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Exploring Transgender Adolescents' Body Image Concerns and Disordered Eating: Semi-Structured Interviews with Nine Gender Minority Youth

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Abstract

Transgender adolescents (TGAs) face many of the same sociocultural and biological influences on body dissatisfaction and disordered eating as cisgender peers. Additionally, TGAs experience unique body- and gender-related concerns. The purpose of this study is to explore the nuances of gender identity, gender transitioning, body image, and disordered eating among TGAs. Case summaries and a synthesis of key themes are presented from interviews with nine TGAs aged 16 to 20 (M_{age} = 17). All participants reported engaging in at least one behavior to change their weight or shape. Consistent with a theoretical biopsychosociocultural model we proposed, TGAs described body dissatisfaction and disordered eating related to transgender-specific factors (e.g., behaviors aimed at minimizing secondary sex characteristics) and broader developmental and sociocultural factors. Some participants reported improvements in body image and disordered eating following gender transition. The interviews highlight complex associations among gender identity, gender transitioning, body image, and disordered eating during adolescence, suggesting that disentangling transgender-specific factors from other individual factors is difficult. These

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findings may guide future research on the prevalence and functions of disordered eating among TGAs and point to a unique set of needs for effective detection and treatment of concurrent gender incongruence, body dissatisfaction, and disordered eating.

Keywords

transgender; gender minority; adolescence; body image; disordered eating; qualitative

1. Introduction

During adolescence, youth navigate increased sociocultural appearance pressures at a time of rapid physical and biological change (Dahl et al., 2018; Voelker et al., 2015), making adolescence a developmental period of heightened risk for body dissatisfaction and disordered eating (Eisenberg et al., 2006; Rohde et al., 2015). The majority of research on adolescent body dissatisfaction and disordered eating has focused on cisgender youth (i.e., youth whose gender identity is aligned with their sex assigned at birth). Few studies have examined body image and disordered eating behaviors among transgender youth (i.e., adolescents whose gender identity does not align with their sex assigned at birth, also called "gender minority youth"). However, given heightened risk factors for body dissatisfaction and disordered eating during adolescence as well as the body-related concerns specific to transgender individuals, we expect transgender adolescents (TGAs) to experience a complex set of body image concerns and increased risk for disordered eating behaviors, especially those aimed at weight and shape control. These behaviors might include, but are not limited to, calorie restriction, compulsive eating habits, purging, and excessive exercise. The current qualitative study examines body image dissatisfaction and disordered eating through in-depth interviews with nine transgender youth.

1.1. Body Dissatisfaction and Disordered Eating During Adolescence

For many adolescents, physical attractiveness is central to a sense of self-worth (Thompson et al., 1999). The increased focus on appearance during adolescence is likely due to a combination of sociocultural and developmental factors. Two theoretical models, the *tripartite influence model* and *objectification theory*, have been proposed to explain sociocultural factors that shape adolescents' body image. However, both were developed with cisgender individuals in mind. The *tripartite influence model* argues that individuals internalize unattainable beauty standards after being exposed to them through media, parents, and peers, ultimately leading to body dissatisfaction when these standards are not met (Thompson et al., 1999). Furthermore, according to *objectification theory* (Fredrickson & Roberts, 1997), the cultural objectification of female bodies socializes cisgender girls and women to internalize an observer's perspective of their physical selves, to chronically monitor their bodies, and to engage in behaviors aimed at attaining cultural beauty standards (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). Notably, in the decades since these theories were introduced, adolescents' conceptions of cultural beauty standards have become increasingly hard to attain. For instance, the ideal body for young women is now not only thin but toned (Deighton-Smith & Bell, 2018), and young men are socialized to pursue an increasingly muscular form (Edwards et al., 2016). These unrealistic standards

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are transmitted more frequently than they were in previous generations, as today's youth are bombarded by idealized, photoshopped images of peers and celebrities via social media (Choukas-Bradley et al., 2020).

Adolescent developmental factors may further exacerbate body image concerns. For example, adolescents experience identity development and increased self-consciousness, combined with a desire for more autonomy from parents and a greater reliance on peers for sense of self (Brechwald & Prinstein, 2011). During adolescence, cultural beauty standards are communicated by peers, heightening adolescents' awareness of their physical appearance and potentially contributing to body dissatisfaction and social comparison (Jones et al., 2004; Thompson et al., 1999; Webb et al., 2014). Pubertal development leads to rapid changes in body shape and size and is associated with concomitant increases in body dissatisfaction and, in some cases, disordered eating (de Guzman & Nishina, 2014; Hayward & Sanborn, 2002). Puberty is associated with behaviors aimed at weight loss (e.g., caloric restriction, diet pills, purging) for cisgender girls, but excessive exercise, weight-lifting, and steroid use for cisgender boys, reflecting the gendered function of disordered eating during adolescence (Baker et al., 2012; McCabe et al., 2002). It is clear that the unique combination of biological changes and sociocultural pressures experienced during this time establishes adolescence as a developmental period of heightened risk for body dissatisfaction and disordered eating (Eisenberg et al., 2006; Rohde et al., 2015).

1.2. Disordered Eating Among Transgender Adolescents

There are several reasons to expect that TGAs may be at particularly high risk for body dissatisfaction and disordered eating. While transgender youth face many of the same sociocultural and biological factors affecting cisgender youth, they also experience a unique set of body- and gender-related stressors. The majority of TGAs feel their biological body does not align with their felt sense of gender identity (Guss et al., 2017; McClain & Peebles, 2016). Puberty may be especially distressing if TGAs feel their body is developing in the "wrong" direction; in some cases, disordered eating behaviors may be used to minimize the appearance of secondary sex characteristics (Bockting & Allen, 2012; Coelho et al., 2019). Additionally, TGAs may decide to undergo a transition, in which they make changes to their outward appearance to affirm their gender identity. Transgender individuals take steps in their gender transitions to decrease the incongruence between their true gender identity and their gender assigned at birth by altering their gender expression (Collazo et al., 2013). TGAs can experience distress related to gender incongruence, which is often described as gender dysphoria (Knudson et al., 2010). Transitioning, however, may generate concerns about passing—that is, being perceived by others as their desired gender. Body dissatisfaction may arise from these experiences and could motivate disordered eating behaviors (Brewster et al., 2019; Gordon et al., 2016).

In particular, disordered eating behaviors could be used to alleviate feelings of gender incongruence and/or align the body with one's gender identity. For example, transfeminine adolescents—those who were assigned male at birth and currently identify with a female gender identity—may engage in restrictive behaviors to align with beauty standards for women (Gordon et al., 2016; Guss et al., 2017; McGuire et al., 2016). Transmasculine

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adolescents—those assigned female at birth and who currently identify with a male gender identity—may engage in muscle-building behaviors aimed at achieving the muscular male ideal (Guss et al., 2017; McGuire et al., 2016). Transmasculine adolescents may also engage in restrictive eating behaviors in order to reduce the appearance of female secondary sex characteristics such as breasts (Couturier et al., 2015; Hepp & Milos, 2002). Furthermore, some adolescents identify as gender nonbinary, genderqueer, genderfluid, or agender (Salk et al., 2020), and may use other methods to align one's body with one's gender identity. It is important to note that behaviors considered disordered from one perspective may be meant to affirm and express one's gender identity among TGAs, introducing ambiguity as to how these behaviors are conceptualized and approached for this population.

Extant literature provides support for TGAs being at increased risk for disordered eating. For example, a recent study of Canadian TGAs aged 14–18 found high rates of disordered eating, with up to 48% reporting a disordered eating behavior (Watson et al., 2017). In a representative sample of U.S. high school students, TGAs reported equal rates of diet pill and laxative abuse as cisgender females, long thought to be the most at-risk population for disordered eating (Guss et al., 2017). Similarly, a large study of U.S. college students found transgender students were significantly more likely to report a past-year diagnosis of anorexia nervosa or bulimia nervosa and past-month compensatory behaviors than cisgender peers (Diemer et al., 2015). A review of research on eating disorder symptoms and diagnoses among transgender youth ages 8–25 found significantly higher rates of symptoms compared to cisgender peers, and some studies showed a higher likelihood of eating disorder diagnoses (Coelho et al., 2019).

