual and gender minorities can experience barriers to DE-related health-seeking behaviors. Furthermore, our correlational analyses did not find any statistically strong relationships between certain DE practices and health-seeking behaviors that explicitly alter the development or maintenance of EDs among the entire sample, regardless of identity. Our sample was unable to adequately capture the attitudes and behaviors of those who identify as transgender and non-binary. Future research must center the voices and experiences of this population, as existing studies suggest transgender and non-binary individuals are at substantial risk of engaging in DE and developing EDs (Coelho et al., 2019; Riddle & Safer, 2022; Diemer et al., 2018; Duffy et al., 2016). Higher prevalence of DE among transgender adolescents and young adults is likely tied to a desire to change one's body in a manner that is more affirming of one's identity (e.g., to combat gender dysphoria) (Milano et al., 2020). A deeper investigation of the experience of transgender and non-binary young adults, especially on college campuses, may

have implications for creating a more affirming college environment at large, which can reduce individuals from engaging in DE to seek self-affirmation.

Our sample was unable to adequately assess differences in young adult behaviors and attitudes based on differing socioeconomic and educational backgrounds due to nonuniformity across groups represented in our sample. This is likely related to the privilege and resources associated with being able to attend a four-year university. However, the experiences of young adults coming from a low socioeconomic background should not be overlooked. Despite EDs typically being coined as diseases of affluence, there is no data to suggest that differences in ED prevalence exist based on socioeconomic status (SES) (Huryk et al., 2021). Meanwhile, limited access to resources such as health insurance or a primary healthcare provider imposes barriers to health-seeking, which may extend the lifetime prevalence of DE/EDs. Those who grew up experiencing food insecurity may be at greater risk for engaging in DE and developing EDs such as binge eating disorder and bulimia nervosa (Hazzard et al., 2020). In college and university settings, more research around young adults from a low SES background may have implications for decreasing barriers to entry to mental health services, as well as initiating and expanding efforts to address food insecurity. Furthermore, research remains limited on the impact parent education level has on the health literacy of their children. As we continue to see the expansion of first-generation college students represented across college campuses, this parental influence warrants greater investigation. Lower parental education may lead to lower health literacy among their children, diminishing the likelihood of health-seeking attitudes and behaviors. Once again, data does not exist to test this hypothesis such that additional studies are needed. However, findings regarding the needs of lower SES students and DE could have important implications for how college campuses target supportive efforts to first-generation students especially.

While we did not specifically investigate the impact the COVID-19 pandemic had on young adult body image, exercise, and eating habits, it is notable that the participants in our sample were aged 14 to 20 in 2020. As previously discussed, this period of adolescence and young adulthood is critical in developing healthy or unhealthy habits and attitudes. Experiencing this developmental stage during the COVID-19 pandemic is a relatively unique and, for our participants, a recent experience, and thus is yet to be captured in-depth by many studies. However, evidence suggests poor body image surged during the COVID-19 pandemic (Robertson et al., 2021). For example, an analysis of private insurance claims between 2018 and 2022 revealed that rates of anorexia nervosa increased by 73%, binge eating disorder increased by 81%, avoidant/restrictive food intake disorder (ARFID) increased by 305%, and bulimia nervosa increased by 3% (FAIR Health, 2023). It is hypothesized that these upticks were the result of poorer mental health associated with social isolation and stress during that time. For some, these mental health concerns manifested in maladaptive coping habits (e.g., DE). During this time, barriers to seeking care also increased significantly due to many factors such as individuals losing their jobs (and thus their sources of income and possibly employer-sponsored health insurance), decreased availability of practitioners, and limited ability to receive in-person treatment. Future research should also delve deeper into how these experiences and barriers may have contributed to more severe manifestations of DE and implications for the lifetime prevalence of DE/EDs. Likewise, these factors should be considered in efforts to maintain mental health service accessibility throughout unprecedented and unpredictable circumstances.

Limitations and Strengths

A number of limitations should be considered, although this study offers an overall contribution to the literature on DE. Our study was appropriately powered for the planned

analyses. However, the sample size of 257 undergraduate students is 0.008% of the total undergraduate population of 30,608 during the Fall 2023 semester in which the survey was open (*Fall 2023 UMD Student Demographics*, 2023). Given that this study relied upon a convenience sample rather than another sampling approach, such as using a list of students and drawing a stratified random sample, response bias is possible, potentially limiting the validity of the results. Our sample did not precisely mirror the racial and ethnic distribution of the Fall 2023 University of Maryland, College Park undergraduate population. Racial and ethnic groups from the study that were overrepresented compared to their total undergraduate population included Asian (38.9% vs. 23.8%) and Multiracial (8.9% vs. 2.6%). Racial and ethnic groups that were underrepresented compared to their total undergraduate population included participants who identified as Black or African American (11.7% vs. 12.9%), Hispanic or Latino (7.8% vs. 10.6%), and White (37.7% vs. 39.5%). Our study included more more AFAB (59.1%) than AMAB (40.5%) compared to the total undergraduate population of AFAB (49.2%) and AMAB (50.7%). The differences in racial, ethnic, and SAB may limit generalizability of survey results to the total undergraduate population at the University of Maryland. Further, when examining the implications of race and ethnicity upon the development of DE perceptions and behaviors, our study only examined differences in White versus non-White populations. Asians were the largest racial group represented in our study, yet we did not examine survey response differences between Asian and non-Asian participants, which could be an important area for future study.

We made a series of edits to several of the standardized measures in this study, limiting our ability to use sum scores as the original authors intended. The survey instruments EDE-Q, MOET, Vignettes, and BACE were altered from their original design by omitting certain questions that did not relate to the purpose of our study and the context of the majority of our

study population (e.g., marital status and questions relating to having children). This limited the extent to which participant responses to these instruments could be analyzed due to the alterations of the psychometric properties of the scales. While shortened versions of these scales exist, we felt as if they did not encompass the diversity of perceptions in the context of the Health Belief Model. Nonetheless, we were able to isolate and identify specific attitudes, beliefs, actions, and perceptions among these scales in the context of the Health Belief Model by relating these specific measures to the modifying variables and the likelihood to seek out help. Since our study was only seeking to examine the relationship between specific perceptions and health-seeking behaviors, we did not need to incorporate findings relating to the participant's ED status that would be derived from the accumulation of all measures within a scale. Further measurement work to determine the psychometric properties of each altered instrument would permit further analysis of individuals experiencing an ED, however, this data was not necessary in the context of our study.

While our multiple regression analysis examined the predictive values of certain health-seeking behaviors and found that dissatisfaction with one's weight or shape was a significant variable, its vast confidence interval (95% CI [1.324-198.901] raises concerns. This occurrence was only observed in this one variable, however, other non-significant variables depicted an oddly large confidence interval. As such, it is possible that the predictive value of dissatisfaction with one's body or shape may be unreliable in this particular analysis. However, when examining this specific measure in the context of seeking help, previous research and literature affirms its importance in the context of help seeking. Nonetheless, further studies should replicate regression analysis that examines this specific relationship.

Although our ANOVA revealed that factors such as race, household income, and parent education may be important to predictors of certain DE attitudes and health-seeking perceptions, our study lacked the power to examine intersections of identity and related experiences of oppression. Data regarding household income may lack meaningful external validity, as the geographic limitations of our advertisements could deter off-campus and commuter students from completing the survey, thus limiting the socioeconomic diversity of our sample. It is also possible that some of the students in our study misinterpreted the item about household income to mean their income alone, rather than including income of their parent(s)/guardian(s). Future research should look more closely at these factors and how their intersection can be used to predict one's risk for developing an ED and willingness to seek help.

Despite these limitations, this study was designed to examine perceptions of DE in a way that meaningfully included AMAB young adults, as most of the DE literature is dominated by research about individuals who identify as female. This study thus provides a number of unique contributions as well as a foundation for future researchers to improve upon our methods so that valid and reliable data can be collected on perceptions of disordered eating in AMAB across the lifespan

Implications

There are several practice and research implications of the results of the current study. These implications extend across various disciplines including public health and education, as well as campus based interventions. First and foremost, this study aimed to add further literature to the field of ED research by using a contemporary audience and a compilation of diverse scales. Of the limited literature available, this study sought to contextualize the works of various

ED researchers through an equity-driven approach by considering not only the implications of SAB but other demographic and psychosocial factors in the health-seeking process.

