Development and Validation of the Objectified Body Consciousness Scales for Transgender,

Nonbinary, and Gender-Nonconforming Individuals (OBCT)

By

Morgan Sinnard

A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Philosophy

(Counseling Psychology)

at the

UNIVERSITY OF WISCONSIN-MADISON

2021

Date of final oral examination: 05/12/2021

This dissertation is approved by the following members of the Final Oral Committee:
    Stephanie L. Budge, Ph.D., Associate Professor, Counseling Psychology
    William T. Hoyt, Ph.D., Professor, Counseling Psychology
    Janet Shibley-Hyde, Ph.D., Professor, Psychology and Gender & Women's Studies,
        Director of Center for Research on Gender and Women
    Mindi N. Thompson, Ph.D., Professor, Counseling Psychology

Table of Contents

Abstract

Introduction: Objectification theory originally asserted that cisgender women and girls are socialized to internalize an observer's perspective of their appearance, which yields a pattern of self-objectification (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). Objectification theory offers a compelling framework for understanding body experiences among TNG individuals, particularly with regards to the broader dehumanization process (Moradi, 2010; Moradi, 2013). One aspect of this theory is objectified body consciousness, which describes the internalization of societal body standards and the belief that they are self-originating, achievable, and duty-bound (i.e., that one is responsible for achieving them). The original Objectified Body Consciousness scale (OBC; McKinley & Hyde, 1996) is a powerful measure for cisgender women and girls, but has not demonstrated validity among transgender, nonbinary, and gender nonconforming individuals (TNG) (Rosenkranz & Barr, 2016).

Specific Aims: The overarching goals of this dissertation are to: a) demonstrate empirical support for the extension of the objectification theory to TNG individuals, b) develop an instrument designed to measure objectified body consciousness among TNG individuals (OBCT scales), and c) validate the OBCT scales.

Methods and Results: TNG individuals ($N = 9$) were recruited to develop a pool of potential OBCT scale items. Expert scholars then reviewed the item pool for content, clarity, and cultural appropriateness. A final item pool ($K = 61$) as well as additional measures to assess validity were administered to TNG adults ($N = 303$) recruited nationwide from LGBTQ centers and organizations. An exploratory factor analysis of the OBCT item pool revealed four latent factors. The optimized OBCT scales as well as additional measures to assess validity were subsequently administered to a new sample of TNG adults ($N = 272$) recruited nationwide from

LGBTQ centers and organizations. A confirmatory factor analysis provided evidence for the validity of the OBCT measure ($K = 20$), comprised of four factors: Appearance Surveillance, Body Shame, Gender Surveillance, and Cisnormative Appearance Control Beliefs.

Conclusions: This study supports the extension of objectification theory to TNG individuals. The OBCT scale is a new measure of body experience among TNG adults that may have clinical and research utility for understanding TNG body experiences in the context of a cisnormative society (Moradi, 2010). Importantly, the OBCT is intentionally inclusive of nonbinary and gender-nonconforming individuals, which are often neglected in empirical research due to sampling techniques favoring binary gender identification. Limitations and future research directions are discussed.

Chapter 1: Introduction

Epidemiological estimates indicate that approximately one million individuals in the

United States identify as transgender, nonbinary, or gender-nonconforming (TNG) (Meerwijk &

Sevelius, 2017). Compared to cisgender people (i.e., individuals whose gender identity aligns

with their sex assigned at birth), TNG individuals face considerable scrutiny in a cisnormative

society (i.e., one that privileges cisgender values). Regular experiences of discrimination,

rejection, victimization, and non-affirmation related to TNG identity are theorized to have

deleterious impacts on mental health (Hendricks & Testa, 2012; Meyer, 2003). Conversely,

resilience through affiliation with a TNG community, pride in one's identity, and familial

support has been demonstrated to have a buffering effect on anti-TNG experiences (Bockting,

Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Breslow et al., 2015; Singh, 2013).

As a population, TNG individuals experience disproportionately high rates and severities

of mental health concerns (Bockting et al., 2013; Budge, Adelson, & Howard, 2013). Mental

health and mental health concerns among TNG individuals may be uniquely compounded by the

potentially complex relationships that some may have with their bodies. Societal perceptions of

and reactions to TNG individuals' bodies may mediate the relationship between TNG identities

and psychological distress (Owen-Smith et al., 2018; Velez, Breslow, Brewster, Cox, & Foster,

2016).

Internalization of Societal Body Standards and Mental Health

Extensive research has documented the relationship between societal body standards and

one's body experience among cisgender women and, increasingly, cisgender men. Among

cisgender women, the internalization of gendered societal body standards for ideals such as

thinness predicts body dissatisfaction (Poloskov & Tracey, 2013), disordered eating (MacNeill &

Best, 2015; Stice & Shaw, 2002), sexual dissatisfaction (Robbins & Reissing, 2018), and low self-esteem (Balcetis, Cole, Chelberg, & Alicke, 2013). Among cisgender men, the internalization of gendered societal body standards for ideals such as height and muscularity predicts body dissatisfaction (Frederick, Peplau, & Lever, 2006), medically unsupervised anabolic steroid use (Murray, Griffiths, Mond, Kean, & Blashill, 2016), and muscularity-oriented disordered eating (Griffiths, Murray, & Touyz, 2015). The findings of these studies are intriguing, but their applicability to TNG individuals are tenuous as this topic remains largely unexplored with TNG samples.

In recent years, scholars have sought to understand whether established body image research findings are generalizable to demographically distinct populations. This query is timely because the majority of research in the broad realm of body image has drawn its conclusions from homogenous samples of predominantly white, educated, cisgender individuals. For example, although it is commonly asserted in the media that people of color demonstrate greater body appreciation and fewer body image concerns than white people (Capodilupo, 2015), a meta-analysis revealed that this notion is not empirically supported (Grabe & Hyde, 2006). In fact, the internalization of gendered societal body standards has demonstrated associations with body dissatisfaction among Latinx women with regards to weight (Frederick, Forbes, Grigorian, & Jarcho, 2007; Poloskov & Tracey, 2013), African American women with regards to skin color, hair kinkiness, and body curves (Awad et al., 2015; Fitzsimmons-Craft & Bardone-Cone, 2012; Frisby, 2004), Native American adolescents with regards to weight (Lynch, Heil, Wagner, & Havens, 2007), and Asian American/Pacific Islanders with regards to weight and skin color (Lau, Lum, Chronister, & Forrest, 2006; Yates, Edman, & Aruguete, 2004). These studies reveal that race and ethnicity do not provide a buffer against the internalization of societal body standards

and the development of body dissatisfaction after all. Rather, they suggest that people of color living in a predominantly white society may experience compounded internalization of societal body standards not only for body shape, but also for body features associated with whiteness. Taken together, the literature indicates that an intersectional approach to understanding body experiences—one that considers the roles of interacting identities—leads to richer findings.

Although race is not the focus of this dissertation, it provides important context pertaining to the historical trajectory of body experience research. Increased attention in recent years to the body image experiences of people of color has provided important insight to the problem of generalizing findings to individuals whose identities were not adequately represented in extant literature. This problem is particularly relevant for TNG individuals, whose body experience is often reduced to frameworks such as *gender dysphoria.* Furthermore, TNG identity omission in research studies prevents even a basic understanding of their body experiences (Reisner et al., 2015).

Misgivings of Gender Dysphoria as a Body Experience Framework

The body experience of TNG individuals is often attributed to a discrete psychological disorder—gender dysphoria—resulting from incongruence of gender identity with sex assigned at birth (American Psychiatric Association, 2013). While this conceptualization offers some communicative utility in clinical settings, it nonetheless places the onus of the psychological distress on the affected TNG individual and overlooks the contribution of societal factors in the etiology and maintenance of their potentially distressing body experiences. The literature's reliance on gender dysphoria as a catchall to explain TNG individuals' body experiences limits both the scope and specificity of our understanding the construct. Scholars have proclaimed the need to advance the field's understanding of body experiences among diverse populations,

particularly among TNG individuals whose experience of gendered embodiment may confer considerable minority stress and deleterious mental health outcomes (Moradi, 2010; Velez et al., 2016).

New Directions: Cognitive Dissonance Theory

Social psychology offers a compelling theoretical explanation for why TNG individuals may experience body-related distress. Cognitive dissonance theory posits that encounters with evidence that disconfirms existing beliefs yields a state of psychological discomfort (Festinger, 1957). TNG individuals whose gender identities are not affirmed in interpersonal interactions may feel considerable distress, and subsequently change their appearance in order to align their internal sense of who they are with societal cisnormative gender expectations.

Higgins (1987) posited that self-discrepancy is a distinct form of cognitive dissonance. Self-discrepancy theory emphasizes the importance of aligning self-perception and observed evidence. More specifically, change is motivated by discrepancies between who one really is (i.e., actual-self), who one wishes to be (i.e., ideal-self), and who one thinks one should be (i.e., ought-self). By reducing discrepancies between these three selves, Higgins (1987) argued that discomforting cognitive dissonance is resolved. Self-discrepancy theory is particularly relevant to understanding the body experiences of TNG individuals, whose actual body may not align with their ideal body or the body that they feel they should have.

Feminist Perspectives: Objectification Theory

Objectification theory offers a powerful framework for understanding the body experiences of TNG individuals in the context of a cisnormative society. Drawing on Bartky's (1997) proclamation that the woman's body is a target of patriarchy, objectification theory posits that sociocultural body standards are internalized to such a degree that the self is persistently

viewed through the eyes of the other, yielding a relationship with one's own body as an object for the consumption of others (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). An extensive body of literature has linked body objectification to negative mental health outcomes. For example, the presence (or mere anticipation) of the *male gaze*—the visual objectification of women by men and patriarchal society (Mulvey, 1975)—predicts body shame and social physique anxiety among undergraduate cisgender women (Calogero, 2004). Among cisgender men, the internalization of muscular body ideals is associated with body dysmorphic disorder (Heath, Tod, Kannis-Dymand, & Lovell, 2016). The internalization of sociocultural body standards similarly predicts disordered eating among sexual minority women (L. B. Watson, Grotewiel, Farrell, Marshik, & Schneider, 2015) and sexual minority men (Wiseman & Moradi, 2010).

The prevailing measures of body objectification and the internalization of societal appearance standards is the Objectified Body Consciousness scale (OBC; McKinley & Hyde, 1996). The OBC is comprised of three scales that are designed to measure distinct components of objectification: viewing the body as an outside observer (i.e., Surveillance scale), feeling ashamed when the body does not meet sociocultural standards (i.e., Body Shame scale), and believing that one can and should control their appearance to meet societal standards (i.e., Appearance Control Beliefs scale). The OBC scale was originally developed from a sample of predominantly white, heterosexual, cisgender undergraduate women in the United States. Several items of the OBC scales rest on the ideal of thinness, reflecting the societal body standards of the relatively homogenous population from which the instrument was developed.

Measuring the Objectification of TNG Individuals' Bodies

Although body objectification is a theoretically important construct for understanding the body experiences of TNG individuals, the OBC scales have not demonstrated validity within this population (McKinley & Hyde, 1996). Nonetheless, the constructs of the OBC remain theoretically relevant for TNG individuals—they may demonstrate increased vigilance to outsider gendered perceptions of the body (i.e., Surveillance), experience dissatisfaction with the gendered body (i.e., Body Shame), and take steps to align their body appearance with their gender identity to align with societal appearance standards (i.e., Appearance Control Beliefs).

MacNeill and colleagues (2017) urged researchers to develop valid body experience measurement tools that incorporate gender-specific concerns, but retain the capacity for gendered comparisons. The importance of an instrument that adequately measures gender-specific body experience while still allowing for comparisons across genders cannot be understated. Reliance on separate tools to measure body image among women and among men precludes useful comparison. This is especially true for TNG individuals, whose gender identities may fall somewhere within the gender binary (i.e., woman, man) or outside of it. While a unique measurement tool for the array of possible gender identities may offer increased specificity, it precludes the possibility of useful comparison between genders.

To date, there do not exist any instruments to measure body objectification among TNG individuals. A tool for measuring the phenomena associated with body objectification within this population would propel forward the burgeoning research on this topic. For instance, a systematic review of the literature revealed that TNG individuals may engage in disordered eating in order to minimize or accentuate attributes of their physical body to better align with their gender identity (Jones, Haycraft, Murjan, & Arcelus, 2016). Relatedly, Velez and colleagues (2016) found that internalization of societal body standards of attractiveness predicted

compulsive exercise and low body satisfaction among transgender men, which was mediated by engagement in body surveillance. Available studies suggest that objectification is a legitimate experience of TNG individuals. Without a valid tool for measuring this phenomenon, its scope and depth remain unknown. Notably, Rosenkrantz and Barr (2016) tested the OBC (McKinley & Hyde, 1996) in a large sample of transgender women and found it to be invalid. They theorized that the body objectification experiences of cisgender women are qualitatively different from those of transgender women, whose body experiences are complicated by cissexism and transphobia.

One promising direction for investigating TNG individuals' body experiences that is congruent with objectification theory is the phenomenon of the cisgender gaze—the cisnormative objectification of TNG individuals (Cava, 2016; Serano, 2007). TNG individuals who regularly encounter the cisgender gaze may themselves internalize the cisnormative societal body standards to which they are compared, yielding a view of oneself as an object for other's consumption. A valid measure of body objectification for TNG individuals is needed to understand how the cisgender gaze might impact their body experiences.

Purpose

The purpose of this dissertation is to establish the need for and feasibility of an innovative tool to measure body experiences as a function of the cisgender gaze among TNG individuals. Recent research has called for the advancement of understanding the body experiences of TNG individuals (Moradi, 2010; Velez et al., 2016). The development of a new measure of objectified body consciousness scale for TNG individuals would increase both the scope and specificity of current perspectives on TNG individuals' body experiences and objectification. This project seeks to converge minority stress theory (Meyer, 2003), self-

discrepancy theory (Higgins, 1987), and objectification theory (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996) to enhance our understanding of how TNG individuals relate to their body in a cisnormative society.

This project might reveal relevant predictor and criterion variables that could clarify unique determinants, moderating factors, and outcomes that would contribute to our understanding of TNG individuals' relationship with their body in a cisnormative society (Moradi, 2010). Importantly, this project seeks to account for nonbinary and gender-nonconforming identities, which are often neglected in empirical research due to sampling techniques favoring binary gender identification.

The overarching goals of this dissertation are to: a) develop and validate an objectified body consciousness measure specifically for TNG individuals, b) establish the validity and reliability of this new measure, and c) demonstrate empirical support for the extension of the body objectification framework to TNG individuals. This project is significant because it integrates self-discrepancy theory (Higgins, 1987), objectification theory (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996), and minority stress theory (Hendricks & Testa, 2012; Meyer, 2003) to discern a pantheoretical measurement of objectified body consciousness for TNG individuals.

Chapter 2: Background

Introduction and Terminology

Transgender, nonbinary, and gender-nonconforming (TNG) individuals represent a sizeable and growing population of the United States (Meerwijk & Sevelius, 2017). In recent years, an emergence of psychology research has sought to understand the experiences of TNG individuals. Although TNG individuals generally report a relationship with their body that is qualitatively different from that of cisgender people (i.e., those whose gender identity aligns with their sex assigned at birth), this phenomenon has not been adequately explored. *Body experience* is an umbrella term that describes the phenomenological experiences of the body across dimensions, including: as aspects of the world, as encumbered, as gazed upon, and as appreciated (van Manen, 1998). The body experiences of TNG individuals may be uniquely affected by the *cisgender gaze,* defined here as the phenomenon of cisgender objectification of TNG individuals (Cava, 2016; Serano, 2007). What follows is an overview of TNG people in the United States and current insights to their body experiences in relation to the cisgender gaze.

TNG People in the United States

Transgender, nonbinary, and gender-nonconforming individuals are a diverse group of people whose gender identities (i.e., internal sense of gender) are incongruent with the sex they were assigned at birth (i.e., male or female). Population estimates indicate that TNG adults comprise between 1 million and 1.5 million people in the United States (Flores, Brown, & Herman, 2016; Meerwijk & Sevelius, 2017). Although TNG people are more racially and ethnically diverse than the general population, white TNG individuals are overrepresented in the research literature (Flores et al., 2016; MacCarthy, Reisner, Nunn, Perez-Brumer, & Operario, 2015; Reisner, Conron, Baker, et al., 2015).

Gender Dysphoria

The majority of TNG adults report some degree of incongruence between their gender identity (i.e., the gender with which they identify) and their outward appearance. A large nationwide survey of TNG adults revealed that 84 percent were certain of their desire to transition (i.e., to live in accordance with their gender identity) (James et al., 2016). The transition process is neither uniform nor a prerequisite for identifying as TNG. It may include social changes (e.g., clothing, appearance, name, pronouns, etc.) and/or medical changes (e.g., gender-affirming hormone therapy, gender-affirming surgeries, etc.). Access to many resources related to the transition process is often contingent on meeting criteria for a diagnosis of *gender dysphoria* (American Psychiatric Association, 2013; Coleman et al., 2012). Gender dysphoria refers to the psychological distress brought about by incongruence between one's body and internal sense of gender identity.

Toward an Understanding of TNG Individuals' Body Experiences

The body experiences of individuals experiencing bodily changes through illness or medical intervention have been explored through phenomenological health research. Some have asserted that unity between the body and the self is achieved only when the body is unconsciously experienced as an aspect of the self (Gallagher, 2004; van Manen, 1998). Specifically, individuals must develop a "livable relationship" with the changed body by which they are able to integrate its objective changes with their subjective experience (van Manen, 1998, p. 23). Among TNG individuals, their subjective bodily experiences remain largely unexplored in the psychology field. Rather, the field has overwhelmingly relied on limiting indices of gender dysphoria to understand the plethora of embodiment experiences of diverse TNG individuals. Although the gender dysphoria diagnosis is certainly an informative marker

for identifying TNG individuals experiencing body-related psychological distress, overreliance on its criteria has stymied exploration of how they experience their body. Indeed, the majority of extant literature on TNG individuals' body experiences has drawn its conclusions from samples of white college-age cisgender women (Rusticus & Hubley, 2006). Aside from diagnostic measures of gender dysphoria, there exist only two instruments that explicitly measure the body experience of TNG individuals—both of which have psychometric and theoretical limitations (Jones et al., 2016).

A major limitation of the extant literature on body experiences among TNG people is the scarcity of information pertaining to nonbinary individuals. Because body image measures have historically been developed for binary gender identities (i.e., woman or man), their applicability to nonbinary individuals is tenuous. A recent case-controlled study compared gender congruence and body satisfaction between binary transgender individuals, nonbinary transgender individuals, and cisgender individuals (Jones, Bouman, Haycraft, & Arcelus, 2019). As hypothesized, cisgender individuals reported significantly higher levels of gender congruence and body satisfaction than both binary and nonbinary transgender individuals. Of interest, gender congruence and body satisfaction were significantly higher for nonbinary individuals compared to their binary transgender counterparts. The transgender subgroups did not differ in their reported satisfaction with social gender roles (Jones et al., 2019). These findings explicate the variability in body experiences within the TNG population and underscore the need for accurate measurement tools for this construct. A new instrument to measure the body experience for TNG individuals that is grounded in gender theory would increase both the scope and specificity of research within this diverse population.

Cognitive Dissonance Theory

A groundbreaking theory of human behavior that has not been sufficiently explored for its relevance to TNG individuals is that of cognitive dissonance. The core tenet of cognitive dissonance theory is that psychological discomfort motivates change. Cognitive dissonance theory posits that humans possess an inner drive for harmony between beliefs and observations of the world (Festinger, 1957). Encountering evidence that disconfirms existing beliefs yields a state of psychological discomfort. A desire to eliminate such *cognitive dissonance* compels some form of change to align beliefs with available evidence. Festinger (1957) proposed three ways by which cognitive dissonance might be reduced. First, existing beliefs (or behaviors) may be adjusted in order to increase their consonance with disconfirming evidence. Second, new evidence may be acquired in order to bolster existing beliefs (or behaviors) while simultaneously weakening disconfirming evidence. Third, the importance of existing beliefs (or behaviors) may be minimized.

Cognitive dissonance theory has been used in the context of lesbian, gay, bisexual, and queer (LGBQ) individuals' navigation of heteronormative religious communities (Anderton, Pender, & Asner-Self, 2011), as well as to explain cisgender people's understanding of transgender identities in a cisnormative society (Cook-Daniels, 2010). Only one unpublished study (Adams & Peirce, 2006) has used cognitive dissonance theory to guide interpretations of TNG experiences with gender identity and the body. TNG adults were interviewed about their retrospective experience of incongruence between gender identity and appearance. Responses were categorized and analyzed according to Festinger's (1957) three methods for reducing cognitive dissonance. Attempts to eliminate cognitive dissonance between gender identity and appearance included changing cognitions about one's gender identity in order to fit societal expectations, convincing oneself that one was gay rather than TNG, and denying the importance

of one's need for support around being TNG. Although the application of cognitive dissonance theory to TNG experiences has been minimal, the theory holds considerable promise for making sense of the psychological distress stemming from incongruence between gender identity and appearance.

An important feature of the cognitive dissonance phenomenon is its proclivity for self-preservation. Aronson (1969) argued that cognitive dissonance arises when cognitions threaten an individual's positive self-image. With regards to change, people are most motivated to preserve a consistent sense of self (Aronson). This has important implications for TNG individuals, who may be motivated to preserve consistency of their internal gender identity—despite the cognitive dissonance and psychological distress resulting from incongruence between gender identity and appearance.

Self-Discrepancy Theory

Higgins (1987) proposed *self-discrepancy* as a unique and specific form of cognitive dissonance. Self-discrepancy theory posits that there are strong internal motivations for consonance between self-perception and observed evidence (e.g., behaviors, outcomes, values). More specifically, behaviors are motivated by emotions that arise from differences in the *actual-self* and standards rooted in the *ideal-self* and the *ought-self.* The actual-self reflects the reality of a person. The ideal-self reflects whom a person aspires to be, based on personal values. Finally, the ought-self reflects who a person thinks they should be based on the values of others. Discrepancies between these three selves result in a unique form of cognitive dissonance directed toward oneself, which manifests as negatively valenced emotions (e.g., shame, guilt, anxiety). Higgins (1987) argues that people are motivated to align the actual-self with both the ideal-self and the ought-self in order to reduce cognitive dissonance and attendant psychological distress.

Self-discrepancy theory offers a robust architecture for understanding the experience of gender incongruence (and attempts to increase congruence) among many TNG individuals. Importantly, the theory attends to both internal influences (i.e., actual-self and ideal-self) as well as external influences (e.g., ought-self) that may be particularly relevant for TNG individuals in a society that values cisgender ideals (i.e., cisnormative).

The Minority Stress Model

Meyer's (2003) minority stress model emphasizes the role of identity as a predictor of health outcomes. The model posits that the presence of a minoritized identity (and therefore a minoritized social status) engenders unique, compounding stressors that are the mechanisms of action leading to adverse health outcomes. These stressors are delineated as *distal* (i.e., external to the individual) and *proximal* (i.e., internal to the individual). Distal minority stressors may include interpersonal and intergroup experiences of discrimination, rejection, victimization, and non-affirmation stemming from one's minority identity. Proximal minority stressors are conceptualized as an intrapersonal byproduct of distal minority stressors, and may include identity concealment, vigilance about how one's identity may be received by others, and the internalization of negative attitudes towards one's identity.

The minority stress model grew from a body of literature that underscored the structural nature of social stressors in the development of mental health concerns (Pearlin, 1989; Ross & Mirowsky, 1989). Specifically, increased attention in the literature to the relationships between racial and ethnic minority statuses, corresponding adverse social experiences, and poor mental health outcomes (Díaz, Ayala, Bein, Henne, & Marin, 2001; Dressler, Oths, & Gravlee, 2005; Williams, Neighbors, & Jackson, 2003) laid the groundwork for the application of the field's burgeoning understanding of the health impacts of social stressors to sexual minority individuals.

Minority Stress and Self-Discrepancy

The minority stress model complements self-discrepancy theory (Higgins, 1987). Both underscore the importance of internal and external forces as determinants of adverse health outcomes. Proximal stressors correspond to actual-ideal and actual-ought self-discrepancies. Distal stressors correspond to the societal values influencing the development of the ought-self. Despite the apparent compatibility between the minority stress model and self-discrepancy theory, only two studies have examined their application to body experiences, neither of which included TNG samples.

Kimmel and Mahalik (2005) investigated the relationships among minority stressors and self-discrepancies between actual and ideal physical attributes in a large sample ($N = 357$) of gay men. Minority stressors—operationalized as internalized homophobia, expected stigma for being gay, and experiences of physical attack—accounted for 13 percent of the variance in self-discrepancy distress. The authors asserted that gay men who report more experiences of minority stress might endorse greater self-discrepancies between actual and ideal physical attributes. The authors surmised that the internalization of societal heteronormative male body standards served a protective function, stating: *"For some gay men, being masculine may be important because it makes them feel more accepted within the dominant heterosexual society"* (Kimmel & Mahalik, 2005, p. 1188). This conjecture supports the complementary nature of Meyer's (2003) minority stress model and Higgins' (1987) self-discrepancy theory.

Another studied examined the relationships between actual-ideal body weight discrepancies, sexual orientation discrimination, and disordered eating within a large sample ($N = 436$) of lesbian women (Mason, Lewis, & Heron, 2017). The authors did not find a significant relationship between weight discrepancy and sexual orientation discrimination. However, their

measure of actual-ideal body weight discrepancy was a single value representing the difference between actual weight and ideal weight, with higher values indicating higher weight self-discrepancy. A more comprehensive measure of self-discrepancy pertaining to weight and body shape might have resulted in different findings for this sample of lesbian women.

Aspects of self-discrepancy theory have been applied to TNG individuals in one study. Employing a measure derived from Higgins' self-discrepancy theory (1987), Brewster and colleagues (2019) assessed body image among transgender. The researchers surveyed 205 transgender women about their sexual objectification experiences, internalized societal body standards, body surveillance, and exposure to anti-transgender discrimination. Body dissatisfaction was assessed with the Body Image Ideals Questionnaire (Cash & Szymanski, 1995). The study revealed that the dehumanization of transgender women (operationalized as a product of discrimination and objectification) directly predicted disordered eating. Furthermore, dehumanization was indirectly related to body surveillance, disordered eating, and body dissatisfaction through a process of internalizing societal standards of attractiveness.

Minority Stress and LGBQ People

Meyer (2003) sought to explain health disparities between straight people and LGBQ people as results of minority stress. The minority stress model originally argued that minority sexual identities increase exposure to distal stressors and (therefore) proximal stressors, culminating in poorer health. An abundance of literature has demonstrated the link between LGBQ identity and poorer health outcomes. Experiencing distal stressors such as discrimination is associated with increased odds of physical health problems (Frost, Lehavot, & Meyer, 2013; Lick, Durso, & Johnson, 2013) as well as mental health problems among LGBQ individuals (Baams, Grossman, & Russell, 2015; Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009; Mays

& Cochran, 2001). The minority stress model has more recently been extended in application to TNG individuals whose minority gender identities are theorized to confer risk of psychological distress through similar but distinct distal and proximal minority stress processes (Hendricks & Testa, 2012).

Gender Minority Stress

Reports of psychological distress among TNG populations vary in the literature. Current estimates of rates of the two most common mental health disorders—depression and anxiety—among TNG individuals (49% and 44%, respectively) far exceed rates among cisgender people (1.5% and 6.7%, respectively) (Budge et al., 2013). A similar discrepancy between TNG and cisgender individuals may be found in the area of suicidality. A national survey of 6,450 TNG adults revealed that 40% reported having attempted suicide, compared to 4.6% of the general population (James et al., 2016).

Minority Stress Among TNG People. Meyer's (2003) minority stress model offers a compelling explanation for the mental health disparities between TNG and cisgender individuals (Hendricks & Testa, 2012). TNG individuals inherently have a minority status in a cisnormative society, and because of this may experience unique distal (i.e., external) as well as proximal (i.e., internal) stressors that result in physical and mental health problems. Distal stressors may include social or familial rejection, interpersonal violence, or employment discrimination, among others (Bockting et al., 2013; James et al., 2016; Nuttbrock et al., 2010). Proximal stressors represent the internalization of distal minority stressors, and may include concealment of TNG identity, feeling shame towards one's gender identity in the form of internalized transphobia and cisnormativity, and rejection sensitivity that may manifest as vigilance for how others will respond (Meyer, 2003). Research has consistently demonstrated a link between gender minority

stress and poor mental health outcomes, providing a strong empirical grounding for the application of Meyer's minority stress model to TNG populations (Bazargan & Galvan, 2012; Bockting, 2014; Breslow et al., 2015; Clements-Nolle, Marx, & Katz, 2006; Gamarel, Reisner, Laurenceau, Nemoto, & Operario, 2014; Mizock & Mueser, 2014; Tebbe & Moradi, 2016).

Hendricks and Testa (2012) posited perhaps the most comprehensive adaptation of Meyer's (2003) minority stress model to TNG people to date. They argued that oppressive social environments that stigmatize gender diversity and the internalization of these stigmatizations operate as distal and proximal stressors, respectively, and are consistently identified as predictors of poor health for TNG individuals. For instance, Kelleher (2009) found that chronic social stressors related to LGBTQ identity (e.g., repeatedly hearing hetero/cis-sexist jokes, repeatedly being physically assaulted due to sexual/gender identity) were strongly predictive of psychological distress among transgender youth in Ireland. Herman's (2013) survey of a racially and socioeconomically diverse sample of transgender adults in Washington, DC, revealed that gendered public restrooms were an omnipresent and systemic oppressive force directly responsible for poorer educational, vocational, social, and health outcomes among respondents. Research has also demonstrated the role of gender-related proximal stressors in the development of mental health concerns among TNG individuals. Expecting rejection, for instance, emerged as a primary theme for TNG individuals who participated in qualitative interviews about their experiences of felt gender-related stressors (Rood et al., 2016). This proximal stressor was linked with anxiety, fear, and situational avoidance.

Resilience to Gender Minority Stress. Despite the harmful impacts of gender minority stress identified in the literature, many members of this community are thriving. Emerging research has underscored the strength and resilience of TNG individuals as they endure distal and

proximal gender minority stressors on a daily basis. Resilience may be defined as "the generalized capacity to positively adapt after experiencing hardship" (Bariola et al., 2015, p. 2109). Resilience among TNG individuals in the face of pervasive discrimination, rejection, victimization, and non-affirmation—as well as the internalization of these experiences—may be fostered through collective action (Breslow et al., 2015), social and community support (Bockting et al., 2013; Singh, 2013), pride in identity (Bockting et al., 2013), spiritual or religious involvement (Singh & McKleroy, 2011), and subjective appraisal of minority stressors (Nuttbrock et al., 2014). Importantly, TNG individuals who have fewer marginalized identities, greater income, higher levels of educational attainment, and more familial support demonstrate greater resilience than their counterparts with less social advantage (Bariola et al., 2015). These resiliency factors function to ameliorate the gender minority stress process and serve as a buffer against its deleterious health effects (Breslow et al., 2015).

Cisnormative Body Standards: A Unique Source of Gender Minority Stress

Research on TNG individuals' body experiences is emerging, and often investigates how and why TNG individuals attempt to resolve body dissatisfaction (Ålgars, Alanko, Santtila, & Sandnabba, 2012; Cella, Iannaccone, & Cotrufo, 2013; de Vries et al., 2014). For instance, high levels of body dissatisfaction among TNG individuals has been shown to confer risk of disordered eating patterns in an effort to suppress or enhance gendered body features such that they align better with their gender identity (Jones, Haycraft, Murjan, & Arcelus, 2016). This type of disordered eating appears to be directly linked to management of the gendered body rather than a distinct and separate entity. Indeed, TNG individuals generally report decreased disordered eating following gender-affirming medical interventions (de Vries et al., 2014). Other research has highlighted the detrimental impact of internalized cisnormative societal body

standards among transgender individuals on interpersonal relationships. For example, Reisner,

Perkovich, and Mimiaga (2010) interviewed 16 transgender men about their romantic lives.

They reported that transgender men who internalized societal attitudes toward transgender bodies

harbored negative feelings toward their own sexual and romantic lives.

Medical Care for TNG Individuals' Body Dissatisfaction

One way that TNG individuals may alter the appearance of the physical body to better

align with their gender identity is through gender-affirming medical interventions, which are

desired by the majority of TNG individuals and range from hormones to masculinize or feminize

the body to a variety of surgeries (James et al., 2016). Gender-affirming medical interventions

may be accessed to alter primary sex characteristics (e.g., the appearance and physiology of

genitals) as well as secondary sex characteristics (e.g., chest or breasts, facial features, fat

distribution, etc.).

Body Dissatisfaction is Not Restricted to Sex-Specific Body Features

Research has consistently documented that gender-affirming medical interventions

predict increased body satisfaction among TNG individuals (see Jones et al., 2016 for a

systematic review). This supports the notion that discrepancies between one's actual self and

ought and ideal selves may be resolved through appearance changes. Although the majority of

gender-affirming medical interventions pertain to sex-specific body features (e.g., chest/breasts,

genitals, facial features), it would be a gross oversight to conceptually restrict the body

experiences of TNG individuals to these features alone. TNG individuals have reported global

body dissatisfaction irrespective of sex-specificity (Becker et al., 2016). While this may be due

to a "halo effect" (Becker et al., 2016, p. 569) extending body dissatisfaction from sex-specific

body parts to general body parts, the fact nonetheless remains that TNG individuals endorse

overall body dissatisfaction even for features seemingly unrelated to gender (e.g., elbows). This

has important implications for researching the body experiences within this population—

attention should be given to sex-specific as well as sex-nonspecific body features.

Self-Discrepancies as the Product of Internalized Cisnormative Body Standards

The internalization of societal body standards has been robustly demonstrated among

cisgender women and men (Balcetis et al., 2013; Michaels, Parent, & Moradi, 2015).   TNG

individuals' body experiences are likely impacted by internalized societal body standards that are

inherently cisnormative (i.e., value cisgender ideals). Some research has demonstrated that

transfeminine individuals restrict their eating in order to meet societal beauty standards for

women related to thinness (Ålgars et al., 2012). Conversely, Witcomb and colleagues (2015)

found that body dissatisfaction was not predictive of disordered eating behaviors among TNG

adults. The authors conducted a matched control study examining body dissatisfaction and

eating pathology among TNG individuals ($n = 200$), individuals with eating disorders ($n = 200$),

and healthy controls ($n = 200$). TNG individuals in the study endorsed greater levels of body

dissatisfaction than their cisgender counterparts, but did not demonstrate disparate levels of

eating pathology that would be expected for cisgender individuals with high levels of body

dissatisfaction. TNG respondents reported greater body dissatisfaction than healthy controls

with regard to weight, body shape, and gender-marking body parts (i.e., chest, breasts, hips, etc.).

Differences in dissatisfaction with specific body parts between trans men and trans women were

not found, which suggests that the core of body dissatisfaction for TNG individuals is not solely

attributable to sex-specific gender markers (Witcomb et al., 2015). Nonetheless, the authors

found that body parts associated with greatest levels of dissatisfaction were in fact gender

markers, particularly related to body shape (e.g., stomach, waist, hips, bottom). Perhaps the most

theoretically important conclusion of the study was that the core of body dissatisfaction among

TNG individuals is rooted not only in the actual body part, but also in how other people perceive

one's gender by virtue of the body's appearance.

The body experiences of TNG individuals are of course varied and cannot be sufficiently

described here. Nonetheless, body dissatisfaction is prevalent among TNG individuals. For

many, dissatisfaction is a central component of their body experience. This phenomenon may be

understood in the contexts of Higgins' (1987) self-discrepancy theory and the minority stress

model (Meyer, 2003). Cisnormative body standards (i.e., distal stressors) may be internalized,

resulting in discrepancies (i.e., proximal stressors) between one's actual body, ideal body, and

ought body. Figure 1 outlines the hypothesized role of cisnormative body standards and the

relationships between Higgins' (1987) self types (ought, ideal, and actual). Solid arrows indicate

a directional relationship. Dotted lines indicate a self-discrepant relationship.
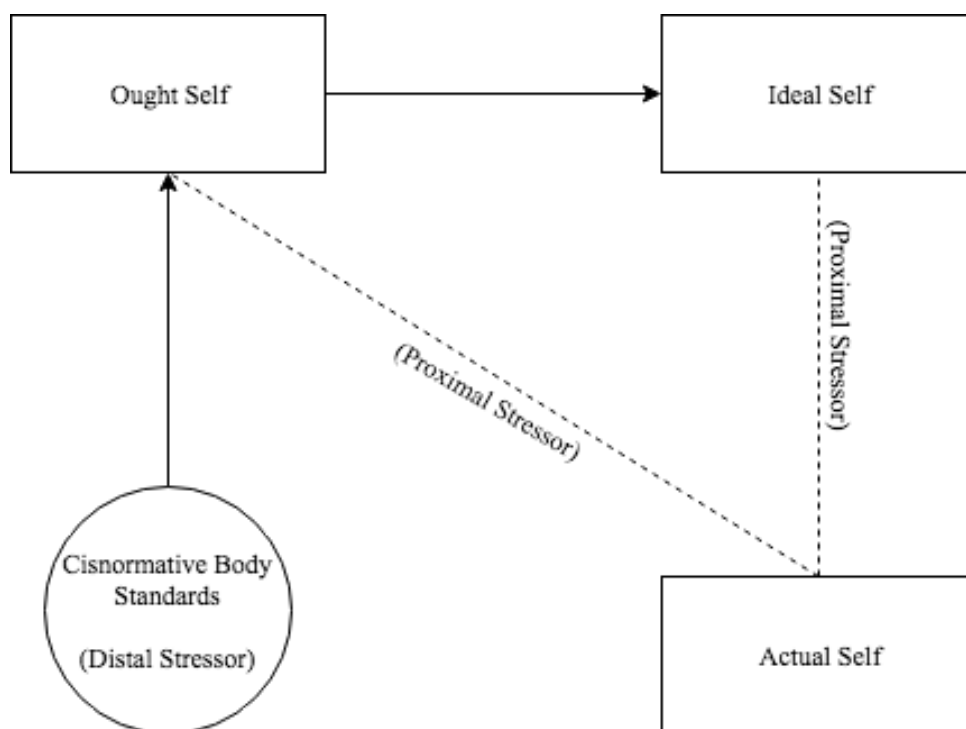
Figure 1. Hypothesized relationships between cisnormative body standards, self types, and self-discrepancies.

Objectification Theory: An Overview

A foundational theory on the relationship between internalized societal appearance standards and body experience is objectification theory (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). Objectification theory posits that societal body standards are internalized to such a degree that the self is persistently viewed through the eyes of the other, yielding a relationship with one's own body as an object for the consumption of others (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). The theory was initially developed to explain women and girls' internalization of sexual objectification by a patriarchal society. Underpinning the original iteration of objectification theory is the notion that women and girls are reducible to their physical appearance for the consumption of others (Bartky, 1997).

Self-Objectification

An important tenet of body objectification theory is that the experience of objectification by others prompts self-objectification (Bartky, 1997; Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). It posits that girls and women undergo a complex gender socialization process during which they internalize sociocultural experiences of sexual objectification and ultimately view themselves through the eyes of the other. Because a woman's body appearance at least partly determines her social and economic power—with more positive evaluation by others associated with greater social and economic outcomes—the possibility of resource gain subtly compels girls and women to strategically (yet often subconsciously) employ self-objectification to fit societal expectations of their appearance (Bartky, 1997; Fredrickson & Roberts, 1997; McKinley & Hyde, 1996).

The Illusions of Achievability and Responsibility

Also central to objectification theory is the assumption that sociocultural body standards are achievable given sufficient control of one's body (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). In this patriarchal society, women are inveigled to believe not only that their bodily appearance is within their scope of control, but also that they are *responsible* for its alignment with sociocultural body standards. Among cisgender women in the global West, this may manifest through restrictive eating, excessive exercise, cosmetic makeup application, and cosmetic surgery (Bell, Donovan, & Ramme, 2016; Fardouly & Rapee, 2019; E. L. Goodman et al., 2018; M. Goodman et al., 2016; Sineath et al., 2016). The internalization of body objectification may promote habitual self-monitoring of the body (i.e., surveillance). People may engage in habitual self-monitoring of the body in an effort to better align it with societal body standards. Frederickson and Robertson (1997) argued that habitual self-monitoring induces shame, anxiety, disruption of flow of consciousness, and reduced awareness of internal physiological cues, which negatively impacts quality of life, work productivity, and mental health.

The Cisgender Gaze as Objectification

Objectification theory holds considerable promise for grounding body experience research among TNG individuals because it "cuts across the literature" of body experience and the psychology of gender (Moradi, 2010).   Objectification theory offers a powerful framework for understanding the gendered embodiment experiences of TNG individuals in a cisnormative society. TNG individuals may internalize cisnormative body standards and subsequently relate to their body as an object for others' consumption. Binary-identifying TNG individuals (e.g., trans women, trans men) may be more impacted by cisnormative body standards given their inherently binary nature. However, an unpublished doctoral dissertation examining a large

nationwide sample of TNG adults ($N = 166$) reported that nonbinary TNG individuals did in fact hold a physical ideal against which they judged their bodies (Factor, 2006).

The extension of objectification theory to TNG individuals of all genders is timely and needed in body experience research (Moradi, 2010). Recent calls have been made for greater attention to the interactions between objectification and minority stress as components of dehumanization processes (Moradi, 2013). This pantheoretical framework seeks to integrate perspectives on oppression and better attend to the intersectionality of oppression (Moradi, 2013). One promising direction for this domain that has not been explored in the counseling psychology field is the *cisgender gaze*—the cisgender objectification of TNG individuals (Cava, 2016; Serano, 2007). The phenomenon parallels that of the *male gaze*, which Mulvey (1975) famously defined as the visual objectification of women by men and patriarchal society. Mulvey further explained that this male gaze is internalized such that women begin to treat themselves as objects for the visual consumption of others. The phenomenon of the cisgender gaze proposed here is conceptually similar. TNG individuals are objectified as visual oddities in a cisnormative society (i.e., one that privileges cisgender values). This dehumanizing phenomenon is internalized by TNG individuals, who begin to treat themselves as objects for the visual consumption of others. Following Meyer's (2003) minority stress model, the cisgender gaze may be understood as both a distal stressor and a proximal stressor. This unique form of gender minority stress begins to answer Moradi's (2013) call for a pantheoretical framework of dehumanization.

