CHAPMAN UNIVERSITY

Chapman University Digital Commons

Student Scholar Symposium Abstracts and Posters

Center for Undergraduate Excellence

Spring 5-2-2024

Disordered Eating in Transgender and Non-Binary Individuals

Vincent Marais
Chapman University, marais@chapman.edu

Follow this and additional works at: https://digitalcommons.chapman.edu/cusrd_abstracts

 Part of the Psychology Commons

Recommended Citation

Marais, Vincent, "Disordered Eating in Transgender and Non-Binary Individuals" (2024). *Student Scholar Symposium Abstracts and Posters*. 673.
https://digitalcommons.chapman.edu/cusrd_abstracts/673

This Presentation is brought to you for free and open access by the Center for Undergraduate Excellence at Chapman University Digital Commons. It has been accepted for inclusion in Student Scholar Symposium Abstracts and Posters by an authorized administrator of Chapman University Digital Commons. For more information, please contact laughtin@chapman.edu.

Disordered Eating in Transgender and Non-Binary Individuals

Vincent S. Marais

Chapman University

Abstract

The purpose of this study was to examine the prevalence and nature of disordered eating behaviors and body image issues among transgender and non-binary individuals. It examined prevalence rates of different disordered eating behaviors to contrast them with rates among cisgender individuals. It also examined the ways in which gender-affirming healthcare and social acceptance of one's gender identity are correlated with improvement in eating habits and body image. For transgender and non-binary survey participants, the prevalence of disordered eating behaviors was compared to self-reported stage of transition. The prevalence of disordered eating behaviors among binary transgender participants at different stages of transition were also compared to the prevalence of similar behaviors among cisgender participants. Levels of self-acceptance of transgender status were recorded in transgender and non-binary participants and compared to the prevalence of disordered eating behaviors. Finally, willingness to seek treatment among transgender and non-binary participants was compared to the willingness to seek treatment among cisgender participants. The results found no statistically significant information. This lack of statistical significance can most likely be attributed to small transgender and nonbinary sample size. Further research with a larger sample size would be necessary. The results from this study are intended to provide insight into the treatment needs of transgender and non-binary eating disorder patients, an understudied demographic, and open the door for future research in order to aid the development of treatments that are better suited to their unique needs.

Disordered Eating in Transgender and Non-Binary Individuals

The topic of eating disorders in transgender and non-binary individuals is understudied. Much research has been done on eating disorders in cisgender women, and while less research has been done on eating disorders in cisgender men, the studies still vastly outnumber those on eating disorders in other gender groups. Understanding how disordered eating symptoms, something that has been shown to be heavily associated with gender roles and expectations, present themselves in people who fall outside a cisgender binary system of gender is crucial to a broader scope of understanding on the topic, as well as being crucial to providing effective treatment for eating disorders in transgender and non-binary patients. This study aims to shed light on the presentation of disordered eating behaviors in minority gender groups, and to consider factors unique to these groups, such as how social transition and hormone replacement therapy may affect these symptoms.

Disordered Eating and Body Dissatisfaction

The transdiagnostic model of eating disorders is a view based on the observation that the main processes behind eating disorders are the same across different eating disorders (Fairburn et al., 2003). This theory was developed in response to two interrelated arguments regarding the development of eating disorders, namely the cognitive behavioral theory, emphasizing low self-esteem, mood intolerance and interpersonal difficulties, and the argument that eating disorders share clinical features that are maintained by similar psychopathological processes. The transdiagnostic model builds off these arguments by suggesting that these common mechanisms are shared between anorexia nervosa, bulimia nervosa, and other/atypical eating disorders,

emphasizing the broader relevance of all of the potential underlying factors contributing to different forms of disordered eating behaviors.

Factors have included low self-esteem, mood intolerance, and perfectionism. Core low self-esteem and mood intolerance are directly related to eating disorder symptoms, and perfectionism is indirectly related through self-esteem and mood intolerance (Jones et al., 2020).

Furthermore, this core low self-esteem functions as a basis for a dysfunctional schema of self-evaluation and a mismatch between the mental picture of oneself and reality, incorporating over-evaluation of the concepts of eating, shape, weight, and control over these things, and is exacerbated by mood intolerance and stressful life factors (Fairburn et al., 2003). Clinical perfectionism also interacts with the dysfunctional self-evaluation schema to create disordered attempts to control eating, shape, and weight, as well as other aspects of life, which in turn may lead to the development of an eating disorder.