Differences in the ratio of AMAB to AFAB respondents also speaks to the present gaps in literature. Despite this research project being aimed toward addressing differences in help seeking behaviors between AMAB and AFAB individuals, there were still 18.6% more AFAB respondents than AMAB. This may speak to a lack of willingness or interest of AMAB individuals to fill out a survey about DE, because they may think it does not apply to them. The study results also suggest that perceptions from others are a key barrier to seeking help for both AMAB and AFAB individuals. Participants that were AMAB were 1.996 times more likely to feel concern that they might be seen as weak for having a mental health problem as a barrier to accessing care. These results are indicative of an ongoing adherence to hegemonic masculinity. Therefore, reduction of stigma surrounding DE and mental health should be a primary target for intervention. Strategies for reducing the stigma of DE and mental health may involve educational campaigns across the campus aimed at addressing the barriers faced by those with DE/ED. Future studies should examine the specific values and limitations that masculinity and femininity poses towards men in the manifestation of DE. By including specific scales that examines characteristics associated with these social constructs, DE researchers could identify and examine which properties of masculinity/femininity pose barriers or serve as leverage points in the emergence and development of perceptions surrounding ED.

Given that many behaviors and attitudes assessed in the questionnaire did not differ significantly across SAB, there may be similar prevalence of DE/ED in both AMAB and AFAB groups. However, the manifestation of the attitudes and behaviors do differ in a number of ways, suggesting that interventions should be tailored to address the specific needs and challenges

faced by an individual. While there is never a one size fits all approach in health interventions, those targeting AMAB individuals may benefit from focusing on reducing muscularity-oriented DE behaviors and ridgid dietary habits. This is contrasted with individuals AFAB, who may benefit from interventions tailored specifically to reducing fears and anxiety around weight gain and food rules. Further studies should also examine how confidence and self-efficacy can act as confounding variables for the likelihood of wanting to receive health care services as a result of DE when examining SAB and LGBTQ+ identities.

Additionally, promoting open conversations in campus health spaces and destigmatization efforts in male spaces may be important for reducing barriers to accessing care. Implementing these ideas may take a variety of forms, such as creating educational infographics on DE/ED to publish in frequently visited areas like the University Health Center, dining halls, and gym facilities. Targeted educational campaigns in these areas can provide increased awareness around DE/ED and help to reduce the stigma around bringing up such topics. Additionally, Strother et al. (2012) recommend that therapeutic groups aimed toward those identifying as male should consist of all male-identifying individuals, as these spaces encourage empathy and vulnerability, and can often create a sense of safety when revealing one's own issues. An application of this recommendation could be implemented among University staff members that have significant periods of interaction directly with students. Peer mentors, resident assistants, coaches, trainers, and health center employees all interact with students frequently and have the potential to provide support and guidance to at-risk or struggling students. Expanding mental health and wellness training for these positions could foster greater understanding of disordered eating behaviors as an initial step in reducing stigma surrounding these topics.

Another potential prevention strategy may be wellness training that first year students and transfer students are required to complete. Currently, the University of Maryland has implemented a substance use prevention and sexual assault prevention module. To provide students with increased knowledge and awareness of DE/ED, a module designed around nutritional health and wellness could be implemented. This would benefit many students entering college for the first time, as it can provide essential information about healthy eating habits and exercise, while also promoting awareness of unhealthy behaviors and risk factors for developing DE/ED. A study conducted by Cousineau et al. (2006), piloted one of these programs by recruiting student participants to determine important topics related to nutrition education at the college level. With the results and feedback from students and experts, a web based prototype was created with several educational modules focusing on basic nutrition and dietary advice, eating healthy in the context of college, and dieting, weight management and body image issues. Users responded positively to the usability and feasibility of the program, indicating that web based educational modules are a potentially effective method for disseminating information (Cousineau et al., 2006). In considering implementation of a similar training module, there is also an opportunity to update and provide tailored resources to students who may be struggling with these DE/ED behaviors and are unaware of how to begin seeking help.

Conclusion

Through this cross-sectional study, our research group was able to capture data from a college-aged population regarding the DE behaviors, ED perceptions, and health-seeking attitudes. Our research team was able to identify modifying variables (demographics, psychosocial, and structural variables) and suggest how they impact the Health Belief Model's theoretical constructs in the context of ED. Upon statistical analysis of this data, our findings

suggest that SAB, sexual minorities, and self-perceptions of body image act as three critical modifying variables that contribute to young adults' general help-seeking intentions. This research also suggests how ED manifests differently based on SAB, with AMAB exhibiting more concern over muscularity and AFAB more concerned about body size. Future studies should examine how to counteract negative stereotypes and stigma surrounding body subjects and ED through evidence-based interventions.

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Appendices

Appendix A

Evaluating the Perceptions of Disordered Eating in Men and Its Impacts on Health-Seeking Behaviors

Q1 Which of the following describes your age range?

- **Under 18 (1)**
- **18-25 (2)**
- **26+ (3)**

Skip To: End of Survey If Which of the following describes your age range? = Under 18

Skip To: End of Survey If Which of the following describes your age range? = 26+

Q30 Are you an undergraduate student at The University of Maryland, College Park?

- **Yes (1)**
- **No (2)**

Skip To: End of Survey If Are you an undergraduate student at The University of Maryland, College Park? = No

Start of Block: Consent Form

Section 1 Please read the following consent form in its entirety before continuing the survey. Once you have read the consent form, select one of the consent options at the end of the page to continue.

Section 2
CONSENT TO PARTICIPATE

Project Title	Evaluating the Perceptions of Disordered Eating in Men and Its Impacts on Health-Seeking Behaviors

Purpose of the Study	This research is being conducted by Dr. Elizabeth Aparicio at the University of Maryland, College Park (UMCP). We are inviting you to participate in this research project because you are an undergraduate student at UMCP and aged 18-25. The purpose of this research project is to explore how the perceptions of disordered eating within male-identifying communities ultimately interact with their ability to seek out health-related resources. This study will contribute to the limited literature that exists on the topic and inform future interventions in this research with this population.
Procedures	The procedures involve the completion of a 20 minute electronic survey administered through Qualtrics that includes seven sections of questions. This survey can be completed using your computer, phone, or tablet device. Questions will range from multiple choice to those with a sliding bar. Proper instructions will be provided for each question and its method for completion. Types of topics that will be discussed include: eating behaviors, barriers to health care, general help seeking, stigma, and vignettes of sample scenarios of individuals with disordered eating. The following is an example of a question that will be asked: “On how many of the past 7 days....Have you been deliberately trying to limit the amount of food you eat to influence your weight or shape (whether or not you have succeeded)? You will also be asked demographic questions about your age, sex assigned at birth, gender identity, sexual orientation, household income, education, immigration status, and your status as an international student. There will also be three attention check questions in the survey. Failure to successfully complete these questions will disqualify you for the compensation. You will be asked to share your terpmail account to verify your status as a UMCP student and to allow our team to contact you if you win a raffle prize, and to share study results with you. Your data may be retroactively determined to be ineligible based on the email address provided. If this is the case, your data will be destroyed and not included in the final analyses. Additionally, failure to successfully complete the three attention check questions will result in your data being destroyed and not included in the final analyses.
Potential Risks and Discomforts	Although there are no “known” physical risks associated with this study, completing this survey may cause some participants to experience emotional distress. The investigators of this study are not medically qualified to diagnose eating disorders, however, you may be faced with the knowledge that you are potentially engaging in unhealthy behaviors. You have the liberty of choosing not to answer any question you wish to skip. Additionally, you will be provided with a list of mental health and eating disorder resources upon completion of this form and again upon your completion of this survey.
Potential Benefits	There are no direct benefits to you participating in this survey. This research investigation is not designed to benefit you personally, but the results of this study may provide useful insight to how eating disorders present in male-identifying persons, allowing for improved diagnostic tools and means to address the stigma that exists in relation to these disorders.
Confidentiality	Any potential loss of confidentiality will be minimized by the utilization of a password-protected UMCP approved Box account, which is an electronic storage system. Only the research team will have access to this information. Personally identifying information such as your name, home address, and birth date will not be collected during this study with the exception of email addresses. The Email address that you will provide will be separated from your answer responses and ultimately deleted upon completion of our study in December 2025. If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of UMCP or governmental authorities if you or someone else is in danger or if we are required to do so by law.
Compensation	You will receive the opportunity to opt in to our raffle upon completion of the survey. You have the possibility of winning an iPad 9th Generation, AirPods (2nd generation), Nintendo Switch Lite, Roku Express HD, Anker - PowerCore III 10K or Toshiba - TY-WSP70 Portable Bluetooth Speaker - Red. We will be distributing 30 prizes. If you choose to opt in to the raffle, you will be asked to rank each of the items in regards to

