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The Role of Gender Affirmation in Eating Disorder Symptoms In Transgender Individuals

by

Jacob Strahl

An undergraduate honors thesis submitted in partial fulfillment of the requirements for the degree of

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and

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Thesis Adviser

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Abstract

Research in the field of eating disorders has grown rapidly since the introduction of eating disorders in the DSM. In particular, research suggests that transgender individuals could be more likely to develop an eating disorder than cisgender individuals. It has previously been believed that the disorder "gender dysphoria" plays a role in the development of eating disorders in transgender individuals. This literature review draws from prior studies of groups and individuals in order to better understand how gender affirming interventions impact eating disorders within the transgender population. The interventions examined include both interventions based in hormones and interventions based in surgical reconfiguration in order to answer the question "do gender affirming interventions influence the prevalence of eating disorder symptoms in the transgender population?" The answer to this question as reflected in the research is that gender-affirming interventions do not directly reduce eating disorder symptoms. However, the positive impacts of gender-affirming interventions appear to indirectly reduce symptoms through improving bodily satisfaction and reducing the number of non-affirming experiences that someone has.

Keywords: Transgender, Disordered Eating, Gender Transition, Eating Disorder, Transgender Eating

Table of Contents

Abstract	2
Recognition of Terminology and Political Climate	4
Statement of Positionality	5
Introduction	6
Methods	10
Selection criteria	10
Discussion	11
Body Dissatisfaction and Gender Transition	11
Effects of Gender Affirmation	15
Surgery-based Interventions v. Hormone-Based Interventions	20
Conclusion	24
Limitations	24
Future Research	25
Conclusion	26
References	28
Table of Figures	
Figure 1	6
Figure 2	8
Figure 3	16
Figure 4	20
Figure 5	21

Recognition of Terminology and Political Climate

It is important to note that language, particularly as it pertains to the lesbian, gay, transgender, and queer (LGBTQ+) community, does change over time. In this thesis, terms such as "transgender" and "cisgender" will be used. There will also be other terms used relating to transition, such as "transfeminine", which refers to someone assigned the male gender at birth who later transitions or identifies with the female gender, and transmasculine, which refers to someone who is assigned the female gender at birth who later transitions or identifies with the male gender. It is critical to note that these terms are inherently binary in nature, and do not address intersex individuals or those who do not conform to binary genders. These terms are intended to clarify the gender assigned to someone at birth and the binary gender that they are transitioning to. These terms, while currently used, may change and could become obsolete or offensive over time. Another crucial factor to consider is that this thesis is written in the political climate of the current time. Several U.S. states are currently attempting to ban gender transition for minors, such as Texas and Alabama (Munce, 2021; Rojas, 2022), and additionally some states are banning education about being transgender from public schools (Rummler, 2022). Ultimately this thesis could be impacted by both the language related to being transgender and the surrounding political climate. However, my hope is that by acknowledging these impacts this review will remain educational and usable even if the language or climate surrounding the LBGTQ+ community changes.

Statement of Positionality

In addition to the above acknowledgement, I find it important to acknowledge my background, and the potential for implicit bias. As a cisgender male, I'm inherently limited in my capacity to understand the experiences of a transgender individual, and the potential oppression that they face in our society. Additionally, this may limit my ability to speak to the sexism that these individuals face and the social challenges posed by their transition. In addition to this, I'm a Caucasian person of largely western-European heritage, primarily German, English, and Norwegian, and therefore I could be limited in my ability to speak to the experiences of racial minorities. I also want to acknowledge that as a heterosexual, it means that I do not have firsthand experience with the challenges faced by members of the LGBTQ+ community. Ultimately as someone whose identity is generally accepted societally; I have a limited insight into the oppressions faced by those in the LGBTQ+ community. While this doesn't mean that I'm unsympathetic to those oppressed, it does mean that my experiences related to those communities may be inherently limited.