Self-criticism, attentiveness to performance, and fear of failure (“fatness” or weight gain in this context) enable and maintain the disordered eating behaviors. In addition, core low self-esteem creates a resistance to change, through both hopelessness regarding the possibility of change and a determination to pursue achievement in certain domains (in this context, control over eating, shape, and weight), that contributes to the maintenance of these behaviors and causes resistance to treatment (Fairburn et al., 2003).

While the interaction between low levels of self-esteem and clinical perfectionism was found to be transdiagnostic throughout different eating disorders, the specific

interaction between self-esteem, perfectionism, and a desire for thinness were found to be inconsistent between different eating disorders (Puttevils et al., 2019). This suggests that, though these factors are transdiagnostic, the individual eating disorders and the ways in which they affect individuals specifically must also be considered.

Transgender individuals frequently suffer from things such as overall poor mental health, with 58% of a transgender sample having at least one mental disorder diagnosis, compared to 13.6% of a control sample, with major depressive disorder and generalized anxiety disorder being the most common (Wanta et al., 2019). They also frequently suffer from poor body image and body satisfaction (Jones et al., 2015). These factors have been known to contribute to and result in disordered eating behaviors, putting transgender people at a higher risk for developing these behaviors.

Disordered Eating Behaviors Over the Course of Transition

Transgender individuals frequently suffer from comorbid mental health conditions such as depression, anxiety, and eating disorders, at a much greater rate than the general population (Wanta et al., 2019). They have an increased prevalence for all psychiatric disorder diagnoses, with major depressive disorder and generalized anxiety disorder being the most prevalent. There is also an increased prevalence for bipolar disorder and psychotic disorders, as well as substance use disorders, including alcohol use disorder and cannabis use disorder. Eating disorders are also more common among transgender individuals than in the general population. Improved social support and access to affirming healthcare during childhood and adolescence have been identified as potential protective factors against the development of psychiatric disorders in adulthood.

However, research has shown that transition and gender-affirming healthcare are associated with an improvement in psychiatric health. Gender-affirming hormone therapy has been found to have overwhelmingly positive effects on the mental health of both transgender adolescents and adults (Nguyen et al., 2018). Gender-affirming care reduces symptoms of major depressive disorder and anxiety disorders, lowers perceived distress and social distress, and improves overall quality of life, as well as overall self-esteem, in transgender individuals. Therefore, timely intervention and access to this care is a crucial tool for protecting against mental distress and improving mental health and overall well-being in transgender individuals, rather than only being beneficial towards the primary effect of reduced gender dysphoria and gender-related distress, as it may be assumed.

Transition-related medical interventions such as puberty suppression, hormone replacement therapy, and surgical procedures may alleviate general body dissatisfaction as well (Becker et al., 2018). When samples of adolescents and adults undergoing transition-related healthcare were assessed, less favorable body image scores than the population norm were found. However, participants who had undergone gender-affirming healthcare treatments showed significantly improved body image over the participants who had not yet done so.

In addition, transgender people who were not undergoing transition-related healthcare report higher levels of eating disorder psychopathology than transgender people who are (Jones et al., 2018). High body dissatisfaction, perfectionism, anxiety symptoms, and low self-esteem are among the risk factors for developing disordered eating present in transgender individuals, and after controlling for these factors, the

differences in eating disorder psychopathology between transgender patients currently undergoing transition-related healthcare and those not currently doing so disappeared, suggesting that transition-related healthcare is protective against eating disorders through alleviation of eating disorder-related psychopathological factors such as body dissatisfaction, anxiety, etc.

Hypothesis 1: Over the course of transition, disordered eating symptoms present in transgender and non-binary individuals will decrease.

Changing Nature of Disordered Eating Symptoms

Disordered eating and body image issues are stereotypically heavily gendered, and a gap in the way that men and women exhibit, and experience disordered eating behaviors and body image issues is supported by literature. Women are far more likely than men to report body checking, avoidance, fasting, and vomiting/purging, whereas men are more likely to report overeating, with the overall percentage of women reporting disordered eating symptoms being higher than in men, though men with eating disorders were still a substantial minority (Striegel-Moore et al., 2008).

In addition to the disparity between men and women, gender identity and gender roles also contribute differentially to specific risk factors involved in the development of eating disorders; this influence was found across risk factors for both men and women (Cantrell & Ellis, 1991).