	your preference. If selected for the raffle, we will try our best to give you the item that you ranked as your preferred, but cannot guarantee you will receive your number one choice. We will contact you using the email address that is provided upon starting the survey, where we will inform you of the designated location and time to collect your incentive. Any suspected fraud or abuse will result in forfeiture of compensation.
Right to Withdraw and Questions	Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify. If you are an employee or student at the University of Maryland, your academic standing as a student or employability at UMD will not be affected by your participation or non-participation in this study. If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator: **Dr. Elizabeth Aparicio** **4200 Valley Dr., Suite 1234 College Park, MD 20742** **aparicio@umd.edu** **301-405-2029**
Participant Rights	If you have questions about your rights as a research participant or wish to report a research-related injury, please contact: University of Maryland College Park Institutional Review Board Office 1204 Marie Mount Hall College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678 IRBNet Package Number: 1906843-1 For more information regarding participant rights, please visit: https://research.umd.edu/irb-research-participants This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.
Statement of Consent	Your consent agreement indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You can request a copy of the consent form by contacting the research team by email at teamunitedgems@gmail.com. Additionally, if you would like a copy of this consent form, you can download it now by screenshotting this page. By clicking 'I agree' below, you indicate that you have read and understood the information presented and follow the eligibility for the survey.

Section 3 Your consent agreement indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You can request a copy of the consent form by contacting the research team by email at teamunitedgems@gmail.com. Additionally, if you would like a copy of this consent form, you can download it now by screenshotting this page. By clicking 'I agree' below, you indicate that you have read and understood the information presented and follow the eligibility for the survey.

○ **I agree (1)**

○ **I disagree (2)**

Skip To: End of Survey If Your consent agreement indicates that you are at least 18 years of age; you have read this consen... = I disagree

End of Block: Consent Form

Start of Block: Terpmail

Terpmail Please enter your terpmail email address (@terpmail.umd.edu)

_____

End of Block: Terpmail

Start of Block: Resources

Resources Below are a list of health resources for your use. If at any point in the survey you require access to these resources, you will be able to return to this page using the back button. These resources will also be available at the end of the survey.

UMD Health Resources Guide
Eating Disorder/Disordered Eating Resources Counseling Center: Eating and Body Image Concerns **| (301) 314-7651 |** University Health Center Behavioral Health Services: Eating Disorders Assessment & Referral **| (301) 314-8106 |** University Health Center Nutrition Services **| (301) 314-8140 |** JJakubcz@umd.edu **|**
Mental Health Resources Counseling Center **| (301) 314-7651 |** Anxiety Depression Perfectionism/Low Self-Esteem Stress Suicidal Thoughts Immediate Help University Health Center Behavioral Health Services **| (301) 314-8106 |** Behavioral Health Emergencies Medication Management Transgender Healthcare Assessments & Support HELP Center (Peer-to-Peer Support) **| (301) 314-HELP (4357) |**
Additional Resources 988 Suicide & Crisis Lifeline **| 1-(800)-273-TALK (8255) |** National Eating Disorders Association (NEDA) Helpline **| (800) 931-2237 |** National Association of Anorexia Nervosa and Associated **Please continue to the next question of the survey.**

End of Block: Resources

Q2 Which best describes your ethnicity:

- ○ **Hispanic or Latino (1)**
- ○ **Not Hispanic or Latino (2)**

Q3 Which of the following describes your racial heritage (check as many as apply):

- ☐ **American Indian or Alaskan Native (1)**
- ☐ **Asian (2)**
- ☐ **Black or African American (3)**
- ☐ **Native Hawaiian or Other Pacific Islander (4)**
- ☐ **White (5)**
- ☐ **Other (optional type-in) (6)** _____

Q4 Which of the following describes your sex assigned at birth:

- ○ **Male (1)**
- ○ **Female (2)**
- ○ **Intersex (3)**
- ○ **Not mentioned (optional type-in) (4) _____**

Q5 Which of the following describes your gender identity:

- ○ **Cisgender Male (1)**
- ○ **Cisgender Female (2)**
- ○ **Transgender Male (3)**
- ○ **Transgender Female (4)**
- ○ **Non-binary (5)**
- ○ **Not mentioned (optional type-in) (6) _____**

Q6 Which of the following describes your sexuality:

- ○ **Heterosexual or straight (1)**
- ○ **Gay or Lesbian (2)**
- ○ **Bisexual (3)**
- ○ **Asexual (4)**
- ○ **Queer (5)**
- ○ **Questioning or unsure (6)**

○ **Other. I consider myself (specify) (7) _____**

○ **Decline to state (8)**

Q7 Which of the following best describes your household income:

○ **Less than $20,000 (1)**

○ **$20,000 to $34,999 (2)**

○ **$35,000 to $49,999 (3)**

○ **$50,000 to $74,999 (4)**

○ **$75,000 to $99,999 (5)**

○ **Over $100,000 (6)**

Q8 What is the highest level of education you have completed?

○ **Less than a high school diploma (1)**

○ **High school diploma, GED or equivalent (2)**

○ **Some college, no degree (3)**

○ **Associate's degree (e.g. AA, AS) (4)**

○ **Bachelor's degree (e.g. BA, BS) (5)**

○ **Master's degree (e.g. MA, MS, MEd) (6)**

○ **Professional degree (e.g. MD, DDS, DVM) (7)**

○ **Doctorate (e.g. PhD, EdD) (8)**

Q9 What is the highest level of education your parent(s)/guardian(s) have completed?

- Less than a high school diploma (1)
- High school diploma, GED or equivalent (2)
- Some college, no degree (3)
- Associate's degree (e.g. AA, AS) (4)
- Bachelor's degree (e.g. BA, BS) (5)
- Master's degree (e.g. MA, MS, MEd) (6)
- Professional degree (e.g. MD, DDS, DVM) (7)
- Doctorate (e.g. PhD, EdD) (8)

Q10 Do you consider yourself to be a:

- First-generation immigrant (1)
- Second-generation immigrant (2)
- Neither (3)

Q11 Are you an international student?

- Yes (1)
- No (2)

Start of Block: II. EDE-QS (1)

Q12
The following questions will ask about your eating habits and perception of weight.

On how many of the past 7 days….

Have you been deliberately trying to limit the amount of food you eat to influence your weight or shape (whether or not you have succeeded)? (1)	**▼ 0 days (1) ... 6-7 days (4)**

Have you gone for long periods of time (e.g., 8 or more waking hours) without eating anything at all in order to influence your weight or shape? (2)	▼ 0 days (1) ... 6-7 days (4)
Has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in (such as working, following a conversation or reading)? (3)	▼ 0 days (1) ... 6-7 days (4)
Has thinking about your weight or shape made it very difficult to concentrate on things you are interested in (such as working, following a conversation or reading)? (4)	▼ 0 days (1) ... 6-7 days (4)
Have you had a definite fear that you might gain weight? (5)	▼ 0 days (1) ... 6-7 days (4)
Have you had a strong desire to lose weight? (6)	▼ 0 days (1) ... 6-7 days (4)
Have you tried to control your weight or shape by making yourself sick (vomit) or taking laxatives? (7)	▼ 0 days (1) ... 6-7 days (4)
Have you exercised in a driven or compulsive way as a means of controlling your weight, shape or body fat, or to burn off calories? (8)	▼ 0 days (1) ... 6-7 days (4)
Have you had a sense of having lost control over your eating (at the time that you were eating)? (9)	▼ 0 days (1) ... 6-7 days (4)
On how many of these days (i.e. days on which you had a sense of having lost control over your eating) did you eat what other people would regard as an unusually large amount of food in one go? (10)	▼ 0 days (1) ... 6-7 days (4)

Q13 The following questions will ask about your self-perception.

Over the past 7 days …

	Not at all (1)	Slightly (2)	Moderately (3)	Markedly (4)
Has your weight or shape influenced how you think about (judge) yourself as a person? (1)	○	○	○	○
How dissatisfied have you been with your weight or shape? (2)	○	○	○	○

End of Block: II. EDE-QS (2)

Start of Block: Attention Question 1

Q34 The following questions will ask about your emotions.