Support for the conceptual link between objectification and gender minority stress has been demonstrated in qualitative and quantitative research (Kosenko, 2011; Velez et al., 2016). For example, Velez and colleagues (2016) found that gender minority stress was positively

associated with greater internalization of societal standards of attractiveness as well as greater endorsement of body objectification among a sample of transgender men. More recently, Brewster and colleagues (2019) surveyed 205 transgender women about their body image and eating habits. The researchers found that dehumanization—operationalized as discrimination and sexual objectification—predicted the internalization of cisnormative societal body standards and disordered eating. Dehumanizing experiences were indirectly related to body surveillance, body dissatisfaction, and disordered eating through the internalization of such body standards within the sample of transgender women (Brewster et al., 2019). The authors interpreted the results through Moradi's (2013) proposed pantheoretical model of dehumanization, finding support for minority stress theory (Meyer, 2003) as well as objectification theory (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996).

Qualitative research supports the extension of objectification theory (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996) to TNG individuals. Sevelius (2013) interviewed 22 transgender women of color about their sexual experiences, substance use, access to health care, incarceration experiences, social support, and coping strategies. Participants reported that they internalized sexually objectifying experiences with cisgender individuals, which ultimately lowered their self-worth. Nearly all participants in the study ($n = 21$, 95%) described "their desire to look more like a non-trans woman, their envy of transwomen who pass, and their intense self-monitoring of their bodies and facial features with a critical eye toward what makes them appear more masculine or feminine" (Sevelius, 2013, p. 682). Moreover, the majority of participants ($n = 18$, 82%) reported starting hormone therapy through an underground market without medical supervision in order to exert agency over their bodies. Findings from the Sevelius study revealed that transgender women of color internalized cisnormative societal body

standards, were compelled to compare their body to others (i.e., surveillance), felt negatively about themselves (i.e., shame), and practiced risky body alterations in order to align with their body ideals (i.e., control).

Methodological Issues in Measuring Objectification and Proposed Solutions

The internalization of societal body standards and the belief that they are self-originating, achievable, and duty-bound (i.e., that one is responsible for achieving them) are conjointly conceptualized as *objectified body consciousness* (McKinley & Hyde, 1996). McKinley and Hyde's (1996) development and validation of the Objectified Body Consciousness (OBC) scale provided a psychometrically sound tool for operationalizing objectification theory among women and girls. The OBC scale is widely used in the literature on body experience as well as the psychology of women. It assesses objectified body consciousness across three scales: Surveillance, Body Shame, and Appearance Control Beliefs. The theoretical components of the OBC scale are certainly applicable to TNG individuals living in a cisnormative society.

One scale of the OBC (McKinley & Hyde, 1996) has found support for its use in binary transgender samples. The surveillance scale has been administered both to samples of transgender men and transgender women. In a sample of 304 transgender men, Velez and colleagues (Velez et al., 2016) found it to be a valid measure of the degree to which respondents monitored their physical appearance ($\alpha = .85$). In a study of 205 transgender women, the OBC surveillance scale yielded similarly high validity ($\alpha = .82$) (Brewster et al., 2019).

Attempts to validate the broader OBC scale (McKinley & Hyde, 1996) with TNG individuals have revealed that a tailored measurement tool is needed to measure their experience of body objectification. Rosenkrantz and Barr (2016) conducted an exploratory factor analysis of the original OBC scale with a sample of 288 transgender women. Contrary to the three-factor

structure found among McKinley and Hyde's (1996) sample of cisgender women, the sample of transgender women yielded a 6-factor structure to the OBC items. Rosenkrantz and Barr subsequently conducted a confirmatory factor analysis by forcing a three-factor model to align with the original OBC results, yielding a very poor fit (CFI = .62; LI = .55; RMSEA = .13). Specifically, the three scales comprising the original OBC did not correlate as anticipated in the sample of transgender women. Within their sample, the control scale was inversely related to the shame scale and was not related to the Surveillance scale. Rosenkrantz and Barr's attempt to validate the OBC scale (1996) among a sample of transgender women revealed important insight. First, they theorized that the OBC Shame scale items did not capture transition-related body shame pertinent to transgender women. Second, Rosenkrantz and Barr posited that the inverse relationships between the Appearance Control Beliefs scale and the other OBC scales may reflect transgender women's empowerment through agency over their bodies. Third, the researchers surmised that the weight-related items of the OBC scale may be more applicable to cisgender women than transgender women. In sum, Rosenkrantz and Barr's (2016) attempt to validate the OBC scales (McKinley & Hyde, 1996) with transgender women revealed a need to tailor a measure of objectified body consciousness specifically for this population.

An instrument measuring body objectification among TNG individuals would enhance understandings of body experience among TNG individuals, offering more specificity than the current predominant index (e.g., gender dysphoria). Indeed, Shulman and colleagues' (2017) review of psychological assessment tools for TNG individuals underscored the importance of expanding the scope of assessment beyond gender dysphoria. They stated: "While there may remain some clinical utility for measures that assist in diagnosing gender-related conditions, changes in diagnostic criteria and stigmatizing role of language in culture make many of these

measures outdated, and we recommend that they be used with caution if at all." (Shulman et al., 2017, p. 307).

A 2016 systematic review of the literature revealed that only 23 studies had explicitly explored a specifically cognitive type of body experience—body image—among TNG people, despite it being a core feature of their psychological distress (Jones et al., 2016). Excluding gender dysphoria measures, two scales exist for measuring body experience among TNG people: the Transgender Congruence Scale (TCS; Kozee, Tylka, & Bauerband, 2012) and the Body Image Scale for transsexuals (BIS; Lindgren & Pauly, 1975).

The Transgender Congruence Scale (TCS; Kozee et al., 2012) is a 12-item instrument designed to measure congruence between gender identity and appearance. Sample items include, "My outward appearance represents my gender identity" and "I am generally comfortable with how others perceive my gender identity when they look at me." While certainly useful for measuring body experiences among TNG individuals, the TCS has some psychometric limitations. First, Kozee and colleagues explain that the homogenous white sample on which the measure was validated hinders its application to TNG people of color. Second, the TCS scale validation process did not employ counterbalancing procedures, which may have conferred order effects on the psychometric testing outcomes. Finally, one of the two subscales (Gender Identity Acceptance) comprising the TCS is made up of only three items and does not focus on respondent's body experience.

The Body Image Scale for assessing transsexuals (BIS; (Lindgren & Pauly, 1975) is the most commonly used measure of body image among transgender people (Jones et al. 2016). The measure lists 30 body parts for which respondents rate their level of satisfaction on a 5-point Likert scale. Sample items include "Body hair", "Breasts/Chest", and "Bottom". High scores

correspond to greater body dissatisfaction. Respondents also report whether they would like to change body parts through medical intervention. Although promising, the BIS demonstrates important limitations in its application. There are two versions of the instrument, which correspond to the respondent's sex assigned at birth: Male BIS and Female BIS. The Male BIS and Female BIS are identical except with reference to sexual body parts corresponding to the sex assigned at birth of respondents. The BIS uses item language and binary interpretations of gender that are inappropriate for nonbinary TNG individuals. This is unfortunate, as more TNG individuals identify as nonbinary than any other gender identity (James et al., 2016) . Importantly, the BIS was developed and validated from a sample of only 32 TNG individuals.

Measuring Objectified Body Consciousness Among TNG Individuals

Objectified body consciousness complicates how TNG individuals may relate to their body. Although exercising body control (e.g., binding, packing, taping, hormones, surgery) to affirm gender identity through gender expression may be quite empowering and even liberating, it is important to also consider the potential for negative consequences that these body control techniques may have regarding how a TNG individual relates to their body. Much like how the original OBC measure clarified cisgender women's "complex and contradictory" relationships with their bodies (McKinley & Hyde, 1996, pp. 185–186), a nuanced inquiry into how TNG individuals relate to their bodies and exercise agency through gender expression is needed. A more thorough and rigorous understanding of TNG individuals' body experiences—particularly in relation to the cisgender gaze (Cava, 2016; Serano, 2007)—would illuminate the respective and intersecting roles of objectification, minority stress, and resiliency (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). This approach is congruent with Moradi's (2013) call for a pantheoretical approaches to dehumanization.

McKinley and Hyde's (1996) original measure of objectified body consciousness has tremendous utility among samples of cisgender women, on whom it was developed. However, its items and constructs are not generalizable to TNG individuals. Hoyt, Warbasse, and Chu (2006, p. 797) encouraged researchers to think critically about the generalizability of existing measures to culturally distinct populations, declaring: "[…] there is no substitute for well-developed construct theory and thoroughly understanding the focal group to make informed conjectures about what facets of constructs may have different meanings as old measures are used in new groups." A valid measure of objectified body consciousness among TNG individuals is needed. Moradi's (2010) call for the use of objectification theory as a cohesive framework for grounding body experience research among diverse populations supports the development of a new instrument for measuring objectified body consciousness among TNG individuals. What follows is a description of the scale construction and development process.

Scale Construction Background

Scale construction is a cornerstone of counseling psychology research. A content analysis of all research articles published in the *Journal of Counseling Psychology* between 1999 and 2009 revealed that 14 percent of reports focused on the development and evaluation of tests and measures (Buboltz, Deemer, & Hoffmann, 2010), representing a 5 percent increase since a content analysis of the previous 15 years of reports in the journal (Buboltz, Miller, & Williams, 1999). This trend is unlikely to dissipate as increased attention is paid to addressing the measurement of intersecting diverse identities in counseling research (e.g., Sun, Hoyt, & Zhao, 2016; Takara et al., 2015; Y. Wang & Li, 2018).

The purpose of scale construction is to generate a reliable tool to measure a latent (i.e., not directly observable) construct of interest (DeVellis, 2017). Well-designed scales include a

variety of items that, when considered collectively, reflect a broader construct. Scales are typically scored quantitatively by averaging individual item-level scores. These scores may reflect a single construct of interest (as indicated by a single composite scale score). Alternatively, these scores may reflect two or more components of a single construct (as indicated by multiple scale scores derived from items comprising subscales within the broader scale).

Reliability

The value of any measurement tool partly depends on its ability to measure in a manner that can be reproduced. In scale construction, *reliability* reflects the scale's precision.

Internal Consistency. One assessment of an instrument's reliability is its internal consistency. This describes the degree to which a set of items are related as a group (Bartholomew, Steele, Moustaki, & Galbraith, 2008). It is determined by measuring the extent to which components of a scale contribute equally to the latent construct. The most common index of reliability is Cronbach's coefficient alpha (α) (Cronbach, 1951). This coefficient is a function of the number of test items and their average inter-correlations. Cronbach's coefficient alpha values range from 0 to 1, with higher values indicating greater internal consistency. The number of items, intercorrelations between items, and scale dimensionality affect Cronbach's coefficient alpha values (Cortina, 1993). Generally, scale developers seek a coefficient alpha value greater than .80 because it indicates good internal consistency (Bartholomew et al., 2008).

Test-Retest Reliability. A second assessment of an instrument's reliability is its test-retest reliability. This refers to the degree to which respondent scores are consistent across separate administrations (Alexander, 1947; Bartko, 1966). Coefficients of stability (i.e., test-retest reliability estimates) are computed by finding the correlations between item scores across

separate test administrations with the same sample. Coefficients of stability range from 0 to 1, with 0 indicating no reliability and 1 indicating perfect reliability. Characteristics of the sample and duration between test administration invariably impact the reliability estimate, meaning that definite standards for minimally acceptable test-retest estimate values are elusive (Crocker & Algina, 2008). Nonetheless, many scale developers follow the convention set by Landis and Koch (1977) for interpreting coefficients of stability: 0-0.2 is poor, 0.2-0.4 is fair, 0.4-0.6 is moderate, 0.6-0.8 is substantial, and 0.8-<1.0 is nearly perfect.

Construct Validity

Construct validity describes the degree to which a measure is doing its job (Westen & Rosenthal, 2003). Perhaps counter-intuitively, the construct validity of a scale is not a judgment of its capacity to accurately capture the construct of interest. Construct validity is actually an estimate of the degree to which its variance accurately reflects the variance of the construct of interest (Westen & Rosenthal, 2003). The evaluation of an instrument's construct validity is an ongoing process that is dependent on evolving theories as well as characteristics of the respondent sample.

Messick (1989) proposed a unified framework to anchor decisions about construct validity. The author asserted several aspects of validity that should be considered during test construction, including: structural relationships between constructs of interest, content of test items compared to construct of interest, convergence with similar constructs, discriminability from dissimilar constructs, and predictability. These aspects of validity are described below.

Structural Validity. This aspect of validity relates to the relationships between scale dimensions and the construct of interest (Messick, 1989). Structurally sound measures are characterized by similarity between the structure of the test, the scores, and the construct of

interest. A structurally sound measure of a bidimensional construct would have two factors, and scores would align with this bi-dimensionality. Structural validity is typically appraised during the exploratory factor analysis phase of scale development.

Content Validity. Content validity describes the degree to which items adequately and representatively reflect all possible items that might measure the construct of interest (Meehl & Cronbach, 1955; Messick, 1989).   The content validity of a scale cannot be directly tested or quantified, but may be inferred from relevant theory on the construct of interest (Kimberlin & Winterstein, 2008). Experts in a field pertinent to the construct of interest generally determine content validity (Westen & Rosenthal, 2003).

Convergent Validity. This aspect of validity appraises the extent to which the measure is related to the construct of interest (Kimberlin & Winterstein, 2008; Messick, 1989). It is generally assessed by comparing scores from the new measure with scores from established valid measures of the same or theoretically similar constructs. This is typically assessed by examining correlations between scores on the new measure and scores on established valid instruments that purport to measure theoretically similar constructs.

Discriminant Validity. This aspect of validity appraises the extent to which the measure is unrelated to dissimilar constructs of interest (Messick, 1989). To assess discriminant validity, correlations between scores on the new measure and scores on established valid instruments that measure theoretically dissimilar constructs should be examined. The importance of careful selection of instruments to assess for convergent and discriminant validity cannot be overstated (Lee & Lim, 2015).

Predictive Validity. This aspect of validity describes the extent to which the measure predicts an outcome (Messick, 1989). Predictive validity is typically assessed by examining

correlations between the measure and some criterion measure, often the same measure administered across two or more time points.

Novel Approaches to Appraising External Validity. The advent of more advanced statistical processes led Westen and Rosenthal (2003) to propose a simple method for quantifying construct validity using contrast analysis. They recommended that researchers turn to theory to develop hypotheses about how other established measures may interact with the instrument at hand, yielding a measure of their theoretical understanding of the construct. This quantitative approach to assessing construct validity by assessing how measures are similar (i.e., demonstrate *convergent validity*) and dissimilar (i.e., demonstrate *discriminant validity*) is designed to reduce bias and increase precision in hypotheses about construct relationships (Westen & Rosenthal, 2003). Essentially, researchers are tasked with finding a simple correlation between 1) hypothesized correlations between the proposed scale and variables related to that scale, and 2) actual correlations between the proposed scale and its related variables. This yields what Westen and Rosenthal termed the $r_{alerting-CV}$ coefficient—a quantified index of construct validity.

Theories of Testing

Two primary theories seek to explain test outcomes and improve their reliability: Classical Test Theory (CTT; Lord & Novick, 1968; Novick, 1966) and Item Response Theory (IRT; Lazarsfeld & Henry, 1968; Lord, 1980; Rasch, 1966). What follows is a brief overview of the two theories as they relate to scale construction.

Classical Test Theory (CTT). CTT seeks to account for error in test responses by conceptualizing a respondent's *observed score* as a reflection of both their *true score* and *random error*. CTT draws conclusions about a set of responses based on properties of the entire

scale (Harvey & Hammer, 1999). The theory is a historically influential theory in counseling psychology but has been critiqued for its inability to distinguish respondent characteristics from test characteristics. CTT allows for analysis of response data at the test-level, but does not allow for respondent-level or item-level analyses (Mallinckrodt, Miles, & Recabarren, 2016; Whittaker & Worthington, 2016). Counseling psychologists have long relied on CTT to develop psychometrically sound scales for measuring theoretical constructs. The model offers a relatively straightforward method for scale construction. Whittaker and Worthington (2016) emphasize that CTT's popularity in counseling psychology may be due to its accessibility and ability to provide model estimates equivalent to that of IRT, which is considerably more demanding on a researcher's time and resources.

Item Response Theory (IRT). IRT is an increasingly popular method for test construction that allows for assessment of the relationship between the individual respondent's item-level responses with their overall responses for a particular measure. The method provides rich data on the properties of individual and collective scale items that is useful in scale development (Edelen & Reeve, 2007). One advantage of IRT is its ability to distinguish respondents from the sample of administered items (Fox & Jones, 1998).

One particular type of IRT model that has received considerable attention in recent years is the Rasch (1966) model. One comparison of CTT and a Rasch IRT model derived from the same data revealed that the latter method reduced error variance, increased correlations with the variables of interest, increased sensitivity of scales to group differences, and increased sensitivity to detect change over time (Mallinckrodt et al., 2016). Despite these apparent strengths, the Rasch IRT model has been critiqued for its inflexibility, prohibitively difficult application, and strict assumptions about the constructs purportedly being measured. After providing an

extensive review of these IRT limitations, Harvey (2016) posited that researchers in counseling psychology should take care to employ a flexible IRT model whenever possible.. Other researchers have cautioned against falsely believing that IRT methods are superior to CTT in test construction. Notably, Mead and Meade (2010) conducted a simulation study to compare the respective methods in test construction. They found that IRT did not outperform CTT in creating informative tests. Mead and Meade urged researchers who aim to develop a measurement instrument not to use IRT unless absolutely necessary for the research question at hand, as CTT produced empirically similar results with less error in interpretation.

Current Studies

The purpose of this dissertation is to explicate the need for the development and validation of a new measure of objectified body consciousness tailored to TNG individuals. In accordance with the predominant measure of objectified body consciousness for cisgender individuals, three scales are proposed for the new measure: Surveillance, Body Shame, and Appearance Control Beliefs. Three separate studies are described here.

Study 1 Overview and Hypotheses

The purpose of Study 1 was to survey TNG adults to develop and validate the three OBCT scales: Surveillance, Body Shame, and Appearance Control Beliefs. Hypotheses of Study 1 were:

H1) Surveillance will be associated with attention to how one appears to others but not attention to one's internal feelings.

H2) Shame will be associated with greater internalized transphobia, reflecting internalization of the cisgender gaze.

H3) Shame will be associated with negative attitudes toward one's appearance.

H4) Shame will be only moderately associated with general negative affect.

H5) Appearance control beliefs will distinguish people who are interested in changing their appearance to affirm their gender identity.

H6) Appearance control beliefs will be associated with internal locus of control but not general positive affect.

H7) Moderate-to-strong positive correlations will exist between total scores of individual OBCT scales and related constructs, and weak correlations will exist with unrelated constructs, reflecting accurate predictions of the relationship between OBCT theoretical constructs and validated constructs, thereby providing quantitative evidence for content validity (Westen & Rosenthal, 2003). These predictions may be viewed in Appendix L.

Study 2 Overview and Hypotheses

The purpose of Study 2 was to confirm the validity and reliability of the optimized proposed OBCT scales. Additionally, the relationships between the Surveillance, Body Shame, and Appearance Control Beliefs scales and other similar scales were explored. Finally, the relationships the OBCT scales and between resiliency factors were explored. Hypotheses of Study 2 were:

H1) A confirmatory factor analysis will yield a three-factor structure with internal consistency, as in the original administration.

H2) Surveillance will be associated with preoccupation with other's opinions about one's appearance.

H3) Body shame will be associated with perceptions that one's body is flawed, reflecting internalization of the cisgender gaze.

H4) Appearance control beliefs will be associated with perceptions that one's body does not appear how it should.

H5) Resiliency will serve as a protective factor against body surveillance and body shame.

Study 3 Overview and Hypothesis

The purpose of Study 3 was to establish known-groups validity of the OBCT scales through age-matched comparison between TNG and cisgender respondents. The hypothesis of Study 3 was:

H1) The OBCT scales will be able to discriminate between TNG and cisgender respondents.

Chapter 3: Method

Three separate studies are presented here. They entail the development of a scale designed to measure objectified body consciousness among TNG individuals (Study 1), the validation of the proposed scale (Study 2), and an optional evaluation of hypothesized differences between TNG and cisgender respondents to the scale (Study 3). What follows are the methods of each study. These studies were generously supported by the Ira and Ineva Reilly Baldwin Wisconsin Idea Endowment seed project grant and the Virginia Horne Henry Distinguished Graduate Fellowship.

Following guidelines of Devellis (2017) and other scale development scholars, the steps for constructing the OBCT are described below. Figure 2 broadly describes the methodological procedures.
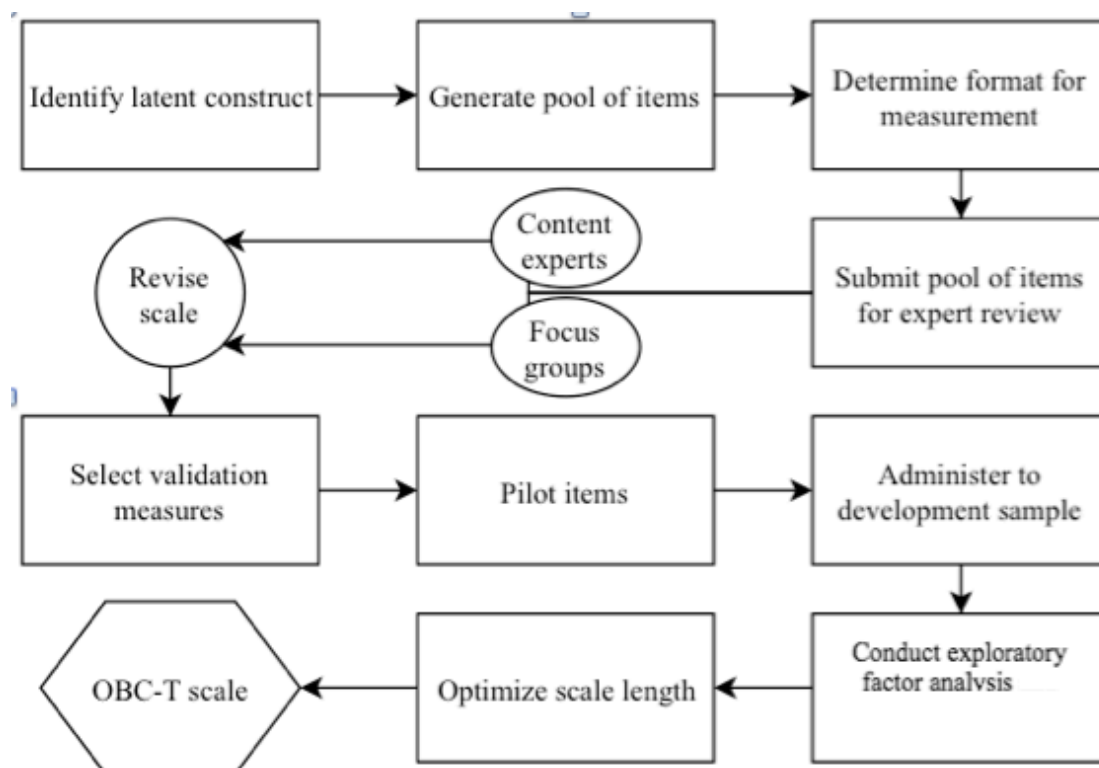
Figure 2. Methodological procedures of OBCT scale development and validation.

Step 1: Use Theory to Identify the Latent Construct of Interest

DeVellis (2017) emphasized the paramount importance of turning to theory to clarify a construct of interest at the outset of the scale development process. Close inspection of relevant theory essentially provides a roadmap for subsequent steps of scale development. Incorporating relevant theory early in the scale construction process may also provide insight to the potential degree of specificity or generality of the final scale. Furthermore, critically examining theory relevant to the latent construct of interest may reveal existing instruments that measure the same or similar constructs. Recognition of those established measurement tools would prevent the researcher from inadvertently creating a redundant scale.

Objectified body consciousness among TNG individuals is the focal construct of interest for the OBCT scale. An operational definition of this construct and a review of the theory from which it was derived are provided in Chapter 2. Briefly, objectified body consciousness among TNG people may be understood as the degree to which an individual internalizes cisnormative societal body standards. The hypothesized scales of the proposed OBCT measure and their conceptual definitions are described below.

1. Surveillance: The act of monitoring one's body as an outside observer in order to conform to the expectations of the cisgender gaze.

2. Body Shame: The experience of feeling shame toward one's body because it does not conform to the expectations of the cisgender gaze.

3. Appearance Control Beliefs: The belief that one is both capable of and responsible for controlling one's appearance to conform to the expectations of the cisgender gaze.

Step 2: Generate a Pool of Potential Items

Once the latent construct of interest is thoroughly articulated, the researcher is tasked with generating a large pool of potential items for the final scale. The purpose of generating an

initial pool of items is to "sample systematically all content that is potentially relevant to the target construct" (Clark & Watson, 1995, p. 311). Items should be informed by theory pertinent to the construct of interest. DeVellis (2017) encouraged the researcher to think creatively when writing potential scale items in order to maximize the variety of item content related to the latent construct. At this stage, greater attention should be paid to capturing features of the latent construct than to determining the best item wording. Although DeVellis purposefully neglected to provide a specific recommendation for the size of the potential item pool, general advice was provided: larger is usually better. More items allow for greater discernment and selectivity in deciding the final item pool.

Similarity of items is an important consideration. With respect to this topic, DeVellis (2017) delineated useful versus useless redundancy in item generation. Items that capture similar ideas relevant to the latent construct but employ markedly different wording would demonstrate useful redundancy; these items are syntactically dissimilar enough to yield meaningfully different responses that more accurately reflect the theoretically infinite pool of items underlying the latent construct. Conversely, syntactically similar items reflecting the same content are uselessly redundant; these items promote response bias and result in inflated reliability estimates. In sum, Devellis (2017) cautioned researchers against redacting items that share content similarity unless they also share syntactic similarity.

The original OBC measure (McKinley & Hyde, 1996) directly informed the development of proposed items for the OBCT measure. The three scales of the original OBC measure are conceptually similar to those of the OBCT measure, and scale labels of the former were retained for the latter. New items were generated based on relevant literature, reports from TNG individuals' personal experiences, and through adaptations of the original OBC scale items.

Items were purposefully written using gender-neutral (i.e., applicable to all genders) language. Using gender-neutral language throughout the measure increases item applicability to nonbinary individuals. Moreover, this approach enhances the utility of the measure both in research and clinical settings, as scores may be comparable across and between binary and nonbinary genders. Jones and colleagues (2018) asserted that researchers should be intentional about encapsulating the experiences of both binary and nonbinary TNG individuals when developing new measures.

A sample of items was author-generated based on scale definitions following a thorough review of the literature. I sent emails to personal contacts and the UW-Madison Trans Counseling, Advocacy, Research, and Education lab requesting assistance with scale item generation from individuals who self-report membership in the TNG community. Six individuals volunteered to assist in item generation. Self-reported gender identities for volunteers were as follows: man ($n = 2$, 33.33%), nonbinary ($n = 3$, 50%), and woman ($n = 1$, 16.67%). Item generation meetings lasted approximately 30 minutes in duration. Volunteers were compensated $10 cash for their time.

Prior to recruitment, I generated at least 20 items per each of the three proposed scales in order to provide examples to volunteers. Item generation meetings were held in a private space with only this author and a single volunteer present at a time. Volunteers were provided with the proposed construct definitions and asked to reflect on statements that would reflect each construct. Midway through each meeting, volunteers were provided with the example items generated by this author. Additional items were generated either collaboratively with this author or privately by the volunteer depending on their preference. Volunteers were encouraged to provide feedback on existing proposed items. A total of 126 potential items were ultimately

generated across the three proposed scales.

Items were edited slightly in accordance with DeVellis' (2017) suggestions for developing effective scale items. Items were also edited to ensure gender neutral language and applicability of item content across genders. For example, an item specific to menstruation products was discarded due to its limited applicability to only individuals who menstruate. Redundant items were removed from the final item pool.

Step 3: Determine the Format for Measurement

Researchers should consider the nature of the latent construct when deciding the format of the scale. DeVellis (2017) outlined a variety of potential scale response formats, ranging from simple yes/no checklists to complex response categories. The most common scale format employs Likert scales for quantifying item responses. Likert scales typically assess the degree to which a respondent endorses an item.

The proposed OBCT scales were composed of statement items to which respondents responded on a 5-point Likert scale (i.e., 1 = *disagree*, 2 = *somewhat disagree,* 3 = *neither agree nor disagree*, 4 = *somewhat agree,* 5 = *agree*). A slider response format was utilized because it allowed for a truly continuous item response and therefore increased response variability. Participants used a slider to mark their response for each item along the Likert scale. Responses were permitted to fall at or between anchor points (i.e., integers). Higher scores reflected stronger endorsement of the specific construct (i.e., scale) to which the item belonged.

Step 4: Submit Item Pool to Experts for Review

Expert review of potential scale items supports content validity of the instrument. DeVellis (2017) recommended that several experts in a topic related to the construct of interest be recruited to review the potential items. Expert feedback on scale items serves several

purposes. First, experts might opine whether specific items relate directly to the construct of interest. Second, experts might provide insight about the clarity and succinctness of each item. Third, experts might identify additional ways of operationalizing the latent construct that are not already reflected in the item pool. Finally, experts may review whether items measure a single trait (i.e., are unidimensional). On this topic Hattie (1985, p. 139) remarked, "One of the most critical and basic assumptions of measurement theory is that a set of items forming an instrument all measure just one thing in common."

      Focus Groups. One form of expert review may occur through focus groups. This may be particularly useful for a scale tailored to the experiences of TNG individuals. Opinions vary widely on the utility of focus groups in the development of scales for marginalized individuals. Some have argued that focus groups are an essential component of developing a scale designed to measure a construct with which the research team have no personal experience (Harvey, 2016; Miles, Mallinckrodt, & Recabarren, 2016). Others have argued that focus groups are limited by their inability to capture the plethora of potential items in a latent construct, susceptibility to dominant personalities, and vulnerability to unequal power dynamics between participants and moderators (Franz, 2011; Krueger & Casey, 2015; Y. W. Wang, Hogge, & Sahai, 2016). Whittaker and Worthington (2016) argued that the time- and resource-intensive process of conducting numerous focus groups to adequately represent diverse identities offers little to the content validity of the scale, and may inadvertently compromise other types of validity.

      Despite the shortcomings of focus groups, they do offer considerable information that could not be gathered through other methods of inquiry. When used in conjunction with other qualitative research methods such as individual interviews, focus groups provide rich data on group insights. Morgan (1996) argued that the shortcomings of focus groups are practically

inconsequential if they are a complementary rather than primary method of data collection.

Furthermore, focus groups may be particularly helpful in testing the applicability of ideas in an

unfamiliar cultural setting and improving the wording of items based on participant

colloquialisms (Gorodzeisky, 2011). To mitigate these challenges, a focus group script was

followed in accordance with Krueger and Casey's (2015) guidelines for successful focus groups

(Appendix A).

Emails to recruit TNG participants for focus groups were sent to two LGBT Centers in

Dane County, Wisconsin, LGBT centers at UW-Madison, the Wisconsin Trans Health Coalition,

and the UW-Madison Trans Research Lab. Digital fliers (see Appendix N) advertising the focus

group recruitment were posted to Craigslist Domestic Gigs (Madison.craigslist.com/dmg) and

Reddit Classifieds (reddit.com/r/MadisonClassifieds).

Two focus groups were coordinated to elicit feedback on potential OBCT items from

TNG individuals who responded to recruitment efforts ($N = 6$). Ultimately, only one focus group

comprised of TNG individuals ($n = 3$) was attended. Individuals who reported an interest in

attending the second focus group ($n = 3$) were absent from the scheduled meeting due to reported

respiratory illness.

Focus group participants were greeted in a classroom where they then provided signed

informed consent. This author flexibly adhered to a script developed for the purpose of the focus

group to guide the meeting (Appendix A). After participants provided informed consent, the

entire focus group meeting was audio recorded. Recordings were stored in a secure location

compliant with the IRB requirements, and audio recordings were then promptly removed from

recording devices.

A large screen presented a slideshow containing an operational definition of objectified body consciousness in lay language, as well as construct definitions for each of the three proposed OBCT scales in lay language. Individual slides were presented containing items in random order for each subscale. Participants were asked to provide feedback on item content, clarity, readability, applicability, and accuracy of terms. At the end of the meeting, participants were invited to anonymously report their demographic identities via an online Qualtrics survey. Participants were compensated $15 cash for their time.

When reviewing the pool of items for the proposed Body Surveillance construct, participants expressed concern that some items would not apply to respondents who are confident in their gender presentation. For example, when reviewing an item that included the phrasing, "[…] doing enough to look like my gender," one respondent exclaimed: "I don't like that question! Why would I have to make an effort for other people to get my gender?" Individual group members discussed how they would respond to this item at different points in their gender experience across their lifetime depending on relative degree of gender dysphoria. This item was discarded.

When reviewing the pool of items for the proposed Body Shame scale, participants questioned whether *alienation* would more accurately reflect the negative emotions experienced in relation to having a TNG body. For example, participants shared that negative emotions they experience in relation to their bodies arise from cognitive reminders that they are othered and alienated in a cisnormative society. Participants were dissatisfied with the terms "top/bottom" that occurred in several items because they were "too vague." They suggested replacing these terms with "primary or secondary sex characteristics." This suggestion was not incorporated into the items because the vocabulary would likely be inaccessible to respondents without formal

higher education. Additionally, the terms "top/bottom" reflect language widely used in the TNG community to refer to body parts (Kuper et al., 2012).

When reviewing the pool of items for the proposed Body Control scale, one participant proposed a different term for this construct. They stated:

> A better word than control would be agency. It would be more fitting to me, because agency seems to imply that the power dynamics are a lot more [*sic*], and it is not just what I decide to do, but is embedded in the possibilities, the medical standards, the societal standards, what I want to do, what other people want me to do[…] agency just captures more complexity for me.

This suggestion was later considered in conjunction with content expert feedback and scale performance. Ultimately, the decision was made to retain the term "control" based on content expert feedback and construct definition.

One participant expressed concern about potentially confusing language related to temporal stability. They stated:

> I disagree with the 'are born with' part because all of the things that are listed naturally change for everyone throughout their life, regardless of whether they are cis or trans. It's not like men are born with deep voices. […] that all changes over time as we grow and age and through puberty, regardless of whether it just naturally happens or you buy your hormones at the pharmacy.

Other focus group participants did not endorse concern about this phrasing. The language was ultimately retained in the final items because neither item generators ($N = 6$, 100%) nor the majority of focus group participants ($n = 2$, 67%) expressed dissatisfaction with the phrasing. Overall, focus group participants were dissatisfied with the intentionally gender-neutral phrasing

of items because they worried that item content would apply differentially to specific gender

identities. For example, one participant stated: "The item, 'I rarely compare how my gender

looks compared to how other people's gender looks'…like, how does a gender look? Especially

for nonbinary genders. […] I wouldn't know how to answer that." To this a second participant

added: "What does 'my gender' look like? […] I think the phrasing might be a little off, because

what would that look like for nonbinary people?" This comment prompted another participant to

respond: "Since we are talking through cis societal standards, there isn't really a way for

someone to look nonbinary in a cis society." Similar sentiment was expressed about an item

pertaining to clothing choice, stating:

> This question sounds like a question geared toward more binary trans folx. […] And so
>
> nonbinary folx are probably like, well, there isn't really a nonbinary clothing type that
>
> can really do the same thing as for, like, binary trans folx.

When discussing potential solutions, participants arrived at the conclusion that gender

identities are "too complex" to be perfectly captured in a survey. One participant proposed that

all survey items be open response format in order to enable respondents to answer completely in

their own words; all other participants stated that they preferred forced choice response format

for statistical purposes. Focus group participants also expressed a desire to have distinct

questions for distinct gender identities. For example, one participant suggested that the survey

utilize skip logic to ensure that respondents are only presented items that are specific to their

gender identity. This prompted a rich discussion about whether specific items should be tailored

to specific gender identities. Ultimately, focus group participants again concluded that gender

identities are "too complex" to create an individualized survey for every possible gender. This

author reminded participants of the rationale for using gender neutral language throughout items

in order to enhance applicability to all gender identities within the trans umbrella. Focus group

participants decided that the survey instructions should include a disclaimer about considering

one's own specific gender identity when responding to items. This was incorporated into the

final OBCT scale items where applicable.

Content Experts. Email requests for anonymous feedback on the pool of potential

OBCT items were sent to six author-identified content experts in the areas of gender, TNG

psychology, and scale construction. One email reminder was sent approximately two weeks after

the initial invitation. Four content experts ultimately provided written feedback on the pool of

items. Content experts were presented with $K = 89$ items across the proposed three OBCT scales:

Surveillance ($K = 36$), Shame ($K = 21$), and Control ($K = 32$). Content experts used a 5-point

Likert scale (1 = awful; 2 = poor; 3 = fair; 4 = good; 5 = excellent) to rate scale instructions and

the pool of potential items on the following variables: clarity, content, and cultural

appropriateness. They were routinely encouraged provide written feedback for specific items,

scale constructs, response format, and overall scale.

All expert feedback was compiled into a single document and reviewed. Specific items

and scale components were revised to integrate expert feedback where appropriate, per DeVellis'

(2017) recommendations. What follow are examples of how expert feedback were incorporated

to refine the proposed OBCT scales.

Body Surveillance. Items of the proposed Body Surveillance construct were generally

well-received, with scores on the three measured variables ranging from 3 ("fair") to 5

("excellent"): clarity ($M = 4.4$, $SD = 0.6$), content ($M = 4.3$, $SD = 0.6$), and cultural

appropriateness ($M = 4.3$, $SD = 0.6$).

One reviewer suggested that reverse coded items be minimized in order to prevent respondent error. Five items were edited to eliminate reverse coding where possible in the scale. One reviewer expressed concern about the ambiguity of the operative term "feels" in the item "I think more about how my body feels than how well it blends in with other people." This item was removed. One reviewer noted several double-barreled items in the scale, which were edited or removed from the final pool.

Two reviewers thoughtfully explained that some nonbinary individuals may experience pride if they are identifiable as trans but may, in turn, have legitimate personal safety concerns. For those individuals, the act of body surveillance may have a different quality than the construct of interest. In this vein, one reviewer suggested improving the precision of certain items by replacing "make me stand out" with "make me a target." This latter suggestion was ultimately not integrated because it introduces construct-irrelevant variance related to surveillance for personal safety. The phrase "make me stand out" was redacted from items whenever possible such that the content of the item did not drastically change. For example, the item, "I often worry that my clothes highlight parts of my body that will make me stand out as trans" was changed to, "I often think about how my clothes highlight certain parts of my body."

Items pertaining to social media use received mixed reviews. These items were strongly supported during item generation meetings and focus groups, but some content experts expressed dissatisfaction with items referencing social media use. For example, one reviewer asked whether a "not applicable" option would be available on relevant items for respondents who do not use social media. Another reviewer suggested that an item about posting photographs to social media be more specifically related to the cisgender gaze. This reviewer offered the example that some people "only post content on social media to trans-specific groups" and posed

that the response meaning could differ depending on specific social media audience. While these concerns are certainly valid, items pertaining to social media were ultimately retained at this stage. The Pew Research Center (2019) estimates that 72 percent of Americans use at least one social media website, with rates as high as 90 percent among people 18-29 years of age. Although rates of social media use are unknown for TNG people specifically, mounting evidence suggests that social media is a uniquely important source of information, social support, and identity navigation for this population (Blotner, & Rajunov, 2018; Cannon et al., 2017; Marciano, 2014).

Regarding a reviewer's comments about whether social media item responses would differ depending on engagement in cisgender- versus TNG-specific social media spaces, I contend that the cisgender gaze would theoretically be present in both spaces. That is, the internalization of cisnormative body standards would not necessarily disappear in TNG-specific social media spaces and may in fact be greater in certain binary transgender circles. For example, there are numerous private Facebook groups catered to binary transgender individuals seeking to "pass" as their gender identity; these groups would likely espouse different gender presentation philosophies than the multitude of other Facebook groups catering to trans individuals whose gender expression is intentionally nonconforming.

Overall, reviewers indicated that the clarity, content, and cultural appropriateness of items on the Body Surveillance scale was sufficient. When asked to provide general feedback about the scale, reviewers reported that the wording was appropriate for the majority of items and offered several suggestions. One reviewer asserted that items were redundant and suggested that overtly similar items be removed; this feedback was not incorporated in the final pool of items because the redundant items captured similar ideas relevant to the latent construct but

employed markedly different wording, which offers what DeVellis (2017) terms "useful redundancy" (p. 107). One reviewer suggested that certain items including the phrase "blend in with cisgender people" be altered to instead state "compare my body with others." This feedback was particularly helpful because it increases the specificity of the item content reflecting the latent construct. Additionally, in conjunction with feedback from other reviewers, this phrasing change increases the applicability of the item to nonbinary respondents for whom blending in with cisgender individuals may not be desired.

Another reviewer questioned the appropriateness of items inquiring about how respondents relate to their bodies using mirrors. This reviewer explained that many TNG people with whom they work in a clinical environment adamantly avoid seeing their reflection in mirrors. Given the high rates of gender dysphoria in the TNG population and therefore possibly elevated rates of mirror avoidance, items about seeing one's body reflected in a mirror or window were removed. Ultimately, 26 of the 36 potential Body Surveillance scale items were altered and/or retained.

Body Shame. Items pertaining to the proposed Body Shame construct were generally approved by expert reviewers, with scores on the three measured variables ranging from 3 ("fair") to 5 ("excellent"): clarity ($M = 4.3$, $SD = 0.6$), content ($M = 4.4$, $SD = 0.6$), and cultural appropriateness ($M = 4.3$, $SD = 0.6$). One reviewer suggested that several items on the Body Shame scale be reworded to be "less extreme" and increase the likelihood of affirmative responses; this feedback was incorporated wherever possible. Another reviewer recommended that the phrase "get dressed for the day" be changed to reduce item interpretation errors; this phrase was revised to read, "get ready for the day." Finally, two reviewers shared dissatisfaction with the reverse-coded item, "I feel good about myself even when I have a bad hair day." One

reviewer questioned the item's relevance to bald respondents and another reviewer requested that the item specifically indicate scalp hair and/or body hair. This item was removed from the item pool.

Several reviewers noted dissatisfaction with the reverse-coded Body Shame scale item, "I feel good about myself when others are confused about my gender." One reviewer questioned whether anyone would respond affirmatively to this item. Another reviewer recommended that this item be discarded due to concerns about its psychometric performance, given that nonbinary respondents may experience pride when others are confused by their gender. This item was removed from the item pool after careful deliberation. Although an affirmative response would theoretically indicate relatively less body shame due to lower levels of internalized cisnormative body standards, there may be differential item functioning between binary and nonbinary respondents which introduces construct-irrelevant variance (Messick, 1995). Ultimately, 19 of the 21 potential Shame scale items were altered and/or retained.