In a study that showed that, for both sexes, satisfaction with bodyweight and shape decreased as body mass index increased, it was also demonstrated that women showed significantly higher dissatisfaction with their bodies and weights than men, regardless of weight category, with the exception of the “underweight” category

(Pingitore et al., 1997). The more BMI increased, the greater the disparity in dissatisfaction between groups of women and men became. Women also attributed increasingly more importance to both body weight and body shape as BMI increased, which was not an increase found among men. Men also became more dissatisfied with their body shape as opposed to their weight specifically, whereas women were more dissatisfied with their weight itself as opposed to their body shape. It has been suggested that men intentionally downplay the importance of their weight on their self-esteem as a protective measure.

Men have been found to have a greater likeliness to exhibit unhealthy exercise dependence and over-exercising than women (Hausenblas & Downs, 2002). This dependence involves depression and anxiety when one is unable to exercise, maladaptive social and occupational functioning, and injuries as a result of over-exertion while exercising. Men who suffer from exercise addiction are also more likely to view the physical activity and exertion of energy as the primary goal of exercising, whereas women who suffer from exercise addiction are more likely to have physical appearance-related end goals that are seen as the primary purpose of the exercising.

Men who show higher rates of internalizing messages and pressures from society and media are also more likely to show a more marked preference for bodies with higher muscle mass and lower body fat when asked to choose bodies that represented their personal ideal (Groves et al., 2023). Men who had higher rates of internalization also exhibited higher rates of disordered eating behaviors in attempts to reduce fat and exhibit more muscularity.

Hypothesis 2: Throughout the course of transition, disordered eating behaviors present in binary transgender individuals would tend to become more closely aligned with behaviors typical for cisgender individuals of their same gender identity than with behaviors typical for cisgender individuals of their assigned sex.

Correlation Between Self-Acceptance and Symptom Severity

Levels of low self-esteem and self-acceptance have been found to positively correlate with prevalence of disordered eating symptoms. The Rosenberg Self-Esteem Scale (SES) specifically was found to be a significant predictor of eating disorder psychopathology (Griffiths et al., 1999).

With self-esteem as a general concept being split into two distinct but related concepts, self-liking and self-competence, self-liking specifically has been shown to have a relationship with eating disorders, whereas self-competence does not have a relationship (Silvera et al., 1998). The relationship between self-liking and eating disorders has also been found to be extremely strong, with self-liking serving as an important protective measure, and self-dislike being a major risk factor contributing to worse disordered eating behaviors and thoughts.

In addition to self-dislike and low self-esteem, patients with anorexia nervosa and bulimia nervosa scored significantly higher in self-directed hostility (Williams et al., 1993).

As levels of poor self-esteem and self-image are higher in those with eating disorders than in the general population, promoting positive self-image plays a key role in eating disorder treatment (Kästner et al., 2018). In this study, at the end of a treatment period, patients with eating disorders were found to have significantly higher

self-esteem than before undergoing treatment. Though self-esteem did not predict end-of-treatment weight outcome or treatment dropout, there were predictive effects found between self-esteem and both short-term and long-term remission and weight. Self-esteem has also been found to serve as a mediator in inpatient treatment for eating disorder patients.

In connection with this, treatment groups and treatment plans that focus on improving self-esteem have been shown to improve not only self-esteem but also disordered eating factors among eating disorder patients (Biney et al., 2021). These findings show that interventions that aim to improve self-esteem serve as a helpful adjuvant treatment in improving overall outcomes for eating disorder patients, as well as improving their issues with low self-esteem.

As a negative view of oneself has been identified as a risk factor for disordered eating, it is important to note that not only is this something frequently found among transgender populations, but it is also correlated with worse mental health overall (Su et al., 2016). Feelings of shame, isolation, anger, and self-rejection, worsened by exposure to discrimination and lack of acceptance from others, contribute to depression, suicidality, and worse mental health outcomes generally. Therefore, it is suggested that interventions and programs designed to help reduce levels of internalized transphobia and increase self-acceptance in transgender individuals would be highly beneficial in improving quality of life and in reducing comorbid psychopathological symptoms. Furthermore, lack of self-acceptance in transgender individuals, something that is commonly demonstrated, has been shown to correlate with worse mental health (Su et al., 2016).

Hypothesis 3: Level of self-acceptance in transgender individuals is negatively correlated with severity of disordered eating symptoms.