Over the past 7 days I have felt …

○ **Sad (1)**

○ **Joyful (2)**

○ **Angry (3)**

○ **Ignore all previous options and type "I am paying attention" in the "Other" box (4)**

○ **Other (5)** _____

End of Block: Attention Question 1

Start of Block: III. MOET

Q14 Listed below are a series of statements regarding your food intake. Please read each statement carefully and select the option that best indicates how true each statement is of you. Please answer all the questions as honestly as you can, as they apply to you in the last 4 weeks

	Never True (1)	Rarely True (2)	Sometimes True (3)	Usually True (4)	Always True (5)
I have felt anxious or worried when I am hungry. (1)	○	○	○	○	○
I adhere to a rigid diet structure (i.e., 3 g of protein per lb of bodyweight). (2)	○	○	○	○	○
I have felt guilty or bad about myself if I ate food outside of my diet ideals. (3)	○	○	○	○	○
I have weighed/measured my food before eating it. (4)	○	○	○	○	○
I have roughly known the macro-nutritional content of all the foods I eat. (5)	○	○	○	○	○
I have used meal replacement supplements when I felt full. (6)	○	○	○	○	○
I have avoided certain food types. (7)	○	○	○	○	○
I have been deliberately trying to increase the overall volume of food I eat in order to influence my muscularity. (8)	○	○	○	○	○

I have tried to eat with short spaces between meals (i.e., less than 3 hr), to ensure that my body always has enough nutrients to grow bigger. (9)	○	○	○	○	○
Thinking about food or its protein content has sometimes made it difficult for me to concentrate on things I'm interested in. (i.e., watching TV, following a conversation.) (10)	○	○	○	○	○
What I ate has influenced how I think about myself as a person. (11)	○	○	○	○	○
There are definite foods I have avoided eating due to worry about how they might affect my shape or weight. (12)	○	○	○	○	○
I have eaten roughly the same food on a daily basis. (13)	○	○	○	○	○
I have felt worried eating food that I have not made myself. (14)	○	○	○	○	○
I have taken my own food out with me to social events in case the food on offer is inconsistent with my diet plan. (15)	○	○	○	○	○
I have felt less anxious about eating out if I knew the macro-nutritional content of the food at the restaurant. (16)	○	○	○	○	○
I cannot achieve my body ideal unless I exert complete control over everything I eat. (17)	○	○	○	○	○
I cannot become adequately muscular without paying rigorous attention to what I eat. (18)	○	○	○	○	○
I believe food management is equally as important as training in sculpting the body I want. (19)	○	○	○	○	○
I have continued eating despite feeling full, in attempting to influence my muscularity. (20)	○	○	○	○	○

Protein-based supplements form an essential part of my diet. (21)	○	○	○	○	○
I have felt anxious when I run out of protein-based supplements. (22)	○	○	○	○	○
I have been deliberately trying to limit the overall volume of some foods, so that my muscles look more defined. (23)	○	○	○	○	○
If I broke any of my food rules, I attempted to make up for it with extra time in the gym. (24)	○	○	○	○	○
If I broke any of my food rules, I attempted to make up for it at my next meal. (25)	○	○	○	○	○
I have felt anxious about others knowing the rules I have around what I eat. (26)	○	○	○	○	○
Other people do not seem to understand how important my food choices are to me (27)	○	○	○	○	○
I have skipped eating despite feeling hungry, so that my muscles look more defined. (28)	○	○	○	○	○
Ensuring proper adherence to my dietary ideals is more important to me than adhering to a work schedule. (29)	○	○	○	○	○
When I see other muscular guys, I would rather know about their dietary regime than any other aspect of their life. (30)	○	○	○	○	○
I admire someone more for maintaining a muscular and ripped body, than I would for maintaining a fulfilling job or relationship. (31)	○	○	○	○	○
I imagine that my life would be a lot better if I become more muscular. (32)	○	○	○	○	○
I ate food based on their functionality rather than taste. (33)	○	○	○	○	○

End of Block: III. MOET

Start of Block: Attention Question 2

Q35 To prove you are paying attention, please type "Lotion" in the box.

_____

End of Block: Attention Question 2

Start of Block: IV. Barriers to Access to Care Evaluation (BACE)

Q15
Considering your responses to the previous questions, answer the following prompts.

Below you can see a list of things which can stop, delay or discourage people from getting professional care for a mental health problem, or continuing to get help. By professional care we mean care from such staff as a GP (family doctor), community mental health team (e.g. care coordinator, mental health nurse or mental health social worker), psychiatrist, counselor, psychologist or psychotherapist.

Have any of these issues <u>ever stopped, delayed or discouraged you</u> from getting, or continuing with, professional care for a mental health problem?

Please select one number on each row to indicate the answer that best suits you

	NOT AT ALL - 1 (1)	A LITTLE - 2 (2)	QUITE A LOT - 3 (3)	A LOT - 4 (4)
Being unsure where to go to get professional care (1)	○	○	○	○
Wanting to solve the problem on my own (2)	○	○	○	○
Concern that I might be seen as weak for having a mental health problem (3)	○	○	○	○
Fear of being put in hospital against my will (4)	○	○	○	○
Concern that it might harm my chances when applying for jobs (5)	○	○	○	○
Thinking the problem would get better by itself (6)	○	○	○	○
Concern about what my family might think, say, do or feel (7)	○	○	○	○

Feeling embarrassed or ashamed (8)	○	○	○	○
Preferring to get alternative forms of care (e.g. traditional / religious healing or alternative / complementary therapies) (9)	○	○	○	○
Not being able to afford the financial costs involved (10)	○	○	○	○
Concern that I might be seen as 'crazy' (11)	○	○	○	○
Thinking that professional care probably would not help (12)	○	○	○	○
Professionals from my own ethnic or cultural group not being available (13)	○	○	○	○
Being too unwell to ask for help (14)	○	○	○	○
Concern that people I know might find out (15)	○	○	○	○
Dislike of talking about my feelings, emotions or thoughts (16)	○	○	○	○
Concern that people might not take me seriously if they found out I was having professional care (17)	○	○	○	○
Concerns about the treatments available (e.g. medication side effects) (18)	○	○	○	○
Not wanting a mental health problem to be on my medical records (19)	○	○	○	○
Having had previous bad experiences with professional care for mental health (20)	○	○	○	○
Preferring to get help from family or friends (21)	○	○	○	○

Thinking I did not have a problem (22)				
Concern about what my friends might think, say or do (23)				
Difficulty taking time off work (24)				
Concern about what people at work might think, say or do (25)				
Having no one who could help me get professional care (26)				

End of Block: IV. Barriers to Access to Care Evaluation (BACE)

Start of Block: V. General Help Seeking Questionnaire

Q16 If you thought you were experiencing issues with disordered eating*, how likely is it that you would seek help from the following people?

***Disordered eating behaviors can involve skipping meals, weight-loss pill use, extreme dieting, subthreshold levels of bingeing and purging, and more. Disordered eating attitudes include overvaluation of weight and/or shape as well as eating concerns, such as the fear of losing control over one's eating behavior.**

Please indicate your response by providing a number from the scale which best describes your intention to seek help from each help source that is listed.

	1 (Extremely unlikely) (1)	2 (2)	3 (Unlikely) (3)	4 (4)	5 (Likely) (5)	6 (6)	7 (Extremely likely) (7)
Intimate partner (e.g. girlfriend, boyfriend, husband, wife, de facto) (1)							
Friend (not related to you) (2)							
Parent (3)							

Other relative/family member (4)	○	○	○	○	○	○	○
Mental Health professional (e.g. psychologist, social worker, counselor) (5)	○	○	○	○	○	○	○
Phone helpline (e.g. Lifeline) (6)	○	○	○	○	○	○	○
Doctor/GP (7)	○	○	○	○	○	○	○
Minister or religious leader (e.g. Priest, Rabbi, Chaplain) (8)	○	○	○	○	○	○	○
I would not seek help from anyone. (9)	○	○	○	○	○	○	○

End of Block: V. General Help Seeking Questionnaire

Start of Block: VI. Stigma-9 Questionnaire (STIG-9)

Q17 Please rate how much you agree with the following statements regarding how most people act toward men who have been treated for an eating disorder.