Appearance Control Beliefs. Items pertaining to the proposed Appearance Control Beliefs construct also were generally positively reviewed, yielding ratings from 3 ("fair") to 5 ("excellent"): clarity ($M = 4.2$, $SD = 0.6$), content ($M = 4.3$, $SD = 0.6$), and cultural appropriateness ($M = 4.3$, $SD = 0.6$). Reviewers did, however, disapprove of items referencing biology, genes, and specific body parts due to their complicated relationships to access to gender affirming resources. These items were removed from the pool in order to minimize potentially confounding variables.

One reviewer wondered whether the scale would be "more aligned with gender essentialist (and transphobic) views than appearance control, per se." While this is certainly a valid critique, it is important to remember that the construct is hypothesized to measure the belief

that one is both capable of and responsible for controlling one's appearance to conform to the

expectations of the cisgender gaze. Indeed, the scale is designed to capture the belief that one is

both capable of and responsible for meeting cisnormative (i.e., gender essentialist) body

standards. Thus, this reviewer's comment highlights the complexity of the latent construct. The

items pertinent to this construct were introduced with novel instructions indicating that

participants should respond as if access to gender affirming resources was universal.

OBCT61 Scale. Feedback from focus group participants and content experts about the

proposed OBCT scale items was used to reduce the pool of potential items for the scales. The 89

items presented to content experts were reduced to 61 items, yielding the OBCT61 scale (Table

1). The OBCT61 items were hypothesized to reflect the following constructs: Body Surveillance

(25 items), Body Shame (17 items), and Appearance Control Beliefs (19 items).

Table 1
OBCT61 Items

Number	Scale	Content
1.	Sur	When I pick my outfit for the day, I think a lot about what people might say.
2.	Sur	I often think about whether aspects of my body make me stick out as trans.
3.	Sur	I think a lot about whether my clothes fit me right.
4.	Sur	When I pick my outfit for the day, I think a lot about whether people will stare.
5.	Sur	I often compare my appearance to how other people look.
6.	Sur	I think it is important to wear clothes that hide aspects of my body that I dislike.
7.	Sur	When I see photos of other people, I compare my body to theirs.
8.	Sur	I think more about what my body can do than how it looks
9.	Sur	I often think about where my clothes cling to my body.
10.	Sur	I frequently check to see if my body looks right.
11.	Sur	I spend a good deal of time editing photos of myself before posting to social media
12.	Sur	It is more important that my clothes align with my gender than whether they help me blend in with cisgender people
13.	Sur	I often think about aspects of my body that I dislike.
14.	Sur	It's important to me that my clothes make my body look good.
15.	Sur	I often think about whether people can tell I am trans.
16.	Sur	I think a lot about my body shape.
17.	Sur	I frequently check social media to see how people react to photos of me

18.	Sur	I often think about how my clothes accentuate certain parts of my body.
19.	Sur	When I get dressed in the morning, I think a lot about how others will perceive my gender.
20.	Sur	I often wonder about whether people are staring at me.
21.	Sur	I think it is important to wear clothes that hide aspects of my body that make me stick out as trans.
22.	Sur	It's important to me that my clothes align with my gender
23.	Sur	I often think about how others perceive my gender.
24.	Sur	I often compare my body to other people's bodies.
25.	Sur	I often think about how I look.
26.	Sha	I feel good about myself when I see my facial features
27.	Sha	Seeing an unflattering photo of myself would really bother me.
28.	Sha	I feel ashamed of myself when I haven't made the effort to look like my best.
29.	Sha	I worry that something is wrong with me when I am misgendered.
30.	Sha	I would feel fine if people saw me before I get ready for my day.
31.	Sha	I feel bad about myself when I haven't made the effort to look like my gender (examples: trans man, trans woman, nonbinary, etc.).
32.	Sha	I feel embarrassed to be seen when I don't look as good as I could.
33.	Sha	When I view videos of myself, I usually feel embarrassed about my body.
34.	Sha	Even when I don't look my best, I can still have a good day.
35.	Sha	When I see myself naked, I get in a bad mood.
36.	Sha	I feel ashamed when people misperceive my gender.
37.	Sha	It is important that I make the effort to look my best each day.
38.	Sha	Even when I cannot control how people perceive my gender, I think I am a good person
39.	Sha	When I am with others, I try to hide aspects of my body that I dislike.
40.	Sha	I feel good about myself when I see my body shape
41.	Sha	I usually try to hide aspects of my body when being photographed
42.	Sha	I often regret posting photos of myself to social media
43.	Con	Trans people should work hard to blend in with cisgender people.
44.	Con	I can make my body look good I want if I work hard enough.
45.	Con	A person does not have much control over how their gender appears
46.	Con	Others would perceive me as my gender (examples: trans woman, trans man, nonbinary, etc.) if I tried hard enough.
47.	Con	Trans people should work hard to look like their gender (examples: trans woman, trans man, nonbinary, etc.)
48.	Con	If I could only put more time and energy in, there are certain things I would change about my body
49.	Con	It is important that trans people put in the effort to look like their gender (examples: trans woman, trans man, nonbinary, etc.).
50.	Con	Trans people should wear clothes that clearly match their gender (examples: trans woman, trans man, nonbinary, etc.).
51.	Con	There are aspects of my body I will never be able to change
52.	Con	Trans people should seek medical interventions to look more like their gender (examples: trans woman, trans man, nonbinary, etc.).
53.	Con	If trans people want to look good, they should watch what they eat.

54.	Con	A person really does not have much control over how their body looks
55.	Con	It doesn't matter how hard I try to change my muscle mass, it's probably always going to be about the same.
56.	Con	The shape of your body depends a lot on how much you work out.
57.	Con	A person can get the body they want if they put in the effort.
58.	Con	It is important that I try to change where fat shows up on my body.
59.	Con	The shape of your body depends mostly on how much work you put into it.
60.	Con	It doesn't matter how hard someone tries to change their body, it's probably always going to be about the same
61.	Con	A person can be perceived as their gender (examples: trans woman, trans man, nonbinary, etc.) if they are willing to work at it.

Note. Sur = Body Surveillance; Sha = Body Shame; Con = Appearance Control Beliefs.

Step 5: Determine Whether to Include Validation Items

DeVellis (2017) cautioned that careful planning for validity at the outset of the scale development process is essential to psychometrically sound outcomes. Validation items are those that aid in interpretation of item responses. Two forms of forethought pertaining to scale validity are especially pertinent.

First, DeVellis (2017) proposed that researchers include a measure of social desirability in order to assess the degree to which scale respondents wish to be viewed positively by others, which may bias their responses. Each item of the proposed scale may then be assessed for its correlation with the social desirability measure, with strong positive correlating items carefully examined and potentially discarded. The inclusion of this type of validation measure is theorized aid the researcher in determining whether particular items are susceptible to respondent bias.

However, other measurement development scholars argue that popular measures of social desirability conflate distinct aspects of socially desirable responding—namely, impression management and self-deception. In a review of the subject, Tracey (2016) noted that the inclusion of a socially desirable responding measure is warranted only when it is expected in the context of the assessment, when it conceptually relates to the assessment content, and when it

serves the purpose of identifying individuals on the basis of their responses. In light of the shortcomings of social desirability measures, this study did not include such a measure.

Second, DeVellis (2017) argued that researchers should give careful thought to the construct validity of the scale during its initial (i.e., preliminary) administration. The inclusion of established instruments that are designed to measure similar latent constructs would support the convergent validity of the proposed scale if positive moderate to strong correlations exist between the two. Conversely, the inclusion of established instruments that are designed to measure dissimilar latent constructs would support the discriminant validity of the proposed scale if moderate to strong negative correlations exist between the two. Researchers who include these measures of convergent and discriminant construct validity during the initial administration of the proposed scale gain insight to how the scale does or does not measure the construct of interest as expected. Failing to assess construct validity at this stage may prove troublesome in the long run (DeVellis, 2017).

Measures to assess convergent, discriminant, and content validity are described below. Wherever possible and without sacrificing reliability, shortened forms of measures were used to reduce participant fatigue and attrition.

Study 1 Measures

Study 1 participants were asked to complete measures online via a Qualtrics survey. Measures completed in Study 1 included: a) screening questions to determine eligibility as relates to age (i.e., >17 years) and gender identity (i.e., TNG); b) proposed items for the OBCT scales; c) Body Esteem Scale for Adolescents and Adults (BESAA) Appearance subscale; d) Body Consciousness Questionnaire (BCQ); e) Gender Minority Stress and Resilience (GMSR) measure; f) Positive and Negative Affect Schedule (PANAS-SF); g) Locus of Control of

Behavior scale (LoC); h) an Inventory of Interest in Steps to Affirm Gender that was developed

for the purposes of this study; and i) demographics. Following Tracey's (2016)

recommendations, a measure of socially desirable responding was not included as it is not

expected to covary with other variables of interest. What follows is a detailed description of the

measures administered.

Screening Questions

Participants were asked two screening questions to determine their eligibility (Appendix

B). First, they were asked to provide their age. Respondents under the age of 18 years were

redirected to a page with a statement that thanked them for their participation, but indicated they

were ineligible to participate. Second, respondents were asked whether their gender identity falls

under the TNG umbrella. Respondents who endorsed a cisgender identity were redirected to a

page with a statement that thanks them for their participation but indicated their ineligibility to

participate.

Sample of Proposed Items of the OBCT Scales

It was hypothesized that the OBCT would be comprised of three independent scales

assessing aspects of TNG individuals' experience of objectified body consciousness: the act of

monitoring one's body as an outside observer in order to conform to the expectations of the

cisgender gaze (i.e., Surveillance); the experience of feeling shame toward one's body because it

does not conform to the expectations of the cisgender gaze (i.e., Body Shame); and the belief that

one is both capable of and responsible for controlling one's appearance to conform to the

expectations of the cisgender gaze (i.e., Appearance Control Beliefs). The scales were

comprised of item statements to which respondents answer on a 5-point slider-format Likert

scale, ranging from 1 to 5 (1 = "Disagree"; 2 = "Slightly disagree"; 3 = "Neither agree nor

disagree"; 4 = "Slightly agree"; 5 = "Agree"). Some items were reverse scored depending on

content. Higher scores indicated greater endorsement of the scale construct. Sample items of the

OBCT Surveillance scale include "I think more about how my body feels than how my body

looks", "During the day, I often think about how other people are reading my gender", and "I

often worry about whether the clothes I wear make me look like my gender". Sample items of

the OBCT Body Shame scale include "When I see my facial features in the mirror, I question

whether I am a good enough person", "When I hear recordings of my voice, I think I am an okay

person", and "I would be ashamed for people to know my sex assigned at birth". Sample items

of the OBCT Appearance Control Beliefs scale include "I really don't have much control over

how my gender appears", "I think a person's body is mostly determined by biology", and "The

shape of your body depends mostly on how much you work out."

Body Consciousness Questionnaire

The Body Consciousness Questionnaire (BCQ; Miller, Murphy, & Buss, 1981) is an

instrument assessing one's body experience within public and private domains. The instrument

presents a series of statement items to which respondents answer on a 5-point Likert scale,

ranging from 0 ("Extremely uncharacteristic") to 4 ("Extremely characteristic"). Higher scores

indicate greater endorsement of the construct.

Two scales of the BCQ are of interest for this study. First, the private body

consciousness scale is designed to measure one's awareness of internal sensations (Appendix C).

Second, the public body consciousness scale is designed to measure one's awareness of

observable aspects of the body (Appendix D). Sample items of the 5-item private body

consciousness scale include: "I know immediately when my mouth or throat gets dry" and "I can

often feel my heart beating". High scores on the private body consciousness scale indicate a

dispositional tendency to attend to internal body sensations. Sample items of the 7-item public body consciousness scale include: "I am very aware of my best and worst facial features" and "I like to make sure that my hair looks right." High scores on the public body consciousness scale indicate a dispositional tendency to be fixated on the body's appearance. The private and public consciousness scales have demonstrated good test-retest reliability (.69 and .73, respectively) (Miller et al., 1981). One unpublished dissertation administered the BCQ to TNG individuals, but reliability and validity coefficients were not reported (Factor, 2006).

Positive and Negative Affect Schedule

The Positive and Negative Affect Schedule (PANAS-SF; D. Watson, Clark, & Tellegen, 1988) is a 20-item measure of mood (Appendix E). The PANAS-SF is comprised of two 10-item subscales: positive affect (PA) and negative affect (NA). Respondents are asked to report how often they have felt a particular affective state over a specific time period. They provide answers on a 5-point Likert scale ranging from 1 ("very slightly or not at all") to 5 ("extremely"). Sample items of the PA subscale include: "interested", "enthusiastic", and "excited". Sample items of the NA subscale include: "irritable", "upset", and "afraid". The PA and NA subscales have demonstrated strong internal consistency ($\alpha = .87$ and $\alpha = .87$, respectively), as well as moderate test-retest reliability after an 8-week timespan ($r = 0.47$ and $r = 0.47$, respectively) among cisgender adults (D. Watson et al., 1988).   Strong internal consistency has also been found among TNG respondents for the PA subscale ($\alpha = .95$) and the NA subscale ($\alpha = .91$) (Defreyne et al., 2019).

Body Esteem Scale for Adolescents and Adults

The Body Esteem Scale for Adolescents and Adults (BESAA; Mendelson, Mendelson, & White, 2001) is an instrument designed to measure self-evaluations of one's body and

appearance (Appendix F). The instrument is comprised of three subscales that may be

administered independently: Appearance (general feelings about appearance), Weight (weight

satisfaction), and Attribution (evaluations attributed to others about one's body and appearance).

Respondents answer statement items on a 5-point Likert scale ranging from 0 ("never") to 4

("always"). For the purposes of this study, only the Appearance subscale was be used.

The Appearance subscale contains 10 items. Sample items include: "I like what I see

when I look in the mirror" and "I like what I look like in pictures". The Appearance subscale of

the BESAA demonstrates high internal consistency, with Cronbach's alphas of .92 among

cisgender adults (Mendelson et al., 2001). In the same study, the subscale demonstrated strong

test-rest reliability after a three-month timespan. Test-retest Pearson *r* correlations for the

Appearance subscale was .89 (Mendelson et al., 2001). The BESAA Appearance subscale also

demonstrates good internal consistency among transgender adolescents and young adults.

Within this population it has yielded a Cronbach's alpha of .85 (Grossman & D'Augelli, 2007).

Locus of Control of Behavior Scale

The Locus of Control of Behavior Scale (LCB; Craig, Franklin, & Andrews, 1984) is a

17-item scale designed to measure the degree to which one believes they have influence over

their own behavior (Appendix G). Respondents answer to statement items on a 6-point Likert

scale ranging from 0 ("strongly disagree") to 5 ("strongly agree"). High scores reflect a high

degree of externality (i.e., external locus of control), indicating that the respondent believes their

behavior is outside of their control. Low scores reflect a low degree of externality (i.e., internal

locus of control), indicating that the respondent believes their behavior is within their scope of

control. The LCB demonstrated high test-retest reliability after a one-week time period (Pearson

$r = .90$) and acceptable internal consistency ($\alpha = .79$) (Craig et al., 1984). The LCB has not been validated with TNG individuals.

Gender Minority Stress and Resilience Measure

The Gender Minority Stress and Resilience (GMSR; Testa, Habarth, Peta, Balsam, & Bockting, 2015) measure is a 58-item measure comprised of nine scales that are designed to measure gender minority stress and resilience (Appendix I). Four scales of the GMSR measure correspond to distal gender minority stress: Gender-Related Discrimination, Gender-Related Rejection, Gender-Related Victimization, and Non-Affirmation of Gender Identity. These subscales have demonstrated variable reliability, with Cronbach's alpha values of .61, .71, .77, and .93, respectively (Testa et al., 2015). Three scales of the GMSR measure correspond to proximal gender minority stress: Internalized Transphobia, Negative Expectations for Future Events, and Nondisclosure. These scales have demonstrated good reliability, with Cronbach's alpha values of .91, .89, and .80, respectively (Testa et al., 2015). Two scales of the GMSR measure correspond to resilience: Community Connectedness and Pride. The latter of those scales has demonstrated good reliability, with an alpha value of .90 (Testa et al., 2015).   The GMSR subscales of primary interest for this project are Internalized Transphobia, Pride, and Community Connectedness.

The Internalized Transphobia scale of the GMSR measure is an 8-item measure of experiencing shame towards one's TNG identity. Respondents use a 5-item Likert scale to report the degree to which they agree with an item statement (1 = *strongly disagree, 5 = strongly agree)*. Sample items include: "My gender identity or expression makes me feel like a freak" and "I often ask myself: Why can't my gender identity or expression just be normal?" The scale

has demonstrated strong internal consistency (α = .89) with binary and nonbinary TNG

respondents (Testa et al., 2015).

The Pride scale of the GMSR is an 8-item measure of pride toward one's TNG identity.

Respondents use a 5-item Likert scale to report the degree to which they agree with an item

statement (1 = *strongly disagree, 5 = strongly agree)*. Sample items include: "It is a gift that my

gender identity or expression is different from my sex assigned at birth" and "My gender identity

or expression makes me feel special and unique". The Pride scale has demonstrated strong

internal consistency among TNG respondents (α = .88) (Testa et al., 2015).

The Community Connectedness scale of the GMSR is a 5-item measure of affiliation

with other TNG individuals. Respondents use a 5-item Likert scale to report the degree to which

they agree with an item statement (1 = *strongly disagree, 5 = strongly agree)*. Sample items

include: "I feel part of a community who share my gender identity" and "I feel connected to

other people who share my gender identity". The reliability of the Community Connectedness

scale has not been reported in the available literature.

Inventory of Interest in Steps to Affirm Gender

Participants were asked to complete an inventory of their interest in particular gender-

affirming activities (Appendix J). The inventory was created for the purpose of this dissertation.

These activities are presented as items to which responses are made on a 4-point Likert scale (0 =

"no interest", 1 = "want to access", 2 = "currently access", 3 = "have accessed in the past").

Gender-affirming activities are divided into medical and appearance types. Sample items in the

medical category include: "Voice therapy" and "Top surgery". Sample items in the appearance

category include: "Change hair style" and "Chest binding". Respondent answers to these

questions were used to assess whether interest in steps to affirm gender is associated with control

beliefs. Responses to the Inventory of Interest in Steps to Affirm Gender were recoded such that "No interest" became "0," "Maybe interested" became "1," and all other responses indicating current or past interest became "2."

Demographics

Participants were asked to provide the following demographic information: age, racial/ethnic identities, disability status, subjective social status, education level, income level, state in which they reside, type of community in which they live (i.e., rural, suburban, urban), gender identity, sex assigned at birth, intersex status, and sexual identity (Appendix N). Participants' reported gender identity were categorized into one of three labels for analysis purposes: binary woman, binary man, and nonbinary. For example, respondents who endorse androgynous, gender neutral, nonbinary, pangender, bigender, genderqueer, or genderfluid were categorized as non-binary. With the exception of subjective social status, all demographic questions were generated for the purposes of this study. Subjective social status was measured using the Subjective Social Status Scale (Adler, Epel, Castellazzo, & Ickovics, 2000; Ostrove, Adler, Kuppermann, & Washington, 2000). The SSS is a single-item measure that assesses an individual's perceived social status. Respondents rate their subjective social status compared to all others in society on 10-point Likert scale (1 = "the people who are worst off"; 10 = "the people who are best off") using an image of a ladder with 10 rungs. The SSS has demonstrated adequate test-retest reliability (ρ = -.62, p < 0.01) and predictive validity with regards to various health outcomes (Operario, Adler, & Williams, 2004).

Hypothesized Relationships Between Study 1 Measures

What follows is a description of the methods of testing the Study 1 hypotheses that are outlined in Chapter 2 of this document.

H1) Surveillance will be associated with attention to how one appears to others but not attention to one's internal feelings. Scores on the OBCT Surveillance scale will be compared to scores on the BCQ scales. It is hypothesized that scores on the OBCT Surveillance scale will demonstrate a moderate-to-strong positive correlation with scores on the Public Body Consciousness scale of the BCQ, indicating convergent validity. It is hypothesized that scores on the OBCT will be minimally correlated with the Private Body Consciousness scale of the BCQ, indicating discriminant validity.

H2) Shame will be associated with greater internalized transphobia, reflecting internalization of the cisgender gaze. Scores on the OBCT Shame scale will be compared to scores on the GMSR-Internalized Transphobia scale. It is hypothesized that the two scales will demonstrate a moderate-to-strong positive correlation, indicating convergent validity.

H3) Shame will be associated with negative attitudes toward one's appearance. Scores on the OBCT Shame scale will be compared to scores on the BESAA-Appearance scale. It is hypothesized that the two scales will demonstrate a moderate-to-strong negative correlation, indicating convergent validity.

H4) Shame will be weakly-to-moderately associated with general negative affect. Scores on the OBCT Shame scale are hypothesized to demonstrate a weak-to-moderate positive correlation with scores on the PANAS-Negative Affect subscale, indicating discriminant validity. Because TNG individuals have disproportionately high rates of psychological distress, this would provide support for the notion that shame toward one's body is not a reflection of overall negative affect but is in fact a unique type of negative affect.

H5) Appearance control beliefs will distinguish people who are interested in changing their appearance to affirm their gender identity. Responses on the Inventory of Interest in Steps

to Affirm Gender will be partitioned into two groups according to whether or not there is interest in affirming gender through changing one's appearance. A one-way ANOVA test will be conducted to determine whether interest in affirming one's gender through changing outward appearance distinguishes scores on the OBCT Appearance Control Beliefs scale. If significant, this would offer further support for convergent validity of the OBCT Appearance Control Beliefs scale.

H6) Appearance control beliefs will be associated with internal locus of control but not general positive affect. Scores on the OBCT Appearance Control Beliefs scale will be compared to scores on LCB scale as well as the PANAS-Positive Affect subscale. It is hypothesized that the OBCT Appearance Control Beliefs scale will demonstrate a moderate-to-strong positive correlation with the LCB scale, indicating convergent validity. A weak-to-moderate correlation between the OBCT Appearance Control Beliefs scale is hypothesized with the PANAS-Positive Affect subscale, indicating discriminant validity.

H7) Moderate-to-strong positive correlations will exist between total scores of individual OBCT scales and related constructs, and weak correlations will exist with unrelated constructs, reflecting accurate predictions of the relationship between OBCT theoretical constructs and validated constructs, thereby providing quantitative evidence for content validity (Westen & Rosenthal, 2003).

Study 2 Measures

Measures completed in Study 2 included screening questions and: a) refined OBCT scales; b) Body Esteem Scale for Adolescents and Adults (BESAA) Attribution subscale; c) Gender Minority Stress and Resilience (GMSR) measure; d) modified Idiographic Self-Concept Questionnaire—Personal Constructs (SCQ-PC); e) an Inventory of Interest in Steps to Affirm

Gender that was developed for the purposes of this study; and f) demographics. What follows is a detailed description of the measures administered.

OBCT Scales

Participants completed the refined OBCT scales that were developed in Study 1. Information about these scales is presented earlier in this document, in the *Measures* section of Study 1.

Body Esteem Scale for Adolescents and Adults

The Body Esteem Scale for Adolescents and Adults (BESAA; Mendelson et al., 2001) is an instrument designed to measure self-evaluations of one's body and appearance (Appendix F). Information about the BESAA is presented earlier in this document, in the *Study 1 Measures* section of this document. For the purposes of Study 2, only scores on the Attribution subscale are of interest.

The BESAA Attribution subscale contains five items. Sample items include: "Other people consider me good looking" and "I think my appearance would help me get a job." It has demonstrated high internal consistency, with Cronbach's alphas of .81 among cisgender adults (Mendelson et al., 2001). In the same study, it demonstrated strong test-rest reliability after a three-month timespan. Test-retest Pearson *r* correlations for the attribution subscale was .83 (Mendelson et al., 2001). The BESAA Attribution subscale has also demonstrated good internal consistency among transgender adolescents and young adults. Within this population, the it yielded a Cronbach's alphas of .79 (Grossman & D'Augelli, 2007).

Gender Minority Stress and Resilience Measure

The Gender Minority Stress and Resilience (GMSR; Testa et al., 2015) measure is described in greater detail in the *Study 1 Measures* section of this document.

Modified Idiographic Self-Concept Questionnaire—Personal Constructs

The Idiographic Self-Concept Questionnaire—Personal Constructs (SCQ-PC; N. Watson, Bryan, & Thrash, 2010) is designed to measure discrepancies between the actual-self, ideal-self, and ought-self of respondents according to Higgins' (1987) theory of self-discrepancy (Appendix H). The instrument offers considerable utility as a measure of self-concept because each item is personalized according to the individual respondent's self-concept values. Respondents are asked to list eighteen characteristics equally divided into three selves: the actual-self ("yourself as YOU see yourself in your own eyes"), the ideal-self ("yourself as YOU would like to be in your own eyes"), and the ought-self ("yourself as OTHERS think you ought or should be"). These personalized characteristics are then randomly presented to the respondent, who is prompted to list the opposite of each characteristic. The resulting list of 36 characteristics represents the respondent's 18 characteristics of each self-component, and their corresponding 18 opposite characteristics as determined by the respondent. The list of 36 respondent-defined characteristics is randomly presented and the respondent rates each on a Likert scale ranging from 1 (never or almost never true) to 7 (always or almost always true) corresponding to the previously-defined terms of actual-self, ideal-self, and ought-self.

The SCQ-PC provides two scores: the Real-Ideal discrepancy (PC-RI) and the Real-Ought discrepancy (PC-RO). PC-RI scores are determined by computing the absolute difference between the respondent's real-self rating and ideal-self rating for each of the 12 characteristics of the real-self and for each of the 12 characteristics of the ideal-self. The mean of the 24 absolute difference scores yields the PC-RI score, which reflects the magnitude of discrepancy between the respondent's real-self rating and the ideal-self rating, irrespective of direction. Similarly, PC-RO scores are determined by computing the absolute difference between the respondent's real-

self rating and ought-self rating for each of the 12 characteristics of the real-self and for each of the 12 characteristics of the ought-self. The mean of the 24 absolute difference scores yields the PC-RO score, which reflects the magnitude of discrepancy between the respondent's real-self rating and the ought-self rating, irrespective of direction. Higher scores correspond to higher levels of self-discrepancy between the real-self and ideal-self (PC-RI), and the real-self and ought-self (PC-RO). Past research has established strong internal consistency of the PC-RI (α = .91 - .92) and PC-RO (α = .90 - .91) scores at two time points, with moderately strong test-retest reliability values (.72 - .74) across a three-year timespan (Watson et al., 2016).

Respondents to the SCQ-PC are instructed to listed characteristics that describe how they actually are ("real self"), how they wish to be ("ideal self"), and how they perceive others think they should be ("ought self"). Instructions for providing individualized characteristics are intentionally vague, as the qualitative features of each characteristic are irrelevant to the final quantitative self-discrepancy value. For the purposes of this study, however, the SCQ-PC was adapted to focus on characteristics of the body. Respondents were asked to list characteristics that describe how their body actually is ("real self"), how they wish their body to be ("ideal self"), and how they perceive others think their body should be ("ought self"). This modification of the original measure did not influence the quantitative self-discrepancy values (PC-RO, PC-RI), but did narrow focus of responses to body characteristics.

Inventory of Interest in Steps to Affirm Gender

Participants were asked to complete the Inventory of Interest in Steps to Affirm Gender. This inventory was created for the purpose of this study and is described in the *Study 1 Measures* section of this document.

Hypothesized Relationships Between Study 2 Measures

What follows is a description of the methods of testing the Study 2 hypotheses that are outlined in Chapter 2 of this document.

H1) A confirmatory factor analysis will yield a three-factor structure with internal consistency, as in the original administration of the OBCT scales described in Study 1.

H2) Surveillance will be associated with preoccupation with other's opinions about one's appearance. Scores on the OBCT Surveillance scale will be compared to scores on the BESAA Attribution subscale. Moderate-to-strong negative correlation is expected, which would provide additional evidence of convergent validity.

H3) Body shame will be associated with perceptions that one's body is flawed, reflecting internalization of the cisgender gaze. Scores on the OBCT Body Shame scale will be compared to the SCQ-PC Real-Ideal Discrepancy scores. Moderate-to-strong correlations are expected, which would provide additional evidence of convergent validity.

H4) Appearance control beliefs will be associated with perceptions that one's body does not appear how it should. Scores on the OBCT Appearance Control Beliefs scale will be compared to the SCQ-PC Real-Ought Discrepancy scores. Moderate-to-strong correlations are expected, which would provide additional evidence of convergent validity.

H5) Resiliency will serve as a protective factor against body surveillance and body shame. Scores on the OBCT Surveillance scale and the OBCT Body Shame scale will be compared to scores on the GMSR-Pride scale as well as the GMSR-Community Connectedness scale. Moderate-to-strong negative correlations are expected between the aforementioned OBCT scales and the GMSR resiliency scales, which would provide additional evidence of convergent validity.

Additional Evaluation of Construct Validity in Study 2

As in Study 1, the construct validity for each OBCT scales was assessed according to Westen and Rosenthal's (2003) recommendations for computing an $r_{\text{alerting-CV}}$ coefficient. The hypothesized correlations between proposed OBCT scales and established measures administered in Study 2 may be found in Appendix M.

Step 6: Pilot the Items

Although not explicitly recommended by DeVellis (2017), the administration of the survey to a small sample allows for a final quality check (Clark & Watson, 1995). This often overlooked but crucially important step further refines the scale items for clarity, redundancy, ambiguity, and missing questions. A small sample of TNG individuals and researchers was administered the survey as a pre-test in order to assess for any detectable errors. Respondents to the pilot survey were recruited from the author's personal and professional contacts via email. Scale scores and demographic data from pilot testing were discarded.

Step 7: Administer Surveys

When the final pool of items is prepared, it should be administered to a large sample (DeVellis, 2017). Large and representative sample sizes are ideal for scale development due to greater external validity and factor-structure stability (Worthington & Whittaker, 2006), as well as reduced participant-sourced scale variance (Tabachnick & Fidell, 2001). Blanket guidelines for the number of respondents needed to establish scale validity are popular, but misleading because no two scales have the same items, factors, or respondent characteristics which interact to affect the needed sample size (Comrey, 1988; MacCallum & Tucker, 1991).

Worthington and Whittaker (2006) reviewed the statistical soundness and outcomes of a wide range of sample size recommendations, and concluded that sample sizes of at least 300 are generally sufficient, while sample sizes of 150-200 are adequate so long as other psychometric

criteria are met (e.g., minimum communalities and factor loadings within the dataset). Sample sizes under 150 may be adequate if other strict psychometric criteria is met, but sample sizes with fewer than three respondents per item are likely inadequate (Worthington & Whittaker, 2006). Notably, the challenges of recruiting hard-to-reach populations—including TNG individuals—necessitates flexibility in sample size goals (Worthington & Navarro, 2003).

Recruitment. I used the Internet to create a list of 319 TNG and LGBT community centers nationwide; these were categorized according to their location by state. This list of states corresponding to recruitment sites was subsequently ranked by estimated population size per U. S. Census data (U. S. Census Bureau, 2018). I divided the list into two such that each list was comprised of approximately equal estimated population size.

Across all studies, TNG individuals who accessed the online survey were provided informed consent about the voluntary nature of participation and the confidentiality of responses. Respondents who did not consent to participation were thanked for their interest and exited from the survey. Participants were informed that they would be eligible to enter for a drawing of monetary compensation by following a link at the end of the survey.

Study 1 Recruitment. A development sample of TNG individuals was recruited to complete a survey containing the proposed OBCT scale items, demographic data, and measures described in *Step 5* of this document. Recruitment emails (Appendix O) for Study 1 were sent to TNG and LGBT centers from one of the aforementioned lists, which was comprised of 24 states and the District of Columbia. Participants were also recruited from various social media postings (e.g., Facebook, Reddit, Instagram).

Study 2 Recruitment. A validation sample of TNG individuals was recruited to complete a survey containing the optimized OBCT scale items, demographic data, and other scale

validation measures. Recruitment emails (Appendix O) for Study 2 were sent to TNG and

LGBT centers from the second of the aforementioned lists, which was comprised of 26 states.

Participants were also recruited from various social media postings (e.g., Facebook, Reddit,

Instagram). The Study 2 survey indicated that past participation in Study 1 made one ineligible

to participate in Study 2.

A subsample of TNG respondents was recruited for a second administration of the OBCT

scale. The second administration of the OBCT scale occurred after a period of two weeks in

order to assess the stability of scores over time. Respondents who consented to a second

administration of the OBCT scales were asked to provide their email address. A link to a

Qualtrics survey containing the OBCT scales was sent to this email address two weeks after its

initial administration. Subsample respondents who completed the second administration of the

OBCT scales were eligible to enter their information again into a drawing for monetary

compensation.

Study 3 Recruitment. I originally planned to recruit cisgender individuals to complete

the OBCT scales in order to assess known-groups validity. However, this was an optional

component of the dissertation project and was not completed.

Data Analysis: Study 1

The quality of responses from the development sample of this project was assessed. Data

cleaning involved carefully examining for any blatant entry errors, responses that suggested the

respondent was not attending to item content, and outliers (Desimone, Harms, & Desimone,

2015). Because online data collection is susceptible to fraudulent responses, Miner and

colleagues' (2012) methods for detecting suspicious responses were followed. Specifically,

information such as completion time and demographic data were manually reviewed to identify

potentially fraudulent responses. Additionally, several items were included in the survey to assess the gross attention of respondents (e.g., "Please select option 3 below").

Study 1 Data Screening

Online survey responses were retrieved from Qualtrics in comma separated values (csv) spreadsheet format. Data were analyzed using R: A Language and Environment for Statistical Computing, version 3.6.3 "Holding the Windsock" (R Core Team, 2020).

The survey received 837 responses. Twenty-seven respondents did not complete screening questions and were removed, yielding 810 responses. Twenty-three respondents failed screening questions due to being legal minors ($n = 13$) or reporting a gender identity that aligned with their sex assigned at birth ($n = 10$), yielding a sample of 787 responses. Twenty respondents were removed due to not answering items beyond the screening questions. Twenty-two responses were marked as suspicious by Qualtrics software due to concerns of repeated submissions. Of the remaining 745 responses, 23 failed one or more of the three validity items interspersed throughout the survey; these were removed from the sample, yielding 722 responses.

I closely examined the remaining 722 responses for suspicious data. It was observed that 195 survey respondents reported residing in the state of Alabama, of whom 105 reported intersex condition(s). The likelihood that 105 Alabaman TNG individuals with intersex conditions responded to a survey that targeted neither people in Alabama nor people with intersex conditions was exceptionally small. Therefore, several suspicious respondents' reported ZIP codes were compared against their reported state of residence, which did not align. Rather than manually search ZIP code locations and compare to reported residential states for all 722 respondents, geocoding techniques were used in R to automate the process and minimize error.

Study 1 Geocoding. Data were geographically analyzed to screen out suspicious

participants within the remaining 722 survey responses. The R package "zipcode" (Breen, 2012)

was used to first restore leading zeroes and identify any invalid respondent ZIP code entries,

yielding a list of valid ZIP codes for each respondent. Next, this list of valid ZIP codes was

merged with U. S. CivicSpace Database of ZIP codes, a collection of 44,336 ZIP codes and

corresponding states across the nation. The resulting data included participant reported ZIP code

and residential state, and validated ZIP code (if indicated) and corresponding U. S. state. A total

of 419 survey participants reported ZIP codes that did not align with their reported residential

states. For example, many respondents who reported residing in Alabama with intersex

conditions simultaneously reported ZIP codes that were actually located in Eastpointe, Michigan.

These 419 suspicious survey respondents were removed, yielding a total of 303 survey

responses. The remaining 303 survey responses were again examined for valid ZIP codes and

alignment with reported state of residence, yielding no additional suspicious responses. The final

sample for Study 1 was 303.

Cleaning Study 1 Demographic Variables. Demographic variables were reviewed and

cleaned prior to analyses. First, variables for which participants were permitted to select multiple

options were re-coded to reflect broader categories. For example, respondents who marked two

or more racial/ethnic identities were re-coded as "Multiracial." Similarly, respondents who

marked their gender identity as "Pangender, Nonbinary, Genderqueer" were recoded as

"Nonbinary/Other" for statistical analyses purposes.

Study 1 Participant Demographics

Participants in Study 1 were 303 self-identified TNG adults. The sample ranged in age

from 18 to 72, and skewed toward young adults ($M = 29.8$, $SD = 11.1$). The majority of

participants reported being White (*n* = 181, 77.68%). Regarding gender identity, the sample was

nearly evenly divided between trans men (*n* = 63, 27.2%), trans women (*n* = 61. 26.3%), and

nonbinary/genderqueer individuals (*n* = 59, 25.4%), with the remaining participants (*n* = 49,

21.1%) reporting another identity (e.g., androgynous, butch, etc.). Most participants reported

being assigned female sex at birth (*n* = 139, 59.7%) and a small portion of the final sample

reported intersex condition(s) (*n* = 9, 3.9%). The sample was drawn from 40 U. S. states as well

as international locations, with the majority of participants (*n* = 112, 48.1%) describing their

neighborhood as suburban. Participants identified as middle class (*n* = 90, 38.6%) more than any

other class category. Reported social status on MacArthur Scale of Subjective Social Status

(2000) was normally distributed, with responses ranging from 1 to 10 (*M* = 5.8, *SD* = 1.8).

Regarding educational achievement, most participants reported a history of higher education,

with over one-half reporting some college (*n* = 62, 26.6%) or having completed a bachelor's

degree (*n* = 60, 25.8%). The specific demographic information is reported in Table 2.

Table 2
Sample demographics for Study 1 (*N* = 303)

Demographic	*n*	%	Missing *n*	Missing %
Sex Assigned at Birth			70	23.1
Female	139	59.7		
Male	94	40.3		
Gender Identity			71	23.4
Trans Woman	61	26.2		
Trans Man	63	27		
Nonbinary / Other	59	25.3		
Intersex Conditions	9	3.9	70	23.1
Sexual Orientation			70	23.1
Asexual	31	13.3		
Bisexual	74	31.8		
Gay	27	11.6		
Lesbian	32	13.7		

	Pansexual	47	20.2	
	Queer	86	36.9	
	Same Gender Loving	13	5.6	
	Straight/Heterosexual	22	9.4	
	Other	23	9.9	
Race				70	23.1
	Asian/Asian American	13	5.6	
	Black/African American	10	4.3	
	Hispanic/Latina/Latino/Latinx	17	7.3	
	Middle Eastern	4	1.7	
	Other	7	3	
	White	209	89.7	
Individual Annual Income				76	25.1
	Less than $10,000	66	29.1	
	$10,001 - $20,000	35	15.4	
	$20,001 - $30,000	38	16.7	
	$30,001 - $40,000	21	9.3	
	$40,001 - $50,000	18	7.9	
	$50,001 - $60,000	14	6.2	
	$60,001 - $70,000	8	3.5	
	$70,001 - $80,000	6	2.6	
	$80,001 - $90,000	2	0.9	
	$90,001 - $100,000	1	0.4	
	$100,001 - $150,000	10	4.4	
	Greater than $150,000	8	3.5	
Education				70	23.1
	Less than High School	3	1.3	
	High School or GED	36	15.5	
	Some College	62	26.6	
	Associates or 2-Year Degree	16	6.9	
	Bachelor's Degree	60	25.8	
	Master's Degree	34	14.6	
	Professional Degree	22	9.4	
Residential Area				71	23.4
	Rural	34	14.6	
	Suburban	112	48.1	
	Urban	86	36.9	
		_M_	_SD_	

Age	29.8	11.1	71	23.4
Social Status Ladder	5.8	1.8	70	23.1

Note. Social Status Ladder = MacArthur Scale of Subjective Social Status (2000). Some participants reported multiple sexual orientations and/or racial/ethnic identities. The table reports frequencies of each reported identity. Some participants declined to respond to all demographic items.

Recoding and Reverse Scoring Study 1 Data

The OBCT61 contained 12 items written in the negative direction (8, 12, 26, 30, 34, 38, 45, 51, 54, 55, and 60) and were reverse-coded prior to data analyses. Six items of the BESA-Appearance subscale were written in the negative direction (3, 4, 5, 6, 8, 9) and reverse-coded prior to data analyses. Seven items of the Locus of Control of Behavior scale were written in the negative direction (1, 5, 7, 8, 13, 15, 16) and reverse-coded prior to data analyses. The Discrimination scale, Rejection scale, and Violence scale of the GMSR measure were recoded per scale author instructions prior to data analyses. Responses to the Inventory of Interest in Steps to Affirm Gender were recoded such that "No interest" became "0," "Maybe interested" became "1," and all other responses indicating current or past interest became "2."

Decisions About Missing Study 1 Data

The final sample of 303 cases was examined for patterns missingness. Missing data are typically categorized as missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR) (Bland, 2015). MCAR describes outcomes whose absence is unrelated to any observed or unobserved variables. MAR describes outcomes whose absence is unrelated to the true value of the outcome but may be related to observed or unobserved variables. MNAR describes outcomes whose missingness are systematically related to the unobserved data. Additionally, patterns of missing data may be described as univariate, monotone, or arbitrary. Univariate patterns describe missing data occurring on specific variables across participants. Monotone patterns refer to missing data on variables that can be arranged to

predict subsequent missing variables; this pattern is common in long survey measures from which participants drop out at some point and therefore fail to respond to all items. Arbitrary patterns describe missing data that occur randomly.

Missing survey data yielded a monotone pattern of missingness. The majority of missing data were due to participant drop out at some point in the survey. A review of missing survey data did not reveal specific variables for which data were systematically absent for reasons other than participant drop out, excluding several items of the OBCT61 (described below). Figure 3 displays a histogram of the proportion of missing scale data among survey respondents.