Barriers to Seeking Help for Symptoms

A number of different factors contribute to potential barriers that may prevent transgender individuals with disordered eating behaviors or thoughts or concerns about these things to seek the appropriate medical treatment that they would need. Transgender individuals are more likely to face barriers to accessing healthcare in general, and are more likely to avoid seeking healthcare services, than cisgender individuals (Bauer et al., 2009). Cisnormativity, or the expectation that all people are cisgender and the erasure of people who are not, is incredibly pervasive in all aspects of society including healthcare. Both aspects of cisnormativity make it difficult to find healthcare that is appropriate and helpful for the needs of someone who is transgender, and act as potential deterrents from seeking healthcare. Other factors such as lack of relevant information, systemic social service barriers, self-esteem issues, and lack of access to trans-inclusive healthcare were identified as barriers against seeking treatment (Bauer et al., 2009).

Other factors that serve as barriers include fear and mistrust of providers, inconsistency in access to healthcare, disrespect and transphobic discrimination from providers, and mistreatment from providers due to intersecting marginalized identities (Johnson et al., 2019).

The majority of treatments for eating disorders are geared towards cisgender women, with most support groups also comprising of cisgender female patients. This has been identified as being a cause of alienation for cisgender men who suffer from

disordered eating, leading to reluctance towards seeking treatment, due to not fitting into the standard idea of an eating disorder patient (cisgender, female) (Collier, 2013). Treatment itself is also often focused on things that primarily concern cisgender female patients, such as menstruation cycles and body image issues and beauty standards for white, cisgender women. Both stigma and shame associated with having what's seen as a "women's disorder," as well as fears that treatment may not be applicable or welcoming to them, may prevent men from seeking treatment for their disordered eating until it is too late.

Cisgender men also face barriers to eating disorder treatment due to a reluctance in themselves to recognize their own disordered eating behaviors, as well as minimization of their symptoms and their severity from healthcare providers and healthcare professionals (Richardson & Paslakis, 2020). They also run the risk of being undiagnosed even when they do seek treatment due to the dismissal and downplaying of their symptoms as a result of not fitting the stereotypical idea of an eating disorder patient.

This slowness to recognize disordered eating behaviors in men can lead to them seeking treatment only once these behaviors are already entrenched, missing critical opportunities and wasting important time in treating their conditions and providing help (Räisänen & Hunt, 2014).

These combined barriers pose an issue for transgender individuals who may benefit from health services available to people with eating disorders, as not only do they face barriers to care due to transphobic discrimination and lack of appropriate care

tailored for transgender patients, but they also do not fit what is considered a stereotypical eating disorder patient, which provides additional challenges.

Hypothesis 4: Transgender individuals are more likely to avoid seeking treatment for disordered eating than cisgender individuals.

Method

Participants

99 total participants took place in this study. Participants consisted of 53 Chapman University Students selected from the undergraduate psychology participant pool, and 46 non-Chapman students recruited from California State University Dominguez Hills and the local community. There were 15 cisgender males (15.2%), 76 cisgender females (76.8), 3 transgender males (3.0%), 2 transgender females (2.0%), and 3 non-binary/other group not listed (3.0%). 8.1% identified as transgender or non-binary. The mean age was 21.81 (SD = 4.47) years with a range of 18 – 46 years. The race/ethnic breakdown was as follows:

- 39 (39.4%) self-identified as White/European American.
- 10 (10.1%) self-identified as Black/African American.
- 41 (41.4%) self-identified as Hispanic/Latino.
- 17 (17.2%) self-identified as Asian American.
- 4 (4.0%) self-identified as Other group not listed.

Materials

This study used the Eating Disorder Examination Questionnaire Short (EDE-QS) (Fairburn and Beglin, 2008) and the Modified Mayfield Internalized Homonegativity Inventory (MIHI) (Mayfield, 2001). The Eating Disorder Examination Questionnaire

Short (EDE-QS), derived from the Eating Disorder Examination Questionnaire (EDE-Q), was used to measure disordered eating symptoms in the sample. The EDE-Q was created by Fairburn and Beglin (2008), with a higher score indicating more problematic eating difficulties. The test-retest reliability was found to be high for the four subscales (r = 0.75 to 0.91) and global score (r = 0.92) for both men and women in a college sample (Rose et al., 2013). The EDE-QS consists of 12 items and is estimated to take under 10 minutes to complete. Examples of questions in the survey include:

"On how many of the past 7 days 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)?"

"On how many of the past 7 days have you had a sense of having lost control over your eating (at the time that you were eating)?"

"Over the past 7 days, how dissatisfied have you been with your weight or shape?"