1.3. Prior Qualitative Research on Transgender Adolescents' Disordered Eating

Although large-scale studies provide important information about the rates of disordered eating behaviors among TGAs, they do not provide information regarding the subjective experiences that give rise to disordered eating. Understanding the unique experiences of TGAs from their own perspective is critical, as quantitative data alone are unlikely to capture the information necessary for providing effective prevention and intervention services to this population. In-depth, qualitative case studies can complement survey-based work by providing more detail and complexity regarding adolescents' experiences. Qualitative work is particularly important for understanding the unique subjective experiences of minority populations (Gergen et al., 2015; Ponterotto, 2010; Singh & Shelton, 2011). Semi-structured interviews represent the ideal methodology for research questions surrounding body image in transgender populations, and have been used in prior studies with adults (see McGuire et al., 2016). Specifically, prior work has demonstrated that this methodology is successful in exploring developmental processes with TGAs (Vrouenraets et al., 2016). Prior qualitative studies with transgender participants utilizing semi-structured interviews tend to have somewhat larger sample sizes (see McGuire et al., 2016; $n = 90$ or Guss et al., 2019; $n = 20$). However, these studies focused on more general research questions, aiming to identify common experiences that many transgender individuals may encounter rather than any one individual's unique developmental experiences.

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Case studies represent an ideal methodological approach for uncovering information about clinical presentations through an in-depth analysis of individual cases (Stake, 2008). Several prior case studies explored the intersection of adolescents' gender identity and disordered eating in the context of clinical care for eating disorders. Specifically, case studies suggest transgender individuals' presenting issue may be interpreted as a typical case of anorexia nervosa, and they may only express feelings of gender incongruence and dysphoria after several months of treatment, presumably once weight restoration has occurred. For example, before coming out as transgender 11 months into treatment, an adolescent assigned male at birth (age 16) reported having engaged in disordered eating in order to appear feminine and small and to adhere to feminine beauty ideals (Couturier et al., 2015). In cases of transgender boys, patients reported a desire to achieve muscularity and to reduce the appearance of feminine features (Couturier et al., 2015; Strandjord et al., 2015). Importantly, these case studies provided a case presentation and treatment response without considering developmental processes.

1.4. The Current Study

Qualitative research examining the intersection of gender, body image, and disordered eating among TGAs in the community is needed, as it could help shape guidelines for affirming, comprehensive care (Rafferty et al., 2018). In addition, exploration of TGAs' unique appearance concerns may lead to the development of tailored disordered eating prevention interventions (Murray, 2017). The current study combines the strengths of both semi-structured interviews and case studies, to explore the developmental themes across TGAs' body image concerns, while also highlighting the unique individual experiences of nine TGAs in the community.

Our goal was to explore the intersection of transgender identity, body image, and disordered eating through semi-structured interviews. Specifically, we sought to address the following questions: How do TGAs differentiate (or not) between gender-specific and non-gender-specific body-related concerns? How do gender transitions change TGAs' experiences of body dissatisfaction and disordered eating? How is disordered eating connected to TGAs' body image concerns? How does the developmental and social context affect TGAs' experiences with transitioning, body image, and disordered eating? These interviews highlight the complex interplay of adolescent development, gender identity, body image, and disordered eating behaviors. Figure 1 depicts a theoretical model of the biopsychosociocultural influences on TGAs' body image and disordered eating we sought to explore in these interviews.

2. Method

2.1. Participants

Adolescents who were age 14 – 20 and identified as transgender (i.e., with any gender identity that differed from their sex assigned at birth) were eligible to participate. The participant group consisted of nine transgender youth. Demographic information and transition steps are shown in Table 1, along with pseudonyms for participants. Participants were 16 to 20 years old (M_{age} = 17) and living in the U.S. The majority were age 16 (n =

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3) or 17 (*n* = 5). Participants were identified as female at birth (*n* = 7) and male at birth (*n* = 2). The majority of participants identified as White (*n* = 7), and all participants under age 18 were attending high school (*n* = 8). All participants had previously disclosed their gender identity to another person and reported using a name or pronouns congruent with their current gender identity.

2.2. Procedure

The interviews were conducted from February – April 2018. Participants were recruited from advertisements through listservs associated with community groups and providers (e.g., Persad Center), as well as from other completed studies of gender minority youth in the Pittsburgh region. Listservs from community groups provided youth with information about a study on "Teen Health, Body Image, and Gender" and provided a link to the online study screener. In order to ensure that participation in our study did not place youth at risk for stigmatization or rejection by family members, we did not identify our study as a transgender study through ads, and we also obtained a waiver of parental permission for youth under age 18. Participants who indicated they were 14 to 20 years old and identified as a gender minority in a brief online screening survey were contacted via phone, provided more detailed information about the study, and invited for the inperson interview.

Each 90-minute session included one adolescent participant and two clinical psychologists as interviewers. Within each interviewer pair, at least one interviewer identified as a member of the LGBTQ community, and all interviewers had prior clinical experience working with TGAs. All participants provided verbal informed consent/assent and had the opportunity to address any questions or concerns before beginning the interview. Participants were told they could skip any question they did not wish to answer. All interviews were digitally audio recorded with participants' permission. Participants were compensated $20 and provided reimbursement for transportation. The study was approved by the University of Pittsburgh Human Research Protection Office.

Before beginning the interviews, participants provided verbal informed consent (for youth aged 18 or older) or assent (for adolescents under 18) and completed a brief questionnaire, on which they reported age, grade, and race/ethnicity, and selected terms that best expressed their current gender identity and transition milestones (see Table 1). The first part of the interview had a duration of approximately 45 minutes, and served as the primary source of data for the current paper. Interviewers used open-ended questions to engage participants in a semi-structured discussion about their weight, shape, body, and eating behaviors both before their transition and since their transition (see Online Supplemental Material for interview protocol). Next, participants provided feedback on questionnaires assessing body image and disordered eating behaviors for the purpose of future quantitative research with TGAs; this feedback is not provided in the current paper, but occasionally, participants' personal disclosures during this part of the interview informed the case summaries presented here. Finally, participants and interviewers engaged in a closing discussion based on open-ended questions about participants' experience of body image and eating behaviors in the context of their gender identity.

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2.3. Qualitative Data Analysis

A *holistic multiple-case study design* was chosen to present the interview data. This design allows for an in-depth exploration of a small number of cases (Stake, 2008; Yin, 2012). To construct each case, we extracted a chronology from the interview data. We first separated the content of the transcriptions into the main topics covered in the semi-structured interview (i.e., weight, shape, body, and eating behaviors) and information about individuals' histories regarding gender identity development and steps toward transition. Then, this content was separated into pre-, peri-, and post-transition categories as a function of when it took place during the individual's transition. Participants' ages and developmental periods (early childhood, middle childhood, early adolescence, middle adolescence, and late adolescence) were also noted. This process took place in a series of iterative steps completed by the first author (a graduate student) and the last author (a Ph.D. clinical psychologist who was a member of the interviewing team). With the data sorted, the first and last author then completed within-case analysis by writing a narrative case description for each participant (Creswell, 2013). To verify reliability, the case summaries were then reviewed by the second and fourth authors (Ph.D. clinical psychologists who comprised the other two members of the interviewing team). Following the construction of the case summaries, the first author, last author, and third author (graduate student) then reviewed all cases, identifying key themes in a cross-case analysis (Creswell, 2013; Stake, 2013). These themes were then reviewed by the second and fourth authors. A small number of overarching themes most relevant to gender identity, body image, disordered eating, development, and their complex intersection were selected in a final interpretive phase of analysis (Creswell, 2013).