Proportion of Missing Scale Items Among Survey Respondents
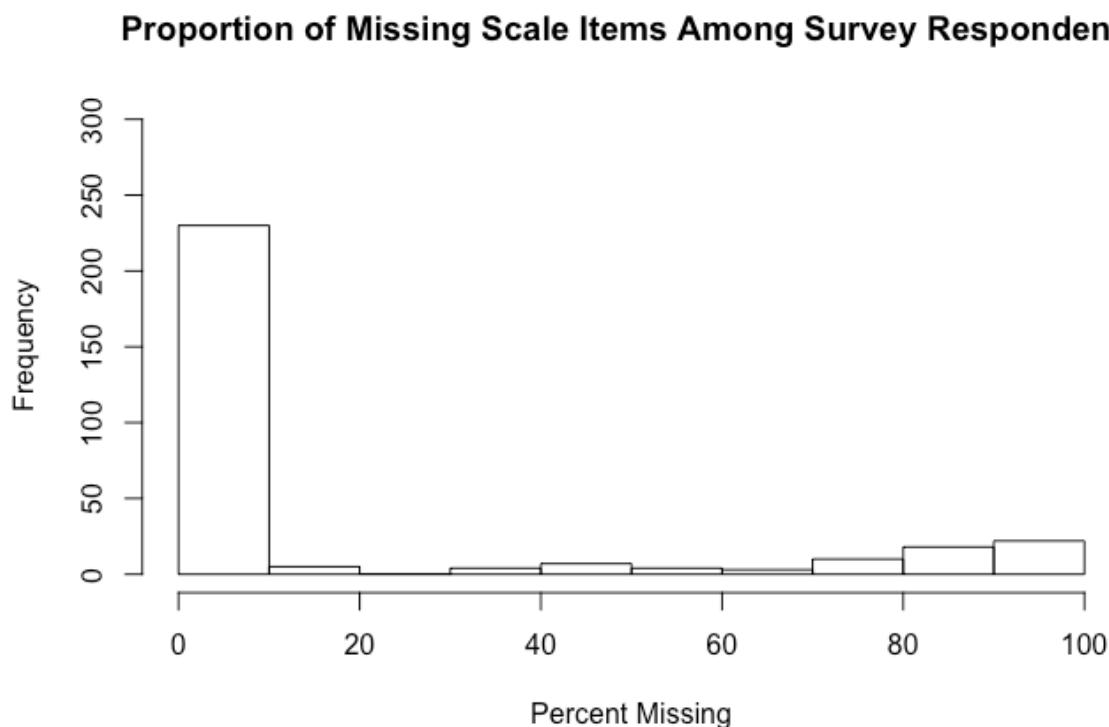
Figure 3. Proportion of missing scale items among Study 1 respondents.

Based on feedback from expert reviewers about the relevance of social media for TNG people, several items of the OBCT61 included content about social media use. However, these items frequently yielded missing data, with as many as 42.6 percent of participants not marking a

choice on the response scale. This pattern of responses suggested that items pertaining to social media use yielded MNAR data. Item 11 ("I spend a good deal of time editing photos of myself before posting to social media"), item 17 ("I frequently check social media to see how people react to photos of me"), and item 42 ("I often regret posting photos of myself to social media" of the OBCT61 permitted respondents to mark "Not Applicable" if they did not use social media. Given the high proportion of respondents who indicated that they did not use social media to share photos of themselves, items were inspected further for consideration for removal. Item 33 ("When I view videos of myself, I usually feel embarrassed about my body") was also removed from the OBCT61 given its similarity to social media content from the aforementioned items. Removal of these four items from the OBCT61 yielded the OBCT57.

Decisions About Missing OBCT57 Data. The OBCT57 data were reviewed for patterns of missingness. For the OBCT57, 16.27 percent of data were missing. However, only 69 (22.77%) participants responded to every single item. This may have been due to the slider response format that likely contributed to fatigue among participants. A histogram conveying the proportion of missing OBCT57 items for each respondent is shown in Figure 4.

Missing OBCT57 Items in Study 1
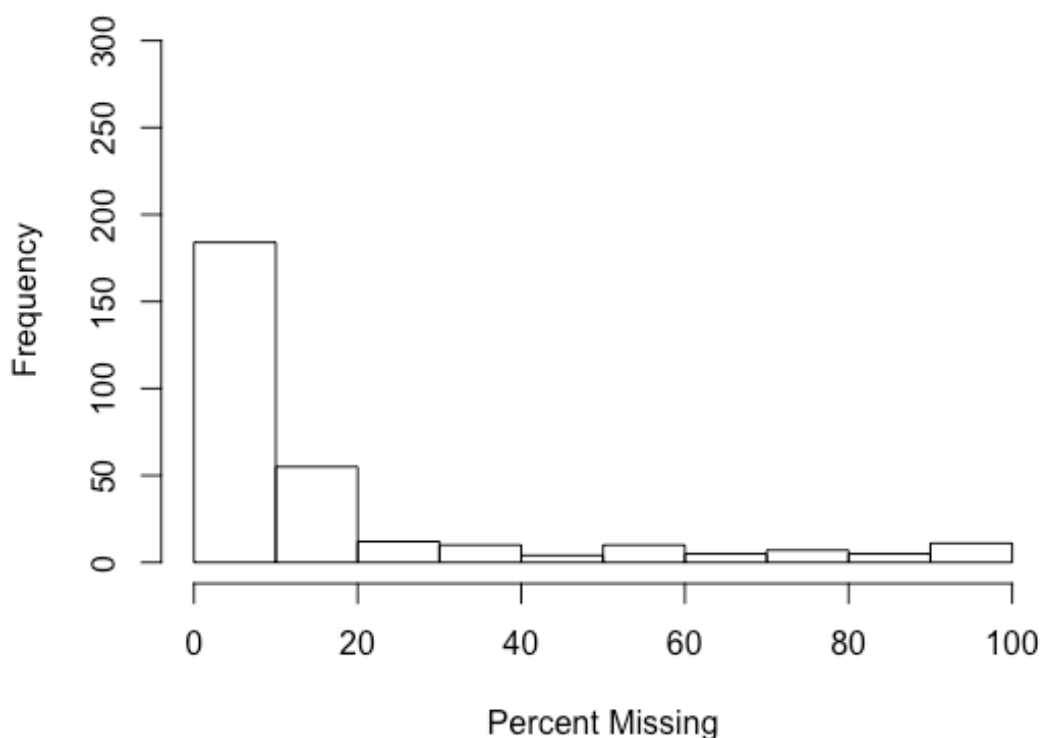
Figure 4. Proportion of missing OBCT57 items by frequency in Study 1.

Specific items of the OBCT57 were examined for patterns of missingness. Figure 5 shows the pattern of missing data in an upset plot. The figure shows that several items (items 50, 52, 57, 59, and 61) were uniformly skipped by some ($n = 49$) respondents. The content of these items was examined to better understand why these items may have been skipped by a modest proportion of respondents. These items contained content inquiring about the effort and body appearance. For example, item 59 reads, *"The shape of your body depends mostly on how much work you put into it."* These items may have been skipped by a subset of participants due to indistinction between effort and access. For instance, receiving gender affirming medical care is likely less consequential to personal effort than it is to healthcare access. Special instructions were provided to participants immediately prior to completing these items, indicating that they

should respond as if gender affirming resources were universally available to all; it is possible that some participants neglected to read these directions due to testing fatigue.
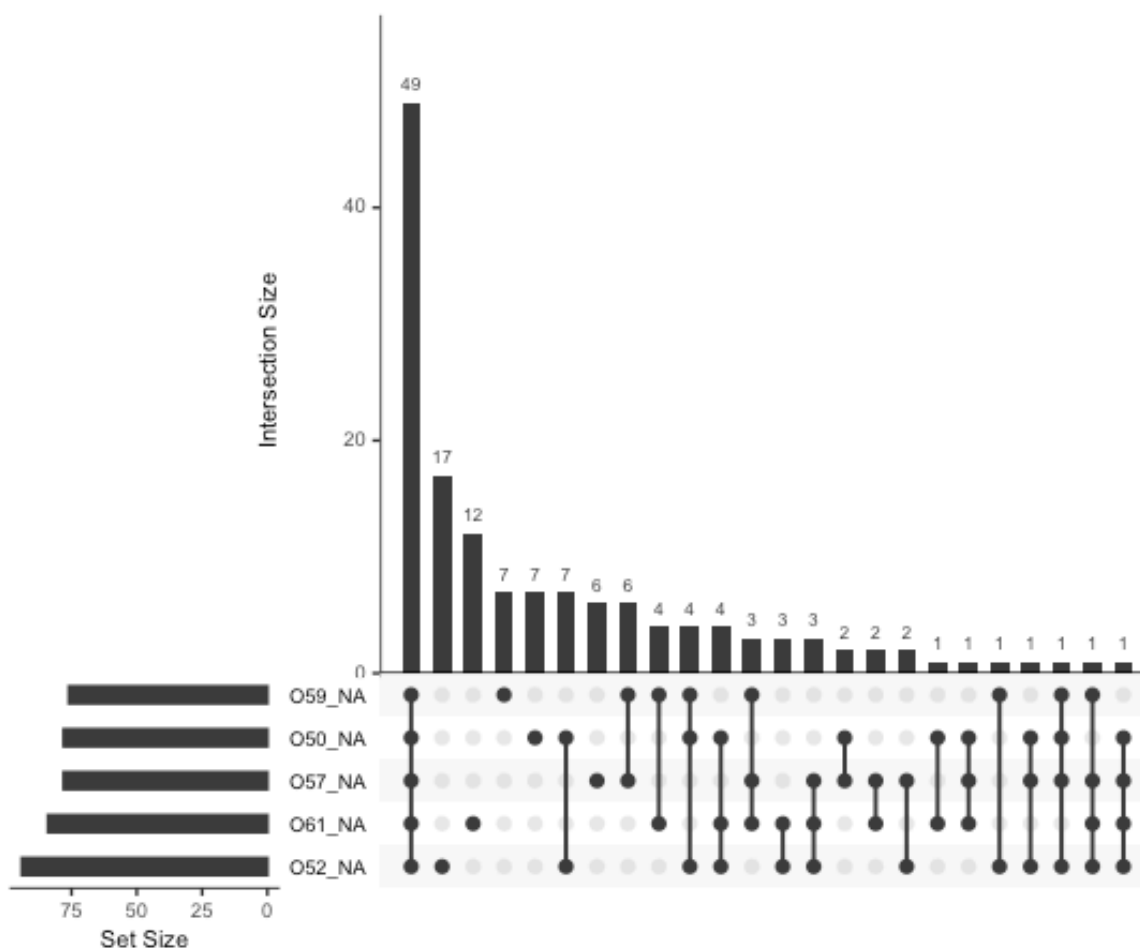
Figure 5. Upset plot showing pattern of missing data.

The R package "naniar" was used to summarize for each case the number, percent missing, and cumulative sum of missing data (Tierney et al., 2020). Summary statistics of missing data are described herein. The median number of missing items was 4 ($M = 33.51$, $SD = 57.06 = 13.9$, $N = 303$). The percent of missing items across cases ranged from 0 to 98.85, with the median percent of missing items being 2.30 ($M = 19.26$, $SD = 32.80$, $N = 303$).

A discussion with dissertation committee member William Hoyt, PhD about best practices for missing data guided decision-making process for handling missing data. Rather than

discard all incomplete cases or cases with extreme amounts of missing data, all cases ($N = 303$)

were retained. The rationale for retaining all cases is that omitting them would itself introduce

bias to the data (Dong & Peng, 2013; Gorelick, 2006).

Although pairwise or listwise deletion is a popular method of handling missing data,

these methods reduce statistical power and increase standard errors (Peng et al. 2006). Pepinsky

(2018, p. 480) noted, "This process of 'listwise deletion' is inefficient, and frequently biased

when the probability that an observation is missing is related to its true value." Multiple

imputation is a powerful alternative to case deletion that retains statistical power and

generalizability of data. Although many multiple imputation methods assume that data are MAR,

violations of this assumption tend to yield negligible differences (Collins et al. 2001). Moreover,

multiple imputation is well-suited for datasets with monotone missing data patterns (Dong &

Peng, 2013). Therefore, all cases were retained, and multiple imputation was used to estimate

plausible values for missing data.

Multiple Imputation of Missing Study 1 Data

Methods for imputing missing data are described herein. Briefly, a covariance matrix was

estimated from multiply imputed quantitative data using the R package "mifa" (Nassiri et al.,

2017). Analyses and estimates were based on the covariance matrix estimated from this process.

Nassiri and colleagues (2018) described the unique issues of using multiple imputation

methods prior to conducting factor analysis, including the difficulty determining a common

number of factors that may then be ordered across different sets of imputed data. The authors

proposed a simple solution to this problem: use multiple imputation to estimate the covariance

matrix of the correlated variables, upon which an exploratory factor analysis is performed.

Nassiri and colleagues conducted a simulation study that demonstrated comparable performance

of this method with complete data as well as five other common methods for data missing completely at random (MCAR) and data missing not at random (MNAR): listwise deletion, pairwise deletion, maximum likelihood from incomplete data, full information maximum likelihood, and iterative principal components analysis. Nassiri and colleagues (2017) created an R package "mifa" that uses Rubin's (1987) rule to combine estimates and variance-covariance matrices from multiple imputations to generate a covariance matrix from incomplete data.

Essentially, the R package "mifa" (Nassiri et al., 2017) estimates the covariance matrix from multiple imputations of data generated through the R package "mice" (Van Buuren & Groothuis-Oudshoorn, 2011). The R package "mice" uses Van Buuren's (2007) fully conditional specification to impute incomplete multivariate data using chained equations. An individual imputation model is generated for each variable in the dataset. The R package "mice" may use predictive mean matching, a semi-parametric method that fills missing values with random values derived from observed values whose regression-predicted values are similar to the regression-predicted value for the missing value from a simulated regression model (Heitjan & Little, 1991; Schenker & Taylor, 1996). This method yields plausible imputed values that are more appropriate than a regression method if data are MNAR (Horton & Lipsitz, 2001, p. 246). The number of imputations to be conducted may be specified, and a covariance matrix is estimated for each imputation. An exploratory factor analysis may subsequently be performed on the averaged estimated covariance matrix.

This estimated covariance matrix was used for the majority of analyses in Study 1. When it was not possible to use this covariance matrix—for example, when examining item-level skewness and kurtosis—missing data were imputed using the R package "mice" (Van Buuren & Groothuis-Oudshoorn, 2011). Methods for this purpose are described herein.

Multiple Imputation for Item-Level Quality Analyses in Study 1. Missing data for the remaining survey scales were estimated using multivariate imputation by chained equations using the R package "mice" (van Buuren & Groothuis-Oudshoorn, 2011). As described earlier, "mice" utilizes fully conditional specification to impute incomplete multivariate data using chained equations. Each missing data variable is imputed with an individualized model that considers continuous, binary, and even categorical data. A scientific model is fitted to each imputed data set and these estimates are then pooled into a single set of estimates and standard errors (Rubin, 1987).

The incomplete data (excluding demographic data) were imputed five times using predictive mean matching, resulting in five complete data sets. The predictor matrix for the imputation was set such that each variable was used to predict all other variables except itself. The R base package "stats" (R Core Team, 2020) was used to conduct Welch's (1948) tests for unequal variance to assess whether mean total scores significantly differed between all imputed data sets. All *t*-tests were nonsignificant, indicating that the total scores for each of the five imputed datasets did not significantly differ. The quality of the imputed values was then visually compared to the observed values using strip plots and density plots produced in the R package "lattice" (Sarkar, 2008).

Next, the mean variable scores were compared between the original dataset (excluding missing cases) and each of the five imputed datasets to determine which of the latter was most similar to the former. The decision was made to retain the first of the five imputed datasets because it outperformed the others regarding quality of imputed values and similarity to the original dataset. As stated previously, these imputed data were used only to examine item quality.

Multiple Imputation of OBCT57 Data. The R package "mifa" (Nassiri et al., 2017) was used to estimate the covariance matrix of the incomplete OBCT57 data, excluding the aforementioned four social media items. The proportion of explained variance and confidence intervals were computed for one-, two-, three-, four-, five-, six-, seven-, eight-, nine-, and ten-factor solutions. Five multiple imputations using predictive mean matching were conducted, with five iterations for each imputation. The resultant estimated covariance matrix was transformed to a correlation matrix for the purposes of exploratory factor analysis using R base package "stats" (R Core Team, 2020).

Data Analysis: Study 2

The quality of responses from the validation sample of this project was assessed, as described in Study 1.

Study 2 Data Screening

There was a total of 364 responses to Survey 2. Twenty-nine respondents did not complete screening questions and were removed, yielding 335 responses. Two respondents failed screening questions due to being legal minors, yielding 333 responses. Nine respondents reported a gender identity that aligned with their sex assigned at birth, yielding a sample size of 324. Fifteen respondents were removed due to not answering items beyond the screening questions. Of the remaining 309 responses, seven were marked as suspicious by Qualtrics software due to concerns of repeated submissions; these were removed. Of the remaining 302 responses, 30 failed one or more of the three validity items interspersed throughout the survey; these were removed from the sample, yielding a sample of 272 responses.

I closely examined the remaining 272 responses for suspicious data. As in Study 1, reported ZIP codes were compared to reported states of residence following the same procedure

as described in the *Geocoding* section of Study 1. All reported ZIP codes aligned with reported residential states. The final sample for Study 2 was 272.

Cleaning Study 2 Demographic Variables. Demographic variables were reviewed and cleaned prior to analyses. The same procedures for Study 1 were followed in Study 2.

Study 2 Participant Demographics

Participants in Study 2 were 272 self-identified TNG adults. The sample ranged in age from 18 to 74, and skewed toward young adults ($M = 33.14$, $SD = 11.91$). The majority of participants reported being White ($n = 145$, 69.7%). A minority of respondents identified as Hispanic/Latino/Latina/Latinx ethnicity ($n = 14$, 6.7%). Regarding gender identity, the sample was represented by trans men ($n = 61$, 29.2%), trans women ($n = 47$, 22.5%), and individuals who identify as nonbinary/genderqueer/genderfluid or other gender identities ($n = 101$, 48.3%). Most participants reported being assigned female sex at birth ($n = 144$, 69.2%) and a small portion of the final sample reported intersex condition(s) ($n = 7$, 3.4%). The sample was drawn from 38 U. S. states as well as international locations, with participants residing in urban ($n = 100$, 48.3%), suburban ($n = 75$, 36.2%), and rural ($n = 32$, 15.5%) areas. Participants identified as working class ($n = 71$, 43.0%) more than any other class category. Reported social status on MacArthur Scale of Subjective Social Status (2000) ranged from 1 to 10 ($M = 6.13$, $SD = 1.9$). Regarding educational achievement, most participants reported a history of higher education; a small subset of participants reported no postsecondary education ($n = 23$, 11.1%). The specific demographic information is reported in Table 3.

Table 3
Sample demographics for Study 2 ($N = 272$)

Demographic	n	%
Sex Assigned at Birth		
Female	144	69.2
Male	64	30.8

Gender Identity	Trans Woman	47	26.2
	Trans Man	61	27.0
	Nonbinary / Other	101	48.3
Intersex Conditions		7	3.4
Sexual Orientation	Asexual	28	7.7
	Bisexual	77	21.2
	Gay	24	6.6
	Lesbian	38	10.4
	Pansexual	51	14.0
	Queer	98	26.9
	Same Gender Loving	17	4.7
	Straight/Heterosexual	16	4.4
	Other	15	4.1
Race	Asian/Asian American	10	4.4
	Black/African American	31	13.5
	Hispanic/Latina/Latino/Latinx	14	6.1
	Middle Eastern	2	0.9
	Other	5	2.2
	White	167	72.9
Individual Annual Income	Less than $10,000	46	22.2
	$10,001 - $20,000	40	19.3
	$20,001 - $30,000	27	13.0
	$30,001 - $40,000	17	8.2
	$40,001 - $50,000	16	7.7
	$50,001 - $60,000	12	5.8
	$60,001 - $70,000	8	3.9
	$70,001 - $80,000	6	3.0
	$80,001 - $90,000	4	1.9
	$90,001 - $100,000	19	9.2
	$100,001 - $150,000	5	2.4
	Greater than $150,000	7	3.4
Education	Less than High School	4	1.9
	High School or GED	19	9.1
	Some College	42	20.2
	Associates or 2-Year Degree	15	7.2
	Bachelor's Degree	74	35.6
	Master's Degree	38	18.3
	Professional Degree	16	7.7
Residential Area	Rural	32	15.5
	Suburban	75	36.2
	Urban	100	48.3
		M	*SD*
Age		33.1	11.9
Social Status Ladder		56.1	1.9

Note. Social Status Ladder = MacArthur Scale of Subjective Social Status (2000). Some participants reported multiple sexual orientations and/or racial/ethnic identities. The table

reports frequencies of each reported identity. Some participants declined to respond to all demographic items.

Recoding and Reverse Scoring Study 2 Data

The Discrimination scale, Rejection scale, and Violence scale of the GMSR measure were recoded per scale author instructions prior to data analyses. Two items of the Community Connectedness scale of the GMSR measure were reverse-coded per author instructions prior to data analyses. Responses to the Inventory of Interest in Steps to Affirm Gender were recoded such that "No interest" became "0," "Maybe interested" became "1," and all other responses indicating current or past interest became "2" prior to data analyses. The Modified Idiographic Self-Concept Questionnaire Real-Ideal (RI) and Real-Ought discrepancy scores were determined by computing the mean of the absolute difference between respondents' rating of their actual body features and their ideal body features as well as the body features they think they ought to have, respectively, as described in Chapter 2.

Decisions About Missing Study 2 Data

Missing Study 2 data were examined for patterns of missingness as described in Study 1. The median number of missing items was 1 ($M = 18.06$, $SD = 31.84$, $N = 272$). Nearly half (47.4%) of cases were complete. Over four-fifths (81.76%) of data were non-missing, with the majority of missing variable data occurring at the end of the survey due to apparent respondent fatigue. The percent of missing items across cases ranged from 0 to 98.99, with the median percent of missing items being 1.01 ($M = 18.24$, $SD = 32.17$, $N = 272$). Figure 6 displays a histogram of the proportion of missing Study 2 data among survey respondents.

Proportion of Missing Items in Study 2
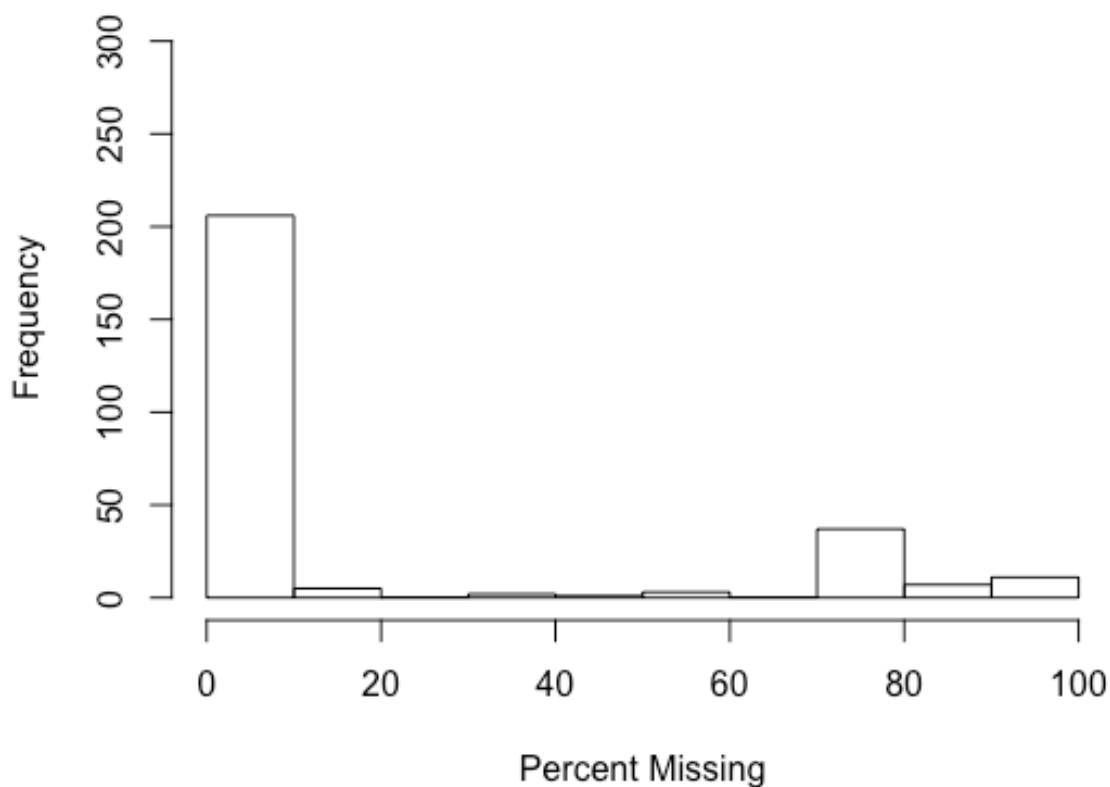
Figure 6. Histogram of the proportion of missing Study 2 data among survey respondents.

The OBCT21 data were individually reviewed for patterns of missingness. For the OBCT21, the majority of data were non-missing (91.35%), and over two-thirds of cases were complete (68.01%). Figure 7 plots the proportion of missing OBCT21 data among Study 2 respondents.

Proportion of Missing OBCT Items in Study 2
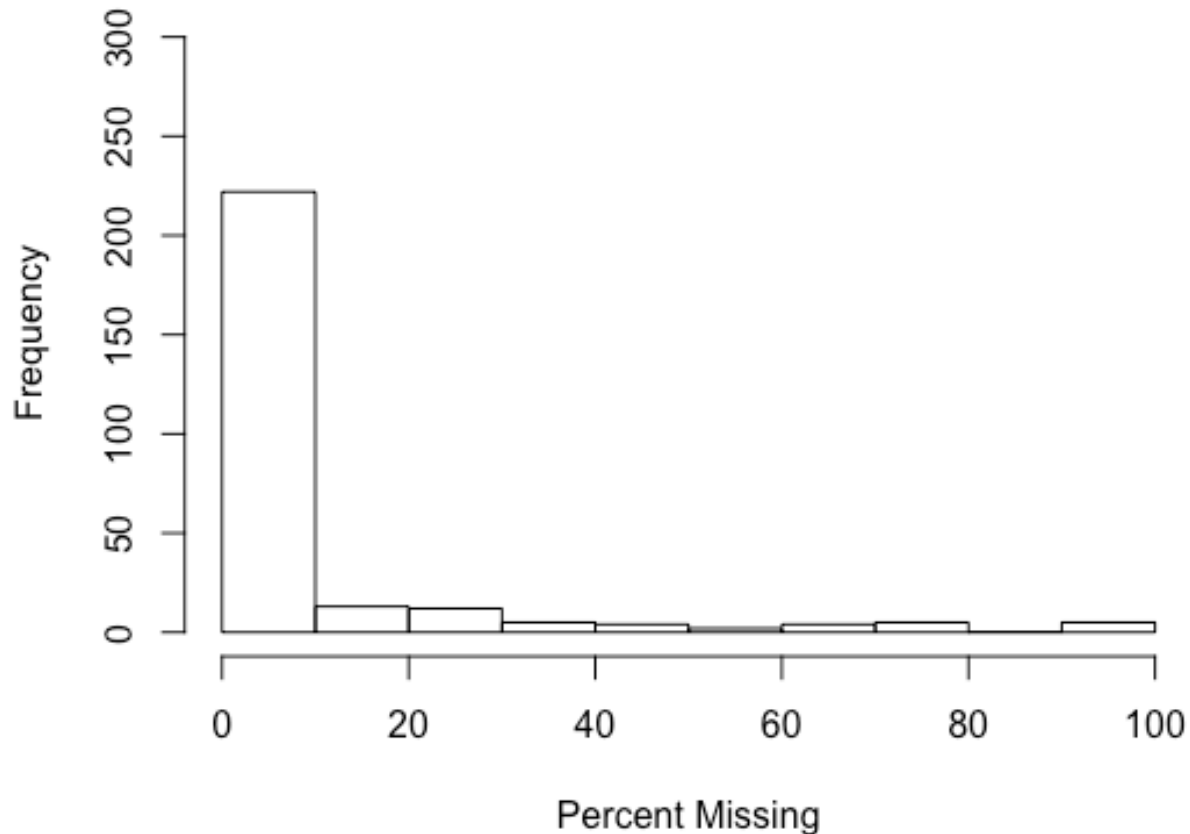
Figure 1. Histogram of the proportion of missing OBCT21 items among Study 2 respondents.

Multiple Imputation of Missing Study 2 Data

Missing data were multiply imputed using the R package "mifa" (Nassiri et al., 2017) across all quantitative variables in Study 2, as described in Study 1.

Data Analysis: Study 2 Subsample Retention

The quality of responses from the subsample of respondents who agreed to take the OBCT scales approximately 2 weeks after Study 2 were examined. However, it quickly became

apparent that the test-retest responses were not properly linked, and therefore could not be

meaningfully compared to assess temporal stability.

Chapter 4: Results

Study 1 Results

The purpose of Study 1 was to determine whether objectified body consciousness is a valid construct within the TNG community. Results of Study 1 are described herein. Initial testing and refinement of the OBCT scale is first described. Exploratory factor analysis (EFA) process and results are then reported. Evaluation of construct validity is then described in order of study hypotheses.

Preliminary Study 1 Item Evaluation

As discussed in Chapter 3, the original 61 items of the OBCT61 were reduced to 57 items (OBCT57) due to four items pertaining to social media use, which did not apply to many participants. Preliminary item evaluation of the OBCT57 is described here.

OBCT57. Item data of the OBCT57 were evaluated for retention prior to the exploratory factor analysis. The Henze-Zirkler test of multivariate normality (Henze & Zirkler, 1990) was performed on the complete cases of the OBCT57 using the R package "MVN" (Korkmaz et al., 2014). This test measures the functional distance between two distribution functions; the resulting HZ statistic is approximately lognormally distributed if data are multivariate normal. The OBCT57 demonstrated multivariate normality ($HZ = 1$, $p = 0.40$). Multivariate normality was further assessed by examining kurtosis and skewness using the R package "moments" (Komsta & Novomestky, 2015). Items for which absolute skewness values were greater than 2 or absolute kurtosis values were greater than 7 were identified for removal (Curran et al., 1996; Hair et al., 2010). None of the OBCT57 items were flagged for removal due to deviation from normality based on these criteria. Next, univariate normality was assessed by examining item response distributions in a density plot. However, upon review of individual item histograms to

assess univariate normality, item 48 was removed due to not passing the "eyeball test" of normality (Hayes & Cai, 2007, p. 711). Specifically, responses to this item were heavily left-skewed. Removal of this item yielded the OBCT56.

OBCT56. Items of the OBCT56 were evaluated for retention prior to the exploratory factor analysis. A bivariate item correlation matrix was examined for multicollinearity. Two items (47 and 49) had high bivariate correlations ($r = 0.85$); the former item was removed to reduce redundancy.

Item-total correlations were next examined using the R package "psych" (Revelle, 2019). Item-total correlations for each item against the scale without that item were computed after each successive removal of an item. Eleven items (8, 12, 22, 26, 38, 40, 45, 51, 53, 54, and 60) were removed for low item-total correlation value ($r < 0.3$). Removal of these 11 items yielded the OBCT44 (see Table 4 below).

OBCT44. Items of the OBCT44 were further evaluated for retention prior to the exploratory factor analysis. The R package "psych" (Revelle, 2019) was used to estimate correlations between each item and the overall scale if that item were dropped. Reliability of the overall OBCT44 was also assessed. The correlation of each item with the total OBCT44 was computed and corrected for item overlap and scale reliability; all items demonstrated acceptable correlations (see Table 4). Internal consistency of the OBCT44 was strong ($a = 0.93$).

Table 4
Items, Mean, Standard Deviation, and Item Total correlation of OBCT44
Sample ($N = 303$)

Number	Content	M	SD	IT-r
1.	When I pick my outfit for the day, I think a lot about what people might say.	3.56	1.23	0.50
2.	I often think about whether aspects of my body make me stick out as trans.	3.98	1.16	0.52
3.	I think a lot about whether my clothes fit me right.	4.24	0.94	0.43
4.	When I pick my outfit for the day, I think a lot about whether	3.43	1.30	0.62

	people will stare.			
5.	I often compare my appearance to how other people look.	3.93	1.02	0.58
6.	I think it is important to wear clothes that hide aspects of my body that I dislike.	4.04	1.03	0.58
7.	When I see photos of other people, I compare my body to theirs.	3.74	1.12	0.56
8.	I often think about where my clothes cling to my body.	4.07	1.03	0.51
9.	I frequently check to see if my body looks right.	3.79	1.21	0.62
10.	I often think about aspects of my body that I dislike.	4.12	0.95	0.59
11.	It's important to me that my clothes make my body look good.	4.02	0.90	0.39
12.	I often think about whether people can tell I am trans.	3.67	1.31	0.58
13.	I think a lot about my body shape.	4.20	0.88	0.55
14.	I often think about how my clothes accentuate certain parts of my body.	3.95	0.94	0.57
15.	When I get dressed in the morning, I think a lot about how others will perceive my gender.	3.63	1.29	0.62
16.	I often wonder about whether people are staring at me.	3.58	1.25	0.60
17.	I think it is important to wear clothes that hide aspects of my body that make me stick out as trans.	3.39	1.33	0.64
18.	I often think about how others perceive my gender.	3.91	1.18	0.53
19.	I often compare my body to other people's bodies.	3.85	1.12	0.53
20.	I often think about how I look.	4.23	0.76	0.6
21.	Seeing an unflattering photo of myself would really bother me.	4.12	0.98	0.41
22.	I feel ashamed of myself when I haven't made the effort to look like my best.	3.12	1.31	0.65
23.	I worry that something is wrong with me when I am misgendered.	3.47	1.41	0.52
24.	I would feel fine if people saw me before I get ready for my day.	2.16	1.30	0.51
25.	I feel bad about myself when I haven't made the effort to look like my gender (examples: trans man, trans woman, nonbinary, etc.).	3.35	1.25	0.61
26.	I feel embarrassed to be seen when I don't look as good as I could.	3.42	1.19	0.62
27.	Even when I don't look my best, I can still have a good day.	1.52	1.08	0.50
28.	When I see myself naked, I get in a bad mood.	3.50	1.35	0.40
29.	I feel ashamed when people misperceive my gender.	3.53	1.31	0.57
30.	It is important that I make the effort to look my best each day.	3.30	1.17	0.61
31.	When I am with others, I try to hide aspects of my body that I dislike.	3.95	0.98	0.60
32.	I usually try to hide aspects of my body when being photographed.	3.86	1.09	0.59
33.	Trans people should work hard to blend in with cisgender people.	2.05	1.24	0.33
34.	I can make my body look good I want if I work hard enough.	3.62	1.24	0.28
35.	Others would perceive me as my gender (examples: trans woman, trans man, nonbinary, etc.) if I tried hard enough.	3.57	1.19	0.37
36.	It is important that trans people put in the effort to look like their gender (examples: trans woman, trans man, nonbinary, etc.).	2.32	1.29	0.39
37.	Trans people should wear clothes that clearly match their gender (examples: trans woman, trans man, nonbinary, etc.).	2.24	1.33	0.35
38.	Trans people should seek medical interventions to look more like	2.45	1.43	0.32

their gender (examples: trans woman, trans man, nonbinary, etc.).

39.	If trans people want to look good, they should watch what they eat.	2.43	1.42	0.27
40.	The shape of your body depends a lot on how much you work out.	3.14	1.18	0.29
41.	A person can get the body they want if they put in the effort.	3.26	1.22	0.27
42.	It is important that I try to change where fat shows up on my body.	3.66	1.19	0.57
43.	The shape of your body depends mostly on how much work you put into it.	3.04	1.21	0.27
44.	A person can be perceived as their gender (example: trans woman, trans man, nonbinary, etc.) if they are willing to work at it.	3.36	1.19	0.36

Note. IT-r = Item-Total scale correlation corrected for item overlap and scale reliability based on "mifa"-imputed covariance matrix. *M* = Mean score based on "mice"-imputed data. *SD* = Standard Deviation based on "mice"-imputed data.

Exploratory Factor Analysis

Assessing Sampling Adequacy. Prior to initiating exploratory factor analysis, the

OBCT44 correlation matrix was examined for sampling adequacy using the R package "psych"

(Revelle, 2019). The Kaiser-Meyer-Olkin (KMO; Kaiser, 1970; Kaiser & Rice, 1974) test was

used to measure sampling adequacy for each of the 44 items, as well as the overall collection of

items. The KMO test reports a measure of sampling adequacy (MSA) coefficient that ranges

from 0 to 1, with values greater than 0.8 suggesting an acceptable proportion of variance that

may be common variance. Kaiser (1974) offered the following descriptors for MSA coefficient

ranges: unacceptable (0.00 – 0.49), miserable (0.50 – 0.59), mediocre (0.60 – 0.69), middling

(0.70 – 0.79), meritorious (0.80 – 0.89), and marvelous (0.90 – 1.00). The KMO test of the

imputed correlation matrix yielded a MSA in the meritorious range (MSA = 0.88). MSAs were

also calculated for each item of the imputed correlation matrix; the majority of items were in the

meritorious range (*M* = 0.9, *SD* = 0.1). None of the items fell below the mediocre range.

The OBCT44 correlation matrix was further evaluated for potential factor reliability

using R package "psych" (Revelle, 2019). Bartlett (1951) developed a test to compare the

correlation matrix to the identity matrix, revealing whether there is redundancy between

variables that may be factorable. The Bartlett test was conducted on the OBCT44 to test the assumption that variances are homogenous across groups. The test was significant, (X^2 (df = 946, N = 303) = 7839.25, p < .01), indicating that the factors were likely to be reliable.

Determining the Number of Factors to Retain. Several methods were used to determine the number of factors underlying the OBCT44, including parallel analyses (Horn, 1965; Humphreys et al., 1975), scree test (Cattell, 1966), Very Simple Structure (VSS) criterion (Revelle & Rocklin, 1979), Minimum Average Partial (MAP) criterion (Velicer, 1976), and Goldberg's (2006) bassAckward procedure for comparing multiple factor solutions. These methods and the decision-making process regarding the number of factors representing the items are described herein.

Parallel Analysis. Parallel analysis was developed in response to the limitations of Kaiser's (1960) eigenvalues-greater-than-one rule. Parallel analysis better accounts for sampling error and is one of the most accurate methods for determining the number of factors to retain from observed data (Glorfeld, 1995). Two parallel analyses were conducted to determine the number of factors underlying the OBCT44. The first involved finding eigenvalues after estimating communalities based upon one factor. The second parallel analysis followed Horn's (1965) method, which finds eigenvalues after estimating communalities from squared multiple correlations. Revelle (2019) noted that the latter parallel analysis method tends to yield more factors than the former.

The R package "psych" was used for the first parallel analysis (Revelle, 2019). The OBCT44 eigenvalues were computed using a minimum residual factor method, and then compared to those of a random 44-variable data matrix. The minimum residual factor method was selected for two reasons. First, it provides an unweighted least squares solution similar to a

maximum likelihood solution, but the minimum residual factor method does not assume a

multivariate normal distribution. Second, the factor method derives its solutions through iterative

eigenvalue decomposition similar to a principal axis factoring method, but with greater similarity

to the maximum likelihood solution (Revelle, 2019). This parallel analysis yielded a 4-factor

solution of the OBCT44. The parallel analysis scree plot is shown in Figure 8.
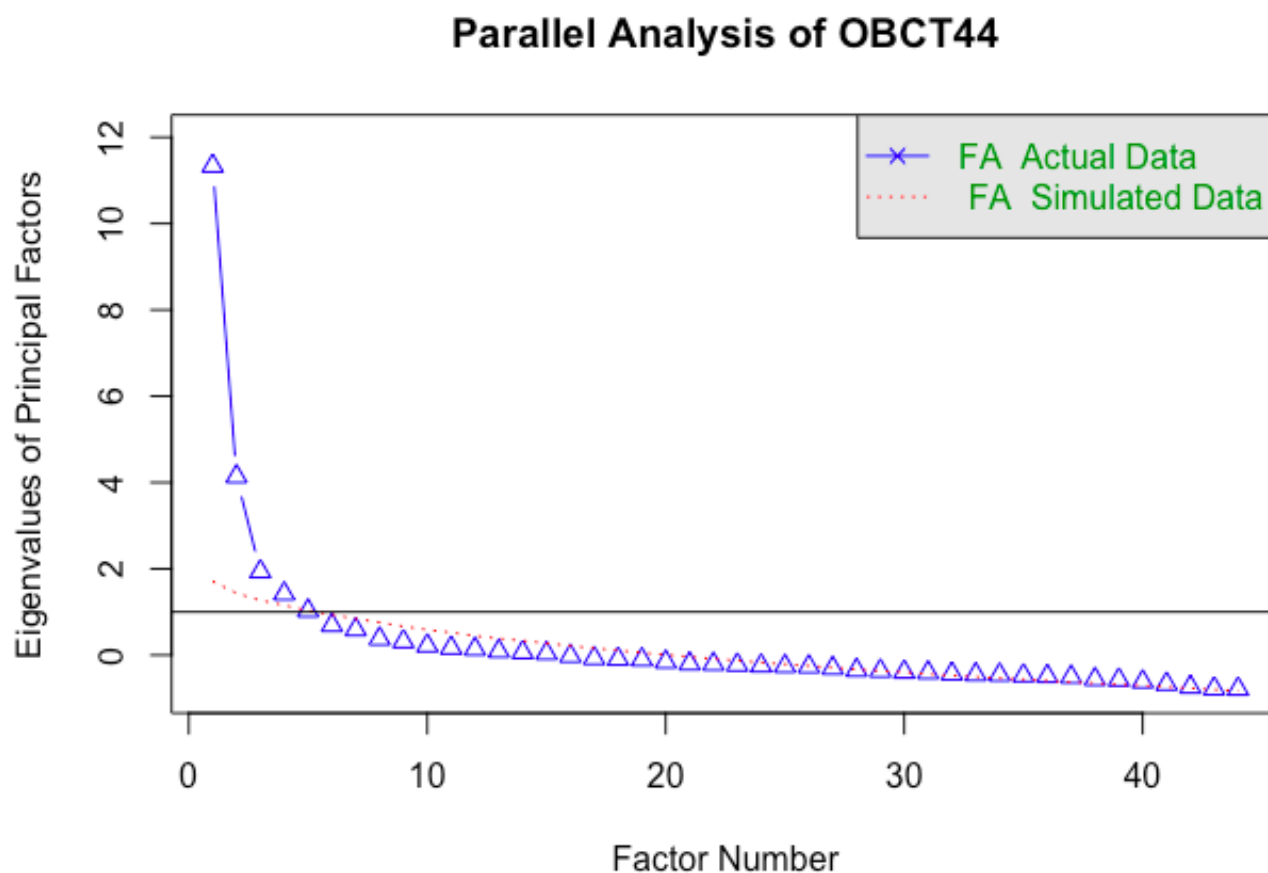
Figure 8. Parallel analysis scree plot of OBCT44.

The R package "paran" (Dinno, 2018) was used for the second parallel analysis following

Horn's (1965) method. This method contrasts factor analysis-produced eigenvalues of observed

data with multiple random datasets of uncorrelated variables that have identical number of

variables and observations as the observed data. This yields inflation-adjusted eigenvalues for factors, from which components with eigenvalues greater than one are retained.