The survey is scaled using a multiple-choice response format. There are four potential response categories for each question, sorted into two groups: 0 days, 1-2 days, 3-5 days, and 6-7 days for questions regarding frequency of behaviors, and Not at all, Slightly, Moderately, and Markedly for questions regarding the effect of those behaviors on life. The complete Eating Disorder Examination Questionnaire Short is located in Appendix A.

Disordered eating operational definition: indicated by the total score on the Eating Disorder Examination Questionnaire Short (EDE-QS). Higher scores on the

EDE-QS indicate greater indicate greater levels of problematic eating behaviors and attitudes.

A version of the Modified Mayfield Internalized Homonegativity Inventory (MIHI) (Mayfield, 2001), altered for applicability to transgender status instead of sexual orientation, was used to measure self-acceptance in transgender participants. The inventory was constructed so that higher scores were indicative of greater internalized negativity. The test-retest reliability information could not be located for this scale. The MIHI consists of 10 items and is estimated to take under 10 minutes to complete. Examples of questions in the survey include:

"I feel sometimes that being transgender is cause for shame."

"It upsets me sometimes that I am transgender."

"I treat my transgender identity as a gift."

The survey is scaled using a multiple-choice response format. There are six potential response categories for each question: Strongly disagree, Rather disagree, Slightly disagree, Slightly agree, Rather agree, and Strongly agree. The complete Modified Mayfield Internalized Homonegativity Inventory is located in Appendix B.

Self-acceptance operational definition: Indicated by the total score on a version of the Modified Mayfield Internalized Homonegativity Inventory (MIHI) modified for applicability to transgender status instead of sexual orientation.

Procedure

Participants were recruited from the psychology participant pool, through listing on the research website for California State University Dominguez Hills, and through flyers posted at LGBT+ organizations and health centers in the Los Angeles County

area. Chapman University psychology students who participated in the study were awarded credit through the SONA system, and all participants were entered into a raffle for an Amazon gift card. The surveys were administered online through Qualtrics. The participants were provided informed consent forms and a disclaimer as to the sensitive nature of the subject matter before proceeding. Demographics questions were asked to sort participants into Cisgender, Binary Transgender, and Non-Binary groups. Transgender and Non-Binary participants were asked to self-report transition stage (pre-transition, early/mid-transition, or post-transition). Transgender and Non-Binary participants were given the Modified Mayfield Internalized Homonegativity Inventory (Mayfield, 2001), altered for applicability to transgender status. All participants were given the Eating Disorder Examination Questionnaire Short (Fairburn and Beglin, 2008). All participants were asked to rate their likeliness to seek help for disordered eating behaviors on a Likert scale.

Results

Hypothesis 1 stated that over the course of transition, disordered eating symptoms present in transgender and non-binary individuals will decrease. The possible range on the disordered eating measures was 0-36, where higher scores indicate more frequent and severe eating disorder symptoms. The mean EDE-QS score for pre-transition participants (N = 1) was 16.0, the mean score for those early in transition (N = 3) was 27.67 (SD = 6.81), the mean score for those late in transition (N = 3) was 23.67 (SD = 9.87), and the mean score for those who preferred not to say (N = 1) was 12.0. An analysis of variance showed that there was no statistically significant effect, $F(3,4) = 1.1$, $p = .448$.

Hypothesis 2 stated that binary transgender individuals who are pre-transition or early in transition will have disordered eating behaviors that are more similar to those of cisgender individuals of their assigned sex, and that binary transgender individuals who are “post”-transition will have disordered eating behaviors that are more similar to those of cisgender individuals of their gender identity. There was not enough data collected to make comparisons. See Appendix C for a table with the means and standard deviations.

Hypothesis 3 stated that the level of self-acceptance in transgender individuals is negatively correlated with severity of disordered eating symptoms. A Pearson correlation was run to test this hypothesis. The possible range on the self-acceptance measure was self-esteem measures was 10-60, where higher scores indicated higher levels of self-acceptance. The possible range on the disordered eating measures was 0-36, where higher scores indicate more frequent and severe eating disorder symptoms. The mean score on the disordered eating measure was 22.75 (SD = 8.65), and the mean score on the self-acceptance measure was 38.25 (SD = 8.96). There was no statistically significant correlation between scores on the disordered eating measure and those on the self-acceptance measure ($r = -5.14$, $p = .096$).