3. Results

In this section, we first provide Case Summaries for each participant interviewed (using pseudonyms), followed by a Case Synthesis.

3.1. Case Summaries

Casey (age 17; trans female; she/her; assigned male at birth)—Casey first verbalized her gender questioning at age 4; sitting in the bathtub, she informed her mother that she should have been a girl. Throughout childhood, she tried to repress such feelings, yet she could not imagine growing up to be masculine or a male. Her femininity garnered bullying from peers at school. Casey balanced her early dysphoric feelings and the social disapproval by aiming to present femininely while still passing physically as male:

> I had wanted to have this concept of, like, I could be a feminine boy and look like a boy from the neck down. But I was trying to fill an impossible standard of "I can be feminine, but I still have to be a boy."

In order to emphasize the boyishness of her figure, she kept herself very thin to prevent any feminine features from developing (e.g., fleshiness in the breast/chest region). She reported binge eating to "fill" her emotional void and purging in order to avoid weight gain and maintain a boyish aesthetic. She wondered, "What's wrong with me? Why am I not this thin? Why is this not shaped this way? Why do I have broad shoulders? Why do I have

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narrow hips?" However, she reported that at this time, she did not understand the dysphoric roots of her dissatisfaction.

Near the end of 9th grade, Casey decided she could not continue "living to please others"; she had to "live [her] full truth." She came out as a trans female at age 14. The energy she had once devoted to presenting as a feminine boy now poured into passing as female. She reported that her every movement was choreographed, and her fixation on typically feminine body parts led to extreme measures toward body modification. For example, to create an hourglass figure, she described tying a corset so tight she could not breathe and wore it for hours. Bingeing and purging reportedly led to food restriction so as not to jeopardize her efforts with the corset.

About a year and a half before the interview, a major shift occurred as Casey began hormone therapy. She shared that just anticipating physical changes helped her to feel a greater sense of control over her gender as well as increased wellbeing. She felt excited when she started developing breasts because they were a marked outward sign of her femininity. After "struggl[ing] a lot with eating problems, eating disorders," Casey learned through psychotherapy that bingeing and purging was not an effective method of weight control. She realized she had only one body and wanted to "take care of it." While hormones had not completely resolved Casey's body dissatisfaction by the time of the interview, she described feeling less urgency to engage in weight- or shape-related behaviors. She reported doing sit-ups and stretches, but she also reported feeling this was a "normal amount of exercise" and that she "never really had an excessive exercise routine." She no longer cared as much about the opinions of others, and the reduction of her internal body surveillance "freed up brain space." Furthermore, she specified that her desire to undergo bottom surgery upon turning 18 was for herself rather than for others. She stated that what mattered was the validation she felt when she saw a girl reflected in the mirror. Her body finally aligned with her internal self-concept; she felt "at home."

Alex (age 16; trans female; she/her; assigned male at birth)—Alex began questioning her gender identity at age 14, in 8th grade. She reported that by the time she started asking herself, "Am I trans?," she already knew the answer was yes; however, she was reluctant to come out because her (cisgender) boyfriend was only attracted to men. Shortly before beginning her transition, she struggled with her male-pattern hair growth and began shaving her face as early as age 10 or 11. She also felt dissatisfied with her weight, genitals, voice, and masculine facial features. Mirrors were a source of fear. Before beginning to question her gender, Alex attributed her body dissatisfaction to grappling with pubertal changes, realizing only later that dysphoria was likely an underlying cause.

Alex reported that when she began questioning her gender pre-transition, her dysphoria revolved mainly around her face, shoulders, and body hair; however, she did not consciously engage in disordered eating behaviors. She shared: "There were days that I just kind of went without eating, but it was more of a depression thing than it was a body image thing." At age 15, Alex broke up with her boyfriend and sought psychotherapy to confront her dysphoria. At first, her father prevented her from doing so, but she eventually received treatment. After beginning her transition, Alex noticed her depression and apathy lifting

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but also began feeling concerned about passing. She experienced anxiety about others' perceptions of her gender, and she consequently felt compelled to make "adjustments" to her outward presentation. Her weight as it related to gendered fat distribution became a concern as well. However, at the time of the interview, Alex felt that people generally identified her as female. She attributed many of her physical changes to hormone therapy, which she started roughly a year before the interview, at age 15. She had legally changed her name and worked to feminize her voice. She described these changes as increasing her self-confidence and decreasing her passing concerns.

While Alex's depression had also reportedly improved since transitioning, with the resolution of her apathy came motivation to engage in disordered eating behaviors. She reported "regulating" her eating habits and completing squats and sit-ups before school to energize herself for an early gym class. She also reported trying to lose weight in the name of health, but this did not concern her very much. Overall, she recognized she had little control over the body shape she was born with and was learning to accept it. She also reported having learned to disentangle concerns about weight that were and were not related to gender, ultimately recognizing that "how I feel about my weight isn't just part of my dysphoria." When asked if she felt societal pressure to maintain a certain weight or shape, she said, "I do feel societal pressure to do that, but I also don't really care. I feel societal pressure to be male."

Devon (age 16; trans male, agender; he/him; assigned female at birth)—Devon began questioning his gender identity in middle school, but before this time, he experienced body and mental health concerns independent of gender. He recalled being "chubby" since childhood and wanting to be thin like his peers. In elementary school, when Devon still presented as female, boys at school dared each other to ask Devon out because he was "the ugly one." This bullying caused Devon to internalize that others considered him unattractive and fat. He reported that he coped with this aggression not with efforts to modify his body but with disinterest in his physical appearance, generally recalling comfort with his height and weight. While he reported liking his feminine curves before questioning his gender, he also recalled having always felt different than others and dressing androgynously.

In 8th grade, Devon told his girlfriend and a close friend that he was questioning his gender. He cut his hair short but moved no further with transitioning until the summer before 9th grade, when he resolved to enter high school as a trans male and came out to family and friends. He started wearing a chest binder and eventually came out at school and on social media. He also talked with his parents and psychiatrist about hormone therapy.

Devon reported seeing a psychiatrist for depression, with which he struggled since 5th grade. While he acknowledged gender-related body image struggles contributed to his depression, he mostly attributed the condition to genetics rather than gender dysphoria. At some point before being prescribed hormone suppressants in 9th grade, Devon took an antidepressant and gained a significant amount of weight. He reported tolerating the weight gain in exchange for his mental health. However, he also described feeling distressed about bingeing, which he described as a depressive symptom, and he stated that he wished he could stop eating.

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Devon began hormone therapy in the summer before 10th grade. He described this as a challenging time, and he received inpatient psychiatric treatment. He experienced significant self-loathing—especially regarding weight—until the fall of 10th grade. He perceived his desire to lose weight as independent from gender dysphoria and related more to feeling as if he did not look "aesthetically pleasing" or "cool" at a higher weight regardless of his gender presentation. For Devon, gender-related body dissatisfaction revolved primarily around body shape, especially his hips, waist, and body fat distribution.

At the time of the interview, Devon reported feeling disappointed in the lack of physical changes since starting hormones. He felt most self-conscious about his voice because it most clearly outed him as a gender minority individual. He also disliked seeing his still-curvy body in the mirror, which he imagined other people perceived as feminine. Devon often compared himself with cisgender males, wishing he was taller and possessed other masculine features such as "more well-defined muscles, or jawline, or Adam's apple." However, he stated most of his recent body-related concerns were "kind of mostly unrelated to being biologically female and kind of just a weight thing in general." Despite this ongoing dissatisfaction, he reported feeling overall "wonderful" since early in the current school year. His name and gender had been changed on his birth certificate, and his doctors planned to increase his dosage of testosterone.