Glorfeld (1995) cautioned that Horn's (1965) parallel analysis tends to overestimate the number of factors to retain and tends to recommend retaining poorly defined factors. Glorfeld conducted a Monte Carlo simulation to determine whether an eigenvalue is larger than what could be expected by chance. Based on simulation results, Glorfeld proposed a modification to Horn's original parallel analysis method that corrects for the tendency to extract excessive or poorly defined factors. Specifically, Glorfeld recommended substituting the average of the eigenvalues with an upper percentile to determine the number of factors.

Horn's (1965) parallel analysis with Glorfeld's (1995) Monte Carlo extension was performed on the OBCT44. The R package "paran" (Dinno, 2018) was used for this analysis. The 90th centile estimate and a large number of iterations ($n = 5,000$) were specified to reduce
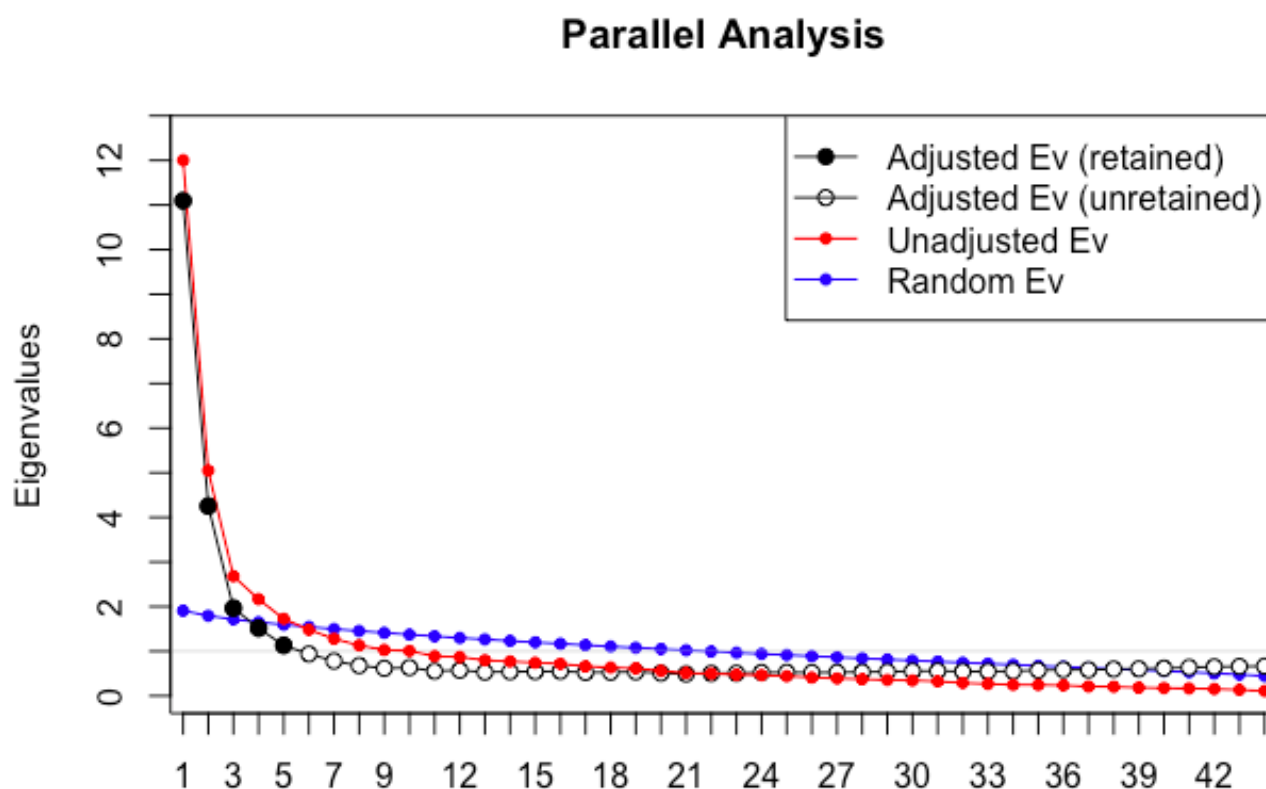
Figure 9. Parallel analysis scree plot of OBCT44 following Glorfeld's (1995) modification guidelines.

bias. Results of Horn's parallel analysis with Glorfeld's Monte Carlo extension yielded a 5-factor solution with adjusted eigenvalues greater than 1. However, it is notable that the fifth retained factor had an adjusted eigenvalue only slightly greater than 1 ($\lambda = 1.08$). Figure 9 shows the scree plot of Horn's parallel analysis using Glorfeld's extension for the OBCT44.

Scree Test. Cattell's (1966) scree test is a popular method of determining the number of factors, but sensitive to subjectivity. This test involves plotting the eigenvalues of principal factors against n factors (i.e., a scree plot). The point at which the slope of the scree begins to level off suggests the number of factors to retain. A dramatic reduction in distance between plotted successive eigenvalues indicates that relatively little additional information would be provided by the additional factor. The OBCT44 scree plots generated in the parallel analyses were examined. The scree test applied to these plots suggested that between 3 and 6 factors adequately captured the data.

Very Simple Structure Criterion. Another method of determining the number of factors underlying a set of items is to compare factors solutions at various levels of item complexity as well as factor numbers, known as the VSS criterion (Revelle & Rocklin, 1979). This method compares the fit of the provided correlation matrix to a simplified version of the factor matrix. The simplified structure for a given complexity level typically peaks at the optimal number of factors. The VSS of the OBCT44 was calculated using R package "psych" (Revelle, 2019). This yielded complexity 1 and 2 solutions that both achieved their maxima at 2 factors. Revelle and Rocklin cautioned that this method is not particularly useful for factorially complex data. Figure 10 shows the VSS fit of the OBCT44 items plotted against n factor solutions.
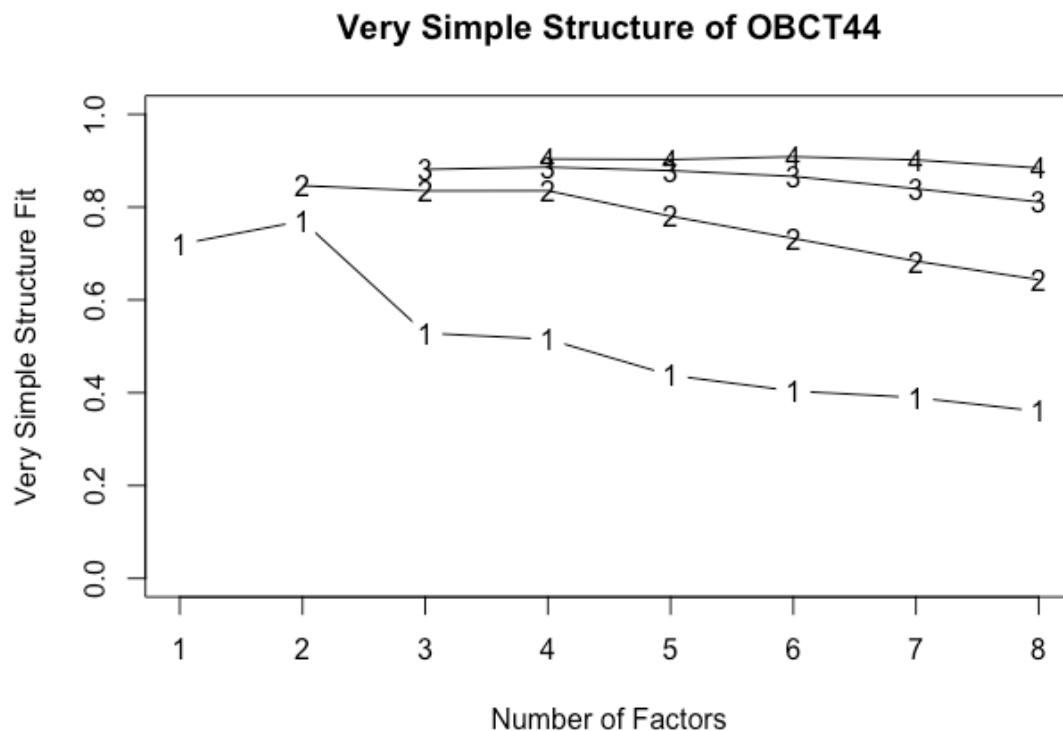
Figure 10. Very Simple Structure fit of OBCT44.

Velicer's Minimum Average Partial Criterion. Another method of determining the number of factors underlying data is to use a matrix of partial correlations from which the average squared partial correlation is computed for an increasing number of factors. Velicer (1976) proposed this MAP criterion because it provides a clear endpoint when the squared partial correlation reaches its minimum, at which point no further factors are to be extracted. Revelle cautioned that MAP criterion tends to disagree with VSS criterion regarding the number of factors to extract from data. Indeed, Caron (2018) conducted a Monte Carlo simulation study that demonstrated the tendency of MAP criterion to overestimate the number of factors, particularly with highly oblique structures. MAP criterion was computed for the OBCT44 using R package "psych" (Revelle, 2019). The Velicer MAP achieved a minimum of 0.01 squared partial correlation with 8 factors for OBCT44 data.

Comparing Multiple Solutions. The above-described methods for determining the

number of factors to retain yielded dissimilar results. The plausible number of factors to retain

ranged from 2 (VSS criterion) to 8 (MAP criterion). However, as previously noted, VSS criterion

is insufficient for factorially complex data, and MAP criterion tends to overestimate the number

of factors underlying oblique data. Parallel analyses suggested between 4 and 5 factors best

represented the data. Visual inspection of the parallel analysis scree plots suggested that between

3 and 5 factors would be most interpretable.

In order to better determine the number of factors underlying the data, Goldberg's (2006)

"bass ackward" procedure was performed on the OBCT44 using minimum residual rotation

method. This involves conducting a series of n factor analyses and examining the factor

correlations between successive solutions. The R function bassAckward in package "psych"

(Revelle, 2019) was used to compare solutions at multiple levels by successive factoring, and to

find factor correlations across levels. Three-, four-, and five-factor solutions were simultaneously

compared for standardized loadings and inter-factor correlations.

The bassAckward procedure estimated the proportion of variance explained by

successive factor models. The factor solutions were examined at each level. Goldberg (2006, p.

353) recommended the following procedure for using the determining the number of factors to

extract: "An appealing characteristic of these top-down factor representations is that one need

not commit oneself in advance to the optimal number of factors to extract and rotate. Instead, one

can continue down into the hierarchy until one reaches a level at which no new interesting

factors appear." Although the 5-factor solution provided five distinct components underlying the

data, careful item inspection revealed that factor loadings were not readily interpretable.

Furthermore, the 5-factor solution did not yield a substantially more powerful model than the 4-

factor solution—the difference in the bassAckward estimation of variance accounted for by the 5-factor model versus the 4-factor model was only 3 percent. Therefore, the 5-factor solution was discarded.

Next, the 4-factor solution was compared with the 3-factor solution. Each of the factors in the 3-factor solution correlated highly with one or more of the factors in the 4-factor solution. This finding suggested that retention of 4 factors may be more meaningful and accurate than retention of only 3 factors. Nonetheless, a 3-factor solution was retained for consideration because the original Objectified Body Consciousness Scale (McKinley & Hyde, 1996), upon which the OBCT was based, consisted of 3 factors.

Two exploratory factor analyses were conducted using R package "psych" (Revelle, 2019) to determine whether a 3-factor or 4-factor solution best fit the data. Both analyses utilized minimum residual factor method because it is known to provide results similar to maximum likelihood factor method, without assuming a multivariate normal distribution, and it derives solutions through iterative eigendecomposition like a principal axis method (Revelle). Both analyses utilized an oblimin (oblique) rotation because it was hypothesized that a correlation would exist between factors.

3-Factor Solution Exploratory Factor Analysis. A 3-factor exploratory factor analysis was initially conducted. The majority of items hypothesized to pertain to body shame and body surveillance loaded together on the first factor, with items pertaining to appearance control beliefs comprising the remaining two factors (see Table 5). This solution did not appear to be theoretically justified, as the second and third factors were indistinguishable. It was tentatively decided to discard the 3-factor solution in favor of a 4-factor solution. Subsequent consultation

with body objectification expert, Dr. Janet Shibley-Hyde, reinforced the decision to discard the

3-factor solution.

Table 5
Preliminary Factor Loadings of OBCT44 with 3-Factor Solution
Sample (*N* = 303)

Item Number	Content	Factor 1	Factor 2	Factor 3
1.	When I pick my outfit for the day, I think a lot about what people might say.	**0.61**		-0.19
2.	I often think about whether aspects of my body make me stick out as trans.	**0.60**		-0.14
3.	I think a lot about whether my clothes fit me right.	**0.54**	-0.19	
4.	When I pick my outfit for the day, I think a lot about whether people will stare.	**0.72**	0.15	-0.28
5.	I often compare my appearance to how other people look.	**0.62**	-0.13	0.11
6.	I think it is important to wear clothes that hide aspects of my body that I dislike.	**0.55**	-0.20	**0.36**
7.	When I see photos of other people, I compare my body to theirs.	**0.57**	-0.19	0.24
8.	I often think about where my clothes cling to my body.	**0.59**	-0.16	
9.	I frequently check to see if my body looks right.	**0.62**		0.10
10.	I often think about aspects of my body that I dislike.	**0.61**	-0.15	0.22
11.	It's important to me that my clothes make my body look good.	**0.35**		
12.	I often think about whether people can tell I am trans.	**0.65**	0.12	-0.21
13.	I think a lot about my body shape.	**0.55**	-0.26	**0.33**
14.	I often think about how my clothes accentuate certain parts of my body.	**0.62**		
15.	When I get dressed in the morning, I think a lot about how others will perceive my gender.	**0.73**		-0.24
16.	I often wonder about whether people are staring at me.	**0.67**	0.12	-0.23
17.	I think it is important to wear clothes that hide aspects of my body that make me stick out as trans.	**0.54**	0.22	0.15
18.	I often think about how others perceive my gender.	**0.67**		-0.24
19.	I often compare my body to other people's bodies.	**0.54**	-0.17	0.20
20.	I often think about how I look.	**0.58**		0.11
21.	Seeing an unflattering photo of myself would really bother me.	**0.48**	-0.15	
22.	I feel ashamed of myself when I haven't made the effort to look like my best.	**0.55**	0.31	
23.	I worry that something is wrong with me when I am	**0.52**	0.19	

misgendered.

#	Item			
24.	I would feel fine if people saw me before I get ready for my day.	**0.51**		
25.	I feel bad about myself when I haven't made the effort to look like my gender (examples: trans man, trans woman, nonbinary, etc.).	**0.54**	0.24	
26.	I feel embarrassed to be seen when I don't look as good as I could.	**0.57**	0.24	
27.	Even when I don't look my best, I can still have a good day.	**0.48**		
28.	When I see myself naked, I get in a bad mood.	**0.38**	-0.11	0.20
29.	I feel ashamed when people misperceive my gender.	**0.60**	0.11	
30.	It is important that I make the effort to look my best each day.	**0.44**	**0.43**	
31.	When I am with others, I try to hide aspects of my body that I dislike.	**0.59**	-0.13	0.29
32.	I usually try to hide aspects of my body when being photographed.	**0.59**		0.28
33.	Trans people should work hard to blend in with cisgender people.		**0.78**	
34.	I can make my body look good I want if I work hard enough.		**0.33**	0.32
35.	Others would perceive me as my gender (examples: trans woman, trans man, nonbinary, etc.) if I tried hard enough.		**0.33**	**0.45**
36.	It is important that trans people put in the effort to look like their gender (examples: trans woman, trans man, nonbinary, etc.).		**0.78**	
37.	Trans people should wear clothes that clearly match their gender (examples: trans woman, trans man, nonbinary, etc.).		**0.78**	
38.	Trans people should seek medical interventions to look more like their gender (examples: trans woman, trans man, nonbinary, etc.).		**0.67**	
39.	If trans people want to look good, they should watch what they eat.		**0.57**	0.24
40.	The shape of your body depends a lot on how much you work out.		0.22	**0.52**
41.	A person can get the body they want if they put in the effort.		**0.45**	**0.48**
42.	It is important that I try to change where fat shows up on my body.	**0.38**		**0.53**
43.	The shape of your body depends mostly on how much work you put into it.	-0.16	**0.46**	**0.58**
44.	A person can be perceived as their gender (example: trans woman, trans man, nonbinary, etc.) if they are	0.11	**0.44**	0.30

willing to work at it.

Note. Bolded scores indicate factor loadings >.32. Extraction method: Minimum Residual with oblimin rotation.

4-Factor Solution Exploratory Factor Analysis. A 4-factor exploratory factor analysis was then conducted on the OBCT44 correlation matrix. The 4-factor solution yielded a pattern matrix that conformed relatively closely to the three originally hypothesized factors, with an additional fourth factor. At least 10 items loaded on each factor in the 44-item 4-factor solution (see Table 6).

Table 6
Preliminary Factor Loadings (>0.32) of OBCT44 with 4-Factor Solution
Sample ($N = 303$)

Item Number	Content	Factor 1	2	3	4
1.	When I pick my outfit for the day, I think a lot about what people might say.			-0.20	**0.62**
2* (GS).	I often think about whether aspects of my body make me stick out as trans.	**0.33**	0.17	-0.29	0.21
3* (AS).	I think a lot about whether my clothes fit me right.		-0.29		**0.62**
4.	When I pick my outfit for the day, I think a lot about whether people will stare.		0.18	-0.31	**0.57**
5.	I often compare my appearance to how other people look.	**0.55**		-0.10	0.15
6* (BS).	I think it is important to wear clothes that hide aspects of my body that I dislike.	**0.67**	-0.13	0.13	
7.	When I see photos of other people, I compare my body to theirs.	**0.69**	-0.12		
8* (AS).	I often think about where my clothes cling to my body.	0.23	-0.21		**0.51**
9* (AS).	I frequently check to see if my body looks right.	**0.36**			**0.40**
10* (BS).	I often think about aspects of my body that I dislike.	**0.65**			
11* (AS).	It's important to me that my clothes make my body look good.	-0.14	-0.12	0.16	**0.68**
12* (GS).	I often think about whether people can tell I am trans.	**0.35**	0.30	**-0.38**	0.18
13* (BS).	I think a lot about my body shape.	**0.55**	-0.24	0.13	0.25
14.	I often think about how my clothes accentuate certain parts of my body.	0.16	-0.10		**0.63**

15* (GS).	When I get dressed in the morning, I think a lot about how others will perceive my gender.	0.24	0.19	**-0.34**	**0.41**
16* (GS).	I often wonder about whether people are staring at me.	0.27	0.23	**-0.32**	**0.34**
17.	I think it is important to wear clothes that hide aspects of my body that make me stick out as trans.	**0.49**	**0.35**		
18.	I often think about how others perceive my gender.	0.24	0.11	**-0.34**	**0.35**
19.	I often compare my body to other people's bodies.	**0.65**			
20* (AS).	I often think about how I look.	0.22			**0.52**
21.	Seeing an unflattering photo of myself would really bother me.	**0.45**	-0.11		0.11
22.	I feel ashamed of myself when I haven't made the effort to look like my best.	0.17	0.22		**0.49**
23* (GS).	I worry that something is wrong with me when I am misgendered.	**0.37**	**0.34**	-0.26	
24.	I would feel fine if people saw me before I get ready for my day.	**0.32**			0.27
25* (GS).	I feel bad about myself when I haven't made the effort to look like my gender (examples: trans man, trans woman, nonbinary, etc.).	0.27	0.27		**0.32**
26.	I feel embarrassed to be seen when I don't look as good as I could.		0.13		**0.65**
27.	Even when I don't look my best, I can still have a good day.	0.25			**0.32**
28* (BS).	When I see myself naked, I get in a bad mood.	**0.65**			-0.21
29.	I feel ashamed when people misperceive my gender.	**0.44**	0.25	-0.27	
30.	It is important that I make the effort to look my best each day.		0.31	0.13	**0.64**
31* (BS).	When I am with others, I try to hide aspects of my body that I dislike.	**0.73**			
32.	I usually try to hide aspects of my body when being photographed.	**0.70**			
33* (CACB).	Trans people should work hard to blend in with cisgender people.		**0.78**		
34.	I can make my body look good I want if I work hard enough.	-0.12	0.15	**0.46**	**0.36**
35.	Others would perceive me as my gender (examples: trans woman, trans man, nonbinary, etc.) if I tried hard enough.	0.27	0.26	**0.42**	
36* (CACB).	It is important that trans people put in the effort to look like their gender (examples: trans woman, trans man, nonbinary, etc.).		**0.84**		

Item	Statement	BS	AS	GS	CACB
37* (CACB).	Trans people should wear clothes that clearly match their gender (examples: trans woman, trans man, nonbinary, etc.).		**0.78**		
38* (CACB).	Trans people should seek medical interventions to look more like their gender (examples: trans woman, trans man, nonbinary, etc.).		**0.64**		
39.	If trans people want to look good, they should watch what they eat.	0.12	**0.54**	0.27	-0.13
40.	The shape of your body depends a lot on how much you work out.	**0.32**	0.10	**0.48**	
41.	A person can get the body they want if they put in the effort.		0.23	**0.63**	0.17
42.	It is important that I try to change where fat shows up on my body.	**0.59**		0.34	
43.	The shape of your body depends mostly on how much work you put into it.	0.14	0.27	**0.65**	
44* (CACB).	A person can be perceived as their gender (e.g., trans woman, trans man, nonbinary, etc.) if they are willing to work at it.	0.12	**0.35**	**0.37**	

Note. Bolded scores indicate factor loadings >.32. Extraction method: Minimum Residual with oblimin rotation. Items marked with an asterisk (*) were retained for the 21-item OBCT21. In parentheses are the proposed factor labels for the asterisked items. *BS* = Body Shame, *AS* = Appearance Surveillance; *GS* = Gender Surveillance; *CACB* = Cisnormative Appearance Control Beliefs.

Factor structure coefficients were reviewed, from which factor labels were generated. The four factor labels were: Body Shame (BS), Appearance Surveillance (AS), Gender Surveillance (GS), and Cisnormative Appearance Control Beliefs (CACB). The factor labels were determined based on objectified body consciousness theory and specific item content. The original Objectified Body Consciousness scales (McKinley & Hyde, 1996) was comprised of three factors: Surveillance, Shame, and Appearance Control Beliefs. The present scale reflected similar but distinct constructs. For example, the factor label Body Shame was chosen because all items described experiencing negative affect or cognitions specific to one's body. The present study yielded two factors pertinent to surveillance. The factor label Appearance Surveillance was chosen because all items described monitoring one's outward general appearance. This factor is

distinct from the Gender Surveillance factor, in which items tend to reflect monitoring one's gender presentation specifically. Finally, the present study yielded a factor that is similar to McKinley and Hyde's (1996) original Appearance Control Beliefs scale but reflects the unique qualities of TNG individuals' experiences. The label Cisnormative Appearance Control Beliefs was chosen to capture the distinctly cisnormative qualities of the items loading onto that factor.

Optimizing Scale Length. Scale length was optimized per DeVellis (2017) guidelines. Items of the initial OBCT44 pattern matrix were carefully reviewed. Those absent factor loadings greater than or equal to 0.32 were considered for removal. Items that cross-loaded with values greater than or equal to 0.32 on multiple factors were considered for removal per Tabachnik and Fidell's (2001) recommendations. Additionally, each item's factor loading was evaluated for theoretical consistency. Items were removed one at a time, and an exploratory factor analysis was conducted following each item removal. The resulting pattern matrices were successively examined for subsequent item removal or retention.

Eight items (1, 4, 17, 30, 34, 35, 40, and 43) were removed for cross-loading on greater than one factor. Five items (5, 7, 14, 18, and 32) were removed for content redundancy per DeVellis' (2017, pp. 107-109) guidelines for item retention, which favors content redundancy during the scale development process. Four items (19, 22, 26, and 27) were removed for insufficient loading on any one factor. Three items (24, 29, and 42) were removed for conceptual clarity. The remaining 24 items yielded the OBCT24, with each item loading onto one of four factors at a value of at least 0.32 (see Figure 11).

4-Factor Structure of OBCT24

Figure 11. 4-factor structure of OBCT24.

Note. MR1 = Body Shame; *MR2* = Cisnormative Appearance Control Beliefs; *MR3* = Gender Surveillance; *MR4* = Appearance Surveillance.

The communalities of the 4-factor structure of the OBCT24 were carefully examined to determine whether any items could be considered for discard. An item's communality indicates the ratio of its unique variance to its shared variance (Costello & Osbourne, 2005). Cutoff values for communality values vary in the literature, ranging from 0.20 (Child, 2006) to 0.40 (Fabrigar et al., 1999). Two items (21 and 41) were identified and removed from the OBCT24, yielding the OBCT22. A factor analysis of the OBCT22 yielded a 4-factor solution with each item loading onto a single factor at a value of at least 0.32 (see Figure 12).

4-Factor Structure of OBCT22

Figure 12. 4-factor structure of OBCT22.

Note. MR1 = Body Shame; *MR2* = Cisnormative Appearance Control Beliefs; *MR3* = Gender Surveillance; *MR4* = Appearance Surveillance.

The internal consistency of the OBCT22 was examined next. Correlations between each individual item and the overall scale without that item were computed using the R package "psych" (Revelle, 2019). All but one item (39) demonstrated acceptable item-total correlation values ($r > 0.30$). The correlation between item 39 and the whole scale if that item were absent was small ($r = .22$). This item was removed in order to improve internal consistency of the scale, yielding the OBCT21.

A factor analysis was conducted on the OBCT21. As before, minimum residual extraction method and oblimin rotations were specified for a 4-factor model. Each item loaded onto a single factor at a value of at least 0.32 (see Figure 13). Communalities and item-total correlation values were examined for each item and deemed acceptable. The mean communality value was 0.5 ($SD = 0.13$). The mean correlation coefficient for individual items and the set of items if that particular item were removed was 0.46 ($SD = 0.11$). One item (44) had communality value of 0.26, which was determined to be sufficient because its item-total correlation was strong ($r = 0.41$). Therefore, all 21 items of the OBCT21 were retained for the final scale.

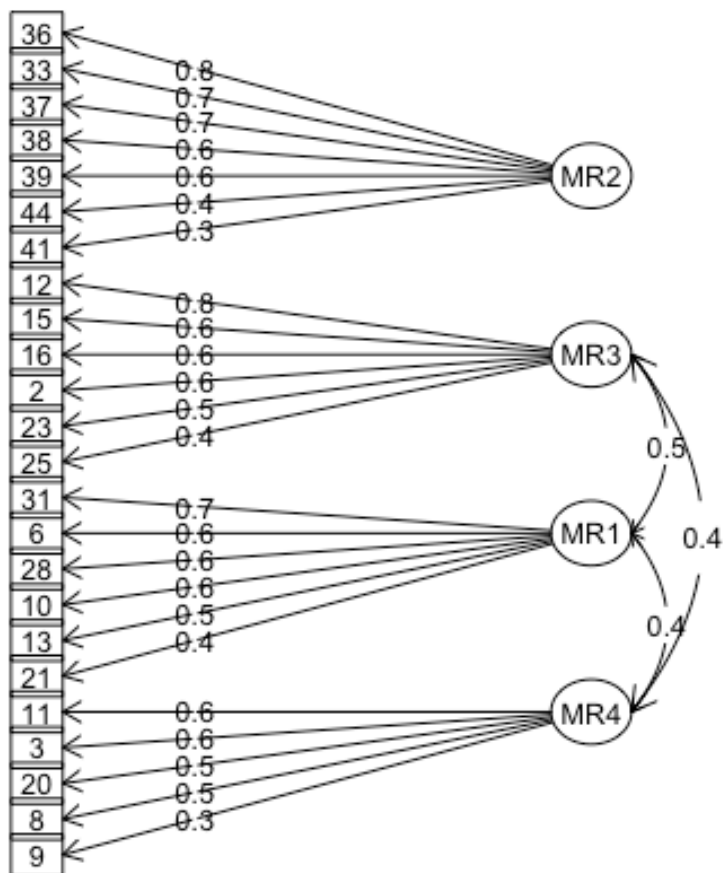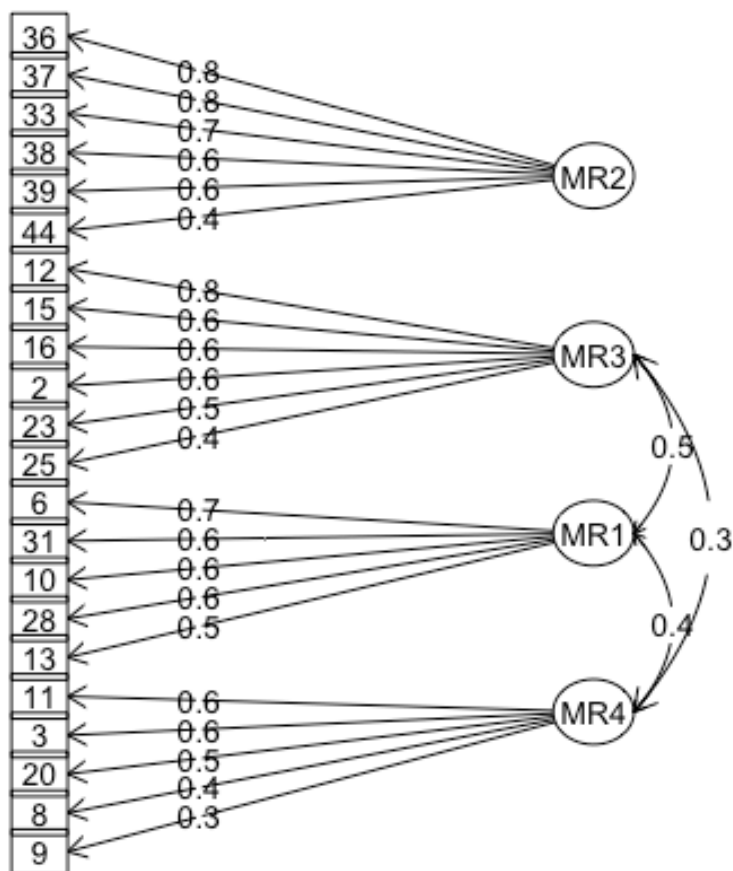## 4-Factor Structure of the OBCT21
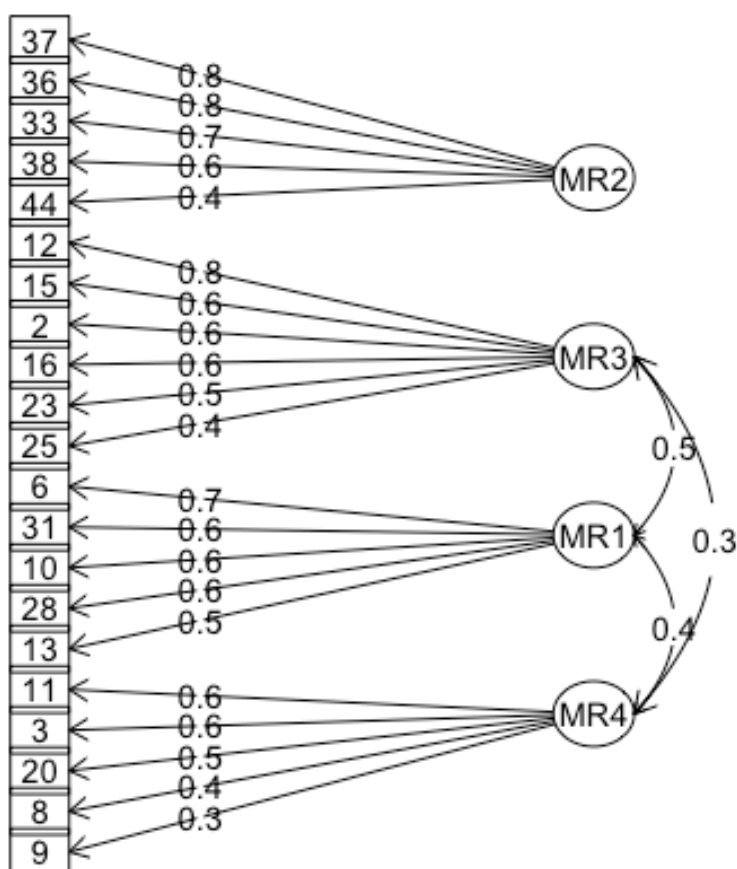
Figure 13. 4-factor structure of OBCT21.

Note. MR1 = Body Shame; *MR2* = Cisnormative Appearance Control Beliefs; *MR3* = Gender Surveillance; *MR4* = Appearance Surveillance.

Horn's (1965) parallel analysis for common factor analysis was conducted on the OBCT21 using the R package "paran" (Dinno, 2018) to determine the factor structure of these items. The 90th centile estimate and a large number of iterations (n = 5,000) were specified to reduce bias, per Glorfeld's (1995) modification recommendations described earlier. Results of Horn's parallel analysis using this Monte Carlo extension yielded 4-factors underlying the OBCT21 items, as anticipated (see Figure 14).
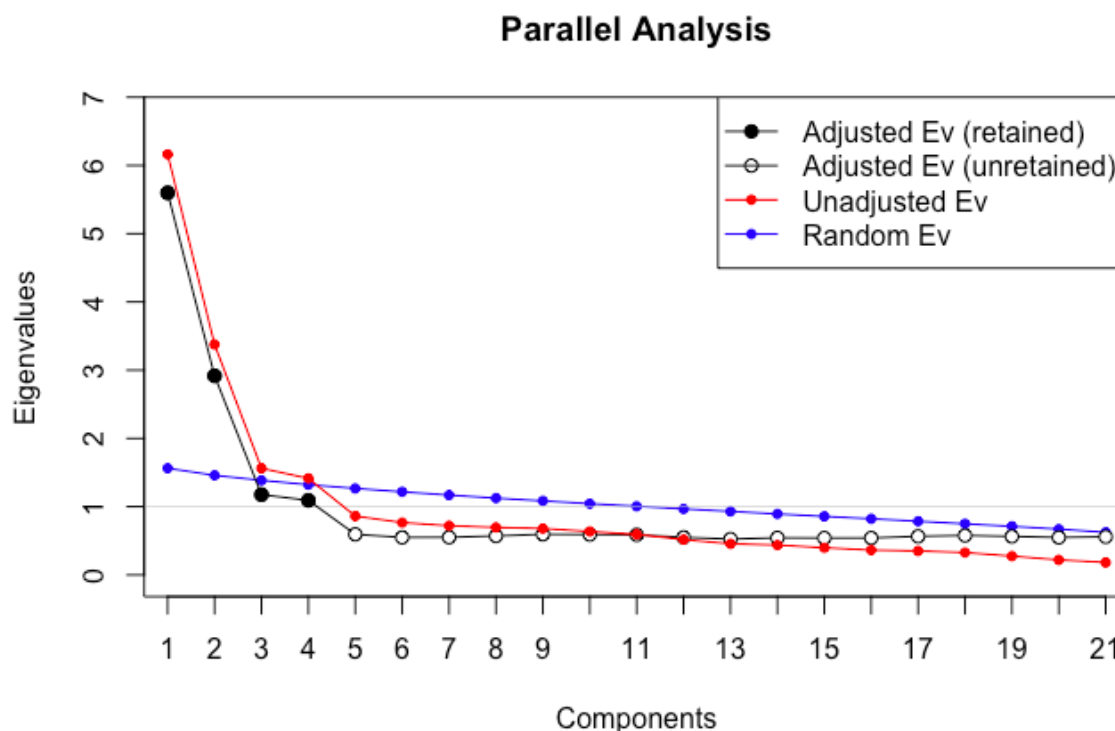
Figure 14. Parallel analysis scree plot of OBCT21 following Glorfeld's (1995) modification guidelines.

The OBCT21 solution was carefully examined to ensure suitability for confirmatory factor analysis. First, within- and between-factor correlations were checked to ensure that the former were greater than the latter. The average within-factor correlation across the four factors

was 0.56; the average between-factor correlation was 0.44. Next, the cumulative variance explained by the solution was confirmed to be least 50 percent of the total variance. Third, the adequacy of the sample size was assessed for the OBCT21; this was acceptable (MSA = 0.86; Kaiser, 1974). Fourth, the determinant of the 21-item correlation matrix was calculated to ensure it was greater than Field's (2013) recommended cutoff value of 0.00001. This was confirmed (det = 6.57 e-05), indicating the absence of multicollinearity in the data.

Scale Reliability. The OBCT21 was determined to be composed of four factors: Body Shame (BS), Appearance Surveillance (AS), Gender Surveillance (GS), and Cisnormative Appearance Control Beliefs (CACB). The BS, AS, and CACB factors each consisted of five items; the GS factor consisted of six items. The BS scale is designed to measure the experience of feeling shame toward one's body. The AS scale is designed to measure the act of monitoring one's general appearance as an outside observer. The GS scale is designed to measure the act of monitoring one's gender presentation as an outside observer. The CACB scale is designed to measure the belief that one is responsible for conforming to cisnormative appearance standards.

Cronbach's alpha coefficients were calculated for the OBCT21 as well as the four individual scales. All demonstrated acceptable internal consistency, (OBCT α = 0.87; BS α = 0.77; CACB α = 0.86; GS α = 0.82; AS α = 0.78). Table 7 shows correlations between scales, as well as Cronbach's alpha coefficients for each.

Table 7

Internal consistency of OBCT21 scale and subscales

	OBCT21	BS	CACB	GS	AS
Factor M	73.26	19.82	11.41	21.69	20.34
Factor SD	11.63	3.74	4.36	5.38	3.40
Factor α	0.87	0.77	0.86	0.82	0.78

BS IC	0.71***	-	-	-	-
CACB IC	0.46***	.02	-	-	-
GS IC	0.84***	0.52***	0.24**	-	-
AS IC	0.72***	0.40***	0.04	0.34***	-

Note. * *p* < .05, ** *p* < .01, *** *p* < .001. OBCT21 = OBCT21 total score; BS = Body Shame subscale of the OBCT21; CACB = Cisnormative Appearance Control Beliefs subscale of the OBCT21; GS = Gender Surveillance subscale of the OBCT21; AS = Appearance Surveillance subscale of the OBCT21; IC = Interfactor Correlations.

Construct Validity

Construct validity of the OBCT was assessed using the R package "psych" (Revelle, 2019). Results regarding convergent validity and discriminant validity are presented below, in order of Study 1 hypotheses.

Hypothesis 1. Surveillance will be associated with attention to how one appears to others but not attention to one's internal feelings. A moderate-to-strong positive correlation will be found between OBCT surveillance scale scores and the Public Body Consciousness scale of the BCQ, indicating convergent validity. Minimal correlation will exist between OBCT surveillance scale scores and the Private Body Consciousness scale of the BCQ, indicating discriminant validity.

Total scores of the Appearance Surveillance (AS) scale and Gender Surveillance (GS) scale were evaluated for their respective associations with total scores of the Public and Private subscales of the Body Consciousness Questionnaire (BCQ) (Miller et al., 1981).

Total scores of the AS scale and the BCQ–Public scale were strongly correlated, such that greater appearance surveillance was associated with greater awareness of observable aspects of the body ($r = 0.49$, $p < .01$). Total scores of the GS scale and the BCQ–Public scale were moderately correlated, such that greater gender surveillance was associated with greater awareness of observable aspects of the body ($r = 0.36$, $p < .01$).

Total scores of the AS scale and the BCQ–Private scale were moderately correlated such that greater appearance surveillance was associated with greater awareness of internal sensations

($r = 0.31$, $p < .01$). Total scores of the GS scale and the BCQ–Private scale were weakly

correlated ($r = 0.20$, $p < .01$).

Hypothesis 2. Shame will be associated with greater internalized transphobia, reflecting internalization of the cisgender gaze. A moderate-to-strong positive correlation will be found between OBCT Body Shame scale and GMSR-Internalized Transphobia scale, indicating convergent validity.

The correlation was calculated between the total scores of the Body Shame (BS) scale

and the Internalized Transphobia (IT) scale of the Gender Minority Stress and Resilience

measure (GMSR; Testa et al., 2015). The two variables were moderately correlated, such that

greater body shame was associated with greater internalized transphobia ($r = 0.41$, $p < .01$).

Hypothesis 3. Shame will be associated with negative attitudes toward one's appearance. A moderate-to-strong negative correlation will be found between OBCT Body Shame scale scores and BESAA-Appearance scale scores, indicating convergent validity.

The correlation was calculated between the total scores of the Body shame (BS) scale and

the Appearance subscale of the Body Esteem Scale for Adolescents and Adults (BESAA;

Mendelson et al., 2001). These variables were strongly negatively correlated, such that greater

body shame was associated with poor general feelings about one's body and appearance ($r = -$

0.63, $p < .01$).

Hypothesis 4. Body shame will be slightly associated with general negative affect. A weak-to-moderate positive correlation will be found between OBCT Body Shame scale scores and PANAS-Negative Affect subscale, indicating discriminant validity.

The correlation was calculated between the total scores of the Body Shame (BS) scale

and the Negative Affect scale of the Positive and Negative Affect Schedule–Short Form

(PANAS-SF; Watson et al., 1988). Scores demonstrated a weak-to-moderate relationship, such

that greater body shame was somewhat associated with general negative mood ($r = 0.29$, $p <$

.01).

Hypothesis 5. Scale scores measuring appearance control beliefs will distinguish people who are

interested in changing their appearance to affirm their gender identity, providing support for convergent validity of the OBCT Cisnormative Appearance Control Beliefs (CACB) scale.

The median score of the Inventory of Interest in Steps to Affirm Gender was computed only for participants ($n = 220$) who completed this measure (i.e., these scores were not multiply imputed and pairwise deletion was utilized to retain a subsample of respondents for whom data on this measure was complete). Participants were categorized as having low, moderate, or high interest in steps to affirm gender such that those with scores greater or less than one standard deviation about the median were considered having high and low interest, respectively.