Introduction

The first edition of the Diagnostic and Statistical Manual (DSM) was released in 1952 with the goal of standardizing mental health terms and diagnoses (Clegg, 2012). Standardizing diagnoses is still valued in the current edition of the DSM. Anorexia Nervosa was the first eating disorder in the DSM, with Bulimia Nervosa being added in the 1980's (Dell'Osso et al, 2016). The modern edition of the DSM, commonly referred to as the DSM-5, due to being the fifth edition, recognizes approximately 10 different feeding and eating disorders, including bulimia nervosa (BN), anorexia nervosa (AN), binge eating disorder (BED), avoidant/restrictive food intake disorder (ARFID), and several others (Dell'Osso et al, 2016). The primary diagnosis in the research being examined appears to be anorexia nervosa, the specific diagnostic criteria of which is below in image 1.

Diagnostic Criteria

- A. Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Significantly low weight is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.
- B. Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight.
- C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.

Coding note: The ICD-9-CM code for anorexia nervosa is 307.1, which is assigned regardless of the subtype. The ICD-10-CM code depends on the subtype (see below).

Specify whether:

(F50.01) Restricting type: During the last 3 months, the individual has not engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas). This subtype describes presentations in which weight loss is accomplished primarily through dieting, fasting, and/or excessive exercise.

(F50.02) Binge-eating/purging type: During the last 3 months, the individual has engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Specify if:

In partial remission: After full criteria for anorexia nervosa were previously met, Criterion A (low body weight) has not been met for a sustained period, but either Criterion B (intense fear of gaining weight or becoming fat or behavior that interferes with weight gain) or Criterion C (disturbances in self-perception of weight and shape) is still met.

In full remission: After full criteria for anorexia nervosa were previously met, none of the criteria have been met for a sustained period of time.

Image 1. The diagnostic criteria for anorexia nervosa as defined in the DSM-5 (American Psychiatric Association [APA], 2013, section 307.1)

Prior research has examined eating disorders as they have been defined in the DSM. However, eating disorders do not appear to impact everyone equally, with certain groups appearing to be at a higher risk than others. Diemer and colleagues (2015) found that 15.84% of transgender adolescents self-reported an eating disorder diagnosis in the prior year. This is strong contrast with other groups, with the second highest rate of self-reporting an eating disorder, 3.66%, belonging to cisgender males who were unsure of their sexuality (Diemer et al. 2015). One potential cause of this difference in rate is gender dysphoria, a condition characterized by incongruence between the gender assigned to someone at birth and the gender that the person

expresses (American Psychiatric Association [APA], 2013). The specific diagnostic criteria for the disorder or gender dysphoria as defined by the American Psychiatric Association (APA) is below in image 2. This condition is inherently important to note, as it relates to someone's dissatisfaction with their body, particularly if that person is transgender. However, this thesis will not examine the rate of gender dysphoria, but will instead be focused on the notion that gender affirming interventions may reduce eating disorder symptoms. Gender dysphoria is currently a controversial part of the DSM, due to some perceiving it as anti-transgender. This perspective believes that gender dysphoria is unnecessarily medicalizing behavior, and reflects an anti-transgender ideology. This thesis will strictly focus on gender dysphoria as it pertains to eating disorder pathology, with the primary focus of this thesis being on the effects of gender affirming interventions on transgender individuals with eating disorders.

Gender Dysphoria in Adolescents and Adults

302.85 (F64.0)

- A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least two of the following:
 - A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics).
 - 2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics).
 - 3. A strong desire for the primary and/or secondary sex characteristics of the other gender.
 - 4. A strong desire to be of the other gender (or some alternative gender different from one's assigned gender).
 - 5. A strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender).
 - 6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender).
- B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:

With a disorder of sex development (e.g., a congenital adrenogenital disorder such as 255.2 [E25.0] congenital adrenal hyperplasia or 259.50 [E34.50] androgen insensitivity syndrome).

Coding note: Code the disorder of sex development as well as gender dysphoria.

Specify if:

Posttransition: The individual has transitioned to full-time living in the desired gender (with or without legalization of gender change) and has undergone (or is preparing to have) at least one cross-sex medical procedure or treatment regimen—namely, regular cross-sex hormone treatment or gender reassignment surgery confirming the desired gender (e.g., penectomy, vaginoplasty in a natal male; mastectomy or phalloplasty in a natal female).