Frankie (age 17; trans male, genderfluid; he/him; assigned female at birth)— After "feeling confused for a while," Frankie reported knowing he was not female starting in 7th grade. He described internally identifying as "nonbinary" after discovering this term on YouTube, and he came out to his best friend and possibly one other person. He used they/them pronouns, and his clothing style became more androgynous to reflect how he felt less "feminine and bright." Frankie experienced anxiety over his changing identity in addition to difficulties with his father. These struggles were the worst in 7th and 8th grade. Outwardly, he presented as female and did not speak of his new identity to people he knew.

Between 7th and 9th grade, Frankie felt he weighed "too much for [his] own liking." Although he did not believe he was "ugly or fat" and recognized he was objectively thin, he felt as if he "weighed too much, and like [he] would be happier if [he] weighed less." He restricted his food intake and engaged in compulsive walking, reportedly to soothe anxiety and control his weight. He also reported roughly two episodes of purging behaviors after eating more food than normal. He recalled wondering, "Where is all the weight storing itself?" He sometimes fixated on his "jiggly thighs" because they were the least thin part of his body but did not report a connection between his weight dissatisfaction and his gender minority identity. However, he reported awareness of female gender norms; for example, he recalled feeling he should care what others think about his body and that he should feel guilt around eating. However, he described controlling his body as primarily a way of coping with his unhappiness:

> I thought, "Well, since I'm technically female I guess I should care about what people think of my body." But at the end of the day, I didn't. […] I think it was more just, like, kind of internal, kind of control factor because I was very upset at the time. I wasn't very happy. I kind of, like, part of me wanted to be underweight.

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During 9th grade, the nature of the Frankie's weight concerns changed. His weight concerns became more related to his gender dysphoria. For the first time, he thought about the relationship between low body weight and halting his menstrual cycle and breast development. Experiencing pubertal changes underscored how his body was not male, and weighing less seemed like a viable option for easing dysphoria. During the summer before 9th grade, he concluded he internally identified as male but came out as nonbinary during the summer before 10th grade. His desire to lose weight subsided throughout 9th and early 10th grade.

Eventually, Frankie came out as a trans male, switching to he/him pronouns and a different name at school. As of the interview date, he reported his mom did not approve of his gender identity and that she was unaware his preferred pronouns changed from "they/them" to "he/him." He reported interest in trying hormone therapy but also expressed concern about medical or legal transition steps after such a short time of being out as a trans male. Frankie reported once he no longer held himself to female gender norms, he felt "less guilt about things like eating and stuff." He overall ate more and found joy in baking and eating the food he made. Most of his reported body dissatisfaction at the time of the interview revolved around passing as male. He reported wishing he were taller and more muscular, and he worked out sometimes, with no observable increase in muscularity. However, Frankie also shared: "Part of me being a lot happier is me being able to express myself a lot better in public."

Jordan (age 20; female to male, agender; they/them; assigned female at birth)—Jordan first came out as trans at age 13. Jordan kept their hair short and wore baggy, androgynous clothing, recalling a classmate asking, "Dude, why are you wearing a skirt?" when Jordan wore feminine clothing. Throughout middle and high school, Jordan "used different names with friends" and publicly changed their name in their senior year, finding their school environment supportive. Jordan aimed not to transition to a specific gender identity but rather to be open about whatever felt right at the time; they identified as nonbinary throughout this time.

Starting with the onset of puberty, Jordan engaged in many efforts to shrink their body. They described initiating a binge–restrict cycle and engaging in excessive exercise and occasionally other types of purging. Controlling calorie amounts and portion sizes became obsessions. However, Jordan noted their struggles went easily unnoticed because they remained at an average weight. More revealing were their thoughts and intentions:

> I definitely had fantasies of just, like, my organs breaking down and, like, stopping working, and I think it was sort of definitely the feeling of, like, gendered expectations just, like, seeping into your body all the time. And so, trying to destroy this body that's been sort of attacked and, you know, invaded by outward expectations of gender.

Jordan also described using self-harm as a means of experiencing the body purely as flesh, devoid of any gender construct that could be projected onto it. They conceptualized physical weakness due to disordered eating similarly: "If you're concentrating more on like, you know, 'I might faint,' you're less concentrated on, like, 'Everyone is viewing me as a

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girl, and that is painful.'" These eating and self-harm behaviors were a manifestation of Jordan's sense of hopelessness as well as the anxiety they felt about appearing outwardly feminine. Their friends and relationship partner—who also identified as gender minorities—experienced similar struggles, and Jordan reported believing they exacerbated each other's difficulties. Jordan described their dysphoria as coming to a breaking point of "rage and anguish" in mid- to late-high school, when they "stopped caring about weight as much" because they were "just not caring about anything." Their disordered eating behaviors decreased, but they began a two-year period of identity repression. At the ages of 18 and 19, Jordan reportedly engaged in "shitty heterosexual relationships to further oppress [their identity]."

Several months before the interview (age 20), Jordan reported feeling ready to transition and "just went for it." They pursued hormone therapy, which previously felt inaccessible, and experienced a markedly positive shift. They reveled at the changes in their body, including the side effect of increased appetite. Although they noticed weight gain in their hips, they emphasized this was not a serious concern. They acknowledged taking testosterone directed them more toward masculinity than androgyny and reported looking forward to growing into a more masculine shape. Nonetheless, they felt their transition was more fluid and focused on being genuine in the moment. Jordan shared: "It's just totally joyful for me the whole time. Definitely noticing things but not concerned about it at all because it's, like, I have a body that I inhabit. That's fucking cool."

Max (age 16; trans male, nonbinary; they/them; assigned female at birth)—As a child, Max described being a feminine-presenting "girly girl." Thus, their parents were surprised when they came out as transgender at age 12 the summer before 7th grade. Although both parents seemed comfortable with the LGBTQ+ community (e.g., bringing Max to Pride events as a child), Max told their father first. Max's dad soon took them shopping and bought "every masculine clothing item that [they] could find that fit." Max, however, felt uncertain about how to take next steps, especially given their middle school's conservatism. They returned to a feminine presentation for 7th and 8th grade.

During those years, a youth in Max's religious community came out as trans, allowing Max to observe how a transition could unfold and how supportive their progressive church community was. Thus, Max felt prepared to come out for good in the summer before 9th grade. They identified as nonbinary, experiencing some difficulty implementing their pronouns. But because their high school environment was supportive of gender minority youth, the change took hold shortly after the school year started. Max came out to everyone except their grandpa, and they cut and dyed their hair. Until this point, Max had been using a makeshift chest binder that restricted their breathing. Their dad bought them a real binder that Christmas.

Max reported that before coming out, they did not experience body dissatisfaction and were not concerned with other people's opinions about their body, except for an occasional thought that their legs were disproportionately long. It wasn't until 8th or 9th grade that they began feeling an urge to restrict, with the intention of controlling their weight and shape. According to Max, these urges were motivated by both "wanting a more masculine

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looking body" and not liking how their stomach looked. Max reported going through phases of avoiding "unhealthy" foods and consuming celery and water in an effort to feel full. They also periodically exercised in secret to lose weight, but they found the effort impossible to sustain.

At the time of the interview, Max felt concerned about their shape. Max reported their dislike of some body parts was related to gender, while other body concerns were not. For example, Max described dislike of their stomach as unrelated to gender and instead centered around appearance concerns more generally. While Max knew they were at a healthy weight, they felt dissatisfied with it. On the other hand, Max described their dislike of their hips, thighs, and waist as being very much related to desiring a masculine form. They described their ideal body type as being "medium weight" and "high muscle."

Max also reported worrying about passing, especially in public. They were careful not to leave the house wearing clothing or hairstyles that could be perceived as feminine, and they monitored their gestures and mannerisms to ensure they presented as masculine. They reported they would like to start hormone therapy and were trying to bypass parental approval. However, Max compared themself to cisgender men and expressed doubts about their potential to undergo enough physical change to consistently pass, even with potential hormone therapy:

> Sometimes I think about my feminine features, some of them on my face, some of them on my body. I mentioned before, like, my thighs. Some of them I can change through hormones and surgeries, but some of them I can't really. I can't really change my hips. They may change a little bit if I am on hormones for a long time, but they will never really. I don't think my body will ever completely look like a cis man's body.