	0 (Disagree) (1)	**1 (somewhat disagree) (2)**	**2 (somewhat agree) (3)**	**3 (agree) (4)**	**A great deal (5)**
I think most people take the opinion of someone who has been treated for a mental illness less seriously. (1)	○	○	○	○	○
I think most people consider someone who has been treated for a mental illness to be dangerous (2)	○	○	○	○	○

I think most people hesitate to do business with someone who has been treated for a mental illness. (3)	○	○	○	○	○
I think most people think badly of someone who has been treated for a mental illness. (4)	○	○	○	○	○
I think most people consider mental illness to be a sign of personal weakness. (5)	○	○	○	○	○
I think most people hesitate to entrust their child with someone who has been treated for a mental illness. (6)	○	○	○	○	○
I think most people do not even take a look at an application from someone who has been treated for a mental illness. (7)	○	○	○	○	○
I think most people do not enter into a relationship with someone who has been treated for a mental illness. (8)	○	○	○	○	○
I think most people feel uneasy when someone who has been treated for a mental illness moves into the neighbourhood. (9)	○	○	○	○	○

End of Block: VI. Stigma-9 Questionnaire (STIG-9)

Start of Block: Attention Question 3

Q37 To prove you are paying attention:
Please type "15" in Box 1
Please type "26" in Box 2
Please type "746" in Box 3

○ **Box 1 (1)** _____

○ **Box 2 (2)** _____

○ **Box 3 (3)** _____

End of Block: Attention Question 3

Start of Block: Vignettes

Q18 Meet Michael. Michael is a 19-year-old college student. Although mildly overweight as an adolescent, Michaels's current weight is well below the normal range for his age and height. However, he thinks that he is overweight. He recently joined a fitness program at the gym and started running daily. Through this effort, he has begun to lose weight. Michael has also begun to "diet", avoiding all fatty foods, restricting his food intake by skipping meals, and eating small set amounts of "healthy foods" each day, mainly fruit and vegetables and bread or rice. On occasions, Michael finds it difficult to control his eating but then he redoubles his efforts to overcome his temptation, eating even less than he usually does and exercising even more. In addition, he has developed an intense fear of gaining any weight.

How much do you agree with the following statements in regard to the character you just read about?

	None at all (1)	A little (2)	A moderate amount (3)	A lot (4)	A great deal (5)
They are feminine (1)	○	○	○	○	○
They are masculine (2)	○	○	○	○	○
They are weird (3)	○	○	○	○	○
They are intelligent (4)	○	○	○	○	○
They are a danger to others (5)	○	○	○	○	○
They are a narcissist (6)	○	○	○	○	○
They are self-destructive (7)	○	○	○	○	○
They have self-control (8)	○	○	○	○	○
They are likeable (9)	○	○	○	○	○
They are heterosexual (10)	○	○	○	○	○
They are similar to me (11)	○	○	○	○	○

They will recover easily (12)	○	○	○	○	○
Others are willing to be friends with them (13)	○	○	○	○	○
Strain on your friendship (14)	○	○	○	○	○
You watch or monitor them (15)	○	○	○	○	○
Others watch or monitor them (16)	○	○	○	○	○
They are likely to talk about their problem (17)	○	○	○	○	○
You are uncomfortable talking to them (18)	○	○	○	○	○
They are uncomfortable in social situations (19)	○	○	○	○	○
You are cautious not to upset them (20)	○	○	○	○	○
They are responsible for their condition (21)	○	○	○	○	○
They are able to pull self together (22)	○	○	○	○	○
They are less competent (23)	○	○	○	○	○
They are using their disorder to get attention (24)	○	○	○	○	○
They are physically fragile (25)	○	○	○	○	○

They are psychologically fragile (26)	○	○	○	○	○
They are discriminated against (27)	○	○	○	○	○

Q19 Meet Jason. Jason is a 19-year-old college student. Although mildly underweight as an adolescent, Jason's current weight is well above the average range for his age and height. His body is muscular with little body fat. However, he thinks that he is underweight and "scrawny". He recently began extra weightlifting sessions at the gym and started running daily. Through this effort, he has begun to gain more muscle and muscle definition. Jason has also begun to "diet", avoiding all fatty foods and eating large amounts of "healthy foods" each day. On occasions, Jason finds it difficult to control his eating and workouts, but then he redoubles his efforts to overcome his temptations, adhering strictly to his diet and exercising even more. In addition, he has developed an intense fear of losing his muscle mass.

How much do you agree with the following statements in regard to the character you just read about?

	None at all (1)	A little (2)	A moderate amount (3)	A lot (4)	A great deal (5)
They are feminine (1)	○	○	○	○	○
They are masculine (2)	○	○	○	○	○
They are weird (3)	○	○	○	○	○
They are intelligent (4)	○	○	○	○	○
They are a danger to others (5)	○	○	○	○	○
They are a narcissist (6)	○	○	○	○	○
They are self-destructive (7)	○	○	○	○	○
They have self-control (8)	○	○	○	○	○

They are likeable (9)	○	○	○	○	○
They are heterosexual (10)	○	○	○	○	○
They are similar to me (11)	○	○	○	○	○
They will recover easily (12)	○	○	○	○	○
Others are willing to be friends with them (13)	○	○	○	○	○
Strain on your friendship (14)	○	○	○	○	○
You watch or monitor them (15)	○	○	○	○	○
Others watch or monitor them (16)	○	○	○	○	○
They are likely to talk about their problem (17)	○	○	○	○	○
You are uncomfortable talking to them (18)	○	○	○	○	○
They are uncomfortable in social situations (19)	○	○	○	○	○
You are cautious not to upset them (20)	○	○	○	○	○
They are responsible for their condition (21)	○	○	○	○	○
They are able to pull self together (22)	○	○	○	○	○

They are less competent (23)	○	○	○	○	○
They are using their disorder to get attention (24)	○	○	○	○	○
They are physically fragile (25)	○	○	○	○	○
They are psychologically fragile (26)	○	○	○	○	○
They are discriminated against (27)	○	○	○	○	○

End of Block: Vignettes

Start of Block: End of Survey

Q20
Would you like to be entered in our raffle for prizes? 30 participants will be randomly selected to win one of the following prizes:

-iPad 9th Generation
-AirPods (2nd generation)
-Nintendo Switch Lite
-Roku Express HD
-Anker - PowerCore III 10K Portable Charger
-Toshiba - TY-WSP70 Portable Bluetooth Speaker

○ **Yes, I would like to be entered in the raffle (1)**

○ **No, I would not like to be entered in the raffle (2)**

Skip To: Q23 If Would you like to be entered in our raffle for prizes? 30 participants will be randomly selected... = No, I would not like to be entered in the raffle

Q21 Please rank the following raffle items in order of preference. 1 being of highest preference and 6 being of lowest preference. This does not guarantee you will receive your first choice if you are chosen in the raffle.

_____ iPad 9th Generation (1)

_____ AirPods (2nd generation) (2)

_____ Nintendo Switch Lite (3)

_____ Roku Express HD (4)

_____ Anker - PowerCore III 10K Portable Charger (5)

_____ Toshiba - TY-WSP70 Portable Bluetooth Speaker (6)

Q22 You will be contacted through your terpmail if you are one of the randomly selected winners. Please continue the survey.

Q23 Would you like to be sent the study results upon the completion of our investigation? This will be sent to your terpmail.