Image 2. The diagnostic criteria for gender dysphoria, as defined by the DSM-5 (American

Psychiatric Association [APA], 2013, section 302.85)

Methods

This thesis utilized articles sourced from the Portland State University Library, Psycinfo, and Sources from Google Scholar, with the only exception being the news sources used in the introduction. The search for these articles was conducted utilizing a variety of different subject headings and keywords. These keywords included the terms "transgender," "gender transition," "eating disorder," and "gender affirming." The search utilized research from primarily English-speaking nations, in particular the U.S. and the U.K., focused on eating disorders and gender affirmation. In addition, all articles used in this review were published no earlier than 2010, in order to ensure that the articles would be recent enough to be relevant.

Selection criteria

One of the criteria in determining which articles were current enough was a publishing date in or after 2012, in order to ensure that articles would be from within the last ten years of when this thesis was written. Potential articles were screened by their abstracts, in order to affirm their relevance to the topics covered in this thesis. This thesis included a variety of different academic sources, including the DSM-5, case studies, and clinical research. This wide range of prior research was utilized in order to ensure a holistic understanding of how gender affirmation may impact the rate of disordered eating in the transgender community. It is my belief that utilizing a wide range of sources would allow this thesis to unify our prior information in order to

make this research more accessible to others in the future, and to promote a detailed understanding of an area of research that is relatively new.

Discussion

Body Dissatisfaction and Gender Transition

One of the most discussed areas of gender transition and eating disorders is body satisfaction, particularly with gender dysphoria being considered a mental illness. Several different studies have been conducted regarding this, including a case study conducted by Strandjord and Rome in 2015. This case study followed a 16-year-old who was assigned the female gender at birth (Strandjord and Rome, 2015). Concerns arose due to the subjects' amenorrhea, lack of a menstrual cycle, and their BMI only being 81% of the expected BMI for females their age (Strandjord and Rome, 2015). Five months later, the subject had lost more weight, dropping to only 70% of the expected BMI for females their age, and admitted to restricting food leading to a diagnosis of anorexia nervosa (AN) (Strandjord and Rome, 2015). Strandjord and Rome (2015) states, "Four months into treatment for AN, when fully weight restored, the patient requested additional counseling for "gender confusion." CS disclosed to his family that he felt like "a boy in a girl's body" and later acknowledged that his eating disorder was related to a desire to get rid of feminine features—"I dislike my curves, my breasts, my hips, my face. I wish I had more defined muscles in my arms and a more angular face."" (p. 943). This case study bolsters the notion that body dissatisfaction due to not identifying with the gender assigned at birth may aid in the development of disordered eating. One important factor in this

study is that while it is a limited family history, the subject had two cousins who had previously been diagnosed with eating disorders, the specific diagnoses of these cousins are unknown (Strandjord and Rome, 2015). This factor is significant to the study, due to the fact that some eating disorders have a genetic heritability component, which can contribute to the development of disordered eating behaviors.

In 2022, Cusack and Colleagues examined how 82 transgender and non-binary participants related their bodily concerns to both their gender and perceived gender (Cusack et al., 2022). Five different themes relating to how their population related their gender expression to their concerns regarding their bodies were utilized in order to determine how bodily concerns based on gender related to disordered eating behavior. These themes are listed as gender dysphoria, puberty, emotional dysregulation, gender expression, and recovery and transition, with recovery and transition being defined as "Described eating concerns in context of changes due to eating recovery and/or transition milestones (e.g., hormone therapy, gender-affirming surgeries)" (Cusack et al., 2022, p. 5). The study surveyed their sample with open ended questions, which solicited a variety of responses from their subjects. The article also states that the most common theme, with it being present in 68.3% of the subjects' responses, was gender expression (Cusack et al., 2022). This theme focused on the norms of the gender that someone was assigned at birth and conventional binary bodily standards (Cusack et al., 2022). This is highly important, as it highlights the possibility that conventional beauty standards may be a strong contributing factor in the development of bodily dissatisfaction. Another interesting part of this article is that the theme of puberty was observed in the responses of 12 participants (Cusack et al., 2022). Cusack

et al., (2022), also quoted one of their participants, who stated "I developed an eating disorder as soon as I developed female secondary sex characteristics. I haven't figured out the connection between my gender dysphoria and my body dysmorphia until very recently, but the feelings of disgust are just the same "" (p. 6). This quote highlights the role that secondary sex characteristics and puberty may play in the development of eating disorders, and also helps to provide insight into the experience of a transgender individual who was diagnosed with an eating disorder.