Parker (age 17; trans male; he/him; assigned female at birth): Parker described having grown up aware of other people's bodies and weight, and he made connections between these perceptions and feelings about his own body pre-transition. He reported his mother "had trouble with her weight for a long time," leading him to feel anxious about small fluctuations in his own weight. Although Parker stated he was not driven to engage in disordered eating behaviors, he said he was "always […] making sure nothing would change too much." Parker expressed gratitude that he experienced no bullying or pressure about appearance at school, attributing his lack of appearance-related behaviors to this safe "bubble." Parker described the following pre-transition attitudes toward his body:

> I was always really conscious [about my body]. A lot of my friends were super, super skinny, and so I thought, "Oh, I'm cute for a girl." […] I don't have the best body, but it's fine. I wasn't really wanting to change my body shape at that point.

Parker's concerns about others' opinions of his body revolved around whether his male crushes found his body attractive. Although Parker felt self-conscious about weight on his abdomen, he didn't often look in the mirror, and he "didn't wear bikinis or anything, so [his body] didn't show to other people." Looking back, he attributes the avoidance of his own appearance to being trans. At age 14, Parker came out as a trans male to his friends

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and asked them to use he/him pronouns. He began comparing himself to cisgender males and muscular people, feeling "inferior" and dissatisfied with his body. The distribution of weight toward his lower body concerned him because of its feminine presentation. He often wondered, "Do I pass to this person?"

At the time of the interview, Parker was 17 and a senior in high school. He had taken several transition steps, including asking others to use his preferred name and pronouns and legally changing his name and gender. He had also taken testosterone for nearly a year with noticeable increases in muscle definition as well as redistribution of fat from his thighs to his stomach. He also scheduled top surgery. While Parker was still concerned with passing, he felt more confident that others perceived him as male. In situations where he was certain of passing, he wondered more about what type of male (e.g., "wimpy, nerdy") he was perceived as.

Progress in transitioning also affected Parker's body-related attitudes and behaviors. Because he was aware that weight fluctuation is a common side effect of hormone therapy, he began weighing himself more frequently: one to two times per week in contrast to once per month pre-transition. That said, he reported no desire to lose weight; rather, he was satisfied to see his body shift to a more male-pattern fat distribution and remained aware of weight in his lower body. To further promote his masculine presentation as well as for general fitness, Parker reported beginning upper body and core exercises, feeling pleased with how testosterone supported muscle growth with little effort. In fact, he no longer felt inferior compared to muscular individuals and cisgender males. He reported that feelings about his weight or any efforts he might make toward weight loss were separate from gender.

Skyler (age 17; genderqueer; they/them; assigned female at birth)—Skyler reported questioning their gender from ages 10 through 12. During that time, they continued presenting as female, experiencing unpleasant feelings related to gender incongruence. They felt uncomfortable with their feminine body parts and thought about how other people viewed their body. While they generally did not like how they looked, however, their body dissatisfaction did not feel like "a big deal." Non-gender-related stressors also contributed to their body struggles. Specifically, due to reported mismanagement of an Adderall prescription between ages 10 and 12, Skyler experienced rapid and severe weight loss, leaving them alarmed, underweight, and in need of nutritional supplementation.

At age 13, Skyler came out as a "binary dude," or trans male. They initiated their social transition by wearing different clothing, using he/him pronouns, and changing their name. They also began taking testosterone, noting a change in their voice and hair growth on their abdomen, but they reported that no other changes took place due to low dosage. They gained weight during this time—although they noted this was not necessarily due to testosterone—and felt concerned about being "chubby." Other people's opinions of Skyler's appearance were still on Skyler's mind, but they did not report engaging in disordered eating behaviors during this time. At some point before turning 16, Skyler underwent top surgery but was disappointed with the results.

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At age 16, Skyler was exposed to the "genderfluid" identity and felt it "made sense." They came out as genderfluid and continued to identify as such through the time of the interview. They changed their preferred pronouns from "he/him" to "they/them" but found others were not consistently receptive. For example, while their sister used their preferred pronouns, their mother did not. As a result, Skyler felt they had not been able to fully transition socially to this new identity. Around the time they began identifying as genderfluid, Skyler stopped taking testosterone due to financial strain on their parents. Skyler described this change as involuntary, as they would have preferred to continue with hormone therapy.

Skyler was 17 and in 11th grade at the time of the interview. They reported recent struggles with disordered eating behaviors. A few months before the interview, Skyler experienced periods of "not eating, and then eating a bunch, and then not eating." They also engaged in other weight modification behaviors but did not specify the type. Skyler reported that their family and psychiatrist were aware of the problem as it was happening. They reported appearance concerns had likely motivated their disordered eating behaviors, but they noted not being completely sure of this. Skyler also described how "see[ing] more body positivity stuff" has helped them feel more comfortable with their weight.

Tyler (age 17; genderqueer; they/them; assigned female at birth)—Tyler remembers feeling uneasy about their body before transitioning. Their cisgender female peers were mostly White and thin and had straight hair, while Tyler did not share any of these characteristics. Tyler assumed others thought they were ugly, and they wanted very much to be thin in accordance with peers and feminine beauty norms. Tyler reported this drive for thinness, paired with a need for control, led them to periodically resolve not to eat; they would give up these efforts when no change in their weight was experienced. They noted that they would have preferred to be selective about what they ate (rather than not eating), but their options were limited to what was provided by their parents and school. Tyler reported that pre-transition, their body dissatisfaction migrated to various focal points; there were times when they did not like their knees, the dry skin on their legs, or the hair on their knuckles. Tyler also refused to wear a real bra until 9th grade due to a longstanding dislike of their breasts. Years later, Tyler realized the underlying cause of their body dissatisfaction was gender incongruence.

At age 15, Tyler came out to their cisgender female dating partner and their school's Gay-Straight Alliance. While Tyler did not take an active role in coming out, peers found out about their involvement in the GSA, and Tyler was open to answering questions when asked. Changes to their gender presentation were reportedly aided by their dating partner, whose ability to drive gave Tyler autonomy to shop for gender-affirming clothing. Tyler also started a job, using the earnings for clothing and their first chest binder. They reported that changing their appearance generated anxiety about standing out among their homogeneous student population.

Once Tyler had their own car, they gained agency over their food. Instead of resolving not to eat, they were able to purchase whatever food felt comfortable to eat at the time. Specifically, Tyler went through periods of trying to "eat really healthy" with the reported intention of losing weight. Tyler also considered taking pills for this purpose but did not

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act on those thoughts. In contrast to the time before transitioning, Tyler reported that their desire to lose weight now revolved almost exclusively around gender. They were no longer as concerned about their weight for weight's sake but rather for the obviousness of their curves. They did not like their hips, breasts, or butt, and wanted to minimize these areas:

> I don't think I'm fat, just I don't like I have hips. I have a butt. I just don't like it. […] When I was a kid, it was more a weight thing. Then now, it's kind of become a shape thing.

At the time of the interview, Tyler was a 17-year-old high school senior and reported feeling stuck in their transition. Coming out fully to their parents was the biggest step Tyler had not yet taken. They had preliminary discussions with their mom and sensed that, while she was not fully receptive, their dad and stepmom might be. With regard to a medical transition, Tyler reported that they would like to have top surgery and had discussed this with their mom, but no plans had been made. Regarding other medical interventions, they reported that hormone therapy felt too threatening due to concerns about safety and societal misunderstandings of the nonbinary identity. For now, Tyler reported looking forward to finding more freedom and more information about transitioning in college, even as they anticipated difficulties in the workforce someday.