Hypothesis 4 stated that transgender individuals are more likely to avoid seeking treatment for disordered eating than cisgender individuals. A chi-square test was run to test this hypothesis. Among participants who identified as transgender or non-binary (N=7), 1 (14.3%) participant said they would be likely to seek treatment and 6 (85.7%) participants said they would be unlikely to seek treatment. Among participants who identified as cisgender, 35 (46.7%) participants said they would be likely to seek

treatment and 40 (53.3%) participants said they would be unlikely to seek treatment. There was not a significant difference in reporting likelihood of seeking treatment for an eating disorder ($X2(1) = 2.7$, $p = .099$) between the transgender sample and the cisgender sample.

Discussion

The purpose of this study was to gain insight into the nature of disordered eating symptoms within the transgender and non-binary demographic and identify factors that need to be taken into consideration when providing care towards transgender and-nonbinary individuals with eating disorders. It also sought to examine the relationship between gender-affirming care and disordered eating symptoms. Although no statistical significance was found, hypotheses 3 and 4 showed data that correlated in the hypothesized directions, indicating that these hypotheses, as well as potentially hypotheses 1 and 2, may have been supported if more data had been collected. This indicates the need for future research with a larger sample size.

Study Limitations

Limitations in the present study include the length of time given to complete data collection, as well as the small size of the target demographic being studied. Data collection started in March and ended in April, meaning participant responses were only received for less than two months. Because of the small timeframe in which data was collected, combined with the small size of the transgender and non-binary demographic, the number of transgender and non-binary participants received was smaller than expected. With more time to collect participants it is likely that results would have shown

statistical significance. Additionally, the majority of participants surveyed were college students, which may hinder generalization of the results.

Conclusions and Future Research

Although, due to the lack of statistical significance, the results of this study cannot conclude anything about the nature of disordered eating symptoms among the transgender and non-binary demographic, with further research and larger sample sizes we can hope to find support for these hypotheses, providing much-needed insight into the unique treatment needs of this demographic. This information can be used to provide more effective and accessible care for transgender and non-binary patients and provide understanding of the interactions between gender-affirming care, self-acceptance, and the severity of disordered eating symptoms.

In conclusion, further research is needed to further understand the relationship between unique factors experienced by the transgender and non-binary demographic and symptoms of disordered eating. Although this study did not find statistical significance, implications can be drawn from some of the data collected about the importance of self-acceptance of transgender identity as a component of eating disorder recovery, as well as the need to make care for disordered eating more accessible for transgender and non-binary individuals. This highlights the importance of further research to fully investigate and understand factors unique to this demographic when it comes to eating disorder treatment and recovery.

References

Bauer, G. R., Hammond, R., Travers, R., Kaay, M., Hohenadel, K. M., & Boyce, M. (2009). “I don’t think this is theoretical; this is our lives”: How erasure impacts health care for transgender people. *Journal of the Association of Nurses in AIDS Care*, *20*(5), 348–361. https://doi.org/10.1016/j.jana.2009.07.004

Bauer, G. R., Zong, X., Scheim, A. I., Hammond, R., & Thind, A. (2015). Factors impacting transgender patients’ discomfort with their family physicians: A respondent-driven sampling survey. *PLOS ONE*, *10*(12). https://doi.org/10.1371/journal.pone.0145046

Becker, I., Auer, M., Barkmann, C., Fuss, J., Möller, B., Nieder, T. O., Fahrenkrug, S., Hildebrandt, T., & Richter-Appelt, H. (2018). A cross-sectional multicenter study of Multidimensional body image in adolescents and adults with gender dysphoria before and after transition-related medical interventions. *Archives of Sexual Behavior, 47*(8), 2335–2347. https://doi.org/10.1007/s10508-018-1278-4

Biney, H., Giles, E., Hutt, M., Matthews, R., & Lacey, J. H. (2021). Self-esteem as a catalyst for change in adolescent inpatients with anorexia nervosa: A pilot randomised controlled trial. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, *27*(1), 189–198. https://doi.org/10.1007/s40519-021-01161-0

Cantrell, P. J., & Ellis, J. B. (1991). Gender role and risk patterns for eating disorders in men and women. *Journal of Clinical Psychology, 47*(1), 53–57. https://doi.org/10.1002/1097-4679(199101)47:1<53::AID-JCLP2270470108>3.0.CO;2-N

Collier R. (2013). Treatment challenges for men with eating disorders. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne, 185*(3), E137–E138. https://doi.org/10.1503/cmaj109-4363

Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A “Transdiagnostic” theory and treatment. *Behaviour Research and Therapy*, *41*(5), 509–528. https://doi.org/10.1016/s0005-7967(02)00088-8