Both of these articles bolster the notion that bodily dissatisfaction is behind the higher rate of eating disorders observed among the transgender population, when compared to other groups varying by both gender and sexuality. These articles also shed light on three notions regarding bodily dissatisfaction and eating disorders in the transgender and non-binary (TNB) population. The first being the importance of access to gender affirming interventions. In the case study by Strandjord and Rome, they found that through a combination of individual therapy, family therapy, and gender affirming interventions, they were able to reduce their subjects' disordered eating behaviors (Strandjord and Rome, 2015). Cusack et al. (2022), states "One clear, practical consideration is to increase access to gender-affirming medical care for TNB youth.

Access to care is crucial for TNB adolescents as our findings highlight the importance of puberty as related to TNB eating and body concerns" (p. 9). While the research that reached this conclusion did include non-binary participants, it found that non-binary and transgender participants benefitted from gender-affirming interventions. This leads to the second notion that is affirmed by the research done in these articles. The role of puberty and the onset of disordered

eating when secondary sex characteristics, such as breast development, the development of wider hips, and the development of an Adams apple, are developed is highlighted in both articles, and this gives credibility to the notion that access to gender affirming interventions prior to the onset of said secondary sex characteristics could reduce eating disorders in the transgender population. The role of puberty and secondary sex characteristics is a recurring theme both of the above articles, and lends well to the notion that this is a time of extreme bodily dissatisfaction for members of the transgender community. Correlations between puberty, secondary sex characteristics, and eating disorder pathology is reflected in Strandjord and Rome, in which the sixteen-year-old, an age in which females are generally in the late stages of puberty, transmasculine subject acknowledged that their eating disorder was partially driven by a desire to appear less feminine (Strandjord and Rome, 2015). Further, the case study specifically notes that their subject was displeased with their development of female secondary sex characteristics, including breast and hip development (Strandjord and Rome, 2015). This notion is reinforced in the participant quote seen above from Cusack and Colleagues (2022) stating, "I developed an eating disorder as soon as I developed female secondary sex characteristics. I haven't figured out the connection between my gender dysphoria and my body dysmorphia until very recently, but the feelings of disgust are just the same" (p. 6). This quote highlights the correlation between puberty, the development of secondary characteristics, and the development of disordered eating behaviors. Finally, in both of these articles, we find thinness to be a recurring theme. In Strandjord and Rome, their subject, who was transitioning from being female to male, was extremely underweight (Strandjord and Rome, 2015). Cusack et al. (2022), states "Particularly,

participants highlighted thin and androgynous body ideals" (p. 8). Ultimately this drive to be thin when paired with the desire to prevent bodily development could contribute to the development of disordered eating conditions, such as anorexia nervosa (AN).

Effects of Gender Affirmation

Gender affirming interventions (GAI) are thought to be highly important in reducing bodily dissatisfaction, as shown above in the prior literature, but is there substantial research behind this notion? The answer to that question is yes, several researchers have examined if there is truly a relationship between Gender affirming interventions (GAI) and the reduction of eating disorders.