3.2. Case Synthesis

Several themes emerged from the case summaries. Here, we discuss three key themes: (1) disordered eating behaviors aimed to align the body with one's gender identity; (2) disordered eating behaviors related to broader mental health concerns; (3) the influence of developmental and social context. Later, in the Discussion section, we address how these themes align with our theoretical model (Figure 1), as well as the complexities related to gender minority-specific and other developmental factors in TGAs' body dissatisfaction and disordered eating.

3.2.1. Disordered eating behaviors aimed to align the body with one's gender identity—

All participants reported engaging in at least one behavior designed to impact body shape or weight. Many participants described these behaviors as being motivated by the goal to align their bodies with their gender identity, although each youth's behaviors were unique to their gender identity and transition. For example, Parker (trans male; assigned female at birth [AFAB]) and Frankie (trans male, genderfluid; AFAB) reported engaging in muscle-building activities after transitioning, in pursuit of a more masculine physique. Casey (trans female; assigned male at birth [AMAB]) restricted eating to enhance the effect of a corset to create a feminine waistline. Additionally, several participants reported engaging in disordered eating behaviors to minimize secondary sex characteristics and/or gendered weight distribution. For example, Frankie connected low body weight with the goal of halting pubertal development, and Max (trans male, nonbinary; AFAB) attempted exercising for weight loss and restricted their eating before coming out. Jordan (female to male, agender; AFAB) likewise reported some excessive exercising but used mainly bingeing, purging, and caloric restriction to shrink their body and detract from any gendered presentation; these behaviors occurred while Jordan identified as nonbinary, before beginning hormone therapy. Tyler (genderqueer; AFAB) periodically tried to stop eating and

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strove to eat “healthy” to lose weight, noting that these behaviors were consciously driven by general body dissatisfaction prior to transition, but then continued in order to minimize feminine areas of the body.

3.2.2. Disordered eating behaviors related to broader mental health concerns

—Several participants also reported changes to eating behaviors due to broader mental health struggles rather than body dissatisfaction. Devon (trans male, agender; AFAB) reported living with depression since elementary school, and he experienced increased appetite as a symptom. Because Devon felt dissatisfied with his weight—for reasons he identified as being mostly non-gender-related—his bingeing felt distressing. Some participants described anxiety, depression, or apathy as driving their disordered eating behaviors but noted that these mental health concerns were related to their gender identity. For example, Alex (trans female; AMAB) attributed her depression to grappling with gender dysphoria, and she described occasionally not eating as a symptom. For Frankie (trans male, genderfluid; AFAB), mental health concerns were both related and unrelated to gender, and he reported restricting food and walking compulsively to relieve his unhappiness and regain a sense of “control.” Jordan (female to male, agender; AFAB) also attributed anxiety and hopelessness to a desire for control but only mentioned gender as a contributing factor. These examples demonstrate a nuanced, complex, and individualized relationship among gender identity, mental health, and disordered eating.

3.2.3. The influence of developmental and social context

—These narratives also highlight interpersonal and developmental contexts. Beginning with family relationships, participants spoke of several ways in which their parents interacted with their gender transitions and, thereby, body concerns. Alex (trans female; AMAB) experienced depression and dysphoria prolonged by her father preventing her from receiving therapy. In contrast, Max’s (trans male, nonbinary; AFAB) father provided support in the form of gender-affirming clothing. However, Max, as well as Frankie (trans male, genderfluid; AFAB) and Skyler (genderqueer; AFAB), reported their parents limited their ability to pursue hormone therapy and/or did not use their chosen pronouns. Tyler (genderqueer; AFAB) stated their mother was not entirely receptive to their nonbinary gender identity or to planning top surgery. Additionally, Tyler described how dependence on parents for food influenced their disordered eating because until recently, they could not drive to get foods that felt acceptable to eat.

Several participants mentioned concerns related to peers and romantic partners. For example, participants Tyler, Casey (trans female; AMAB), and Devon (trans male, agender; AFAB) reported that before they identified as transgender, they had internalized perceived differences between their appearances and those of peers of the same sex assigned at birth. Around the time of puberty, however, these body image concerns switched to discomfort with gendered aspects of their bodies and gender presentation. For example, Casey went from working hard at presenting as a feminine boy to presenting as female. Coming out at school generated anxiety for Tyler as well as for Max, both of whom gained courage upon entering what they perceived to be more accepting peer groups. Tyler, however, was also supported by a dating partner in coming out, whereas Alex delayed coming out for fear

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of losing her dating partner. Jordan (female to male, agender; AFAB) described how their disordered eating and mental health struggles were exacerbated by their peers and partner experiencing the same symptoms.

Participants' concerns about passing reflected a greater anxiety about their gender presentation in public and adherence to societal gender norms. After coming out as transgender, Alex, Casey, and Max described body surveillance, including scrutinization and curation of their gestures and movements to help them pass. Parker, Devon, and Max discussed comparing themselves to cisgender individuals. Concerns about societal gender expectations also appeared for participants in other unique ways. While still presenting as female, Frankie purposely adopted the expectation that females should care what others think of their bodies and eating habits. However, after embracing his trans male identity, he reported letting go of these expectations, feeling greater freedom. However, even after participants had almost fully transitioned, some reported worries about how peers perceived them as their true gender. For example, Parker's (trans male; AFAB) concerns about peers evolved over time, from wondering pre-transition whether his male crushes viewed him as an attractive girl, to worrying peri-transition about passing as male, to post-transition wondering about what type of male (e.g., nerdy, wimpy) his peers would identify him as.

4. Discussion

The current investigation explored the intersection of gender minority identity, body image, and disordered eating through the presentation of nine case studies of transgender adolescents. TGAs experience the same pubertal changes and sociocultural pressures to which all adolescents are subject, compounded by gender minority-specific concerns such as aligning one's body with one's gender identity. Consistent with extant literature demonstrating high rates of disordered eating behaviors among TGAs (Diemer et al., 2015; Watson et al., 2017), all participants in the current study reported engaging in at least one behavior to change their weight or shape. Many of the biopsychosociocultural influences on transgender adolescents' body image and disordered eating proposed in Figure 1 were described by participants during their qualitative interviews and are discussed further below. Specifically, we first discuss the role of gender minority-specific factors in TGAs' body dissatisfaction and disordered eating, followed by a discussion of developmental, sociocultural, and mental health-related factors. We also discuss the complexities of disentangling gender minority-specific and other factors in explaining TGAs' body dissatisfaction and disordered eating. Individual differences in motivations for disordered eating may result from the variability in developmental tasks of adolescence, in which TGAs are navigating increased sociocultural pressures at a time of identity formation, all while the body is developing incongruently with their felt sense of gender.

Many of the factors underlying participants' body dissatisfaction and disordered eating were related specifically to gender minority identity. For example, for several TGAs, body dissatisfaction was oriented toward specific areas of the body that brought on feelings of gender incongruence. For example, Tyler (genderqueer; AFAB) and Frankie (trans male, genderfluid; AFAB) reported a desire to halt puberty, as well as a growing discomfort with gendered body parts such as breasts. Casey (trans female; AMAB) reported that as

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she approached adolescence and puberty, she felt she could no longer suppress her gender identity; having previously engaged in disordered eating with the goal of appearing thin and boyish, she began wanting to alter her shape to appear more feminine. Similar intentions were reported in previous case studies, in which TGAs' disordered eating developed not out of a general fear of weight gain, but specifically to alter or delay expression of secondary sex characteristics (Couturier et al., 2015; Strandjord et al., 2015). TGAs in the current study often described specific disordered eating behaviors as being driven by a desire to better align their bodies with their gender identity. Several transmasculine participants (e.g., Parker and Frankie) described engaging in muscle-building activities after transitioning, in pursuit of a more masculine physique. Trans female participant Casey restricted eating to enhance the effect of a corset she wore to create a feminine waistline. Jordan, who identified with both female-to-male and agender identities, reported mainly using bingeing, purging, and controlling caloric intake in order to shrink their body and detract from a gendered presentation. Previous case studies have also found TGAs restricting intake to conform to gender norms (Gordon et al., 2016) as well as to minimize secondary sex characteristics (Couturier et al., 2015; Strandjord et al., 2015). Furthermore, both case studies and quantitative literature have found purging behaviors to be prevalent among TGAs (Diemer et al., 2015; Watson et al., 2017; Gordon et al., 2016).