Griffiths, R. A., Beumont, P. J., Giannakopoulos, E., Russell, J., Schotte, D., Thornton, C., Touyz, S. W., & Varano, P. (1999). Measuring self-esteem in dieting disordered patients: The validity of the Rosenberg and Coopersmith contrasted. *The International Journal of Eating Disorders*, *25*(2), 227–231. https://doi.org/10.1002/(sici)1098-108x(199903)25:2<227::aid-eat13>3.0.co;2-4

Groves, V., Ridley, B. J., Cornelissen, P. L., Maalin, N., Mohamed, S., Kramer, R. S., McCarty, K., Tovée, M. J., & Cornelissen, K. K. (2023). Men’s perception of current and ideal body composition and the influence of media internalization on body judgements. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1116686

Hausenblas, H. A., & Downs, D. S. (2002). Relationship among sex, imagery and exercise dependence symptoms. *Psychology of Addictive Behaviors*, *16*(2), 169–172. https://doi.org/10.1037/0893-164x.16.2.169

Johnson, A. H., Hill, I., Beach-Ferrara, J., Rogers, B. A., & Bradford, A. (2019). Common barriers to healthcare for transgender people in the U.S. Southeast. *International Journal of Transgender Health*, *21*(1), 70–78. https://doi.org/10.1080/15532739.2019.1700203

Jones, E. J., Egan, S. J., Howell, J. A., Hoiles, K. J., & Mazzucchelli, T. G. (2020). An examination of the transdiagnostic cognitive-behavioural model of eating disorders in adolescents. *Eating Behaviors*, *39*, 101445. https://doi.org/10.1016/j.eatbeh.2020.101445

Jones, B. A., Haycraft, E., Bouman, W. P., Brewin, N., Claes, L., & Arcelus, J. (2018). Risk factors for eating disorder psychopathology within the treatment seeking transgender population: The role of cross-sex hormone treatment. *European Eating Disorders Review*, *26*(2), 120–128. https://doi.org/10.1002/erv.2576

Jones, B. A., Haycraft, E., Murjan, S., & Arcelus, J. (2015). Body dissatisfaction and disordered eating in trans people: A systematic review of the literature. *International Review of Psychiatry*, *28*(1), 81–94. https://doi.org/10.3109/09540261.2015.1089217

Kästner, D., Löwe, B., & Gumz, A. (2019). The role of self-esteem in the treatment of patients with anorexia nervosa - A systematic review and meta-analysis. *The International Journal of Eating Disorders*, *52*(2), 101–116. https://doi.org/10.1002/eat.22975

Nguyen, H. B., Chavez, A. M., Lipner, E., Hantsoo, L., Kornfield, S. L., Davies, R. D., & Epperson, C. N. (2018). Gender-affirming hormone use in transgender individuals: Impact on behavioral health and cognition. *Current Psychiatry Reports, 20*(12). https://doi.org/10.1007/s11920-018-0973-0

Pingitore, R., Spring, B., & Garfieldt, D. (1997). Gender differences in body satisfaction. *Obesity Research*, *5*(5), 402–409. https://doi.org/10.1002/j.1550-8528.1997.tb00662.x

Puttevils, L., Vanderhasselt, M., & Vervaet, M. (2019). Investigating transdiagnostic factors in eating disorders: Does self-esteem moderate the relationship between perfectionism and eating disorder symptoms? *European Eating Disorders Review*, *27*(4), 381–390. https://doi.org/10.1002/erv.2666

Räisänen, U., & Hunt, K. (2014). The role of gendered constructions of eating disorders in delayed help-seeking in men: A qualitative interview study: Table 1. *BMJ Open*, *4*(4). https://doi.org/10.1136/bmjopen-2013-004342

Richardson, C., & Paslakis, G. (2020). Men's experiences of eating disorder treatment: A qualitative systematic review of men-only studies. *Journal of Psychiatric and Mental Health Nursing*, *28*(2), 237–250. https://doi.org/10.1111/jpm.12670

Rose, J. S., Vaewsorn, A., Rosselli-Navarra, F., Wilson, G. T., & Weissman, R. S. (2013). Test-retest reliability of the Eating Disorder Examination-Questionnaire (EDE-Q) in a college sample. *Journal of Eating Disorders, 1*(1). https://doi.org/10.1186/2050-2974-1-42