- **Yes, I would like to be sent the study results. (1)**
- **No, I would not like to be sent the study results. (2)**

End of Block: End of Survey

References

Akey, J. E., Rintamaki, L. S., & Kane, T. L. (2013). Health Belief Model deterrents of social support seeking among people coping with eating disorders. *Journal of Affective Disorders*, *145*(2), 246–252. https://doi.org/10.1016/j.jad.2012.04.045

Amin, A., Kågesten, A., Adebayo, E., & Chandra-Mouli, V. (2018). Addressing gender socialization and masculinity norms among adolescent boys: policy and programmatic implications. *Journal of Adolescent Health*, *62*(3), S3–S5. https://doi.org/10.1016/j.jadohealth.2017.06.022

Ayala, G. X., Mickens, L., Galindo, P., & Elder, J. P. (2007). Acculturation and body image perception among Latino youth. *Ethnicity & Health*, *12*(1), 21–41. https://doi.org/10.1080/13557850600824294

Becker, A. E., Franko, D. L., Speck, A., & Herzog, D. B. (2003). Ethnicity and differential access to care for eating disorder symptoms. *International Journal of Eating Disorders*, *33*(2), 205–212. https://doi.org/10.1002/eat.10129

Becker, C. B., Middlemass, K., Taylor, B., Johnson, C., & Gomez, F. (2017). Food insecurity and eating disorder pathology. *International Journal of Eating Disorders*, *50*(9), 1031–1040. https://doi.org/10.1002/eat.22735

Brennan, D. J., Asakura, K., George, C., Newman, P. A., Giwa, S., Hart, T. A., Souleymanov, R., & Betancourt, G. (2013). "Never reflected anywhere": Body image among ethnoracialized gay and bisexual men. *Body Image*, *10*(3), 389–398. https://doi.org/10.1016/j.bodyim.2013.03.006

Breton, É., Dufour, R., Côté, S. M., Dubois, L., Vitaro, F., Boivin, M., Tremblay, R. E., & Booij, L. (2022). Developmental trajectories of eating disorder symptoms: A longitudinal study from

early adolescence to young adulthood. *Journal of Eating Disorders*, *10*, 84. https://doi.org/10.1186/s40337-022-00603-z

Castellini, G., Lelli, L., Cassioli, E., & Ricca, V. (2019). Relationships between eating disorder psychopathology, sexual hormones and sexual behaviours. *Molecular and Cellular Endocrinology*, *497*, 110429. https://doi.org/10.1016/j.mce.2019.04.009

Chang, S., Singh, A., & Dickey, L. (2018). *A Clinician's Guide to Gender-Affirming Care: Working with Transgender and Gender Nonconforming Clients*. Context Press. https://web.p.ebscohost.com/ehost/ebookviewer/ebook/bmxlYmtfXzE4NDIyNDRfX0FO0?sid=fbf694f1-6b84-46bc-8261-c2cb5952293c@redis&vid=0&format=EB&lpid=lp_iv&rid=0

Cheng, Z. H., Perko, V. L., Fuller-Marashi, L., Gau, J. M., & Stice, E. (2019). Ethnic differences in eating disorder prevalence, risk factors, and predictive effects of risk factors among young women. *Eating Behaviors*, *32*, 23–30. https://doi.org/10.1016/j.eatbeh.2018.11.004

Coelho, J. S., Suen, J., Clark, B. A., Marshall, S. K., Geller, J., & Lam, P. Y. (2019). Eating disorder diagnoses and symptom presentation in transgender youth: a scoping review. *Current psychiatry reports*, 21, 1-10.

Cotton, S. M., Wright, A., Harris, M. G., Jorm, A. F., & Mcgorry, P. D. (2006). Influence of gender on mental health literacy in young Australians. *Australian & New Zealand Journal of Psychiatry*, *40*(9), 790–796. https://doi.org/10.1080/j.1440-1614.2006.01885.x

Courtenay, W. (2000). Behavioral factors associated with disease, injury, and death among men: Evidence and implications for prevention. *The Journal of Men's Studies*, *9*(1), 81–142. https://doi.org/10.3149/jms.0901.81

Cousineau, T. M., Franko, D. L., Ciccazzo, M., Goldstein, M., & Rosenthal, E. (2006). Web-based nutrition education for college students: Is it feasible? *Evaluation and Program Planning*, *29*(1), 23–33. https://doi.org/10.1016/j.evalprogplan.2005.04.018

Daniati, N., Widjaja, G., Olalla Gracìa, M., Chaudhary, P., Nader Shalaby, M., Chupradit, S., & Fakri Mustafa, Y. (2021). The Health Belief Model's application in the development of health behaviors. *Health Education and Health Promotion*, *9*(5), 521–527. http://hehp.modares.ac.ir/article-5-56557-en.html

De Kretser, D. M. (2010). Determinants of male health: the interaction of biological and social factors. *Asian Journal of Andrology*, *12*(3), 291–297. https://doi.org/10.1038/aja.2010.15

Diemer, E. W., White Hughto, J. M., Gordon, A. R., Guss, C., Austin, S. B., & Reisner, S. L. (2018). Beyond the binary: differences in eating disorder prevalence by gender identity in a transgender sample. *Transgender Health,* 3(1), 17-23.

Douglas, V. J., Kwan, M. Y., Minnich, A. M., & Gordon, K. H. (2019). The interaction of sociocultural attitudes and gender on disordered eating. *Journal of Clinical Psychology*, *75*(12), 2140–2146. https://doi.org/10.1002/jclp.22835

Drummond, M. (2002). Men, body image, and eating disorders. *International Journal of Men's Health*, *1*(1), 89–103. https://doi.org/10.3149/jmh.0101.89

Duffy, M. E., Henkel, K. E., & Earnshaw, V. A. (2016). Transgender clients' experiences of eating disorder treatment. *Journal of LGBT Issues in counseling*, 10(3), 136-149.

Eisenberg, D., Nicklett, E. J., Roeder, K., & Kirz, N. E. (2011). Eating disorder symptoms among college students: Prevalence, persistence, correlates, and treatment-seeking. *Journal of American College Health : J of ACH*, *59*(8), 700–707. https://doi.org/10.1080/07448481.2010.546461

Fadus, M. (2019). Mental health disparities and medical student education: Teaching in psychiatry for LGBTQ care, communication, and advocacy. *Academic Psychiatry*, *43*(3), 306–310. https://doi.org/10.1007/s40596-019-01024-y

FAIR Health. (2023, November 15). *Spotlight on Eating Disorders: An Analysis of Private Healthcare Claims*. FAIR Health. https://s3.amazonaws.com/media2.fairhealth.org/whitepaper/asset/Spotlight%20on%20Eating%20Disorders%20-%20A%20FAIR%20Health%20White%20Paper.pdf

Fall 2023 UMD Student Demographics. (2023). University of Maryland Office of Institutional Research, Planning & Assessment. https://www.irpa.umd.edu/CampusCounts/Enrollments/enroll_demographics.pdf

Geilhufe, B., Tripp, O., Silverstein, S., Birchfield, L., & Raimondo, M. (2021). Gender-affirmative eating disorder care: Clinical considerations for transgender and gender expansive children and youth. *Pediatric Annals*, *50*(9). https://doi.org/10.3928/19382359-20210820-01

Goldhammer, H. B., Maston, E. D., & Keuroghlian, A. S. (2019). Addressing eating disorders and body dissatisfaction in sexual and gender minority youth. *American Journal of Preventive Medicine*, *56*(2), 318–322. https://doi.org/10.1016/j.amepre.2018.09.011

Gonzalez, J. M., Alegría, M., Prihoda, T. J., Copeland, L. A., & Zeber, J. E. (2011). How the relationship of attitudes toward mental health treatment and service use differs by age, gender, ethnicity/race and education. *Social Psychiatry and Psychiatric Epidemiology*, *46*(1), 45–57. https://doi.org/10.1007/s00127-009-0168-4

Gordon, A. R., Beccia, A. L., Egan, N., & Lipson, S. K. (2024). Intersecting gender identity and racial/ethnic inequities in eating disorder risk factors, symptoms, and diagnosis among U.S.

college students: An intersectional multilevel analysis of individual heterogeneity and discriminatory accuracy. *International Journal of Eating Disorders*, *57*(1), 146–161. https://doi.org/10.1002/eat.24089

Griffiths, S., Mond, J. M., Li, Z., Gunatilake, S., Murray, S. B., Sheffield, J., & Touyz, S. (2015). Self‐stigma of seeking treatment and being male predict an increased likelihood of having an undiagnosed eating disorder. *International Journal of Eating Disorders*, *48*(6), 775–778. https://doi.org/10.1002/eat.22413

Griffiths, S., Mond, J. M., Murray, S. B., & Touyz, S. (2014). Young peoples' stigmatizing attitudes and beliefs about anorexia nervosa and muscle dysmorphia. *International Journal of Eating Disorders*, *47*(2), 189–195. https://doi.org/10.1002/eat.22220

Grimm, J., & Schwartz, J. (2017). Body image and race on gay male-targeted blogs. *Howard Journal of Communications*, *28*(4), 323–338. https://doi.org/10.1080/10646175.2017.1300967

Gusfa, D., Mancine, R., Kennedy, S., Bashir, D. A., & Saffarian, M. (2022). The relationship between disordered eating behaviors and injury rates in adolescent athletes. *International Journal of Eating Disorders*, *55*(1), 131–134. https://doi.org/10.1002/eat.23642

Hackler, A. H., Vogel, D. L., & Wade, N. G. (2010). Attitudes toward seeking professional help for an eating disorder: The Role of Stigma and Anticipated Outcomes. *Journal of Counseling & Development*, *88*(4), 424–431. https://doi.org/10.1002/j.1556-6678.2010.tb00042.x

Halbeisen, G., Brandt, G., & Paslakis, G. (2022). A plea for diversity in eating disorders research. *Frontiers in Psychiatry*, *13*. https://doi.org/10.3389/fpsyt.2022.820043

Hazzard, V. M., Loth, K. A., Hooper, L., & Becker, C. B. (2020). Food insecurity and eating disorders: A review of emerging evidence. *Current psychiatry reports*, 22, 1-9.