A study by Testa and Rider in 2017, utilizing 442 subjects who had completed the Trans Health Survey (Testa and Rider, 2017). Something that is important to note, in order to avoid confusion, is that this article refers to "GCMI's" which refers to gender-confirming medical interventions (Testa and Rider, 2017, p. 927). This is relevant as the terms GAI and GCMI have the same meaning as it pertains to this thesis, and thus may be used interchangeably when discussing this article. Another term from this article is "nonaffirmation" which Testa and Rider describes as "nonaffirmation of a person's gender identity (e.g., using incorrect pronouns)" (p. 927). Testa and Rider (2017) states, "Serial multiple mediation analyses controlling for age, education, and income were used to examine whether body satisfaction and nonaffirmation mediate any found relationships between various GCMIs (genital surgery, chest surgery, hormone use, hysterectomy, and hair removal) and EDS" (p. 927). Effectively what this means is that the

participants' surveys were analyzed in order to determine if bodily satisfaction or non-affirmation are involved in the relationship between GCMI's and disordered eating (Testa and Rider, 2017). Another crucial part of this study was that it utilized both transferminine and transmasculine individuals as participants. This is important as it could allow them to distinguish between what is accurate and effective for each population, and if there is a significant difference between the two groups. What the study ultimately found is that gender affirming interventions did not directly reduce eating disorder symptoms, but they did indirectly reduce eating disorder symptoms by reducing non-gender affirming experiences and thus increasing bodily satisfaction (Testa and Rider, 2017). What this means is that the gender-affirming interventions were not immediately effective in reducing eating disorder symptoms, but instead mitigated risk factors in the population studied. By improving how the participants viewed their bodies and reducing the amount of non-gender affirming experiences the participants faced, gender-affirming interventions indirectly contributed to a reduction in eating disorder symptoms. However, there are several limitations to this study, the first being that only 23% of transfeminine participants and 22% of transmasculine participants had clinically significant symptoms (Testa and Rider, 2017). A prominent concern in this study is the possibility of response bias, as the measures of this study were reliant on self-reporting (Testa and Rider, 2017). It is important to note that in this study, both transfeminine and transmasculine subjects who had GCMI's, or gender affirming interventions, reported less dissatisfaction with their bodies and had fewer instances of non-affirmation pertaining to their gender, but were also generally older and had higher education levels than those who had not had GCMI's (Testa and Rider, 2017). A limitation of this research

is that the majority of the respondents were relatively young Caucasians, and thus this limits its ability to represent minorities and older populations.

Jones and Colleagues examined the role of cross-hormone treatment in risk behaviors related to eating disorders in the transgender population (Jones and Colleagues, 2018). Cross-hormone treatment, also referred to as cross-sex hormone therapy, is a type of gender-affirming intervention where someone takes hormones in order to transition to the gender which they identify with. An example of cross-hormone treatment would be giving testosterone to a transmasculine individual to aid in their gender transition. In their study of 563 transgender individuals, 17 years of age or older, recruited through the UK based National Transgender Health Service, who were both transfeminine and transmasculine (Jones and Colleagues, 2018). Something critical to note is that of this sample, 139 participants were already taking cross-sex hormones when the study began (visual aid in image 3).

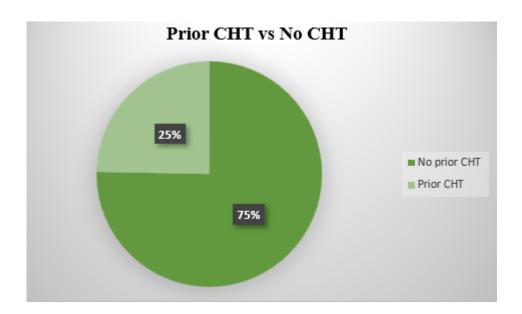


Image 3. Illustration of prior Cross-hormone therapy recipients vs those with no prior CHT in the Jones and Colleagues study