Consistent with our theoretical model (Figure 1), participants also described broader developmental and sociocultural factors underlying their body dissatisfaction and disordered eating. From a developmental perspective, adolescence is a period of life characterized by increased autonomy from parents and increased reliance on peers for sense of self (Brechwald & Prinstein, 2011), and these normative developmental processes may affect TGAs in unique ways. For example, participants in the current study discussed a number of concerns related to parents, such as parents' forbidding them from pursuing hormone therapy, which directly or indirectly affected their body image. Peers also played an important role in several of the participants' narratives. For example, TGAs described concerns about how peers or romantic partners perceived their bodies and gender presentations. In some cases, participants' discussions of peer-related concerns aligned with broader sociocultural theories about body image. For example, consistent with the tripartite model of body image (Thompson et al., 1999), several participants described comparing their bodies with those of peers and internalizing societal beauty standards. Additionally, in line with objectification theory (Fredrickson & Roberts, 1997), several participants described body surveillance and concern about others' reactions to their bodies. In an interesting example of the principles outlined in objectification theory, Frankie reported that when he presented as female earlier in childhood, he accepted and conformed to the idea that girls and women should care about other people's reactions to their bodies and eating habits. That said, other descriptions of behaviors and cognitions related to self-objectification were less overt and were often hard to disentangle from concerns about passing. For example, several participants described how their body surveillance was mainly focused on monitoring whether their gestures and movements were allowing them to pass as their true gender.

A key overarching theme from this qualitative study is that it is often difficult to disentangle gender minority-specific from broader factors underlying TGAs' body dissatisfaction and

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disordered eating (Gordon et al., 2016; Guss et al., 2017). Just as it was difficult to determine whether the body surveillance described by participants was driven by factors originally proposed in objectification theory (Fredrickson & Roberts, 1997) or related to transgender-specific concerns about passing, it was often challenging to identify the source of TGAs' body dissatisfaction and disordered eating behaviors. A hallmark example is that of Parker gaining weight while taking testosterone. The hormone therapy simultaneously brought him closer to his gender identity and further from societal body ideals, leading Parker to monitor his weight more closely. Notably, for several participants, body image disturbances and weight concerns preceded feelings of gender incongruence or full identification with a transgender identity. Additionally, participants themselves expressed confusion over separating the source of their concerns. For example, Skyler said they "guess" their recent experience with disordered eating was motivated by appearance but could not identify specific appearance-related concerns. Max and Alex reported having both gender and non-related gender concerns, and Tyler reported not having realized the gender dysphoria-related roots of their body dissatisfaction until the interview.

Further complicating the picture, several participants described disordered eating behaviors that were driven by broader mental health concerns, which were not consciously related to body dissatisfaction, but were often indirectly related to transgender identity. For example, Devon experienced increased appetite as a symptom of depression, while Alex described occasionally not eating as a symptom of depression—which she in turn attributed to gender dysphoria. Frankie and Jordan described restricting food in order to feel a sense of control and reduce feelings of unhappiness and anxiety. Given prior research documenting high rates of depression among TGAs (Connolly et al., 2016) and a separate body of work linking depression and disordered eating among cisgender youth (e.g., Presnell et al., 2009), it will be important for future research to more thoroughly consider the role of depression and other mental health concerns in TGAs' disordered eating behaviors.

For some participants, gender transition steps helped with body dissatisfaction and disordered eating. Concerns about body image, eating, and overall wellbeing improved over time with participants such as Alex, who received hormonal therapy and had progressed well into their transition. While body dissatisfaction and disordered eating may not have disappeared completely—consistent with ongoing sociocultural influences faced by adolescents generally— participants reported that these concerns had decreased as their bodies aligned with their felt sense of gender. Participants such as Tyler, however, who had not made significant progress toward transition, continued to feel dissatisfied with their bodies and harbored concerns about passing. It could be argued that this pattern is at least partially attributable to the relationship between psychological wellbeing and identity formation. Adolescence is a time of identity exploration (Dahl et al., 2018), and the resolution of identity has been associated with better adolescent mental health and wellbeing (Dumas et al., 2009; Schwartz & Petrova, 2018). TGAs such as Alex who are better able to transition into their desired gender identity may experience the benefits of greater emotional stability and decreased anxiety and depressive symptoms, which are seen with adolescents who reach a stage of achieved identity (Crocetti et al., 2008). Future work should further explore connections between changes in disordered eating, other mental health concerns, and wellbeing over the course of transitioning.

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4.1. Limitations

Although these case studies provided in-depth information about the body image concerns and disordered eating behaviors of TGAs, it is important to acknowledge this study's limitations. The participant group included only nine participants, all of whom lived in and attended school in a specific geographic region of the United States, and the majority of whom were White. Additionally, we did not ask adolescents questions about how their gender minority identity intersects with other minority identities. Intersectionally-informed research (see Burke et al., 2020) will be critical to understanding the experiences of transgender Adolescents of Color, especially given recent evidence that mental health differs among TGAs based on racial/ethnic identity (Fox et al., 2020). Additionally, while the participants represented some diversity in gender identity, fewer participants identified as transfeminine versus transmasculine, and several participants identified as both transgender on a binary scale as well as "agender," "genderfluid," "genderqueer," or "nonbinary." Our disproportionate number of participants assigned female at birth is consistent with recent quantitative work (e.g., Zucker, 2017). It is also possible that our participants do not represent the broader population of U.S. gender minority youth, given that participants had to visit our university-based lab space in person to participate, and therefore may have been more likely to be "out" regarding their gender identities; however, our obtaining a waiver of parental consent allowed for a broader range of participants. Finally, while interviews allowed for in-depth discussion of body image, disordered eating behaviors, and gender identity, a second interview may have facilitated prolonged engagement among participants and led to additional insights (Yin, 2017). Our study protocol also did not include a member checking component, so interviewees did not have an opportunity to comment on the transcripts from our interviews. TGAs participating in future qualitative investigations should be given the opportunity to engage with the data collection process multiple times to enhance the validity of collected data.

4.2. Research and Clinical Implications

The findings from this qualitative inquiry allow researchers and clinicians to learn about the lived experiences of TGAs, in their own words. Disordered eating and efforts toward body alteration were prevalent among our participants, and their perceived motivations for these behaviors varied. Our theoretical model (Figure 1) may help guide future qualitative and quantitative research on the prevalence and functions of disordered eating behaviors among TGAs. As research in this relatively new field evolves, this theoretical model should be revised. For example, this model does not highlight the role of other mental health concerns (e.g., depression) in TGAs' eating behaviors, which should be further explored in future studies.

The findings from these cases carry important implications for clinical settings. Our findings suggest it may be difficult to disentangle gender minority-specific from developmental and psychosocial factors unrelated to gender that may still influence TGAs' body dissatisfaction and disordered eating behaviors. For example, a TGA engaging in restricted eating behaviors may experience a combination of motivations related to masking secondary sex characteristics and adhering to sociocultural beauty norms, and/or their behaviors may be driven by broader mental health concerns such as depressive symptoms. Given these

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complexities, traditional eating disorder treatment approaches may be ineffective without addressing TGAs' gender identity and its developmental and clinical sequalae.