Total scores of the Cisnormative Appearance Control Beliefs (CACB) scale were compared between groups endorsing high or low interest in steps to affirm gender. A Wilcoxon rank sum test with continuity correction indicated that CACB scores were significantly higher among individuals who endorsed high interest in steps to affirm their gender compared to individuals endorsing low interest in steps to affirm their gender was conducted to compare these groups ($W = 1544$, $p < .001$). Figure 15 is a boxplot displaying differences in CACB scores for these groups.
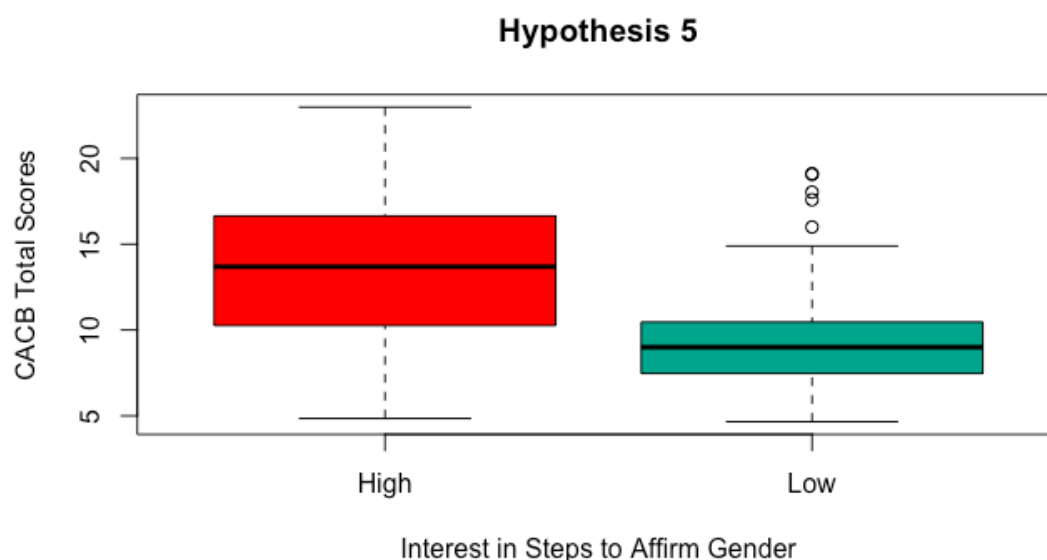
Figure 15. Boxplot of CACB scores grouped by high- and low-interest in steps to affirm gender.

The correlation between the total CACB and total scores of the Inventory of Interest in

Steps to Affirm Gender was small but significant, such that greater endorsement of cisnormative

appearance control beliefs was associated with higher interest in steps to affirm one's gender (*r*

= 0.27, *p* < .01).

Hypothesis 6. Appearance control beliefs will be associated with internal locus of control but not general positive affect. A moderate-to-strong negative correlation will be found between the OBCT CACB scale and the LCB scale, indicating convergent validity. Minimal correlation will be found between the OBCT CACB scale and the PANAS–SF–Positive Affect scale, indicating discriminant validity.

The correlations were calculated between the total scores of the CACB scale, the Locus

of Control of Behavior scale (LCB; Craig et al., 1984), and the Positive Affect scale of the

PANAS-SF (Watson et al., 1988). The CACB scale was weakly negatively correlated with LCB

(*r* = -0.20, *p* < .01), such that greater endorsement of cisnormative appearance control beliefs

was slightly associated with an internal locus of control of behavior. The CACB scale was

weakly-to-moderately correlated with the PANAS–SF–Positive Affect scale, such that greater

endorsement of cisnormative appearance control beliefs was associated with positive mood (*r* =

0.27, *p* < .01).

Hypothesis 7. Moderate-to-strong positive correlations will exist between total scores of individual OBCT scales and related constructs, and weak correlations will exist with unrelated constructs, reflecting accurate predictions of the relationship between OBCT theoretical constructs and validated constructs.

Construct content validity was further assessed using the $r_{alerting-CV}$ (Westen & Rosenthal, 2003). Prior to data collection, predicted correlations between constructs and scales were

generated based on theory and existing research on the topics (Appendix L). These predicted

correlations were compared with obtained correlations from Study 1. The strength of the

association between standardized predicted and obtained correlations was then evaluated. The

association between these was strong ($r = .83, p < .01$). See Table 8 for predicted, obtained, and

differences between predicted and obtained scores for OBCT21 and other scales.

Table 8

Predicted, obtained, and differences between predicted and obtained scores for OBCT21 and other scales.

Scale (α)	Validity Scale (α)	Predicted r	Actual r
OBCT (0.87)			
Appearance Surveillance (0.78)	BCQ–Public (0.68)	0.70	0.49
	BCQ–Private (0.67)	0.20	0.31
Gender Surveillance (0.82)	BCQ–Public	0.70	0.36
	BCQ–Private	0.20	0.20
Body Shame (0.77)	GMSR–Internalized Transphobia (0.88)	0.70	0.41
	BESAA–Appearance (0.87)	-0.70	-0.63
	PANAS–SF –Negative Affect (0.80)	0.40	0.29
Cisnormative Appearance Control Beliefs (0.86)	LCB (0.76)	0.40	-0.20
	PANAS–SF – Positive Affect (0.78)	0.10	0.27
	Inventory of Interest in Steps to Affirm Gender (0.68)	0.50	0.27

Note: BCQ = Body Consciousness Questionnaire; GMSR = Gender Minority Stress and Resilience Measure; BESAA = Body Esteem Scale for Adolescents and Adults; PANAS–SF = Positive and Negative Affect Scale–Short Form; LCB = Locus of Control of Behavior Scale.

Study 2 Results

The purpose of Study 2 is to confirm the validity and reliability of the optimized

proposed OBCT scales. Results are presented in order of Hypotheses. All Study 2 results,

including item-level and scale-level statistics, are based on the "mifa"-imputed covariance

matrix.

Confirmatory Factor Analyses of OBCT21

Hypothesis 1. A confirmatory factor analysis will yield a three-factor structure of the proposed scale.

The R package "lavaan" (Rosseel, 2012) was used for all confirmatory factor analysis (CFA) procedures. It was hypothesized that the OBCT items would yield a 3-factor model similar to that of the original OBC scale (McKinley & Hyde, 1996). However, during the exploratory factor analysis during Study 1, it was determined that a 4-factor model was most accurate. Therefore Hypothesis 1 was not strictly supported.

Four preliminary models were tested through CFA in Study 2: the 4-factor model identified in the EFA, a 3-factor model, a 2-factor model, and a unidimensional factor model. The 3-factor model was a theoretical alternate model that hypothesized that items from the Cisnormative Appearance Control Beliefs scale would load onto one factor, items from the Appearance Surveillance scale and Gender Surveillance scale would load onto a second factor, and items from the Body Shame scale would load onto a third factor. The 2-factor model was a theoretical alternate model that hypothesized that items from the Cisnormative Appearance Control Beliefs scale would load onto one factor, and items from the Appearance Surveillance scale, Body Shame scale, and Gender Surveillance scale would load on another factor. The unidimensional factor hypothesized that all items would load onto a single factor.

Maximum likelihood estimations were used during CFA procedures, and latent factors were standardized to allow free estimation of all factor loadings. All four models converged (see Table 8). The 4-factor model identified in the EFA demonstrated the strongest fit, χ^2 [183] = 447.65, $p < .001$; RMSEA = .07, 90% CI [0.064, 0.081]; SRMR =.05; CFI = .91; TLI = .90. The 3-factor model demonstrated mixed fit χ^2 [186] = 519.92, $p < .001$; RMSEA = .08, 90% CI [0.072, 0.081]; SRMR =.06; CFI = .88; TLI = 0.87. The 2-factor model also demonstrated mixed fit, χ^2 [188] =579.78, $p < .001$; RMSEA = .09, 90% CI [0.079, 0.095]; SRMR =.064; CFI

= .86; TLI = 0.85. The unidimensional model demonstrated poor fit χ^2 [189] = 1383.36, $p <$

.001; RMSEA = .15, 90% CI [0.143, 0.158]; SRMR =.13; CFI = .88; TLI = 0.55.

Table 8

OBCT21 fit indices for 4-factor, 3-factor, 2-factor, and 1-factor models

	Model			
Index	4-factor	3-factor	2-factor	1-factor
Chi-square (df)	447.65 (183)	519.92 (186)	579.78 (188)	1383.4 (189)
RMSEA	0.07	0.08	0.09	0.15
SRMR	0.05	0.06	0.06	0.13
CFI	0.91	0.88	0.86	0.59
TLI	0.90	0.87	0.85	0.55
AIC	15397.62	15459.34	15514.73	16294.69
BIC	15570.70	15621.60	15669.78	16446.13

Note. N = 272.

The 4-factor model fit the data significantly better than the 3-factor solution ($\Delta\chi^2$

=27.378, $p < .001$) and the 2-factor solution ($\Delta\chi^2 = 86.764$, $p < .001$). As expected, the indicators

of the 4-factor model demonstrated significant positive factor loadings, with standardized

coefficients ranging from .49 to .94. Significant positive correlations were also found among all

four latent factors, suggesting that respondents who endorsed one dimension of objectified body

consciousness were likely to endorse other dimensions of the phenomenon as well.

Next, the 4-factor model was compared to an orthogonal model to determine whether the

former—which allowed for covariance among latent factors—would be superior to a simpler

model despite the fact that it must estimate more parameters. The more complex model

demonstrated significantly better fit than the simpler model, ($\Delta\chi^2 = 351.89$, $p < .001$).

The 4-factor CFA solution was further examined regarding *R*-square values, residuals,

and modification indices. It was also assessed for the presence of a Heywood case and whether

the estimates were reasonable and theoretically sound.

Regarding *R*-square values of the 4-factor solution, all were all determined to be less than

1. Additionally, the variances were all positive values as expected. These findings suggest the

absence of a Heywood case. The standard errors were all relatively similar across items; that is there were no overt outliers. Regarding loadings of items onto latent variables of the 4-factor solution, all were acceptable. Each of the 21 items loaded onto its respective factor as anticipated. Regarding modification indices of the 4-factor solution, although several were identified, they neglected to decrease chi square value substantially and were not theoretically meaningful.

Some inter-factor correlations of the first-order 4-factor model were high. Appearance Surveillance and Gender Surveillance were highly correlated ($r = 0.79$), as were Appearance Surveillance and Body Shame ($r = 0.87$). Therefore, a second-order factor model was tested to determine whether a portion of the variance in these latent variables could be explained by another latent variable.

A hierarchical CFA was conducted with a single overarching factor across all four dimensions of the first-order 4-factor model. The second-order factor was hypothesized to be objectified body consciousness based on theory reviewed in Chapter 2 of this document. As expected, fit indices of the second-order 4-factor model were nearly identical to fit indices of the first-order 4-factor model. Overall objectified body consciousness appeared to explain appearance surveillance, gender surveillance, and body shame; it did not appear to explain cisnormative appearance control beliefs. Moreover, the second-order 4-factor model was not significantly better than the first-order 4-factor model ($\Delta\chi^2 = 37.942$, $p > .05$). This hierarchical model was discarded and other explanations of inter-factor correlations were explored.

The correlation between the latent factors in the single-order 4-factor model suggested the presence of multicollinearity. These factors were conceptually distinct based on theory and did not covary completely. Therefore, model misspecification was considered. The OBCT21

items and covariance matrix were closely examined. One item loading on the Body Shame factor (BS5, "I think a lot about my body shape") was identified as misaligned with the theoretical basis of that factor. Item BS5 appeared to capture thoughts about one's body in general rather than negative experiences related to one's body. Therefore, item BS5 was omitted and the 20-item OBCT (OBCT20) was subsequently examined through CFA.

Confirmatory Factor Analyses of OBCT20

The same procedures described above for CFA of OBCT21 were used for OBCT20. As before, four models were initially evaluated. All four models converged (see Table 9). The 4-factor model identified in the EFA demonstrated the strongest fit, χ^2 [164] = 376.412, $p < .001$; RMSEA = .069, 90% CI [0.060, 0.078]; SRMR =.054; CFI = .919; TLI = .907. The 3-factor model demonstrated mixed fit χ^2 [167] = 438.969, $p < .001$; RMSEA = .077, 90% CI [0.069, 0.086]; SRMR =.059; CFI = .897; TLI = 0.883. The 2-factor model also demonstrated mixed fit, χ^2 [169] =510.283, $p < .001$; RMSEA = .086, 90% CI [0.078, 0.095]; SRMR =.063; CFI = .871; TLI = 0.854. The unidimensional model demonstrated poor fit χ^2 [170] = 1292.826, $p < .001$; RMSEA = .156, 90% CI [0.148, 0.164]; SRMR =.139; CFI = .574; TLI = 0.524.

Table 9
OBCT20 fit indices for 4-factor, 3-factor, 2-factor, and 1-factor models

Index	Model			
	4-factor	3-factor	2-factor	1-factor
Chi-square (df)	376.412 (164)	438.969 (167)	510.283 (169)	1292.826 (170)
RMSEA	0.069	0.077	0.086	0.156
SRMR	0.054	0.059	0.063	0.139
CFI	0.919	0.897	0.871	0.574
TLI	0.907	0.883	0.854	0.524
AIC	14827.057	14883.615	14950.929	15737.471
BIC	14992.924	15038.664	15098.767	15875.703

Note. N = 272.

The 4-factor model fit the OBCT20 data significantly better than the 3-factor solution

($\Delta\chi^2 = 62.557$, $p < .001$) and the 2-factor solution ($\Delta\chi^2 = 133.87$, $p < .001$). As expected, the

indicators of the 4-factor model demonstrated significant positive factor loadings, with

standardized coefficients ranging from .47 to .93 (see Figure 16).
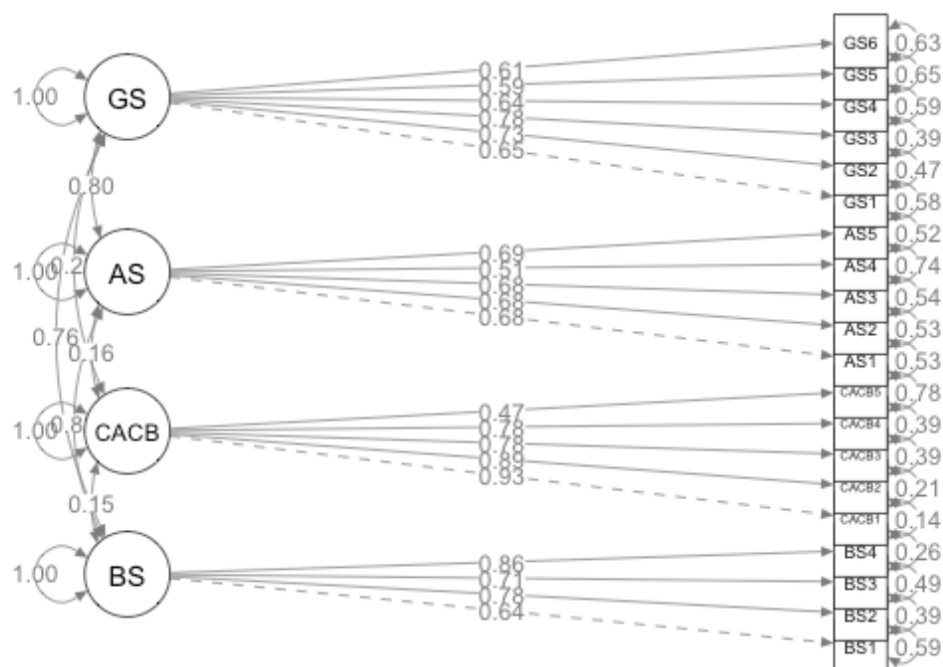
Figure 16. Single-order 4-Factor OBCT20 solution.

Significant positive correlations were also found among all four latent factors, suggesting

that respondents who endorsed one dimension of objectified body consciousness were likely to

endorse other dimensions of the phenomenon as well. Table 10 shows *R*-square values,

standardized factor loadings, standardized covariances between latent variables, and standardized

variance.

Table 10

OBCT20 CFA Results

Latent Variable Item	R-Square	Standardized Loading	Latent Variable Covariance	Standardized Covariance	Standardized Variance
BS			BS		1.00
BS1	0.41	0.64***	AS	0.82***	0.59
BS2	0.61	0.78***	CACB	0.15*	0.39
BS3	0.51	0.71***	GS	0.76***	0.49
BS4	0.74	0.86***			0.26
AS			AS		1.00
AS1	0.47	0.68***	CACB	0.16*	0.53
AS2	0.47	0.69***	GS	0.79***	0.53
AS3	0.46	0.68***			0.54
AS4	0.26	0.51***			0.74
AS5	0.48	0.69***			0.52
CACB			CACB		1.00
CACB1	0.86	0.93***	GS	0.23**	0.14
CACB2	0.79	0.89***			0.21
CACB3	0.61	0.78***			0.39
CACB4	0.61	0.78***			0.39
CACB5	0.22	0.47***			0.78
GS					1.00
GS1	0.42	0.65***			0.58
GS2	0.53	0.73***			0.47
GS3	0.61	0.78***			0.40
GS4	0.41	0.64***			0.59
GS5	0.35	0.60***			0.65
GS6	0.37	0.61***			0.63

Note. $* p < .05$, $** p < .01$, $*** p < .001$. BS = Body Shame scale; CACB = Cisnormative Appearance Control Beliefs scale; GS = Gender Surveillance scale; AS = Appearance Surveillance scale.

As before, the 4-factor OBCT20 solution was further examined regarding R-square values, residuals, modification indices, the presence of a Heywood case, and whether the estimates were reasonable and theoretically sound. There were no concerns identified in these areas. Each of the 20 items loaded onto its respective factor as anticipated.

Data supported the omission of item BS5 in the OBCT20 analyses. Inter-factor correlations of the OBCT20 4-factor model were reduced. Appearance Surveillance and Body Shame factors demonstrated a considerable degree of intercorrelation ($r = 0.82$). Therefore, two

second-order factor models were tested to determine whether a portion of the variance in these latent variables could be explained by another latent variable.

A hierarchical factor model was tested first. As before, a second-order factor was specified and hypothesized to be Objectified Body Consciousness. This second-order OBCT20 4-factor model outperformed the single-order OBCT20 4-factor model, ($\Delta\chi^2 = 2.4104$, $p > .05$); the fit indices of the hierarchical OBCT20 4-factor model were nearly identical with the single-order OBCT20 4-factor model (Table 11).

Table 11
OBCT20 fit indices for single-order, hierarchical, and bifactor models

| | 4-factor Model | | |
Index	Single-order	Hierarchical	Bifactor
Chi-square (df)	376.412 (164)	378.823 (166)	432.950 (166)
RMSEA	0.069	0.069	0.077
SRMR	0.054	0.056	0.078
CFI	0.919	0.919	0.899
TLI	0.907	0.908	0.884
AIC	14827.057	14825.468	14879.595
BIC	14992.924	14984.123	15038.251

Note. N = 272.

However, for the hierarchical OBCT20 4-factor model, the Cisnormative Appearance Control Beliefs factor did not load strongly onto the overarching Objectified Body Consciousness factor, suggesting that the four factors should not be subsumed under a single factor (Figure 17). Therefore, the single-order model was retained (Figure 16, above).
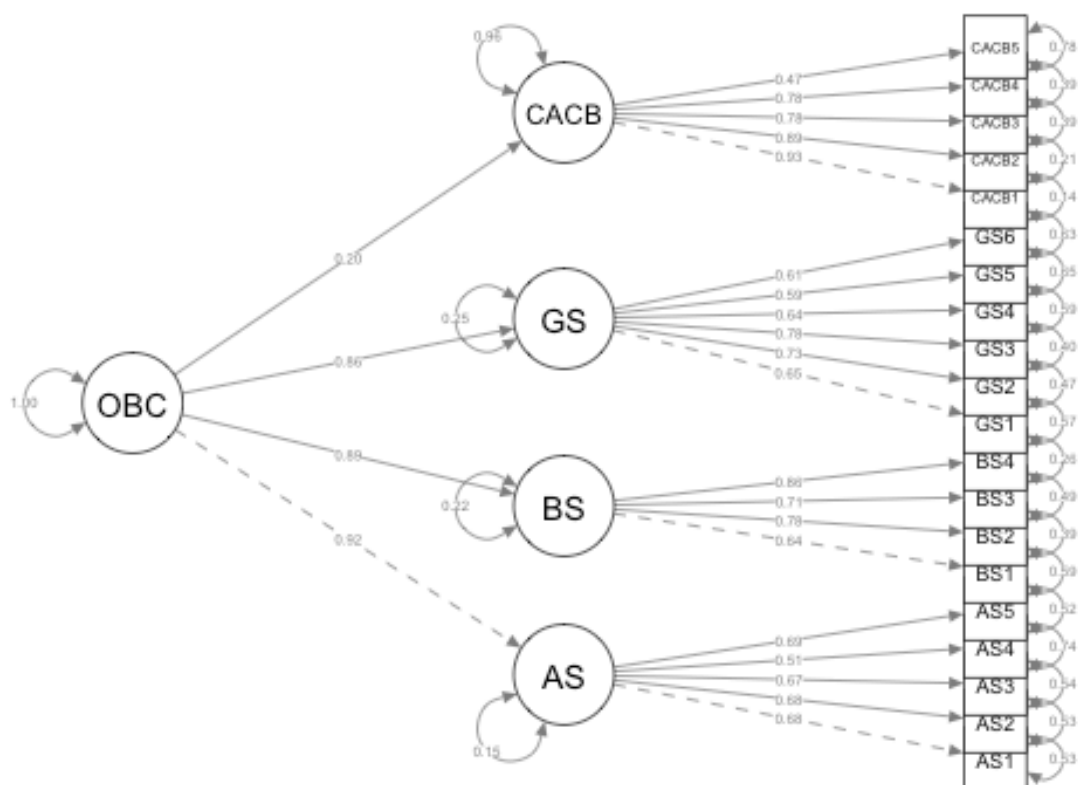
Figure 17. Hierarchical 4-Factor OBCT20 solution.

The final OBCT20 scale (Table 12, below) was comprised of four scales: Body Shame (4 items), Cisnormative Appearance Control Beliefs (5 items), Appearance Surveillance (5 items), and Gender Surveillance (6 items) (see Appendix P for the scale instructions and items presented to participants in randomized order).

Table 12

OBCT20 items and standardized factor loadings

Scale(Item)	Item Content	Standardized Item-Factor Loading

BS(1)	When I see myself naked, I get in a bad mood.	0.64***
BS(2)	When I am with others, I try to hide aspects of my body that I dislike.	0.78***
BS(3)	I think it is important to wear clothes that hide aspects of my body that I dislike.	0.71***
BS(4)	I often think about aspects of my body that I dislike.	0.86***
AS(1)	I think a lot about whether my clothes fit me right.	0.68***
AS(2)	I often think about where my clothes cling to my body.	0.69***
AS(3)	I frequently check to see if my body looks right.	0.68***
AS(4)	It's important to me that my clothes make my body look good.	0.51***
AS(5)	I often think about how I look.	0.69***
CACB(1)	It is important that trans people put in the effort to look like their gender (examples: trans woman, trans man, nonbinary, etc.).	0.93***
CACB(2)	Trans people should wear clothes that clearly match their gender (examples: trans woman, trans man, nonbinary, etc.).	0.89***
CACB(3)	Trans people should seek medical interventions to look more like their gender (examples: trans woman, trans man, nonbinary, etc.).	0.78***
CACB(4)	Trans people should work hard to blend in with cisgender people.	0.78***
CACB(5)	A person can be perceived as their gender (examples: trans woman, trans man, nonbinary, etc.) if they are willing to work at it.	0.47***
GS(1)	I often wonder about whether people are staring at me.	0.65***
GS(2)	I often think about whether aspects of my body make me stick out as trans.	0.73***
GS(3)	I often think about whether people can tell I am trans.	0.78***
GS(4)	When I get dressed in the morning, I think a lot about how others will perceive my gender.	0.64***
GS(5)	I worry that something is wrong with me when I am misgendered.	0.60***

| | I feel bad about myself when I haven't made the effort to look like my gender (examples: trans man, trans | 0.61*** |
| GS(6) | woman, nonbinary, etc.). | |

*Note. * p < .05, ** p < .01, *** p < .001. BS = Body Shame scale; CACB = Cisnormative Appearance Control Beliefs scale; GS = Gender Surveillance scale; AS = Appearance Surveillance scale.

A bifactor model was tested next. As before, a second-order factor was specified and thought to be Objectified Body Consciousness. This bifactor OBCT20 4-factor failed to outperform the single-order OBCT20 4-factor model, ($\Delta\chi^2 = 56.538$, $p < .01$). The fit indices of the bifactor OBCT20 4-factor model were weaker than those of the single-order OBCT20 4-factor model (Table 11). Similar to the hierarchical model, the Objectified Body Consciousness general factor did not load strongly onto the Cisnormative Appearance Control Beliefs items (Figure 18). Again, the single-order OBCT 4-factor model was retained (Figure 16, above).

Discriminant validity between the four factors of the single-order 4-factor OBCT20 model was determined using the R package "semTools" (Jorgensen et al., 2019). Specifically, the heterotrait-monotrait ratio of the interfactor correlations was calculated; this is the average of the indicator correlations across distinct constructs relative to the average of the correlations of indicators within the same construct (Henseler et al., 2015). The resulting estimates were all below 0.80, therefore providing support for discriminant validity.
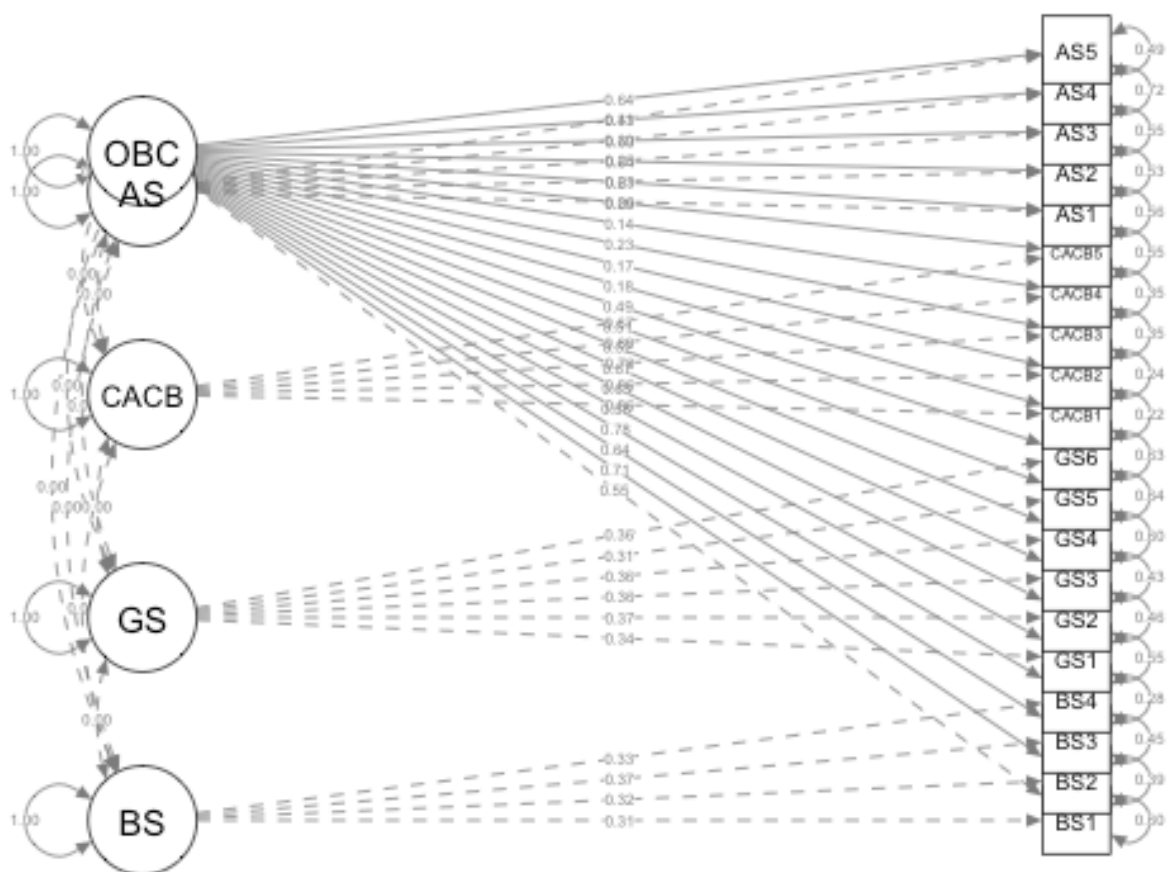
Figure 18. Bifactor 4-Factor OBCT20 solution.

In summary, CFA yielded a final 20-item OBCT scale with 4 unique factors: Body

Shame (BS), Gender Surveillance (GS), Appearance Surveillance (AS), and Cisnormative

Appearance Control Beliefs (CACB). The BS scale is designed to measure the experience of

feeling shame toward one's body. The GS scale is designed to measure the act of monitoring

one's gender presentation as an outside observer. The AS scale is designed to measure the act of

monitoring one's general appearance as an outside observer. The CACB scale is designed to

measure the belief that one is responsible for conforming to cisnormative appearance standards.

Table 13 displays internal consistency and interfactor correlations of the final 20-item OBCT

measure from Study 2.

Table 13

Internal consistency of OBCT.

	OBCT-T	BS	CACB	GS	AS
Factor *M*	-	3.78	2.28	3.56	4.05
Factor *SD*	-	0.96	1.08	0.98	0.76
Factor α	0.89	0.84	0.88	0.83	0.79
BS IC	-	-	-	-	-
CACB IC	-	.14*	-	-	-
GS IC	-	0.52***	0.22**	-	-
AS IC	-	0.48***	0.13*	0.49***	-

Note. * *p* < .05, ** *p* < .01, *** *p* < .001. OBCT = Objectified Body Consciousness Scale for Trans and Nonbinary Adults; BS = Body Shame scale; CACB = Cisnormative Appearance Control Beliefs scale; GS = Gender Surveillance scale; AS = Appearance Surveillance scale; IC = Interfactor Correlations. OBCT scale correlations are based on multiply imputed covariance matrix. Factor *M* and Factor *SD* are average scores based on multiply imputed data.

Hypothesis 2. Surveillance will be associated with preoccupation with other's opinions about one's appearance.

It was originally hypothesized that the proposed OBCT measure would yield only one

scale pertaining to the construct of surveillance. However, two scales related to surveillance

emerged: AS and GS. In order to test Hypothesis 2, total scores for each of these scales was

examined in relation to total scores of the BESAA-Attribution scale, which is designed to

measure attributions of how others evaluate one's appearance. The relationship between AS and

BESAA-Attribution was nonsignificant (r = -.10, p > .05), providing evidence of discriminant

validity. A moderate negative correlation between GS and BESAA-Attribution was revealed (r =

-.30, $p < .001$), such that greater gender surveillance was associated with preoccupation that others negatively evaluate one's body appearance. This finding provides evidence of convergent validity for the GS scale.

Hypothesis 3. Body shame will be associated with perceptions that one's body is flawed, reflecting internalization of the cisgender gaze.

The relationship between BS scale total scores and the Modified Idiographic Self-Concept Questionnaire Real-Ideal (RI) discrepancy scores was assessed to determine whether shame about one's body is associated with body dissatisfaction. A weak-to-moderate positive correlation between BS and RI was revealed ($r = .27, p < .001$), such that greater body shame was associated with greater discrepancy between one's actual body features and ideal body features. This finding provides evidence for convergent validity for the BS scale.

Hypothesis 4. Appearance control beliefs will be associated with perceptions that one's body does not appear how it should.

The relationship between CACB scale total scores and the Modified Idiographic Self-Concept Questionnaire Real-Ought (RO) discrepancy scores was assessed to determine whether the latter construct is associated with perceptions that one's body features are incongruent with societal expectations. A weak-to-moderate negative correlation between CACB and RO was revealed ($r = -.27, p < .001$), such that greater endorsement of cisnormative appearance control beliefs was associated with lesser discrepancy between one's actual body features and perceived societal expectations about how one's body ought to appear. In other words, respondents who reported that their actual body features are more closely aligned with their perception of societal expectations of their body were more likely to endorse cisnormative appearance control beliefs. This finding provides evidence of convergent validity for the CACB scale, although not in the anticipated direction. This is discussed in Chapter 5.

Hypothesis 5. Resiliency will serve as a protective factor against body surveillance and body shame.

Connection with a TNG community and pride in one's gender identity and expression were hypothesized to protect against surveillance of and shame towards one's body. The relationships between BS, AS, and GS total scores with GMSR Community Connectedness (CC) and Pride total scores were assessed. A nonsignificant relationship was found between BS and CC, $(r = .06, p > .05)$. A significant but negligible relationship was found between BS and Pride, $(r = -.15, p < .001)$, such that greater pride in one's gender identity and expression was associated with less body shame; however, this correlation was negligible and statistical significance is likely an artifact of sample size. A nonsignificant relationship was found between AS and CC, $(r = .12, p > .05)$, as well as between AS and Pride, $(r = .03, p > .05)$. Similarly, a nonsignificant relationship was found between GS and CC, $(r = .10, p > .05)$, as well as between GS and Pride, $(r = -.12, p > .05)$. In summary, Hypothesis 5 was not supported; resiliency factors were not associated with reduced surveillance or shame toward one's body.

Exploring Other Relationships Between Data

Relationships between total scores of quantitative scales and OBCT scales were explored using correlation analyses. They are described below as well as in Table 14.

Table 14

Correlations between OBCT20 scales and other

Measure	Cronbach's α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. OBC-T	0.89	1																
2. BS	0.84	0.8	1															
3. CACB	0.88	0.53	0.17	1														
4. AS	0.79	0.79	0.64	0.17	1													
5. GS	0.83	0.85	0.64	0.21	0.13	1												
6. BESAA-At	0.82	-0.23	-0.34	0.02	0.21	-0.29	1											
7. RO	0.88	-0.05	0.09	-0.27	0.07	-0.11	-0.21	1										
8. RI	0.89	0.14	0.27	-0.2	0.19	0.18	-0.31	0.61	1									
9. GMSR-P	0.83	-0.08	-0.15	0	0.03	-0.12	0.17	-0.28	-0.31	1								
10. GMSR-CC	0.78	0.05	0.06	-0.11	0.12	0.1	0.07	0.01	0.06	0.31	1							
11. GMSR-IT	0.9	0.47	0.37	0.35	0.24	0.41	-0.11	-0.23	-0.13	-0.23	-0.26	1						
12. GMSR-D	0.67	0.26	0.17	0.14	0.2	0.26	-0.02	-0.17	-0.19	0.09	-0.05	0.25	1					
13. GMSR-R	0.68	0.38	0.34	0.22	0.32	0.26	-0.11	-0.17	-0.09	0.11	-0.05	0.29	0.5	1				
14. GMSR-V	0.78	0.27	0.18	0.27	0.16	0.17	0.03	-0.21	-0.19	0.15	-0.08	0.33	0.61	0.58	1			
15. GMSR-NA	0.88	0.28	0.28	-0.02	0.23	0.35	-0.17	-0.13	-0.02	0.11	0.05	0.34	0.27	0.34	0.27	1		
16. GMSR-NE	0.87	0.39	0.36	0.13	0.29	0.39	-0.23	-0.02	0.01	-0.17	-0.08	0.43	0.36	0.49	0.37	0.45	1	
17. GMSR-ND	0.82	0.5	0.37	0.27	0.38	0.45	-0.13	0.01	0.08	-0.28	-0.1	0.46	0.25	0.32	0.29	0.18	0.47	1

Note. OBCT20 = Total score across all four scales; BS = Body Shame; CACB = Cisnormative Appearance Control Beliefs; AS = Appearance Surveillance; GS = Gender Surveillance; BESAA-At = Body Esteem Scale for Adolescents and Adults Attribution subscale; RO = Modified Idiographic Self-Discrepancy Questionnaire Real-Ought Discrepancy; RI = Modified Idiographic Self-Discrepancy Questionnaire Real-Ideal Discrepancy; GMSR = Gender Minority Stress and Resilience measure; P = Pride; CC = Community Connectedness; IT = Internalized Transphobia; D = Discrimination; R = Rejection; V = Victimization; NA = Non-Affirmation; NE = Negative Expectations; ND = Non-Disclosure.

Body Shame (BS). Greater body shame was associated with greater perception that others negatively evaluate one's body appearance as measured by the BESAA–Attribution scale ($r = -.34$, $p < .001$), greater gender-related rejection as measured by the GMSR Rejection subscale ($r = .34$, $p < .001$), greater non-affirmation of gender identity as measured by the GMSR Non-Affirmation subscale ($r = .28$, $p < .001$), lesser disclosure of one's gender identity or gender history as measured by the GMSR Non-Disclosure subscale ($r = .37$, $p < .001$), greater negative expectations for future events as measured by the GMSR Negative Expectations subscale ($r = .36$, $p < .001$), greater discrepancy between one's actual body and one's ideal body as measured by the Real-Ideal discrepancy score of the modified idiographic Self Concept Questionnaire ($r = .27$, $p < .001$), and greater internalized transphobia as measured by the GMSR Internalized Transphobia subscale ($r = .37$, $p < .001$).

Appearance Surveillance (AS). Greater appearance surveillance was associated with greater gender-related rejection as measured by the GMSR Rejection scale ($r = .32$, $p < .001$), lesser disclosure of one's gender identity or gender history as measured by the GMSR Non-Disclosure scale ($r = .38$, $p < .001$), and greater negative expectations for future events as measured by the GMSR Negative Expectations scale ($r = .29$, $p < .001$).

Gender Surveillance (GS). Greater gender surveillance was associated with greater gender-related discrimination as measured by the GMSR Discrimination scale ($r = .26$, $p < .001$), greater gender-related rejection as measured by the GMSR Rejection scale ($r = .26$, $p < .001$), greater non-affirmation of gender identity as measured by the GMSR Non-Affirmation scale ($r = .34$, $p < .001$), lesser disclosure of one's gender identity or gender history as measured by the GMSR Non-Disclosure scale ($r = .45$, $p < .001$), greater negative expectations for future events

as measured by the GMSR Negative Expectations scale ($r = .39$, $p < .001$), and greater internalized transphobia as measured by the GMSR IT scale ($r = .41$, $p < .001$).

Cisnormative Appearance Control Beliefs (CACB). Greater endorsement of cisnormative appearance control beliefs was associated with greater gender-related victimization as measured by the GMSR Victimization scale ($r = .27$, $p < .001$), lesser disclosure of one's gender identity or gender history as measured by the GMSR Non-Disclosure scale ($r = .27$, $p < .001$), and greater internalized transphobia as measured by the GMSR Internalized Transphobia scale ($r = .35$, $p < .001$).

Mean Differences in OBCT Scale Scores by Gender. OBCT scale scores were compared by gender identity (man, nonbinary, woman) to determine whether body objectification experiences differed. Additionally, OBCT scale scores were compared between respondents with a nonbinary gender and respondents with a binary gender (i.e., man or woman). Only cases for which respondents reported their gender identity were included in these analyses ($n = 209$). The sample included men ($n = 61$), nonbinary ($n = 101$), and women ($n = 47$) respondents. Men and women were collapsed into a single binary gender group for analyses comparing nonbinary and binary respondents. Because the sample was not normally distributed, nonparametric analyses were conducted for each OBCT scale. Total scores for each OBCT scale by gender were visually examined in strip plots prior to analyses (Figure 19).
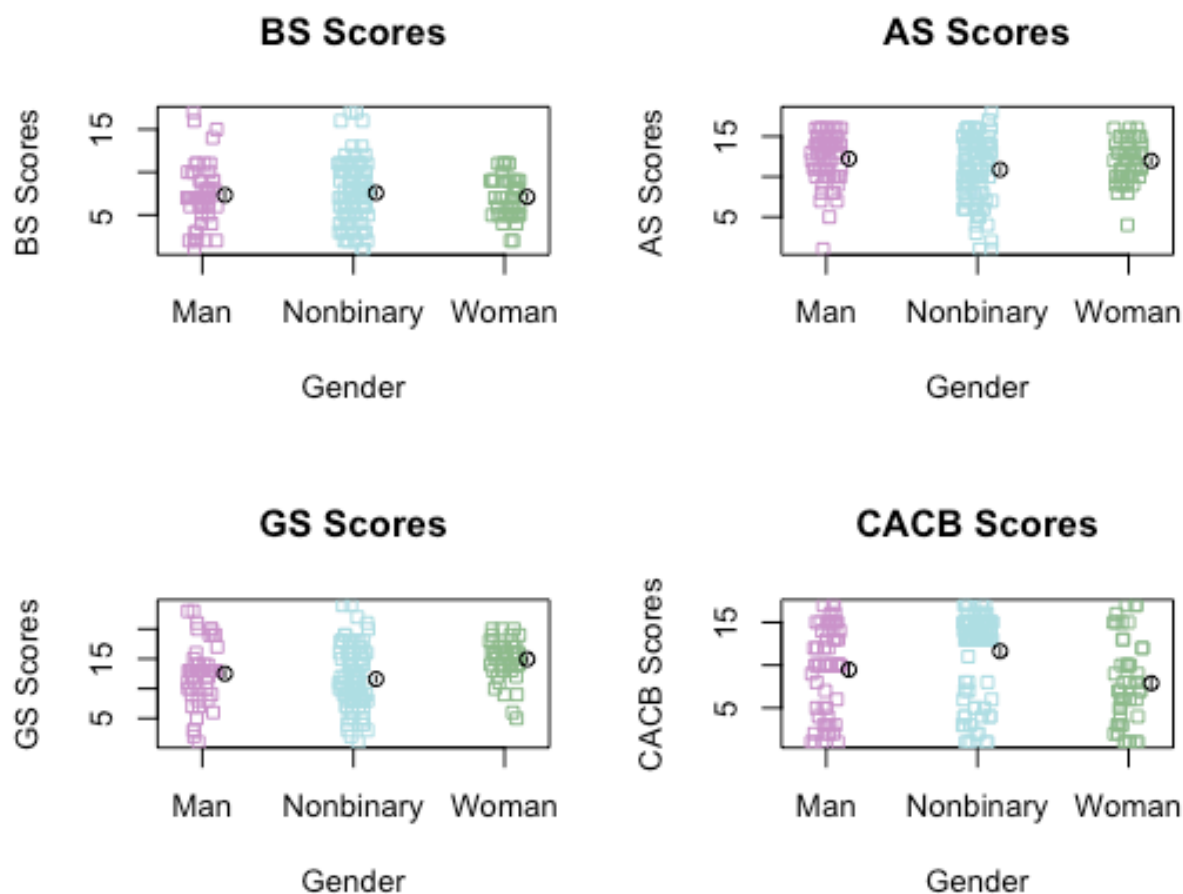
Figure 19. Strip plots of OBCT total scores by gender.