Jones and Colleagues found that transgender individuals who were not on CHT had significantly higher drives for thinness and rates of bulimia than those who were on CHT (Jones and Colleagues, 2018). This does indicate that there is a level of correlation between CHT and the reduction of eating disorders. Another aspect of this information is that the U.K. does not generally use the DSM-5, and thus their diagnosis criteria may be different from what is used in the DSM. In the discussion section, Jones and Colleagues (2018) states, "The current study found that transgender people who were on CHT had significantly lower levels of eating disorder symptoms than trans-gender people who were not" (p. 125). This correlation between CHT and reduced symptoms suggests that this form of treatment may help to treat eating disorders in both the transmasculine and the transferminine populations. What is more crucial to this is that the study identified several risk factors for eating disorders in the transgender population. The Jones and Colleagues (2018) states "The current study found that high levels of body dissatisfaction, perfectionism, symptoms of anxiety, and low self-esteem were all risk factors for eating disorder psychopathology as reported in the cisgender literature" (p. 125). Jones and Colleagues (2018) also states, "This finding suggests that CHT alleviates eating disorder symptoms as it reduces levels of body dissatisfaction, perfection-ism, symptoms of anxiety, and increases self-esteem" (p. 126). This quote indicates that CHT does help to reduce eating disorders through improving some of the factors that may put someone at risk for developing an eating disorder and that contribute to eating disorder recovery.

The above quotes and findings from Jones and Colleagues help to affirm the indirect manners, such as improvements in bodily satisfaction and stronger gender affirmation, in which gender-affirming interventions may reduce eating disorder symptoms. This is done through their focus on the experience of their survey respondents and the ability of cross-hormone treatment to mitigate risk factors that contribute to eating disorders. This is also present in the article by Testa and Rider, in which gender-affirming interventions again helped to change how the participants felt about their bodies and contributed to a reduction in disordered eating behaviors. The role of dissatisfaction with their bodies and non-gender affirming experiences, such as someone referring to them by the wrong pronouns, is recurring in articles examining the relationship between the transgender population and disordered eating behaviors. Both of these articles have found that gender affirming interventions appear to help reduce eating disorder symptoms through increasing bodily satisfaction and reducing events that are non-affirming to the person's gender. The primary point of both of these articles is that gender affirming interventions appear to help reduce eating disorder symptoms indirectly through their impact on the person's self-perception and their interactions with others. This is important, as they do not claim that gender affirming interventions directly influence eating disorders, but instead indicate that they may reduce risk factors and help to reduce physical dissatisfactions in both the transmasculine and transferminine populations. Overall, the reduction in dissatisfaction with their bodies and reduced instances of non-gender affirming interactions that appear to correlate with gender affirming interactions indicates that these interventions are effective in helping to mitigate eating disorder risk factors in the transgender population.

Surgery-based Interventions v. Hormone-Based Interventions

Surgery-based interventions and hormone-based interventions are both being utilized as types of gender affirming interventions. Surgical-based interventions are procedures with a surgical basis, some examples of surgical interventions include chest reconstructive surgeries, vaginoplasty, and phalloplasty. Hormone-based interventions are gender affirming interventions in which hormones, such as testosterone or estrogen, are administered. These types of interventions, surgical and hormonal, can be administered either independently or jointly. Something that will be important in the article discussed below is that the surgery-based gender affirming interventions are sometimes referred to as gender affirming surgery (GAS), and hormone-based gender affirming interventions may be referred to as gender affirming hormones (GAH). What this section of the thesis examines is whether there is a meaningful difference between the effectiveness of surgery-based interventions and hormone-based interventions in reducing the symptoms of eating disorders, whether directly or indirectly.

Nowaskie and Colleagues (2021) examined both transmasculine and transfeminine groups in order to examine the effectiveness of gender affirming surgeries combined with hormonal treatments, hormone treatments alone, and no gender-affirming interventions of either the surgical or hormonal type. Their study was conducted in an outpatient gender health program in an unnamed state in the mid-western United States (Nowaskie et al., 2021). As previously mentioned, the study was conducted utilizing both transmasculine and transfeminine participants,

with a total of 166 participants, 79 of which were transmasculine and 87 of which were transfermine (Image 4 provides a visual aid below).