Some participants experienced general body dissatisfaction that developed into gender-specific concerns as they became aware of their gender incongruence. Previous case studies have similarly shown that TGAs may not express gender identity concerns to treatment providers until weight restoration occurs (Couturier et al., 2015; Strandjord et al., 2015). This suggests disordered eating may be the presenting symptom in some adolescents with gender incongruence and therefore screening for gender-related concerns may be valuable in clinical assessment for eating disorders. Moreover, when the adolescents in these prior cases began hormone therapy or puberty blockers, they experienced improvement in body image and a reduction in disordered eating behaviors. This is not unlike the findings in the present cases, in which multiple youth expressed increased feelings of wellbeing after witnessing changes to their bodies due to their transitioning. Research then suggests that in the absence of gender-affirming care, disordered eating may be unlikely to improve, as the resistance to weight gain and to the development of secondary sex characteristics may be strong (Couturier et al., 2015).

If TGAs begin exploring their gender identity in treatment, it remains unknown if, how, and at what point they may differentiate gender-specific concerns from non-gender-specific concerns experienced by adolescents broadly. Also worth considering is how transition-related factors may moderate the presentation of disordered eating behaviors in TGAs, and how these factors may be affected by developmental and social context. Examples of this interaction might include the extent to which TGAs experience stress or stigma related to their gender identity (Watson et al., 2017); accessibility of gender-affirming care and medical intervention; and their bodies' responses to medical intervention. The factors contributing to disordered eating among TGAs may therefore present greater complexity than those among cisgender adolescents, pointing to a unique set of needs for effective detection and treatment of concurrent gender incongruence, body dissatisfaction, and disordered eating in TGAs.

4.3. Conclusion

This exploratory set of case studies offers an in-depth investigation of the lived experiences of TGAs navigating their bodies through gender transitions. Despite the variation in disordered eating behaviors, it is clear that disordered eating was prevalent and that the factors that motivated these behaviors were complex in this participant group. The body dissatisfaction and disordered eating experienced as a result of dissonance between their physical bodies and their felt sense of gender is consistent with evidence of TGAs being a high-risk population (Guss et al., 2017; Watson et al., 2017). Individual differences at the complex intersection of developmental period, environment, and gender identity necessitates further research to disentangle the myriad risk factors, develop appropriate measures and assessments, and evaluate how best to provide individualized, gender-affirming clinical care.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Highlights

- Semi-structured interviews were conducted with 9 transgender adolescents (TGAs)
- Qualitative analysis explored TGAs' gender identity, body image, disordered eating
- All TGAs reported at least one behavior to change their weight or shape
- Disordered eating was related to both transgender-specific and broader factors
- Developmental and social context affected transition, body image, disordered eating

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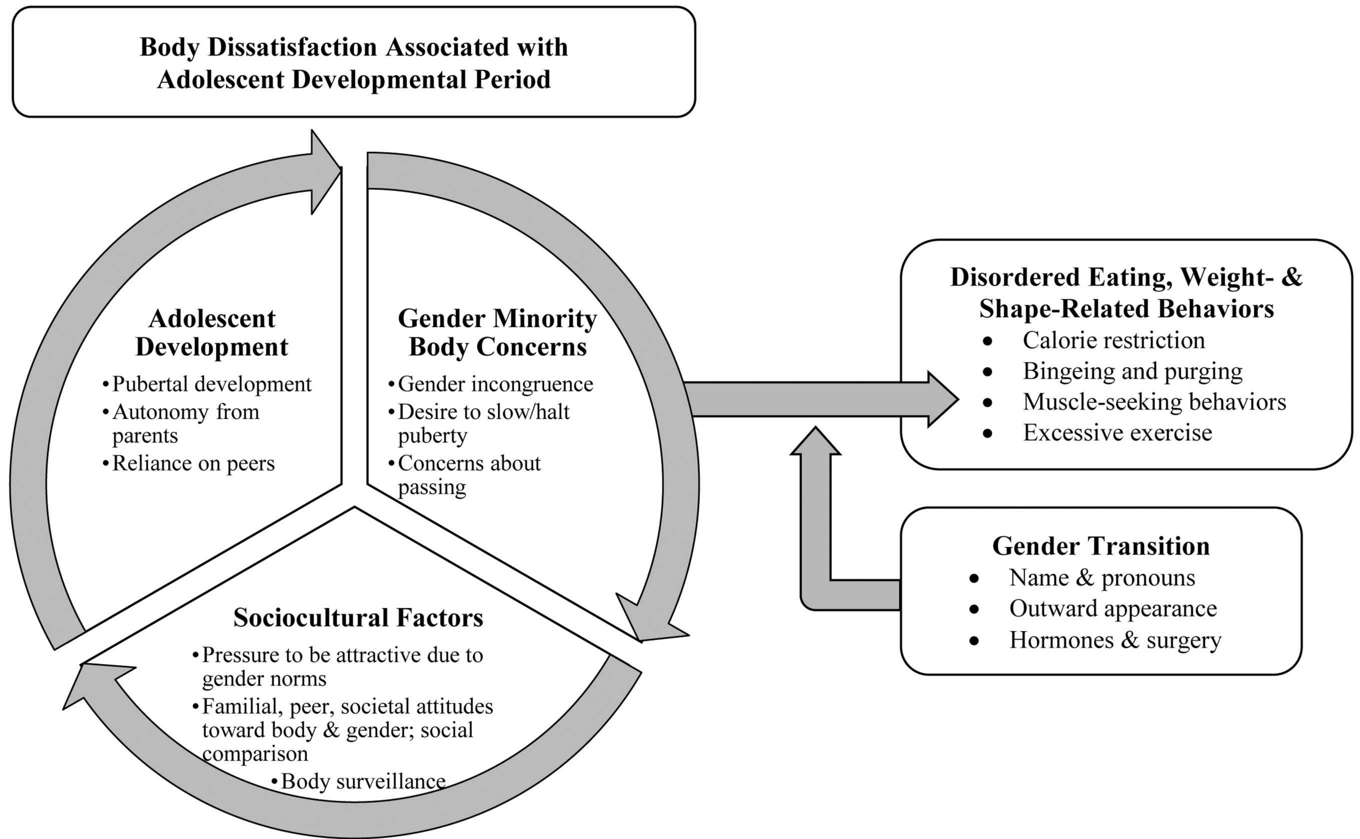

Figure 1.

Theoretical model of biopsychosociocultural influences on transgender adolescents' body image and disordered eating

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Table 1

Participant Information

Name	Preferred Pronouns	Age	Race/ethnicity	Sex assigned at birth	Self-reported identity/identities	gender	Transition steps taken
Casey	she/her	17	White	M	Transgender, Trans female, Female		Name/Pronouns, Appearance, Hormones
Alex	she/her	16	Ethnic minority	M	Trans female, MTF, Female		Name/Pronouns, Appearance, Hormones, Voice
Devon	he/him	16	White	F	Transgender, Trans male, FTM, Male, Agender		Name/Pronouns, Appearance, Hormones
Frankie	he/him	17	White	F	Transgender, Trans male, FTM, Male, Genderfluid		Name/Pronouns, Appearance
Jordan	they/them	20	White	F	Female to male, Agender		Name/Pronouns, Hormones
Max	they/them	16	White	F	Transgender, trans male, FTM, nonbinary		Name/Pronouns, Appearance
Parker	he/him	17	White	F	Transgender, Trans male, FTM, Male		Name/Pronouns, Appearance, Hormones, Voice
Skyler	they/them	17	White	F	Genderqueer		Name/Pronouns, Appearance, Hormones, Surgery
Tyler	they/them	17	Ethnic minority	F	Genderqueer		Name/Pronouns

Note. M = male, F = female, MTF = male-to-female, FTM = female-to-male. Transition steps taken: Names/pronouns = use of preferred name and/or pronouns; appearance = changes in physical appearance to align with one's gender identity; hormones = use of cross-sex hormone medication or hormone blockers; voice = efforts taken to change one's voice; surgery = gender reassignment surgery. In order to protect participants' privacy, the names used are pseudonyms, and we do not specify the specific ethnic/racial identities of non-White participants.