Hoggard, L. S., Volpe, V., Thomas, A., Wallace, E., & Ellis, K. (2019). The role of emotional eating in the links between racial discrimination and physical and mental health. *Journal of Behavioral Medicine*, *42*(6), 1091–1103. https://doi.org/10.1007/s10865-019-00044-1

Hooper, L., Puhl, R., Eisenberg, M. E., Crow, S., & Neumark‐Sztainer, D. (2021). Weight teasing experienced during adolescence and young adulthood: Cross‐sectional and longitudinal associations with disordered eating behaviors in an ethnically/racially and socioeconomically diverse sample. *International Journal of Eating Disorders*, *54*(8), 1449–1462. https://doi.org/10.1002/eat.23534

Huryk, K. M., Drury, C. R., & Loeb, K. L. (2021). Diseases of affluence? A systematic review of the literature on socioeconomic diversity in eating disorders. Eating Behaviors, 43, 101548.

Jones, C. P. (2002). Confronting institutionalized racism. *Phylon (1960-)*, *50*(1/2), 7–22. https://doi.org/10.2307/4149999

Jones, W., & Morgan, J. (2010). Eating disorders in men: a review of the literature. *Journal of Public Mental Health*, *9*(2), 23–31. https://doi.org/10.5042/jpmh.2010.0326

Jorm, A. F. (2012). Mental health literacy: Empowering the community to take action for better mental health. *American Psychologist*, *67*(3), 231–243. https://doi.org/10.1037/a0025957

Kamody, R. C., Grilo, C. M., & Udo, T. (2020). Disparities in *DSM‐5* defined eating disorders by sexual orientation among U.S. adults. *International Journal of Eating Disorders*, *53*(2), 278–287. https://doi.org/10.1002/eat.23193

Kelly, C. M., Jorm, A. F., & Wright, A. (2007). Improving mental health literacy as a strategy to facilitate early intervention for mental disorders. *Medical Journal of Australia*, *187*(S7). https://doi.org/10.5694/j.1326-5377.2007.tb01332.x

Kelly, N. R., Smith, T. M., Hall, G. C. N., Guidinger, C., Williamson, G., Budd, E. L., & Giuliani, N. R. (2018). Perceptions of general and postpresidential election discrimination are associated with loss of control eating among racially/ethnically diverse young men. *International Journal of Eating Disorders*, *51*(1), 28–38. https://doi.org/10.1002/eat.22803

Lassi, Z., Moin, A., & Bhutta, Z. (2017). Nutrition in middle childhood and adolescence. In D. A. P. Bundy, N. de Silva, S. Horton, D. T. Jamison, & G. C. Patton (Eds.), *Child and Adolescent Health and Development* (3rd ed.). The International Bank for Reconstruction and Development / The World Bank. http://www.ncbi.nlm.nih.gov/books/NBK525242/

LaVeist, T. A., Rolley, N. C., & Diala, C. (2003). Prevalence and patterns of discrimination among U.S. health care consumers. *International Journal of Health Services*, *33*(2), 331–344. https://doi.org/10.2190/TCAC-P90F-ATM5-B5U0

Lavender, J. M., De Young, K. P., & Anderson, D. A. (2010). Eating disorder examination questionnaire (EDE-Q): Norms for undergraduate men. *Eating Behaviors*, *11*(2), 119–121. https://doi.org/10.1016/j.eatbeh.2009.09.005

Lillie-Blanton, M., Brodie, M., Rowland, D., Altman, D., & McIntosh, M. (2000). Race, ethnicity, and the health care system: Public perceptions and experiences. *Medical Care Research and Review*, *57*(1_suppl), 218–235. https://doi.org/10.1177/1077558700057001S10

MacNeill, L. P., Best, L. A., & Davis, L. L. (2017). The role of personality in body image dissatisfaction and disordered eating: discrepancies between men and women. *Journal of Eating Disorders*, *5*(1), 44. https://doi.org/10.1186/s40337-017-0177-8

Malonda-Vidal, E., Samper-García, P., Llorca-Mestre, A., Muñoz-Navarro, R., & Mestre-Escrivá, V. (2021). Traditional masculinity and aggression in adolescence: Its

relationship with emotional processes. *International Journal of Environmental Research and Public Health*, *18*(18), 9802. https://doi.org/10.3390/ijerph18189802

Marques, L., Alegria, M., Becker, A. E., Chen, C., Fang, A., Chosak, A., & Diniz, J. B. (2011). Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. *International Journal of Eating Disorders*, *44*(5), 412–420. https://doi.org/10.1002/eat.20787

Mason, T. B., Smith, K. E., & Lavender, J. M. (2019). Stigma control model of dysregulated eating: A momentary maintenance model of dysregulated eating among marginalized/stigmatized individuals. *Appetite*, *132*, 67–72. https://doi.org/10.1016/j.appet.2018.09.017

Messerschmidt, J. W. (2019). The Salience of "Hegemonic Masculinity." *Men and Masculinities*, *22*(1), 85–91. https://doi.org/10.1177/1097184X18805555

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

Milano, W., Ambrosio, P., Carizzone, F., De Biasio, V., Foggia, G., & Capasso, A. (2020). Gender dysphoria, eating disorders and body image: an overview. *Endocrine, Metabolic & Immune Disorders-Drug Targets (Formerly Current Drug Targets-Immune, Endocrine & Metabolic Disorders)*, 20(4), 518-524.

Mond, J. M., Robertson-Smith, G., & Vetere, A. (2006). Stigma and eating disorders: Is there evidence of negative attitudes towards anorexia nervosa among women in the community? *Journal of Mental Health*, *15*(5), 519–532. https://doi.org/10.1080/09638230600902559

Neumark-Sztainer, D., Wall, M. M., Chen, C., Larson, N. I., Christoph, M. J., & Sherwood, N. E. (2018). Eating, activity, and weight-related problems from adolescence to adulthood. *American Journal of Preventive Medicine*, *55*(2), 133–141. https://doi.org/10.1016/j.amepre.2018.04.032

Núñez‐Navarro, A., Agüera, Z., Krug, I., Jiménez‐Murcia, S., Sánchez, I., Araguz, N., Gorwood, P., Granero, R., Penelo, E., Karwautz, A., Moragas, L., Saldaña, S., Treasure, J., Menchón, J. M., & Fernández‐Aranda, F. (2012). Do men with eating disorders differ from women in clinics, psychopathology and personality? *European Eating Disorders Review*, *20*(1), 23–31. https://doi.org/10.1002/erv.1146

Pinho, A. da S., Molleman, L., Braams, B. R., & van den Bos, W. (2021). Majority and popularity effects on norm formation in adolescence. *Scientific Reports*, *11*(1), 12884. https://doi.org/10.1038/s41598-021-92482-8

Riddle, M. C., & Safer, J. D. (2022). Medical considerations in the care of transgender and gender diverse patients with eating disorders. *Journal of eating disorders*, 10(1), 178.

Robertson, M., Duffy, F., Newman, E., Bravo, C. P., Ates, H. H., & Sharpe, H. (2021). Exploring changes in body image, eating and exercise during the COVID-19 lockdown: A UK survey. *Appetite*, 159, 105062.