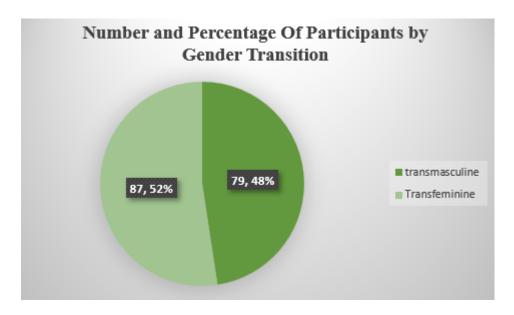


Image 4. Image of the percentage and number of transmasculine participants and transfeminine participants in the Nowaskie and Colleagues study

Nowaskie and Colleagues (2021) states, "Transgender patients at a primary care outpatient gender health program in the United States completed a survey consisting of demographics, medical history, and clinical variables, including the Eating Disorder Examination Questionnaire (EDE-Q). Multivariate analyses of covariance were conducted to compare EDE-Q scores across gender identity and gender affirmation" (p. 1493). What this means is that Nowaskie and colleagues examined their participants prior diagnoses, what type of gender affirming interventions they received, and screened them with a standardized eating disorder questionnaire. As mentioned above, there were three treatment groups examined in the study, one with no treatment of the hormonal or surgical variety, one with only hormonal treatment, and one

with both surgical and hormonal treatments (Image 5 shows the percentages and numbers of the groups).

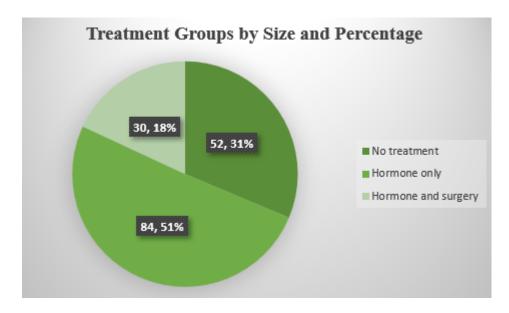


Image 5. Image of the number and percentage of participants who received each treatment in the study conducted by Nowaskie and Colleagues

One of the findings of the study was that more transfeminine individuals had been diagnosed with an eating disorder than transmasculine individuals (Nowaskie et al., 2021). Nowaskie and Colleagues (2021) states, "Indeed, compared to transgender men (11.4%), more transgender women (16.1%) indicated they had been diagnosed with past ED. Equivalently, utilizing Mond et al.'s (2008) suggested ED cutoff value, more transgender women (13.8%) had a probable clinical ED compared to transgender men (10.1%)" (p. 1497). This outcome indicates that the transfeminine population may be more likely to develop or have an eating disorder both before and after treatment than the transmasculine population. This could reflect a variety of

different things, including the pressure that transfeminine individuals face to conform to western beauty standards.

Nowaskie and Colleagues fascinatingly found that the group that only received gender affirming hormone treatment did not report fewer eating disorder symptoms than the group that did not receive hormone or surgical treatment (Nowaskie et al., 2021). This is interesting, as it seems to contradict the findings of Jones and Colleagues, which found that cross-hormone treatment indirectly reduced eating disorder symptoms. The only group that showed a reduction in eating disorder symptoms in the Nowaskie and Colleagues study was the group that received both hormone-based interventions and surgery-based interventions (Nowaskie et al., 2021). Nowaskie and Colleagues (2021) states, "Interestingly, while those patients who had received both GAH and GAS reported lower ED symptomatology, patients who had received GAH only did not report lower ED symptoms compared to patients who were GAH/GAS-naïve" (p. 1498). However, Nowaskie and colleagues also recognized that their study may not have followed participants long enough to recognize the long-term impacts of hormonal treatments. Nowaskie and Colleagues states, "these findings may be temporally associated, as the onset and maximum effects of gender affirmation from GAI vary widely (Irving & Lehault, 2018). For example, while the desired effects of GAH may take several years, the affirmation from GAS is often much quicker" (p. 1498). The above quote does indicate that the study did not survey the same groups again, and thus may not be able to see the long-term impacts of treatments. However, the study does indicate that surgery-based interventions may have a strong short-term effect on eating disorders on both the transmasculine and transfeminine populations. The study ultimately found

that both hormone treatments and surgical treatments may be effective, with their greater support going to a combination of both, as observed in their study. Nowaskie and Colleagues (2021) did determine that further research was needed in order to understand the effects of hormone treatments, but stated "In the interim, ED providers working with transgender patients should be aware of this potential temporal association and support gender affirmation as much as possible, including continuing GAH and offering referrals to gender health providers if requested" (p. 1498). This recommendation of continuing to utilize hormone-based gender affirming interventions as requested by patients reflects the views found in the articles by Jones and Colleagues, and Testa and Rider.