Gender Differences in Body Shame (BS) Scores. The Kruskal-Wallace test by ranks was performed to assess whether there were significant differences in BS scores between men, nonbinary, and women respondents. BS scores did not significantly differ by gender ($p = 0.66$). The Wilcoxon rank sum test with continuity correction was performed to assess whether there were significant differences in BS scores between nonbinary and binary (i.e., men and women) respondents. BS scores did not significantly differ between nonbinary and binary respondents ($p = 0.38$). Figure 20 displays boxplots of BS scores by gender and non/binary identity.
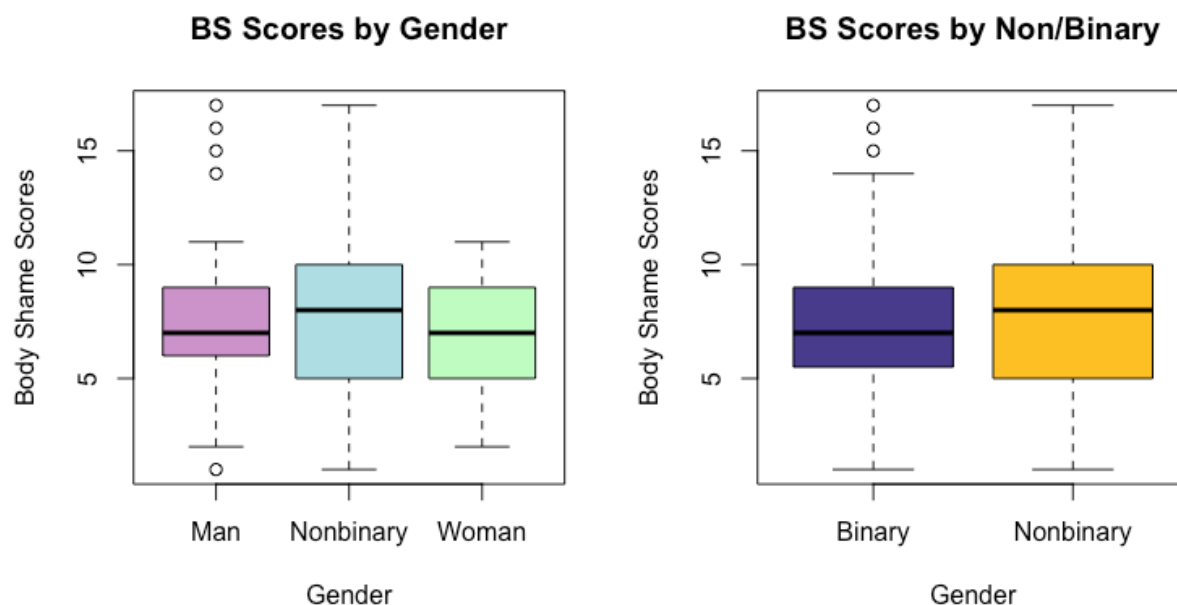
Figure 20. Boxplots of Body Shame scores by gender and non/binary identity.

Gender Differences in Appearance Surveillance Scores. The Kruskal-Wallace test by ranks revealed no significant differences in AS scores between men, nonbinary, and women respondents ($p = 0.06$). The Wilcoxon rank sum test with continuity correction revealed significant differences in AS scores between nonbinary and binary (i.e., men and women) respondents ($p = 0.03$). Respondents with a binary gender identity scored significantly higher on the AS scale than nonbinary respondents. Figure 21 displays boxplots of AS scores by gender and non/binary identity.
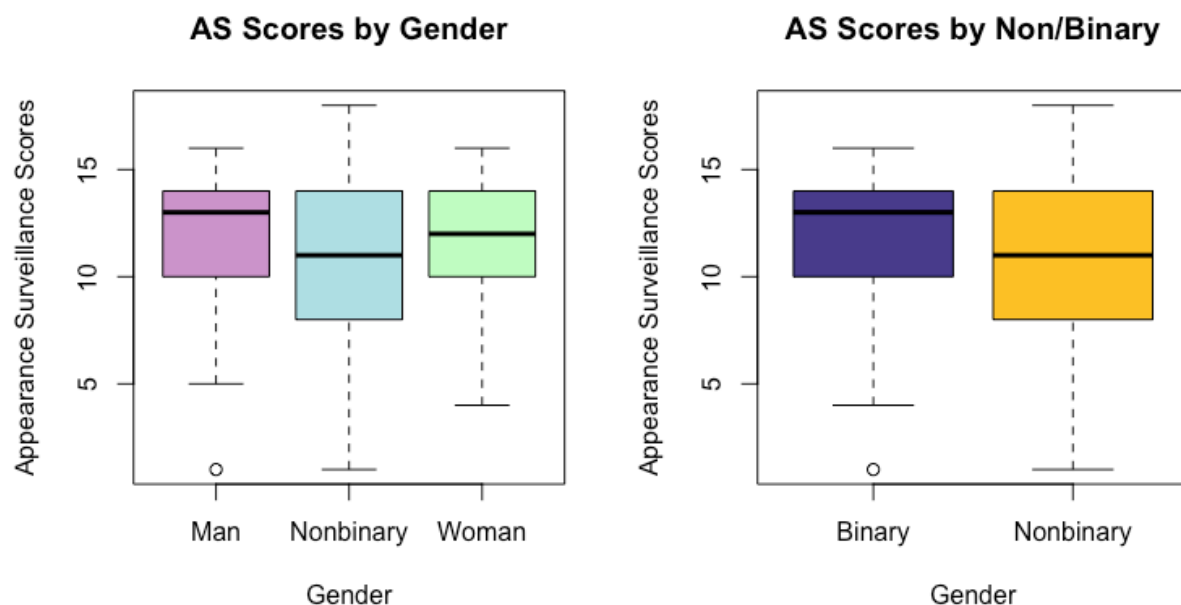
Figure 21. Boxplots of Appearance Surveillance scores by gender and non/binary identity.

Gender Differences in Gender Surveillance Scores. The Kruskal-Wallace test by ranks revealed significant differences in GS scores between men, nonbinary, and women respondents ($p < 0.01$). Women had significantly higher GS scores than men. The Wilcoxon rank sum test with continuity correction revealed significant differences in GS scores between nonbinary and binary (i.e., men and women) respondents ($p < 0.01$). Respondents with a binary gender identity scored significantly higher on the GS scale than nonbinary respondents. Figure 22 displays boxplots of GS scores by gender and non/binary identity.
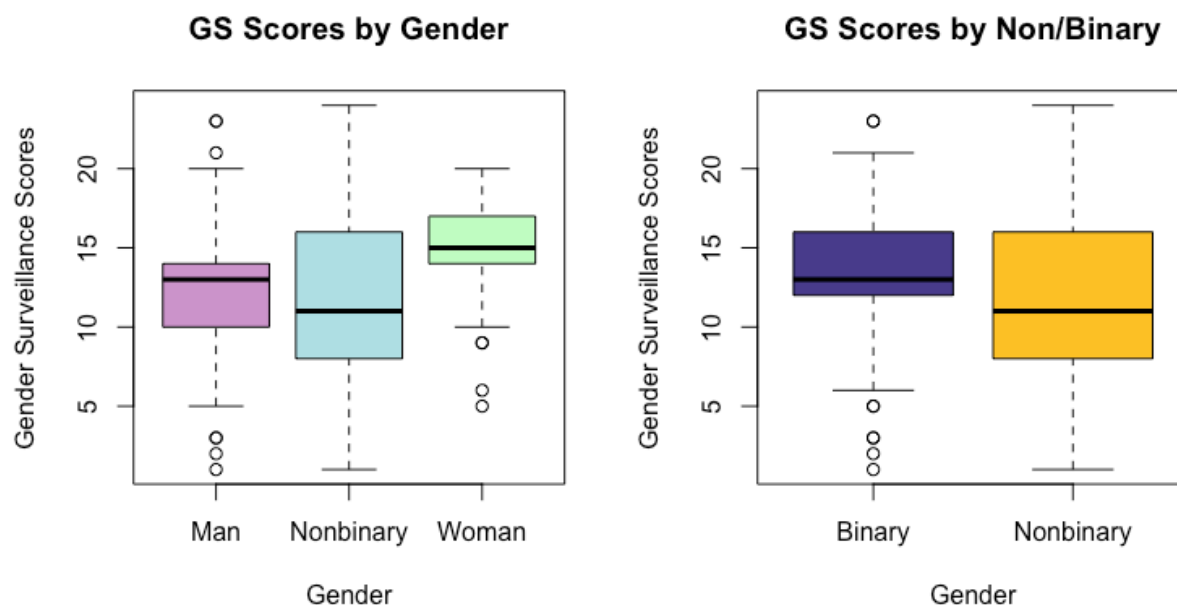
Figure 22. Boxplots of Gender Surveillance scores by gender and non/binary identity.

Gender Differences in Cisnormative Appearance Control Beliefs (CACB) Scores. The Kruskal-Wallace test by ranks revealed significant differences in CACB scores between men, nonbinary, and women respondents ($p < 0.00$). Nonbinary respondents scored significantly higher on the CACB scale than women. The Wilcoxon rank sum test with continuity correction revealed significant differences in CACB scores between nonbinary and binary (i.e., men and women) respondents ($p < 0.00$). Nonbinary respondents scored significantly higher on the CACB scale than respondents with a binary gender identity. Figure 23 displays boxplots of CACB scores by gender and non/binary identity.
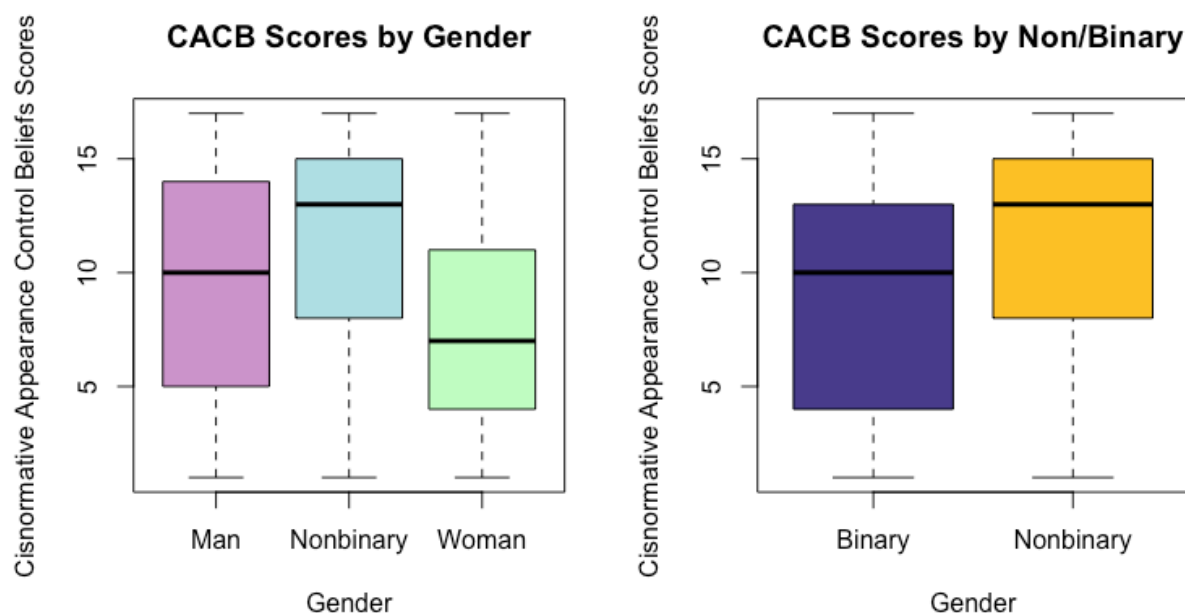
Figure 23. Boxplots of Cisnormative Appearance Control Beliefs scores by gender and non/binary identity.

Chapter 5: Discussion

Objectification theory asserts that one internalizes sociocultural body standards by which one then judges their own body (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996). According to the theory, sexual objectification experiences among women and girls yield the belief that their value is contingent upon their conformity to societal appearance ideals, which in turn yields a pattern of self-objectification (e.g., perpetual monitoring of one's appearance, feeling ashamed when one's appearance does not meet societal expectations, etc.) (Fredrickson & Roberts, 1997; McKinley & Hyde, 1996).

Objectification theory offers a compelling framework for understanding body experiences among TNG individuals (Moradi, 2010). The broader dehumanization process against TNG individuals requires a psychometrically sound measure that captures the intersectionality of gender minority stress and body objectification (Moradi, 2013). A powerful

and related construct is objectified body consciousness, which describes the internalization of societal body standards and the belief that they are self-originating, achievable, and duty-bound (i.e., that one is responsible for achieving them) (McKinley & Hyde, 1996). The original Objectified Body Consciousness scale (OBC; McKinley & Hyde, 1996) is a valid measure of this construct among cisgender women and girls but has not demonstrated validity among transgender women (Rosenkranz & Barr, 2016). The purpose of this dissertation is to develop and validate a new measure of objectified body consciousness among TNG individuals.

The Objectified Body Consciousness Scale for Trans and Nonbinary Adults (OBCT) was designed based on extant gender theory, queer theory, and objectification theory. In Study 1, I tailored the three constructs of the original OBC scale (McKinley & Hyde, 1996) to better reflect the experience of TNG individuals, and for each construct I generated a small item pool. These small item pools were presented to TNG individuals from the community who then generated a larger pool of items for each construct and opined on each item and construct. Content experts and focus groups then provided feedback on the items and constructs. The resultant OBCT initially had 61 items (i.e., the OBCT-61) that were piloted with a small sample of community members, and subsequently administered with additional measures to a development sample. Following DeVellis' (2017) best practices for item analysis, 17 items were dropped from the OBCT61, yielding the 44-item the OBCT44. Exploratory factor analysis suggested an underlying factor structure of four factors, rather than the hypothesized three, and yielded the 21-item OBCT21.

In Study 2, the OBCT21 and additional validity measures were administered to a second sample to assess construct validity. Confirmatory factor analysis provided support for a 4-factor model; however, latent factors were highly correlated despite being conceptually distinct. One

item was omitted from the OBCT21 based on theoretical basis of its corresponding factor. The resultant 20-item OBCT20 was subsequently examined through confirmatory factor analysis. This analysis provided greater support for a 4-factor model and suspected multicollinearity resolved. Single-order, bifactor, and hierarchical confirmatory factor analyses were tested. A single-order 4-factor model was determined to be the best fit based on fit indices and theory. Many, but not all, of the OBCT scale hypotheses were supported. These are described in detail below.

Study 1 Hypothesis 1

I hypothesized that surveillance would be associated with attention to one's appearance and unrelated to attention to one's internal sensations. Although a single body surveillance construct was not found during the exploratory factor analysis, two related surveillance constructs emerged: Appearance Surveillance (AS) and Gender Surveillance (GS). I tested correlations between total scores of the AS scale with the Public and Private scales of the Body Consciousness Questionnaire (BCQ) (Miller et al., 1981). The same process was followed for the GS scale.

This hypothesis was partially supported. There was support for convergent validity of the AS scale, which demonstrated a strong association with attention to one's appearance. Similarly, there was support for convergent validity of the GS scale, which demonstrated a moderate association with attention to one's appearance. The relationship between surveillance and preoccupation with appearance was stronger for the AS scale than it was for the GS scale, indicating that the scales do indeed measure distinct aspects of surveillance.

The AS scale and GS scale were each more strongly associated with attention to one's appearance than to one's internal sensations, providing preliminary evidence of discriminant

validity. The AS scale did not demonstrate discriminant validity as measured by the BCQ-Private scale, as the two had a moderately sized relationship with each other. There was stronger evidence of discriminant validity for the GS scale, which demonstrated a weak association with the BCQ-Private scale measuring attention to one's internal sensations.

Study 1 Hypothesis 2

I hypothesized that body shame would be associated with internalized transphobia, reflecting the internalization of the cisgender gaze—that is, the phenomenon of cisgender objectification of TNG individuals (Cava, 2016; Serano, 2007). I calculated the correlation between the total scores of the OBCT Body Shame (BS) scale and the Internalized Transphobia (IT) scale of the Gender Minority Stress and Resilience measure (GMSR; Testa et al., 2015). This hypothesis was supported, such that greater body shame was moderately associated with greater internalized transphobia. Therefore, there was evidence of convergent validity for the BS scale.

The relationship between body shame and internalized transphobia illustrates the utility of objectification theory in advancing gender affirmative research related to body experiences among TNG individuals. The OBCT BS scale begins to answer Moradi's (2013) call for capturing the intersection of gender minority stress and body objectification related to the overarching dehumanization processes that TNG individuals experience in a cisnormative society (Moradi, 2013).

The relationship between body shame and internalized transphobia also provides some quantitative support for Rood and colleagues' (2017) qualitative study on the internalization of societal messages among TNG individuals. The authors interviewed a diverse sample of 30 TNG individuals about their internalization of societal norms related to TNG identities, revealing six

themes underscoring the practically ubiquitous experience of social marginalization in this population. These themes are described in detail in the authors' report, but broadly include: negative societal messages about TNG identities, the role of media and religious ideologies in promulgating these negative societal messages, emotional distress among TNG individuals related to these negative societal messages, internalization of these negative societal messages among TNG individuals, resilience against these negative societal messages, and differential impact of these societal messages among TNG people of color.

The current study provides quantitative support for Rood and colleagues' (2017) assertion that emotional distress (i.e., shame) is related to the internalization of negative societal messages about TNG identities. However, the differential impact of these societal messages among TNG people of color was not ascertained in the current study. People of color in the United States may experience compounded internalization of societal body standards both for body shape and for body features associated with whiteness (Grabe & Hyde, 2006). The current study did not examine whether or to what extent TNG people of color diverged from white TNG people regarding objectified body consciousness.

Study 1 Hypothesis 3

I hypothesized that body shame would be associated with general negative attitudes towards one's appearance. I calculated the correlations between the total scores of the OBCT Body Shame (BS) scale and the Appearance subscale of the Body Esteem Scale for Adolescents and Adults (BESAA; Mendelson et al., 2001). Body shame was strongly associated with general negative feelings about one's body and appearance. This provided additional support for convergent validity of the BS scale.

General negative feelings about one's body and appearance among TNG individuals may reflect internalized stigma of not conforming to societal body standards and, for some, psychological distress rooted in incongruence between gender identity and sex assigned at birth (i.e., gender dysphoria). A recent study found that body shame was associated with depressive symptoms among trans women and trans men, and also associated with internalization of thinness ideals among trans men (Strübel et al., 2020). The authors postulated that the thinness ideals were especially relevant for trans men because they may be motivated to maximize muscle mass to appear more masculine, as well as minimize body fat to suppress feminized body features (e.g., hips). Another study examined the impact of gender affirming medical interventions (e.g., hormone therapy, top surgery, bottom surgery) on body image satisfaction, gender congruence, and mental health among 697 geographically diverse TNG adults (Owen-Smith et al., 2018). This large study found that as the extent of gender affirming medical interventions increased, body image satisfaction and gender congruence also increased. Similarly, as the extent of gender affirming medical interventions increased, depression and anxiety decreased. Taken together, these studies support the notion that greater body shame would be associated with greater general negative feelings about one's body appearance due to incongruence between one's body and internalized body standards as well as gender identity.

Study 1 Hypothesis 4

I hypothesized that body shame would have a weak-to-moderate association with general negative affect, providing evidence of discriminant validity. I calculated the correlation between the total scores of the OBCT Body Shame (BS) scale and the Negative Affect scale of the Positive and Negative Affect Schedule–Short Form (PANAS–SF; Watson et al., 1988). Although DeVellis (2017) recommends that null-to-weak correlations suggest discriminant validity, I

considered the high rates of psychological distress among TNG individuals when postulating the relationship between body shame and general negative affect among this population.

Body shame was weakly associated with general negative affect, providing evidence for discriminant validity of the BS scale. This finding indicates that the BS scale is not merely measuring negative affect. Although shame may be considered one form of negative affect, shame is a specific emotion that necessitates comparison. For example, body shame results from concluding that one's own body is inadequate compared to other bodies (Fredrickson & Roberts, 1997).

The literature is divided on the topic of body shame among TNG individuals. Strübel and colleagues (2020) detailed the literature arguing that TNG individuals are predisposed to experience body shame, as well as the case for greater body acceptance among TNG individuals. They posited that body shame among TNG individuals is likely related to subjective location in one's transition process as well as social privilege that is gained or lost during the transition process. The authors found that appearance comparison completely mediated the relationship between appearance monitoring and body shame, which provided support for the extension of objectification theory to TNG individuals. Furthermore, the authors argued that social power intersected with TNG body objectification experiences, such that those with more oppressed identities were more negatively impacted than those with more privileged identities. Body shame, then, appears to be a valid construct for TNG individuals that may fluctuate over time and according to social location.

Study 1 Hypothesis 5

I hypothesized that appearance control beliefs would differ according to degree of interest in changing one's appearance to affirm one's gender identity. I conducted a one-way ANOVA

test to determine whether TNG individuals reporting high- or low-interest in changing their appearance would have distinct differences in their appearance control beliefs. Total scores of the OBCT Cisnormative Appearance Control Beliefs (CACB) scale were compared between groups endorsing high or low interest in changing their appearance, as measured by the Inventory of Interest in Steps to Affirm Gender developed for this study. Indeed, CACB scores were significantly higher among TNG respondents who reported high versus low interest in changing their appearance to conform to their gender identity.

I also calculated the correlation between total scores of the CACB scale and the Inventory of Interest in Steps to Affirm Gender. As expected, a small-to-moderate relationship was found between the two, such that greater endorsement of cisnormative appearance control beliefs was associated with greater interest in changing one's outward appearance to conform to one's gender identity. Because the Inventory of Interest in Steps to Affirm Gender was developed for the purposes of this study and is not an established measure, its apparent support for convergent validity of the CACB scale should be cautiously interpreted. Taken together, these findings provide preliminary support for convergent validity of the CACB scale as a measure of appearance control beliefs.

The reason for the association between interest in changing one's appearance to align with one's gender identity and stronger cisnormative appearance control beliefs cannot be fully ascertained, but some literature suggests that alignment with cisnormative societal appearance norms may shield TNG individuals from harm. Brewster and colleagues (2019) argued that TNG individuals may be motivated to conform to cisnormative appearance ideals in order to reduce gender minority stress experiences, such as anti-TNG violence and discrimination.

Study 1 Hypothesis 6

I hypothesized that appearance control beliefs would be moderately-to-strongly associated with internal locus of control, and weakly associated with general positive affect. I calculated the correlations between total scores of the OBCT Cisnormative Appearance Control Beliefs (CACB) scale with the Locus of Control of Behavior scale (LCB; Craig et al., 1984) and the Positive Affect scale of the PANAS–SF (Watson et al., 1988), respectively.

This hypothesis was partially supported. A weak association was found between cisnormative appearance control beliefs and internal locus of control. However, the magnitude of this relationship was smaller than expected and therefore provided evidence of discriminant validity rather than the anticipated convergent validity. This unexpected finding is likely a result of the CACB scale measuring appearance control beliefs that are explicitly cisnormative in quality, which was not expected when this hypothesis was originally made. As predicted, cisnormative appearance control beliefs were weakly associated with general positive affect, which indicated additional evidence of discriminant validity for the CACB scale.

It may be the case that conformity to cisnormative gender norms reduces the frequency and intensity of proximal gender minority stress experiences (e.g., harassment, microaggressions, violence, discrimination, etc.), yielding more general positive affect. Some TNG individuals may conform to cisnormative appearance standards in part to avoid anti-trans violence, discrimination, and general mistreatment by "passing" as cisgender (Brewster et al., 2019). Furthermore, some TNG individuals may seek to conform to cisnormative appearance standards in order to increase the congruence between their gender identity and the gender that others perceive them to endorse (Brewster; Sevelius, 2013). Indeed, in the current study, respondents who more strongly endorsed cisnormative appearance control beliefs were more likely to report

past experiences of gender-related victimization and less likely to disclose their gender history to others.

These findings provide evidence for discriminant validity of the CACB scale. However, there is insufficient evidence for convergent validity of the scale. I suspect that the unexpected quality of cisnormativity reflected in the scale items is the primary reason why convergent validity was not found using the LOC scale. Perhaps a better assessment of the CACB scale's convergent validity would be to also compare it with an established scale measuring internalized cisnormativity. A related measure, internalized transphobia, was examined in the current study. The CACB scale demonstrated moderate positive correlation with the GMSR Internalized Transphobia scale (Testa et. al, 2015), such that greater endorsement of cisnormative appearance control beliefs was associated with greater internalization of negative societal messages about TNG individuals. Although internalized transphobia is not analogous to internalized cisnormativity, the two are theoretically related constructs.

Study 1 Hypothesis 7

I hypothesized that moderate-to-strong relationships would exist between OBCT scales and related constructs, and weak relationships would exist between OBCT scales and unrelated constructs. To test this hypothesis, I followed Westen and Rosenthal's (2003) guidelines for evaluating content validity of a scale. I predicted the magnitude and direction of correlations between hypothesized OBCT constructs and established scales, and then compared my predictions with the observed correlations from Study 1. The association between my predicted and obtained correlations was strong, providing quantitative evidence for the content validity of the OBCT scales.

Study 2 Hypothesis 1

In Study 2, I hypothesized that a confirmatory factor analysis would yield a three-factor structure of the OBCT scale, loosely aligned with the original Objectified Body Consciousness scale (McKinley & Hyde 1996). This hypothesis was not supported because the exploratory factor analysis in Study 1 yielded a 4-factor OBCT scale. The confirmatory factor analysis in Study 2 confirmed the validity of this 4-factor model.

This is perhaps the most intriguing finding of the current study. The unexpected factor of Gender Surveillance that emerged from the data suggests that monitoring one's gender presentation is a core component of objectified body consciousness among TNG individuals. To my knowledge, there is not any existing research on the topic of gender surveillance among TNG individuals. Adjacent topics, such as TNG identity development and expression, have been explored. For instance, Devor (2004) proposed a 14-stage model of transgender identity development involving realizing that one's gender is different than the sex one was assigned at birth, questioning the veracity of this possibility, taking action to transition, integrating one's TNG identity, and pride in one's TNG identity. Gender surveillance was not described as a component of Devor's transgender identity development, although it appears to be an important component of TNG individuals' body-related experiences in the present study.

More recently, Kuper and colleagues (2018) interviewed 20 TNG young adults about how they describe, relate to, and express their gender. The authors identified intrapersonal processes involved in the gender identity process of study participants, including awareness of TNG identities, exploration of other gender identities, making meaning of gender-related experiences and sense of self, and integrating these meanings into sense of self. Monitoring one's gender presentation was not explicitly discussed, although it appeared relevant to some interview participants' emotional experiences. For example, trans women described feeling increasingly

distressed about not having breasts as they presented their gender in an increasingly feminine manner (Kuper). This type of distress may be related to the internalization of negative societal messages about TNG identities (Rood et al., 2017).

Despite the lack of extant research on monitoring one's gender presentation, this was an important outcome of the current study. Below I describe why I believe gender surveillance emerged in the current study and how it may be best understood in the gender minority stress model (Hendricks & Testa, 2013).

Study 2 Hypothesis 2

I hypothesized that OBCT scales measuring surveillance would be moderately-to-strongly negatively associated with preoccupation with other's opinions about one's appearance. I calculated the correlations between total scores of the OBCT Appearance Surveillance (AS) scale and the OBCT Gender Surveillance (GS) scale with the Attribution subscale of the Body Esteem Scale for Adolescents and Adults (2; Mendelson et al., 2001). The BESAA–Attribution subscale is designed to measure attributions of how others evaluate one's appearance. There was no evidence of a meaningful relationship between appearance surveillance and preoccupation with other's opinions about one's appearance, providing evidence for discriminant validity for the AS scale. Gender surveillance was moderately associated with preoccupation with others' negative evaluations of one's body appearance, providing evidence of convergent validity for the GS scale.

The finding that gender surveillance was associated with preoccupation with others' negative evaluations of one's body appearance has important implications for gender minority stress research. TNG individuals are uniquely positioned to be vigilant about their personal safety and welfare in the context of anti-trans and gender-related violence, discrimination, and

harassment (Bradford et al., 2013; Reisner et al., 2016; Valentine & Shipherd, 2018).

Additionally, the association between gender surveillance and preoccupation with others'

negative appearance evaluations may be an artifact of the disproportionately high rates of social

anxiety among TNG individuals (Millet et al., 2017). The reasons for higher prevalence of social

anxiety among TNG individuals have not been ascertained but are likely a consequence of

gender minority stress. Importantly, a large study of 715 TNG individuals found that those who

had utilized gender affirming medical interventions reported markedly lower levels of social

anxiety than those had not (Butler et al., 2018). The authors concluded that gender affirming

medical interventions yielded greater conformity to societal gender norms, which resulted in

fewer experiences of gender-related discrimination, rejection, victimization, and non-affirmation.

They secondarily concluded that congruence between one's gender identity and body appearance

may increase self-esteem overall. Notably, in the current study, gender surveillance was also

associated with past non-affirmation of one's gender identity. It may be the case that non-

affirming gender experiences prompt TNG individuals to routinely monitor their gender

presentation to proactively prevent gender-related discrimination, rejection, victimization, and

non-affirmation.

Taken together, the current study's finding that gender surveillance was associated with

preoccupation with others' negative evaluations of one's body may be best understood in the

gender minority stress model (Hendricks & Testa, 2012). Specifically, gender surveillance may

be a proximal stressor borne of distal stressors, including gender-related discrimination,

rejection, victimization, and non-affirmation.

Study 2 Hypothesis 3

I hypothesized that body shame would be moderately-to-strongly associated with perceptions that one's body is flawed, reflecting the internalization of the cisgender gaze. I calculated the correlation between the OBCT Body Shame (BS) scale and the average absolute discrepancy between one's actual body features and ideal body features, as measured by the Real-Ideal score of the modified idiographic Self Concept Questionnaire–Personal Constructs (SCQ-PC; Watson et al., 2010). This hypothesis was partially supported. Greater body shame was weakly-to-moderately associated with greater perception that one's body is flawed, providing some evidence of convergent validity for the BS scale.

This finding is especially important because it considers idiographic beliefs about one's body. The SCQ-PC asks respondents to input body features that they actual have, body features they would like to have, and body features that others would like them to have. Respondents are also asked to input the opposites of each of these body features. They then rate the degree to which each body feature has been accurate for them recently. For example, a respondent might list "beer belly" as a body feature they actually have, "strong abdomen" as a body feature they would like to have, and "thin waist" as a body feature that others would like them to have. The opposites of these might be "flat stomach", "weak abdomen", and "big waist", respectively. Their subsequent ratings for each of these personalized body features provides a nuanced quantitative perspective on the discrepancies between their actual bodies, ideal bodies, and the bodies they think they should have according to societal appearance standards. Therefore, the structure of the SCQ-PC is theoretically aligned with objectification theory, as it considers one's beliefs about their actual appearance, internalized beliefs about how they would like to appear, and their perception of societal expectations for their appearance. The finding that greater body shame was associated with greater discrepancy between one's actual body features and the body

features they would like to have suggests that TNG individuals do indeed experience body shame when their body does not align with their ideal body. This may reflect incongruence between gender identity and sex assigned at birth as well as failure to achieve internalized cisnormative body standards (Strübel et al., 2020).

Study 2 Hypothesis 4

I hypothesized that appearance control beliefs would be moderately-to-strongly associated with perceptions that one's body does not align with societal expectations. I calculated the correlation between the OBCT Cisnormative Appearance Control Beliefs (CACB) scale and the average absolute discrepancy between one's actual body features and the body features that they perceive they ought to have according to societal expectations, as measured by the Real-Ought score of the modified idiographic Self Concept Questionnaire–Personal Constructs (SCQ-PC; Watson et al., 2010). This hypothesis was partially supported; a significant association was found, but not in the expected direction.

Greater endorsement of cisnormative appearance control beliefs was weakly-to-moderately associated with low magnitude of discrepancy between one's actual body features and the body features that they ought to have according to societal expectations. In other words, respondents whose actual body more closely resembled the body that they perceived to align with societal expectations were more likely to endorse cisnormative appearance control beliefs. Conversely, individuals whose bodies were less aligned with societal appearance ideals were less inclined to believe that they were responsible to achieve them.

I hypothesized that the opposite would be found—that perceptions that one's body does not align with societal expectations would be associated with stronger beliefs that one can and should control their appearance to meet societal standards. I based my hypothesis on

objectification theory, which asserts that individuals self-objectify in order to more closely conform to the societal appearance standards against which their worth is judged (Fredrickson & Roberts, 1997). One aspect of self-objectification is believing that one is both capable of and responsible for achieving societal appearance standards (McKinley & Hyde, 1996). Therefore, I hypothesized that TNG individuals who perceived discrepancies between their actual body features and those expected by society would be more likely to self-objectify, including feeling responsible for meeting societal appearance expectations.

There are several possible reasons why this hypothesis was not supported. One explanation is that the final OBCT scale reflects explicitly cisnormative appearance control beliefs, which diverges from the anticipated general appearance control beliefs construct for which my hypothesis was developed. I did not expect items pertaining to appearance control beliefs would so strongly reflect cisnormativity. Because I developed this hypothesis prior to the exploratory factor analysis and therefore the development of the OBCT measure, I did not have all of the information available to inform my hypothesis at the time. In retrospect, I would have generated Study 2 hypotheses after the development of the OBCT measure.

Another interpretation of this surprising finding is that respondents whose actual bodies more closely aligned with societal body ideals had previously altered their appearance to meet the expectations of cisnormative standards and found benefit. Indeed, in Study 1, I found that greater endorsement of cisnormative appearance control belies was associated with greater interest in and/or history of changing one's appearance to conform to one's gender identity. Conformity to cisnormative societal body standards may be a central component of the transition process for some TNG individuals, particularly those who identify as a binary gender (i.e., woman or man). This may functionally legitimize one's gender and, in turn, enhance self-worth

(Strübel et al., 2020; Tiggemann, 2011). Past research has documented the importance of adhering to societal appearance standards among trans women, particularly as relates to social awareness and self-acceptance (Brewster et al., 2019; Serano, 2007; Sevelius, 2013).

This interpretation of the data is in agreement with Higgins' (1987) assertion that people are motivated to reduce discrepancies between their actual self, ideal self, and the self they perceive they ought to be. As described in Chapter 1 of this document, some TNG individuals whose gender identities are not affirmed in interpersonal interactions may experience cognitive dissonance and subsequently change their appearance to conform to cisnormative standards in order to experience greater or more frequent external gender affirmation. This lends credence to the notion that greater endorsement of cisnormative appearance control beliefs may be related to greater internalization of the cisgender gaze (i.e., self-objectification in alignment with cisnormative societal body standards) (Staples et al., 2018). Furthermore, TNG individuals may change their appearance to align with cisnormative standards in order to reduce scrutiny of their gender and thereby enhance personal safety in the context of anti-trans violence, discrimination, and harassment. In summary, the unexpected finding in the present study may indicate that greater conformity to cisnormative appearance standards portends stronger beliefs that one can and should meet these standards, particularly if achieving them leads to more experiences of one's gender identity being validated. From a personal perspective, I struggled with how to interpret these results; my own bias toward critiquing cisnormativity made it difficult to make sense of the findings. However, my interpretation of the data is rooted with an intersectional lens of how power, privilege, and oppression create appearance norms which—regardless of my own critiques—shape and define cultural standards with which all cisgender and TNG people interact.

Study 2 Hypothesis 5

I hypothesized that gender-related resiliency would be negatively related to body surveillance and body shame. I calculated correlations between total scores of the OBCT Appearance Surveillance (AS) scale and the OBCT Gender Surveillance (GS) scale with the Pride and Community Connectedness scales, respectively, of the Gender Minority Stress and Resilience measure (GMSR; Testa et al., 2015).

This hypothesis was not supported. Greater body shame was associated with less pride in gender identity, as expected; however, the magnitude of this relationship was small. Body shame did not have a meaningful relationship with sense of connectedness to a TNG community. These findings have important implications for clinical research on body image among TNG adults, as interventions targeting pride in one's TNG identity and enhancing social support with TNG peers may be insufficient to reduce body shame and related behaviors (e.g., disordered eating).

The latter is a surprising finding and does not support past qualitative research on the topic. For example, McGuire and colleagues (2016) reported themes from 90 interviews with TNG youth and young adults about body image. One notable subtheme of general body satisfaction was social acceptance within a TNG group, which allowed interviewees to be more comfortable with their bodies and gender expression. The absence of a strong relationship between body shame and resiliency factors in the present study suggests that body shame is a particularly powerful proximal gender minority stress (Hendricks & Testa, 2012; Meyer, 2003).

Summary

The present study was designed to develop and validate a measure of objectified body consciousness for TNG adults. I hypothesized that a 3-factor model would emerge through exploratory factor analysis, with constructs mirroring those of McKinley and Hyde's (1996) original Objectified Body Consciousness (OBC) scales, which included Body Surveillance, Body

Shame, and Appearance Control Beliefs. However, the present study yielded a 4-factor model that slightly diverged from the OBC scales. The Objectified Body Consciousness Scales for Trans and Nonbinary Adults (OBCT) is a 20-item measure comprised of four scales: Body Shame, Appearance Surveillance, Cisnormative Appearance Control Beliefs, and Gender Surveillance.

Validity of OBCT Scales

Convergent and discriminant validity were found for each of the four OBCT scales. Furthermore, content validity was established for the OBCT measure, as determined by Westen and Rosenthal's (2003) guidelines for comparing predicted and obtained correlations between scales.

There was substantial evidence of convergent validity for the OBCT Body Shame (BS) scale, which demonstrated moderate-to-strong correlations with established scales measuring internalized transphobia, general negative feelings about one's appearance, discrepancy between one's actual and one's ideal body features, and perception that one's appearance is negatively evaluated by others. There was also evidence of discriminant validity for the BS scale, which demonstrated weak-to-moderate association with general negative affect.

There was evidence of convergent validity for the OBCT Appearance Surveillance (AS) scale, which demonstrated a strong correlation with an established scale measuring preoccupation with one's appearance. Although an unexpected moderate-size relationship emerged between appearance surveillance and attention to one's internal physiological sensations, there was nonetheless evidence for discriminant validity of the AS scale. A null relationship was found between appearance surveillance and preoccupation with others' opinions

about one's appearance, which indicates that the AS scale measures a distinct construct. Therefore, both the convergent and discriminant validity of the AS scale were supported.

There was evidence of convergent validity for the OBCT Gender Surveillance (GS) scale, which demonstrated moderate-to-strong correlations with established scales measuring preoccupation with one's appearance as well as intentional non-disclosure of one's gender identity. Evidence of discriminant validity of the GS scale was also found, as gender surveillance was only weakly associated with attention to one's internal physiological sensations

There was preliminary evidence of convergent validity for the OBCT Cisnormative Appearance Control Beliefs (CACB) scale. The scales used to assess CACB validity were selected prior to the determination of the final CACB scale items, so more assessment is needed to establish convergent and discriminant validity of the scale. Cisnormative appearance control beliefs were associated both with internalized transphobia and greater interest in taking steps to align one's appearance with one's gender identity; however, the measure to assess this interest was developed for the purposes of this study and is therefore not an established scale sufficient to determine convergent validity of the CACB scale. Greater endorsement of cisnormative appearance control beliefs was also associated with greater alignment between one's actual body and that which society expects, providing further preliminary support for the convergent validity of the CACB scale. There was evidence for discriminant validity of the CACB scale, as it was only weakly associated with internal locus of control. This unexpectedly small magnitude of the relationship between these constructs is likely a reflection of the CACB scale measuring explicitly cisnormative appearance control beliefs, rather than general appearance control beliefs.

Gender Differences in OBCT Scale Scores

Mean scores differed between gender identity groups on some of the OBCT scales.

Scores on the Body Shame (BS) scale did not significantly differ between men, nonbinary, or women respondents, nor did they differ between binary and nonbinary identifying respondents.

Mean scores on the Appearance Surveillance (AS) scale did not significantly differ between men, nonbinary, and women respondents. Mean scores on the Gender Surveillance (GS) scale significantly differed by gender, with women scoring higher than men. Interestingly, when data were compared between nonbinary and binary (i.e., men and women) genders, mean AS and mean GS scores were significantly higher for respondents who reported a binary gender identity. The reasons for greater monitoring of one's appearance and gender among binary identifying trans individuals can only be speculated here. Fiani and Han (2019) suggested that binary trans individuals may, on the whole, be more invested than nonbinary trans individuals in visual conformity with their gender (i.e., man or woman). Indeed, visual conformity with one's binary gender identity may confer increased safety and gender-based privilege (Begun & Kattari, 2016).

Mean scores on the Cisnormative Appearance Control Beliefs scale significantly differed by gender, with nonbinary individuals scoring higher than binary individuals. This was a surprising outcome and I have struggled to conceptualize the potential reasons for this finding. It may be the case that nonbinary respondents, as a group, endorsed greater cisnormative appearance control beliefs because of negative experiences directly related to their nonbinary gender. For example, structural systems that erroneously privilege a binary gender system (e.g., public restrooms, locker rooms, sports teams) alienate nonbinary individuals. Structural inequities privileging binary genders may contribute to the surprising finding in the present study. Alternatively, the significantly lower CACB scores among trans women compared to nonbinary individuals may reflect the former group's dissatisfaction with gender affirming medical care. A trans woman who sought facial feminization surgery, for example, may be

dissatisfied with the surgical results and associated exorbitant costs (financial, health, social, etc.). This hypothetical person would likely score low on the CACB scale due to dissatisfying experiences seeking conformity to cisnormative appearance standards. More research is needed to parse apart the potential reasons for greater endorsement of cisnormative appearance control beliefs among nonbinary compared to binary individuals (particularly women) in this sample.

Implications

The OBCT measure has potential utility in research, medical, psychotherapeutic settings. Its brevity allows it to be administered quickly and in tangible or digital format.

Regarding research applications, the OBCT measure offers new perspectives on body experiences of TNG individuals. At the time this was written, only 23 studies examined body image among TNG individuals, and only two scales exist for measuring TNG body experiences (Jones et al., 2016). The OBCT may provide rich data about TNG body objectification that relates to body image, body esteem, body satisfaction, risky body modification, and eating disorders. It was developed and validated using two racially and geographically diverse samples, and intentionally included both binary and nonbinary TNG identities. A strength of the OBCT measure is its capacity for comparison among genders (MacNeill et al., 2017). Finally, the OBCT has the unique capability of being digital administered in a slider response format. This results in more variability between responses, as participants can move a digital slider between Likert scale options to indicate their degree of endorsement of an item, yielding a more precise response.

Regarding medical applications, the OBCT measure may be used to clarify the degree to which a person seeking gender affirming medical care may benefit from pre- or post-medical intervention counseling related to body objectification. For example, individuals who score

highly on all OBCT scales may benefit from being offered optional counseling to support their adjustment to changes in their body, appearance, and social power resulting from gender affirming medical interventions. Counseling that is grounded in the gender minority stress framework may be especially helpful for individuals whose scores on the OBCT are high, as they may benefit from focused discussion about distal and proximal gender minority stressors in relation to their body experiences (Budge et al., 2021). Furthermore, medial settings may utilize the OBCT scales to complement the frequently utilized gender dysphoria diagnostic criteria, which are inherently pathologizing and not a ubiquitous experience for TNG individuals (American Psychiatric Association, 2013).