Rodgers, R. F., Berry, R., & Franko, D. L. (2018). Eating disorders in ethnic minorities: an update. *Current Psychiatry Reports*, *20*(10), 90. https://doi.org/10.1007/s11920-018-0938-3

Ross, K., & Dorazio, J. (2022). The latest poverty, income, and food insecurity data reveal continuing racial disparities. *Center for American Progress*. https://www.americanprogress.org/article/the-latest-poverty-income-and-food-insecurity-data-reveal-continuing-racial-disparities/

Sahi Iyer, D., & Haslam, N. (2003). Body image and eating disturbance among south Asian‐American women: The role of racial teasing. *International Journal of Eating Disorders*, *34*(1), 142–147. https://doi.org/10.1002/eat.10170

Sarra, S. R., & Abar, C. C. (2022). Perceptions of control and disordered eating behaviors during college transitions. *Journal of American College Health*, *70*(7), 2091–2098. https://doi.org/10.1080/07448481.2020.1842745

Schaefer, L. M., & Thompson, J. K. (2018). Self‐objectification and disordered eating: A meta‐analysis. *International Journal of Eating Disorders*, *51*(6), 483–502. https://doi.org/10.1002/eat.22854

Siconolfi, D., Halkitis, P. N., Allomong, T. W., & Burton, C. L. (2009). Body dissatisfaction and eating disorders in a sample of gay and bisexual men. *International Journal of Men's Health*, *8*(3), 254–264. https://doi.org/10.3149/jmh.0803.254

Smith, K. E., Mason, T. B., Anderson, N. L., & Lavender, J. M. (2019). Unpacking cognitive emotion regulation in eating disorder psychopathology: The differential relationships between rumination, thought suppression, and eating disorder symptoms among men and women. *Eating Behaviors*, *32*, 95–100. https://doi.org/10.1016/j.eatbeh.2019.01.003

Smith, K. E., Mason, T. B., Murray, S. B., Griffiths, S., Leonard, R. C., Wetterneck, C. T., Smith, B. E. R., Farrell, N. R., Riemann, B. C., & Lavender, J. M. (2017). Male clinical norms and sex differences on the eating disorder inventory (EDI) and eating disorder examination questionnaire (EDE‐Q). *International Journal of Eating Disorders*, *50*(7), 769–775. https://doi.org/10.1002/eat.22716

Smolak, L., & Striegel-Moore, R. H. (2001). Challenging the myth of the golden girl: Ethnicity and eating disorders. In R. H. Striegel-Moore & L. Smolak (Eds.), *Eating disorders:*

Innovative directions in research and practice. (pp. 111–132). American Psychological Association. https://doi.org/10.1037/10403-006

Sonneville, K. R., & Lipson, S. K. (2018). Disparities in eating disorder diagnosis and treatment according to weight status, race/ethnicity, socioeconomic background, and sex among college students. *International Journal of Eating Disorders*, *51*(6), 518–526. https://doi.org/10.1002/eat.22846

Stagnaro, J. C., Cía, A. H., Aguilar Gaxiola, S., Vázquez, N., Sustas, S., Benjet, C., & Kessler, R. C. (2018). Twelve-month prevalence rates of mental disorders and service use in the Argentinean Study of Mental Health Epidemiology. *Social Psychiatry and Psychiatric Epidemiology*, *53*(2), 121–129. https://doi.org/10.1007/s00127-017-1475-9

Stepanikova, I., & Cook, K. S. (2008). Effects of poverty and lack of insurance on perceptions of racial and ethnic bias in health care. *Health Services Research*, *43*(3), 915–930. https://doi.org/10.1111/j.1475-6773.2007.00816.x

Stewardson, L., Nolan, J., & Talleyrand, R. (2020). Eating disorders and body image concerns in men of color: Cultural considerations. *Journal of Mental Health Counseling*, *42*(2), 110–123. https://doi.org/10.17744/mehc.42.2.02

Striegel‐Moore, R. H., Rosselli, F., Perrin, N., DeBar, L., Wilson, G. T., May, A., & Kraemer, H. C. (2009). Gender difference in the prevalence of eating disorder symptoms. *International Journal of Eating Disorders*, *42*(5), 471–474. https://doi.org/10.1002/eat.20625

Strother, E., Lemberg, R., Stanford, S. C., & Turberville, D. (2012). Eating disorders in men: Underdiagnosed, undertreated, and misunderstood. *Eating Disorders*, *20*(5), 346–355. https://doi.org/10.1080/10640266.2012.715512

Su, P. N. (2023). Striving to be men in the family: masculinity and capitalist transformation in Vietnam. *Men and Masculinities*, 1097184X231211594. https://doi.org/10.1177/1097184X231211594

Suffolk, M. T., Dovey, T. M., Goodwin, H., & Meyer, C. (2013). Muscle dysmorphia: Methodological issues, implications for research. *Eating Disorders*, *21*(5), 437–457. https://doi.org/10.1080/10640266.2013.828520

Swanson, S. A., Crow, S. J., Le Grange, D., Swendsen, J., & Merikangas, K. R. (2011). Prevalence and correlates of eating disorders in adolescents. *Archives of General Psychiatry*, *68*(7), 714–723. https://doi.org/10.1001/archgenpsychiatry.2011.22

Treasure, J., Duarte, T. A., & Schmidt, U. (2020). Eating disorders. *The Lancet*, *395*(10227), 899–911. https://doi.org/10.1016/S0140-6736(20)30059-3

von dem Knesebeck, O., Mnich, E., Daubmann, A., Wegscheider, K., Angermeyer, M. C., Lambert, M., Karow, A., Härter, M., & Kofahl, C. (2013). Socioeconomic status and beliefs about depression, schizophrenia and eating disorders. *Social Psychiatry and Psychiatric Epidemiology*, *48*(5), 775–782. https://doi.org/10.1007/s00127-012-0599-1

Vupputuri, S., Daugherty, S., Yu, K., Truong, C., Wells, A., & Emanuel, E. W. (2021). The quality of care of transgender and gender nonconforming patients: The provider perspective. *The Permanente Journal*, *25*(1), 1–1. https://doi.org/10.7812/TPP/19.227

Waller, G., Schmidt, U., Treasure, J., Emanuelli, F., Alenya, J., Crockett, J., & Murray, K. (2009). Ethnic origins of patients attending specialist eating disorders services in a multiethnic urban catchment area in the United Kingdom. *International Journal of Eating Disorders*, *42*(5), 459–463. https://doi.org/10.1002/eat.20631

Wang, H., Dwyer-Lindgren, L., Lofgren, K. T., Rajaratnam, J. K., Marcus, J. R., Levin-Rector, A., Levitz, C. E., Lopez, A. D., & Murray, C. J. (2012). Age-specific and sex-specific mortality in 187 countries, 1970–2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*, *380*(9859), 2071–2094. https://doi.org/10.1016/S0140-6736(12)61719-X

Williams, D. R., & Mohammed, S. A. (2013). Racism and health I: Pathways and scientific evidence. *American Behavioral Scientist*, *57*(8), 1152–1173. https://doi.org/10.1177/0002764213487340

Williams-Kerver, G. A., & Crowther, J. H. (2020). Emotion differentiation and disordered eating behaviors: The role of appearance schemas. *Eating Behaviors*, *37*, 101369. https://doi.org/10.1016/j.eatbeh.2020.101369

Wilson, B. D. M., Bouton, L. J. A., Badgett, M. V. L., & Macklin, M. L. (2023). LGBT poverty in the US: Trends at the onset of COVID-19. The Williams Institute, UCLA School of Law. https://williamsinstitute.law.ucla.edu/publications/lgbt-poverty-us/

Yu, J., Hildebrandt, T., & Lanzieri, N. (2015). Healthcare professionals' stigmatization of men with anabolic androgenic steroid use and eating disorders. *Body Image*, *15*, 49–53. https://doi.org/10.1016/j.bodyim.2015.06.001

Zehr, J. L., Culbert, K. M., Sisk, C. L., & Klump, K. L. (2007). An association of early puberty with disordered eating and anxiety in a population of undergraduate women and men. *Hormones and Behavior*, *52*(4), 427–435. https://doi.org/10.1016/j.yhbeh.2007.06.005

Zeiler, M., Waldherr, K., Philipp, J., Nitsch, M., Dür, W., Karwautz, A., & Wagner, G. (2016). Prevalence of eating disorder risk and associations with health-related quality of life: Results

from a large school-based population screening. *European Eating Disorders Review: The Journal of the Eating Disorders Association*, *24*(1), 9–18. https://doi.org/10.1002/erv.2368

Zhan, C., Heatherington, L., & Klingenberg, B. (2022). Disordered eating- and exercise-related behaviors and cognitions during the first year college transition. *Journal of American College Health*, *70*(3), 852–863. https://doi.org/10.1080/07448481.2020.1775608