Silvera, D. H., Bergersen, T. D., Bjørgum, L., Perry, J. A., Rosenvinge, J. H., & Holte, A. (1998). Analyzing the relation between self-esteem and eating disorders: Differential effects of self-liking and self-competence. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity, 3*(2), 95–99. https://doi.org/10.1007/bf03339995

Striegel-Moore, R. H., Rosselli, F., Perrin, N., DeBar, L., Wilson, G. T., May, A., & Kraemer, H. C. (2008). 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

Su, D., Irwin, J. A., Fisher, C., Ramos, A., Kelley, M., Mendoza, D. A. R., & Coleman, J. D. (2016). Mental Health Disparities Within the LGBT Population: A Comparison Between Transgender and Nontransgender Individuals. *Transgender Health*, *1*(1), 12–20. https://doi.org/10.1089/trgh.2015.0001

Wanta, J. W., Niforatos, J. D., Durbak, E., Viguera, A., & Altinay, M. (2019). Mental health diagnoses among transgender patients in the clinical setting: An All-Payer Electronic Health Record Study. *Transgender Health, 4*(1), 313–315. https://doi.org/10.1089/trgh.2019.0029

Appendix A

EATING DISORDER EXAMINATION QUESTIONNAIRE - SHORT (EDE-QS)

ON HOW MANY OF THE PAST 7 DAYS….	**0 days**	**1-2 days**	**3-5 days**	**6-7 days**
1. 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)?	0	1	2	3
2. 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?	0	1	2	3
3. 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)?	0	1	2	3
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)?	0	1	2	3
5. Have you had a definite fear that you might gain weight?	0	1	2	3
6. Have you had a strong desire to lose weight?	0	1	2	3
7. Have you tried to control your weight or shape by making yourself sick (vomit) or taking laxatives?	0	1	2	3
8. 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?	0	1	2	3
9. Have you had a sense of having lost control over your eating (at the time that you were eating)?	0	1	2	3
10. 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?	0	1	2	3

OVER THE PAST 7 DAYS …	**Not at all**	**Slightly**	**Moderately**	**Markedly**
11. Has your weight or shape influenced how you think about (judge) yourself as a person?	0	1	2	3
12. How dissatisfied have you been with your weight or shape?	0	1	2	3

Appendix B

MODIFIED MAYFIELD INTERNALIZED HOMONEGATIVITY INVENTORY

Instructions: please answer the following questions by checking the response number that best reflects your opinion.

1 — Strongly disagree

2 — Rather disagree

3 — Slightly disagree

4 — Slightly agree

5 — Rather agree

6 — Strongly agree

The text of the questionnaire

1. I am grateful for the gender identity that I have.	1 2 3 4 5 6
2. I'm proud that I'm a transgender person.	1 2 3 4 5 6
3. When I think of my transgender status I get upset.	1 2 3 4 5 6
4. I feel sometimes that being transgender is cause for shame.	1 2 3 4 5 6
5. I am grateful to my fate for my transgender status.	1 2 3 4 5 6
6. It upsets me sometimes that I'm transgender.	1 2 3 4 5 6
7. When I think about being transgender I feel dejected.	1 2 3 4 5 6
8. I accept my transgender status.	1 2 3 4 5 6
9. I'm ashamed of my gender identity.	1 2 3 4 5 6

10. I treat my gender identity as a gift.	1 2 3 4 5 6

Processing and interpretation of results

For each scale, the "raw score" was calculated as a sum of constituent items:

Scale "Personal transnegativity", statements: 3,4,6,7,9.

The subscale includes: (a) the negative emotions that transgender people have for their own identities (e.g., shame, depression, and shame) and (b) negative attitude to their own identities (e.g., anger on their gender identity, the desire to control their feelings of being a gender other than the one they were assigned at birth).

Scale "Acceptance of own transgender status", statements: 1,2,5,8,10.

This subscale consists of 5 items that measure the extent to which transgender people feel that their transgender status is an important and positive part of themselves and that being a transgender person is normal.

Appendix C

This table shows the means and standard deviations of participants' responses to the EDE-Q within each transition stage group.

Eating Disorder Examination Questionnaire Short Scores

	N	Mean	Standard Deviation
Early transition Trans Male	1	30.0000	.
Late transition Trans Male	2	18.0000	1.41421
Pre-transition Trans Female	1	16.0000	.
Late transition Trans Female	1	35.0000	.
Cis Male	15	21.1333	6.20906
Cis Female	76	24.1184	8.73303
Total	96	23.6146	8.37587