Conclusion

Limitations

There are several limitations to this review. One of which being that the articles examined are each subject to their own limitations. Testa and Rider's sample was primarily young Caucasian individuals, which limits its ability to represent minority populations and members of older age groups. Both Cusack and Colleagues and Nowaskie and Colleagues are limited by their survey format, which subjects them to scrutiny for response bias, and bias stemming from the self-reporting nature of their studies. Jones and Colleagues was conducted in a different country from the other studies, and thus likely did not follow DSM diagnoses, and also only examined cross-hormone treatment. The point of this is not to diminish the credibility of the prior research into this field, but to highlight the limitations of each study utilized in this review in order to

properly represent the research. In addition to this, there is a limitation regarding where these articles are from. These articles were primarily conducted in the United States, with the only exception being a study from the United Kingdom. Both of these nations primarily utilize the English language, and are wealthy and thoroughly developed. This limits the ability of the research conducted in these nations to represent countries with different cultures, languages, or poverty levels. Limitations also include the potential for implicit bias, both within the prior research and the potential for my own implicit bias. As previously mentioned, I'm a Caucasian and cisgendered male of Western European heritage, who was born and raised in the Northwestern United States. This does give me an inherent limit to review this material, as mentioned in the statement of positionality at the beginning of this thesis. The way that the studies analyzed in this review were found also provide a limitation to this thesis. As mentioned in the methods section, the studies utilized in the review were sourced through google scholar, Psycinfo, and the Portland State University library. This means that only sources that could be found electronically were used and that the articles had to be published in English. Ultimately this review is limited by the capacity for implicit bias, cultures that the research analyzed are from, and limitations from the individual studies reviewed.

Future Research

Future research is highly necessary in this field. Many of the articles published in this space are relatively new, and finding research is difficult. One of the recurring themes in this review that is yet to see thorough research is the relationship between secondary sex

characteristics and eating disorder development in the transgender population. While articles such as Cusack and Colleagues may provide us with anecdotal evidence and correlation, there is yet to be conclusive evidence pertaining to the strength or presence of the relationship. This creates a clear need for further research into this topic. Additionally, further research should be conducted on the long-term impacts of both surgery-based interventions and hormone-based interventions in order to determine the longevity of their impacts on disordered eating. While this field is relatively new, with most of the research being recent, it is still important to the integrity of providing these interventions that we determine the long-term effects sooner rather than later. Lastly, it is important that we begin to extend our research to the non-binary population. This group is beginning to be included in work regarding the transgender population, but it is important that it is researched separately due to the distinct nature of that gender identity. Little research has been conducted on this population, and with it becoming more accepted as a gender identity, it is important to understand how it relates to disordered eating.

Conclusion

The literature almost unequivocally indicates that both hormonal and surgical interventions are useful, and the researchers overwhelmingly support their use. While these interventions may not necessarily have a direct impact on eating disorder symptoms, they appear to help, at a minimum, indirectly. This is reflected throughout the articles, even in the study by Nowaskie and Colleagues, in which they did not find an initial difference between the hormone-based intervention group and the non-treatment group. Nowaskie and Colleagues still

advocated for the utilization of hormone treatments if requested by the individual seeking treatment (Nowaskie et al., 2021). This thesis finds that gender-affirming interventions do not directly treat eating disorders. However, they do mitigate some of the body dissatisfaction and non-affirming experiences that transgender individuals face. This reduces their level of risk in developing an eating disorder, and thus indirectly helps in reducing disordered eating behaviors. The prior research examined ultimately supports the notion that both hormone-based interventions and surgery-based interventions help to reduce eating disorder symptoms regardless of if the patient is transmasculine or transfeminine. Simply put, for a member of the transgender community with an eating disorder, gender-affirming interventions should be considered as a means to reduce eating disorder symptoms and help the individual to feel more secure in their gender.

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