Regarding psychotherapeutic applications, the OBCT measure may be used to assess the degree to which a TNG individual experiences body objectification in the context of cisnormativity. Therapists may wish to use the OBCT measure with clients who present with a gender-related or body-related concern. The OBCT measure may prompt a rich exploration of the quality of TNG clients' body experiences, including how these experiences may be influenced by gender minority stressors in the context of societal cisnormative ideals. Therapists working from a gender minority stress framework may find it useful to routinely administer the OBCT measure across the course of therapy with TNG clients in order to track changes in objectified body consciousness over time, and how this occurs in the context of enhanced understanding of gender minority stress through therapy. Reviewing these changes over time with clients may be a useful intervention for reinforcing therapeutic gains and growth.

Limitations and Future Directions

This study has several limitations as well as directions for future research, described below. The first limitation of this study is the lack of known-groups content validity. I originally

planned to conduct a third study that sought to establish known-groups content validity of the

OBCT scales. This involved testing whether the OBCT scales could discriminate between

cisgender and TNG respondents. This study was optional for the purposes of the doctoral

dissertation and was ultimately not conducted. Future research assessing known-groups content

validity of the OBCT measure is needed.

An additional limitation of this study is that temporal stability was not established. I

attempted to establish this by recruiting a subsample of respondents to retake the OBCT scales a

second time approximately two weeks after initial administration. However, I misunderstood the

Qualtrics survey codes and made a clerical error that prevented responses from being paired and

compared over time. Future research assessing temporal stability of the OBCT measures is

needed. Researchers should take care to clarify how they will protect paired survey responses, as

TNG individuals are considered a vulnerable population by many internal review boards.

Another limitation of the present study is that hypotheses were generated for the scale

validation procedures prior to the scale itself being developed. Therefore, the scales to assess

convergent and discriminant validity were selected before knowing the OBCT scale constructs

being assessed. Preliminary evidence supports the validity of the Cisnormative Appearance

Control Beliefs scale as a measure of appearance control beliefs. However, because the scale was

not initially hypothesized to measure cisnormativity, I did not include validity scales in the study

that reflected this. I did compare this measure to a scale measuring internalized transphobia, with

which it demonstrated a moderate correlation. Additional evidence is needed to validate that it

measures this construct, as well. Future research could examine the relationship between the

OBCT Cisnormative Appearance Control Beliefs scale with another scale designed to measure

aspects of cisnormativity, such as the Attitudes Toward Transgender Men and Women scale

(Billard, 2018).

In the current study, the relationship between cisnormative appearance control beliefs and

interest in changing one's appearance to better align with one's gender was not compared across

gender identity groups. Whether this relationship would be stable for binary and nonbinary

individuals is unclear. For example, a trans woman may have modified her speaking style, grown

out her hair, or had breast augmentation surgery to more closely align with societal norms for

how a woman should appear. However, a nonbinary individual may have grown a full beard and

changed their attire to primarily skirts and dresses, thereby more closely aligning with their

nonbinary identity and intentionally diverging from cisnormative societal gender norms.

There were differences in some mean OBCT scale scores by gender (i.e., man, nonbinary,

woman) and non/binary gender identity. It may be the case that the relative meanings of the

OBCT scales may differ by population. Future research may analyze the factorial invariance of

the OBCT scales to assess whether factorial structure is consistent across genders. This would

also clarify whether the meaning of each OBCT scale is consistent across genders.

An important finding of this study was the validity of the idiographic Self-Concept

Questionnaire (SCQ-PC; Watson et al., 2010) with a diverse sample of TNG adults. Future

research on TNG body experiences should consider incorporating the idiographic SCQ-PC as it

has tremendous utility for capturing nuanced body experiences without sacrificing

generalizability. Because this measure is inherently individualized, it may be adminismeans tered

across gender identities and responses may be examined collectively despite phenotypic body

differences. Future research should prioritize an intersectional approach to understanding

racialized body experiences of TNG individuals. Although the cultural myth prevails that people

of color are generally more satisfied with their bodies, Grabe and Hyde's (2006) meta-analysis

revealed that race and ethnicity do not confer resilience against the internalization of societal

body standards. The intersecting racialized and gendered body experiences of TNG people of

color are largely unexplored in the literature, and it is recommended that future research

explicitly attend to these.

Another area that would be important for future research is the behavioral outcomes of

body objectification among TNG adults. The internalization of societal appearance standards has

been shown to predict disordered eating among trans women (Brewster et al., 2019) as well as

compulsive exercise among trans men (Velez et al., 2016). Eating disorders are thought to be

prevalent within the TNG population, perhaps because disordered eating can modify some

secondary sex characteristics to better align with one's gender identity. Diemer and colleagues

(2018) attempted to estimate the prevalence of eating disorders within this population in a

secondary analysis of cross-sectional data from a diverse sample of 452 TNG adults (Diemer et

al., 2018). In their sample, 7.4 percent of TNG individuals reported that they thought they had an

eating disorder or that they had previously received an eating disorder diagnosis. The authors

found that the lifetime risk of developing an eating disorder was greater among nonbinary and

female assigned at birth individuals compared to other TNG individuals. They surmised that

nonbinary individuals are at greater risk for enacted stigma due to gender nonconformity,

conferring risk of poor health outcomes like eating disorders; the authors also posited that TNG

individuals assigned female at birth were likely vulnerable to developing eating disorders due to

their gender socialization. The role of body objectification in the development of eating disorders

among TNG individuals remains relatively unexplored. Future research should explore the

relationship between objectified body consciousness and eating disorders among TNG adults.

Relatedly, future research should also examine the relationship between body objectification and risky body modification methods, such as silicone injections and non-prescribed hormone therapies. Sevelius (2013) interviewed 22 trans women of color about their gender minority stress experiences and risky body modification practices. More than four-fifths of the trans women of color obtained their hormone therapy from friends, from the Internet, or traveling to Mexico to purchase without a prescription. Many reported attending illegal "pumping parties" to inject silicone and other unknown substances subcutaneously in order to feminize their bodies. These practices are undoubtedly dangerous, but some TNG individuals may consider them worth the health risks due to extreme incongruence between their gender identity and body appearance. Research on how body objectification and objectified body consciousness, specifically, contribute to these risky body modification practices is warranted.

References

Adams, S. S., & Peirce, K. (2006). Is there a transgender canon?: Information seeking and use in the transgender community. In *Proceedings of the Annual Conference of the Canadian Association for Information Science* (pp. 1–7). Toronto, Ontario.

Adler, N., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (2000). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy white women. *Health Psychology, 19,* 586–592. https://doi.org/10.1037//0278-6133.19.6.586

Alexander, H. W. (1947). The estimation of reliability when several trials are available. *Psychometrika, 12*(2), 79–99. https://doi.org/10.1007/BF02295990

Ålgars, M., Alanko, K., Santtila, P., & Sandnabba, N. K. (2012). Disordered eating and gender identity disorder: A qualitative study. *Eating Disorders, 20*(4), 300–311. https://doi.org/10.1080/10640266.2012.668482

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). American Psychiatric Association.

Anderton, C. L., Pender, D. A., & Asner-Self, K. K. (2011). A review of the religious identity/sexual orientation identity conflict literature: Revisiting Festinger's cognitive dissonance theory. *Journal of LGBT Issues in Counseling, 5*(3–4), 259–281. https://doi.org/10.1080/15538605.2011.632745

Aronson, E. (1969). The theory of cognitive dissonance: A current perspective. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (pp. 1–34). Academic Press.

Awad, G. H., Norwood, C., Taylor, D. S., Martinez, M., McClain, S., Jones, B., … Chapman-Hilliard, C. (2015). Beauty and body Image concerns among African American college women. *Journal of Black Psychology, 41*(6), 540–564. https://doi.org/10.1177/0095798414550864

Baams, L., Grossman, A. H., & Russell, S. T. (2015). Minority stress and mechanisms of risk for depression and suicidal ideation among lesbian, gay, and bisexual youth. *Developmental Psychology, 51*(5), 688–696. https://doi.org/10.1037/a0038994

Balcetis, E., Cole, S., Chelberg, M. B., & Alicke, M. (2013). Searching out the ideal: Awareness of ideal body standards predicts lower global self-esteem in women. *Self and Identity, 12*(1), 99–113. https://doi.org/10.1080/15298868.2011.639549

Bariola, E., Lyons, A., Leonard, W., Pitts, M., Badcock, P., & Couch, M. (2015). Demographic and psychosocial factors associated with psychological distress and resilience among transgender individuals. *American Journal of Public Health, 105*(10), 2108–2116. https://doi.org/10.2105/AJPH.2015.302763

Bartholomew, D. J., Steele, F., Moustaki, I., & Galbraith, J. I. (2008). Analysis of Multivariate Social Science Data. (A. Gelman, S. Rabe-Hesketh, J. S. Long, & A. Skrondal, Eds.) (2nd ed.). Chapman & Hall/CRC.

Bartko, J. J. (1966). The intraclass correlation coefficient as a measure of reliability. *Psychological Reports, 19*, 3-11. https://doi.org/10.2466/pr0.1966.19.1.3

Bartky, S. L. (1997). Foucalt, Femininity, and the Modernization of Patriarchal Power. In K. Conboy, N. Medina, & S. Stanbury (Eds.), Writing on the body: Female embodiment and feminist theory (1st ed., pp. 129–154). Columbia University Press.

Bazargan, M., & Galvan, F. (2012). Perceived discrimination and depression among low-income Latina male-to-female transgender women. *BMC Public Health, 12*(663), 1–8. https://doi.org/10.1186/1471-2458-12-663

Becker, I., Nieder, T. O., Cerwenka, S., Briken, P., Kreukels, B. P. C., Cohen-Kettenis, P. T., … Richter-Appelt, H. (2016). Body image in young gender dysphoric adults: A European multi-center study. *Archives of Sexual Behavior, 45*(3), 559–574. https://doi.org/10.1007/s10508-015-0527-z

Begun, S., & Kattari, S. K. (2016). Conforming for survival: Associations between transgender visual conformity/passing and homelessness experiences. *Journal of Gay & Lesbian Social Services*, *28*(1), 54-66.

Bell, H. S., Donovan, C. L., & Ramme, R. (2016). Is athletic really ideal? An examination of the mediating role of body dissatisfaction in predicting disordered eating and compulsive exercise. *Eating Behaviors, 21*, 24–29. https://doi.org/10.1016/j.eatbeh.2015.12.012

Bland, M. (2015). An introduction to medical statistics. Oxford University Press.

Blotner, C., & Rajunov, M. (2018). Engaging transgender patients: Using social media to inform medical practice and research in transgender health. *Transgender Health, 3*(1), 225-228. https://doi.org/10.1089/trgh.2017.0039

Bockting, W. O. (2014). The Impact of Stigma on Transgender Identity Development and Mental Health. In B. P. C. Kreukels, T. D. Steensma, & A. L. C. de Vries (Eds.) Gender dysphoria and disorders of sex development: Progress in care and knowledge. (pp. 319–330). Springer.

Bockting, W. O., Miner, M. H., Swinburne Romine, R. E., Hamilton, A., & Coleman, E. (2013). Stigma, mental health, and resilience in an online sample of the US transgender

population. *American Journal of Public Health, 103*(5), 943–951.

https://doi.org/10.2105/AJPH.2013.301241

Breen, J. (2012). zipcode: U.S. ZIP Code database for geocoding. R package version 1.0.

https://CRAN.R-project.org/package=zipcode

Breslow, A. S., Brewster, M. E., Velez, B. L., Wong, S., Geiger, E., & Soderstrom, B. (2015).

Resilience and collective action: Exploring buffers against minority stress for transgender

individuals. *Psychology of Sexual Orientation and Gender Diversity, 2*(3), 253–265.

https://doi.org/10.1037/sgd0000117

Brewster, M. E., Velez, B. L., Breslow, A. S., & Geiger, E. F. (2019). Unpacking body image

concerns and disordered eating for transgender women: The roles of sexual

objectification and minority stress. *Journal of Counseling Psychology, 66*(2), 131-142.

https://doi.org/10.1037/cou0000333

Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological

Methods & Research, 21*(2), 230–258.

https://doi.org/10.1177%2F0049124192021002005

Buboltz, W. C., Deemer, E., & Hoffmann, R. (2010). Content analysis of the Journal of

Counseling Psychology: Buboltz, Miller, and Williams (1999) 11 years later. *Journal of

Counseling Psychology, 57*(3), 368–375. https://doi.org/10.1037/a0020028

Buboltz, W. C., Miller, M., & Williams, D. J. (1999). Content analysis of research in the Journal

of Counseling Psychology (1973-1998). *Journal of Counseling Psychology, 46*(4), 496–

503. https://doi.org/10.1037/0022-0167.46.4.496

Budge, S. L., Adelson, J. L., & Howard, K. A. S. (2013). Anxiety and depression in transgender individuals: The roles of transition status, loss, social support, and coping. *Journal of Consulting and Clinical Psychology, 81*(3), 545–557. https://doi.org/10.1037/a0031774

Budge, S. L., Sinnard, M. T., & Hoyt, W. T. (2020). Longitudinal effects of psychotherapy with transgender and nonbinary clients: A randomized controlled pilot trial. *Psychotherapy, 58*(1), 1-11. https://doi.org/10.1037/pst0000310

Butler, R. M., Horenstein, A., Gitlin, M., Testa, R. J., Kaplan, S. C., Swee, M. B., & Heimberg, R. G. (2019). Social anxiety among transgender and gender nonconforming individuals: The role of gender-affirming medical interventions. Journal of Abnormal Psychology, 128(1), 25–31. https://doi.org/10.1037/abn0000399

Calogero, R. M. (2004). A test of objectification theory: The effect of the male gaze on appearance concerns in college women. *Psychology of Women Quarterly, 28*, 16–21. https://doi.org/10.1111%2Fj.1471-6402.2004.00118.x

Cannon, Y., Speedlin, S., Avera, J., Robertson, D., Ingram, M., & Prado, A. (2017) Transition, connection, disconnection, and social media: Examining the digital lived experiences of transgender individuals. *Journal of LGBT Issues in Counseling, 11*(2), 68-87. https://doi.org/10.1080/15538605.2017.1310006

Capodilupo, C. M. (2015). One size does not fit all: Using variables other than the thin ideal to understand black women's body image. *Cultural Diversity and Ethnic Minority Psychology, 21*(2), 268–278. https://doi.org/10.1037/a0037649

Caron, P. O. (2018). Minimum average partial correlation and parallel analysis: The influence of oblique structures. *Communications in Statistics: Simulation and Computation, 48*(7), 2110-2117. https://doi.org/10.1080/03610918.2018.1433843

Cash, T. F., & Szymanski, M. L. (1995). The development and validation of the Body-Image Ideals Questionnaire. *Journal of Personality Assessment, 64*, 466–477. http://dx.doi.org/10.1207/s15327752jpa6403_6

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*(2), 245-276. https://doi.org/10.1207/s15327906mbr0102_10

Cava, P. (2016). Cisgender and Cissexual. In N. A. Naples (Ed.), The Wiley Blackwell encyclopedia of gender and sexuality studies (1st ed., pp. 1–4). John Wiley & Sons.

Cella, S., Iannaccone, M., & Cotrufo, P. (2013). Influence of gender role orientation (masculinity versus femininity) on body satisfaction and eating attitudes in homosexuals, heterosexuals and transsexuals. *Eating and Weight Disorders, 18*(2), 115–124. https://doi.org/10.1007/s40519-013-0017-z

Child, D. (2006). The essentials of factor analysis. (3rd ed.). Continuum International Publishing Group.

Clark, L. A., & Watson, D. (1995). Construct validity: Basic issues in objective scale development. *Psychological Assessment, 7*(3), 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Clements-Nolle, K., Marx, R., & Katz, M. (2006). Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *Journal of Homosexuality, 51*(3), 53–69. https://doi.org/10.1300/J082v51n03_04

Coleman, E., Bockting, W. O., Botzer, M., Cohen-Kettenis, P., DeCuypere, G., Feldman, J., … Zucker, K. (2012). Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *International Journal of Transgenderism, 13*(4), 165–232. https://doi.org/10.1080/15532739.2011.700873

Comrey, A. L. (1988). Factor-analytic methods of scale development in personality and clinical psychology. *Journal of Consulting and Clinical Psychology, 56*(5), 754–761. https://doi.apa.org/doi/10.1037/0022-006X.56.5.754

Cook-Daniels, L. (2010). Thinking about the unthinkable: Transgender in an immutable binary world. *New Horizons in Adult Education and Human Resource Development, 24*(1), 63–70. https://files.eric.ed.gov/fulltext/EJ929952.pdf

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98–104. https://doi.org/10.1037/0021-9010.78.1.98

Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation, 10*(1), 1-9. https://doi.org/10.7275/jyj1-4868

Craig, A. R., Franklin, J. A., & Andrews, G. (1984). A scale to measure locus of control of behaviour. *British Journal of Medical Psychology, 57,* 173–180. https://doi.org/10.1111/j.2044-8341.1984.tb01597.x

Crocker, L. M., & Algina, J. (2008). Introduction to classical and modern test theory. Cengage Learning.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297–334. https://doi.org/10.1007/BF02310555

Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1*(1), 16-29. https://doi.org/10.1037/1082-989X.1.1.16

de Vries, A. L. C., McGuire, J. K., Steensma, T. D., Wagenaar, E. C. F., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2014). Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics, 134*(4), 696–704. https://doi.org/10.1542/peds.2013-2958

Defreyne, J., Kreukels, B., T'Sjoen, G., Stahporsius, A., Den Heijer, M., Heylens, G., & Elaut, E. (2019). No correlation between serum testosterone levels and state-level anger intensity in transgender people: Results from the European Network for the Investigation of Gender Incongruence. *Hormones and Behavior, 110*, 29–39. https://doi.org/10.1016/j.yhbeh.2019.02.016

Desimone, J. A., Harms, P. D., & Desimone, A. J. (2015). Best practice recommendations for data screening. *Journal of Organizational Behavior, 36*(2), 171–181. https://doi.org/10.1002/job.1962

DeVellis, R. F. (2017). Scale development: Theory and applications. Sage.

Devor, A. H. (2004). Witnessing and mirroring: A fourteen stage model of transsexual identity formation. *Journal of Gay & Lesbian Psychotherapy*, *8*(1-2), 41-67. http://dx.doi.org/10.1300/J236v08n01_05

Díaz, R. M., Ayala, G., Bein, E., Henne, J., & Marin, B. V. (2001). The impact of homophobia on mental health in Latino gays. *American Journal of Public Health, 91*(6), 927–932. https://doi.org/10.2105/AJPH.91.6.927

Diemer, E. W., White Hughto, J. M., Gordon, A. R., Guss, C., Austin, S. B., & Reisner, S. L. (2018). Beyond the binary: Differences in eating disorder prevalence by gender identity in a transgender sample. *Transgender Health*, *3*(1), 17-23. https://dx.doi.org/10.1089%2Ftrgh.2017.0043

Dinno, A. (2018). paran: Horn's test of principal components/factors. R package version 1.5.2. https://CRAN.R-project.org/package=paran

Dressler, W. W., Oths, K. S., & Gravlee, C. C. (2005). Race and ethnicity in public health research: Models to explain health disparities. *Annual Review of Anthropology, 34*(1), 231–252. https://doi.org/10.1146/annurev.anthro.34.081804.120505

Edelen, M. O., & Reeve, B. B. (2007). Applying item response theory (IRT) modeling to questionnaire development, evaluation, and refinement. *Quality of Life Research, 16*, 5–18. https://doi.org/10.1007/s11136-007-9198-0

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272-299. https://psycnet.apa.org/doi/10.1037/1082-989X.4.3.272

Factor, R. J. (2006). *Exploring gender diversity: A comparison of transgender adults and their non-transgender siblings*. [Unpublished doctoral dissertation]. University of Vermont.

Fardouly, J., & Rapee, R. M. (2019). The impact of no-makeup selfies on young women's body image. *Body Image, 28*, 128–134. https://doi.org/10.1016/j.bodyim.2019.01.006

Festinger, L. (1957). A theory of cognitive dissonance. Stanford University Press.

Fiani, C. N., & Han, H. J. (2019). Navigating identity: Experiences of binary and non-binary transgender and gender non-conforming (TGNC) adults. *International Journal of Transgenderism*, *20*(2-3), 181-194.

Field, A. (2013). Discovering statistics using IBM SPSS statistics. (4th ed.). SAGE.

Fitzsimmons-Craft, E. E., & Bardone-Cone, A. M. (2012). Examining prospective mediation models of body surveillance, trait anxiety, and body dissatisfaction in African American

and Caucasian college women. *Sex Roles, 67*(3–4), 187–200.

https://doi.org/10.1007/s11199-012-0151-5

Fletcher, T. D. (2010). psychometric: Applied psychometric theory. R package version 2.2.

https://CRAN.R-project.org/package=psychometric

Flores, A. R., Brown, T. N. T., & Herman, J. L. (2016, October). Race and ethnicity of adults

who identify as transgender in the United States. UCLA School of Law: Williams

Institute. https://williamsinstitute.law.ucla.edu/publications/race-ethnicity-trans-adults-us/

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable

variables and measurement error: A comment. *Journal of Marketing Research, 18*(1), 39–

50. https://doi.org/10.2307/3150979

Fox, C. M., & Jones, J. A. (1998). Uses of Rasch modeling in counseling psychology research.

Journal of Counseling Psychology, 45(1), 30–45. https://doi.org/10.1037/0022-

0167.45.1.30

Franz, N. K. (2011). The unfocused focus group: Benefit or bane? *The Qualitative Report, 16*(5),

1380–1388. http://dx.doi.org/10.46743/2160-3715/2011.1304

Frederick, D. A., Forbes, G. B., Grigorian, K. E., & Jarcho, J. M. (2007). The UCLA Body

Project I: Gender and ethnic differences in self-objectification and body satisfaction

among 2,206 undergraduates. *Sex Roles, 57*(5–6), 317–327.

https://doi.org/10.1007/s11199-007-9251-z

Frederick, D. A., Peplau, L. A., & Lever, J. (2006). The swimsuit issue: Correlates of body

image in a sample of 52,677 heterosexual adults. *Body Image, 3*(4), 413–419.

https://doi.org/10.1016/j.bodyim.2006.08.002

Fredrickson, B. L., & Roberts, T.-A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21,* 173–206. https://doi.org/10.1111/j.1471-6402.1997.tb00108.x

Frisby, C. M. (2004). Does race matter? Effects of idealized images on African American women's perceptions of body esteem. *Journal of Black Studies, 34*(3), 323–347. https://doi.org/10.1177/0021934703258989

Frost, D. M., Lehavot, K., & Meyer, I. H. (2013). Minority stress and physical health among sexual minority individuals. *Journal of Behavioral Medicine, 38*(1), 1–8. https://doi.org/10.1007/s10865-013-9523-8

Gallagher, S. (2004). Lived Body and Environment. In D. Moran & L. Embree (Eds.), Phenomenology: Critical concepts in philosophy (pp. 265–293). Routledge.

Gamarel, K. E., Reisner, S. L., Laurenceau, J.-P., Nemoto, T., & Operario, D. (2014). Gender minority stress, mental health, and relationship quality: A dyadic investigation of transgender women and their cisgender male partners. *Journal of Family Psychology, 28*(4), 437–447. https://doi.org/10.1037/a0037171

Glorfeld, L. W. (1995). An improvement on Horn's parallel analysis methodology for selecting the correct number of factors to retain. *Educational and Psychological Measurement, 55*(3), 377-393. https://doi.org/10.1177%2F0013164495055003002

Goodman, E. L., Baker, J. H., Peat, C. M., Yilmaz, Z., Bulik, C. M., & Watson, H. J. (2018). Weight suppression and weight elevation are associated with eating disorder symptomatology in women age 50 and older: Results of the gender and body image study. *International Journal of Eating Disorders, 51*(8), 835–841. https://doi.org/10.1002/eat.22869

Goodman, M., Placik, O. J., Matlock, D. L., Simopoulos, A. F., Dalton, T. A., Veale, D., & Hardwick-Smith, S. (2016). Evaluation of body image and sexual satisfaction in women undergoing female genital plastic/cosmetic surgery. *Aesthetic Surgery Journal, 36*(9), 1048–1057. https://doi.org/10.1093/asj/sjw061

Gorelick, M. H. (2006). Bias arising from missing data in predictive models. *Journal of Clinical Epidemiology, 59*(10), 1115-1123. https://doi.org/10.1016/j.jclinepi.2004.11.029

Gorodzeisky, A. (2011). Focus groups as a tool in the construction of questionnaires: The case of discriminatory attitudes. *Quality and Quantity International Journal of Methodology, 45*(6), 1217–1231. https://doi.org/10.1007/s11135-009-9287-y

Gorsuch, R. L. (1983). Factor analysis. (2nd ed.). L. Erlbaum Associates.

Grabe, S., & Hyde, J. S. (2006). Ethnicity and body dissatisfaction among women in the United States: A meta-analysis. *Psychological Bulletin, 132*(4), 622–640. https://doi.org/10.1037/0033-2909.132.4.622

Grant, J. M., Mottet, J. D., Tanis, J., Herman, J. L., Harrison, J., & Kiesling, M. (2011). National Transgender Discrimination Survey: Report on Health and Health Care. National Center for Transgender Equality and National Gay and Lesbian Task Force. http://www.thetaskforce.org/static_html/downloads/resources_and_tools/ntds_report_on_ health.pdf

Griffiths, S., Murray, S. B., & Touyz, S. (2015). Extending the masculinity hypothesis: An investigation of gender role conformity, body dissatisfaction, and disordered eating in young heterosexual men. *Psychology of Men and Masculinity, 16*(1), 108–114. https://doi.org/10.1037/a0035958

Grossman, A. H., & D'Augelli, A. R. (2007). Transgender youth and life-threatening behaviors. *Suicide and Life-Threatening Behavior, 37*(5), 527–537. https://doi.org/10.1521/suli.2007.37.5.527

Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin, 103*(2), 265–275. https://doi.org/10.1037/0033-2909.103.2.265

Hair, J., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson Educational International.

Harvey, R. J. (2016). Improving measurement via item response theory: Great idea, but hold the Rasch. *Counseling Psychologist, 44*(2), 195–204. https://doi.org/10.1177/0011000015615427

Harvey, R. J., & Hammer, A. L. (1999). Item response theory. *The Counseling Psychologist, 27*(3), 353–383. https://doi.org/10.1177%2F0011000099273004

Hattie, J. (1985). Methodology review: Assessing unidimensionality of tests and items. *Applied Psychological Measurement, 9*(2), 139–164. https://doi.org/10.1177%2F014662168500900204

Hattie, J., & Cooksey, R. W. (1984). Procedures for assessing validities of tests using the "known-groups" method. *Applied Psychological Measurement, 8*(3), 295–305. https://doi.org/10.1177%2F014662168400800306

Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Dovidio, J. (2009). How does stigma "get under the skin"?: The mediating role of emotion regulation. *Psychological Science, 20*(10), 1282–1289. https://doi.org/10.1111%2Fj.1467-9280.2009.02441.x

Hayes, A. F., & Cai, L. (2007). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods, 39*(4), 709-722. https://doi.org/10.3758/BF03192961

Heath, B., Tod, D. A., Kannis-Dymand, L., & Lovell, G. P. (2016). The relationship between objectification theory and muscle dysmorphia characteristics in men. *Psychology of Men and Masculinity, 17*(3), 297–308. https://doi.org/10.1037/men0000022

Heitjan, D. F., & Little, R. J. (1991). Multiple imputation for the fatal accident reporting system. *Journal of the Royal Statistical Society: Series C (Applied Statistics), 40*(1), 13-29. https://doi.org/10.2307/2347902

Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the minority stress model. *Professional Psychology: Research and Practice, 43*(5), 460–467. https://doi.org/10.1037/a0029597

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*(1), 115-135. https://doi.org/10.1007/s11747-014-0403-8

Henze, N., & Zirkler, B. (1990). A class of invariant consistent tests for multivariate normality. *Communications in Statistics-Theory and Methods, 19*(10), 3595-3617. https://doi.org/10.1080/03610929008830400

Herman, J. L. (2012, October 29). *Gendered restrooms and minority stress: The public regulation of gender and its impact on transgender people's lives* [Conference paper]. 140st APHA Annual Meeting and Exposition 2012, San Francisco, CA.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94*(3), 319–340. https://doi.org/10.1037/0033-295X.94.3.319

Horn, J. L. (1965). A rationale and test for the number of factors in factor analysis. *Psychometrika, 30*(2), 179-185. https://doi.org/10.1007/BF02289447

Horton, N. J., & Lipsitz, S. R. (2001). Multiple imputation in practice: Comparison of software packages for regression models with missing variables. *The American Statistician, 55*(3), 244-254. https://doi.org/10.1198/000313001317098266

Hoyt, W. T., Warbasse, R. E., & Chu, E. Y. (2006). Construct validation in counseling psychology research. *The Counseling Psychologist, 34*(6), 769–805. https://doi.org/10.1177/0011000006287389

Humphreys, L. G., & Montanelli, R. G. (1975). An investigation of the parallel analysis criterion for determining the number of common factors. *Multivariate Behavioral Research, 10,* 193-205. https://doi.org/10.1207/s15327906mbr1002_5

James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). The Report of the 2015 U.S. Transgender Survey. https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF

Jones, B. A., Bouman, W. P., Haycraft, E., & Arcelus, J. (2018). The Gender Congruence and Life Satisfaction Scale (GCLS): Development and validation of a scale to measure outcomes from transgender health services. *International Journal of Transgenderism, 20*(1), 63-80. https://doi.org/10.1080/15532739.2018.1453425

Jones, B. A., Bouman, W. P., Haycraft, E., & Arcelus, J. (2019). Gender congruence and body satisfaction in nonbinary transgender people: A case control study. *International Journal of Transgenderism, 20*(2-3), 263-274. https://doi.org/10.1080/15532739.2018.1538840

Jones, B. A., Haycraft, E., Murjan, S., & Arcelus, J. (2016). Body dissatisfaction and disordered eating in trans people: A systematic review of the literature. *International Review of Psychiatry, 28*(1), 81–94. https://doi.org/10.3109/09540261.2015.1089217

Joreskog, K. G. (1969). A general approach to confirmatory maximum likelihood factor analysis. *Psychometrika, 34*(2), 183–202. https://doi.org/10.1007/BF02289343

Jorgensen, T. D., Pornprasertmanit, S., Schoemann, A. M., & Rosseel, Y. (2019). semTools: Useful tools for structural equation modeling. R package version 0.5-2. https://CRAN.R-project.org/package=semTools

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*(1), 141-151. https://doi.org/10.1177%2F001316446002000116

Kaiser, H. F. (1970) A second generation little jiffy. *Psychometrika, 35*(4),401–415. https://doi.org/10.1007/BF02291817

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*(1), 31-36. https://doi.org/10.1007/BF02291575

Kaiser, H. F., & Rice, J. (1974). Little jiffy, mark IV. *Educational and Psychological Measurement, 34*(1), 111-117. https://doi.org/10.1177%2F001316447403400115

Kelleher, C. (2009). Minority stress and health: Implications for lesbian, gay, bisexual, transgender, and questioning (LGBTQ) young people. *Counseling Psychology Quarterly, 22*(4), 373–379. https://doi.org/10.1080/09515070903334995.

Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American Journal of Health-System Pharmacy, 65*(23), 2276–2284. https://doi.org/10.2146/ajhp070364

Kimmel, S. B., & Mahalik, J. R. (2005). Body image concerns of gay men: The roles of minority stress and conformity to masculine norms. *Journal of Consulting and Clinical Psychology, 73*(6), 1185–1190. https://doi.org/10.1037/0022-006X.73.6.1185

Komsta, L., & Novomestky, F. (2015). moments: Moments, cumulants, skewness, kurtosis and related tests. R package version 0.14. https://CRAN.R-project.org/package=moments

Korkmaz S, Goksuluk D, Zararsiz G. (2014). MVN: An R package for assessing multivariate normality. The R Journal, 6(2), 151-162. http://dx.doi.org/10.32614/RJ-2014-031

Kosenko, K. A. (2011). Contextual influences on sexual risk-taking in the transgender community. *Journal of Sex Research, 48*(2–3), 285–296. https://doi.org/10.1080/00224491003721686

Kozee, H. B., Tylka, T. L., & Bauerband, L. A. (2012). Measuring transgender individuals' comfort with gender identity and appearance. *Psychology of Women Quarterly, 36*(2), 179–196. https://doi.org/10.1177/0361684312442161

Krueger, R. A., & Casey, M. A. (2015). Focus groups: A practical guide for applied research (5th ed.). Sage.

Kuper, L. E., Nussbaum, R., & Mustanski, B. (2012). Exploring the diversity of gender and sexual orientation identities in an online sample of transgender individuals. *The Journal of Sex Research, 49*(2), 244-254. https://doi.org/10.1080/00224499.2011.596954

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *International Biometric Society, 33*(1), 159–174. https://doi.org/10.2307/2529310

Lau, A. S. M., Lum, S. K., Chronister, K. M., & Forrest, L. (2006). Asian American college women's body image: A pilot study. *Cultural Diversity and Ethnic Minority Psychology, 12*(2), 259–274. https://doi.org/10.1037/1099-9809.12.2.259

Lazarsfeld, P. F., & Henry, N. W. (1968). Latent Structure Analysis. Houghton Mifflin Co.

Lee, D., & Lim, H.-W. (2015). Scale Construction. In P. P. Heppner, D. M. Kivlighan, & B. E. Wampold (Eds.), Research design in counseling (3rd ed., pp. 494–510). Thomson Brooks/Cole.

Lick, D. J., Durso, L. E., & Johnson, K. L. (2013). Minority stress and physical health among sexual minorities. *Perspectives on Psychological Science, 8*(5), 521–548. https://doi.org/10.1177/1745691613497965

Lindgren, T. W., & Pauly, I. B. (1975). A body image scale for evaluating transsexuals. *Archives of Sexual Behavior, 4*(6), 639–656. https://doi.org/10.1007/BF01544272

Lord, F. M. (1980). Applications of item response theory to practical testing problems. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Lord, F. M., & Novick, M. R. (1968). Statistical theories of mental test scores (1st ed.). Addison-Wesley.

Lynch, W. C., Heil, D. P., Wagner, E., & Havens, M. D. (2007). Ethnic differences in BMI, weight concerns, and eating behaviors: Comparison of Native American, White, and Hispanic Adolescents. *Body Image, 48*(26), 4605–4607. https://dx.doi.org/10.1016%2Fj.bodyim.2007.01.001

MacCallum, R. C., & Tucker, L. R. (1991). Representing sources of error in the common-factor model: Implications for theory and practice. *Psychological Bulletin, 109*(3), 502–511. https://doi.org/10.1037/0033-2909.109.3.502

MacCarthy, S., Reisner, S. L., Nunn, A., Perez-Brumer, A., & Operario, D. (2015). The time is now: Attention increases to transgender health in the United States but scientific

knowledge gaps remain. *LGBT Health, 2*(4), 287–291.

https://doi.org/10.1089/lgbt.2014.0073

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and

validation procedures in MIS and behavioral research: Integrating new and existing

techniques. *MIS Quarterly, 35*(2), 293-334. https://doi.org/10.2307/23044045

MacNeill, L. P., & Best, L. A. (2015). Perceived current and ideal body size in female

undergraduates. *Eating Behaviors, 18*, 71–75.

https://doi.org/10.1016/j.eatbeh.2015.03.004

MacNeill, L. P., Best, L. A., & Davis, L. L. (2017). The role of personality in body image

dissatisfaction and disordered eating: Discrepancies between men and women. *Journal of

Eating Disorders, 5*(1), 1–9. https://doi.org/10.1186/s40337-017-0177-8

Magnani, R., Sabin, K., Saidel, T., & Heckathorn, D. (2005). Review of sampling hard-to-reach

and hidden populations for HIV surveillance. *AIDS, 19*, S67–S72.

https://doi.org/10.1097/01.aids.0000172879.20628.e1

Mallinckrodt, B., Miles, J. R., & Recabarren, D. A. (2016). Using focus groups and Rasch item

response theory to improve instrument development. *Counseling Psychologist, 44*(2),

146–194. https://doi.org/10.1177/0011000015596437

Marciano, A. (2014). Living the VirtuReal: Negotiating transgender identity in cyberspace.

Journal of Computer-Mediated Communication, 19, 824-838.

https://doi.org/10.1111/jcc4.12081

Mason, T. B., Lewis, R. J., & Heron, K. E. (2017). Indirect pathways connecting sexual

orientation and weight discrimination to disordered eating among young adult lesbians.

Psychology of Sexual Orientation and Gender Diversity, 4(2), 193–204.

https://doi.org/10.1037/sgd0000220

Mays, V. M., & Cochran, S. D. (2001). Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health, 91*(11), 1869–1876. https://doi.org/10.2105/AJPH.91.11.1869

McGuire, J. K., Doty, J. L., Catalpa, J. M., & Ola, C. (2016). Body image in transgender young people: Findings from a qualitative, community based study. *Body Image, 18*, 96-107. https://doi.org/10.1016/j.bodyim.2016.06.004

McKinley, N. M., & Hyde, J. S. (1996). The objectified body consciousness scale: Development and validation. *Psychology of Women Quarterly, 20*(2), 181–215. https://doi.org/10.1111/j.1471-6402.1996.tb00467.x

Mead, A.D., & Meade, A.W. (2010, April). *Item selection using CTT and IRT with unrepresentative samples.* [Conference paper]. 25th Annual Meeting of the Society for Industrial and Organizational Psychology, Atlanta, GA. http://mypages.iit.edu/~mead/Mead_and_Meade-v10.pdf

Meehl, L. J., & Cronbach, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*(4), 281–302. https://psycnet.apa.org/doi/10.1037/h0040957

Meerwijk, E. L., & Sevelius, J. M. (2017). Transgender population size in the United States: A meta-regression of population-based probability samples. *American Journal of Public Health, 107*(2), e1–e8. https://doi.org/10.2105/AJPH.2016.303578

Mendelson, B. K., Mendelson, M. J., & White, D. R. (2001). Body-esteem scale for adolescents and adults. *Journal of Personality Assessment, 76*(1), 90–106. https://psycnet.apa.org/doi/10.1207/S15327752JPA7601_6

Messick, S. (1995). Standards of validity and the validity of standards in performance asessment. *Educational Measurement: Issues and Practice, 14*(4), 5-8.

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist, 50*(9), 741-749. https://doi.org/10.1002/j.2333-8504.1994.tb01618.x

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

Michaels, M. S., Parent, M. C., & Moradi, B. (2015). Does exposure to muscularity-idealizing images have self-objectification consequences for heterosexual and sexual minority men? *Psychology of Men and Masculinity, 14*(2), 175–183. https://doi.org/10.1037/a0027259

Miles, J. R., Mallinckrodt, B., & Recabarren, D. A. (2016). Reconsidering focus groups and Rasch model item response theory in instrument development. *Counseling Psychologist, 44*(2), 226–236. https://doi.org/10.1177/0011000016631121

Miller, L. C., Murphy, R., & Buss, A. H. (1981). Consciousness of body: Private and public. *Journal of Personality and Social Psychology, 41*(2), 397–406. https://doi.org/10.1037/0022-3514.41.2.397

Millet, N., Longworth, J., & Arcelus, J. (2017). Prevalence of anxiety symptoms and disorders in the transgender population: A systematic review of the literature. *International Journal of Transgenderism*, *18*(1), 27-38. https://psycnet.apa.org/doi/10.1080/15532739.2016.1258353

Miner, M. H., Bockting, W. O., Romine, R. S., & Raman, S. (2012). Conducting internet research with the transgender population: Reaching broad samples and collecting valid

data. *Social Science Computer Review, 30*(2), 202–211.

https://doi.org/10.1177/0894439311404795

Mizock, L., & Mueser, K. T. (2014). Employment, mental health, internalized stigma, and

coping with transphobia among transgender individuals. *Psychology of Sexual*

Orientation and Gender Diversity, 1(2), 146–158. https://doi.org/10.1037/sgd0000029

Moradi, B. (2010). Addressing gender and cultural diversity in body image: Objectification

theory as a framework for integrating theories and grounding research. *Sex Roles, 63*(1),

138–148. https://doi.org/10.1007/s11199-010-9824-0

Moradi, B. (2013). Discrimination, Objectification, and Dehumanization: Toward a

Pantheoretical Framework. In S. Gervais (Ed.), Objectification and (de)humanization (pp.

153–181). Springer.

Morgan, D. L. (1996). Focus groups. *Annual Review of Sociology, 22*, 129–152.

https://doi.org/10.1146/annurev.soc.22.1.129

Mulvey, L. (1975). Visual pleasure and narrative cinema. *Screen, 16*(3), 6–18.

https://doi.org/10.1093/screen/16.3.6

Murray, S. B., Griffiths, S., Mond, J. M., Kean, J., & Blashill, A. J. (2016). Anabolic steroid use

and body image psychopathology in men: Delineating between appearance- versus

performance-driven motivations. *Drug and Alcohol Dependence, 165,* 198–202.

https://doi.org/10.1016/j.drugalcdep.2016.06.008

Nassiri, V., Lovik, A., Molenberghs, G., & Verbeke, G. (2018). On using multiple imputation for

exploratory factor analysis of incomplete data. *Behavior Research Methods, 50*(2), 501-

517. https://doi.org/10.3758/s13428-017-1013-4

Nassiri, V., Lovik, A., Molenberghs, G., & Verbeke, G. V. (2017). mifa: Multiple imputation for exploratory factor analysis. R package version 0.1.0. https://ibiostat.be/online-resources/uploads/mifa.zip

Novick, M. R. (1966). The axioms and principal results of classical test theory. *Journal of Mathematical Psychology, 3*(1), 1–18. https://doi.org/10.1016/0022-2496(66)90002-2

Nuttbrock, L., Bockting, W. O., Rosenblum, A., Hwahng, S., Mason, M., Macri, M., & Becker, J. (2014). Gender abuse and major depression among transgender women: A prospective study of vulnerability and resilience. *American Journal of Public Health, 104*(11), 2191–2198. https://doi.org/10.2105/AJPH.2013.301545

Nuttbrock, L., Hwahng, S., Bockting, W. O., Rosenblum, A., Mason, M., Macri, M., & Becker, J. (2010). Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. *Journal of Sex Research, 47*(1), 12–23. https://doi.org/10.1080/00224490903062258

Operario, D., Adler, N. E., & Williams, D. R. (2004). Subjective social status: Reliability and predictive utility for global health. *Psychology and Health, 19*(2), 237–246. https://doi.org/10.1080/08870440310001638098

Ostrove, J. M., Adler, N. E., Kuppermann, M., & Washington, A. E. (2000). Objective and subjective assessments of socioeconomic status and their relationship to self-rated health in an ethnically diverse sample of pregnant women. *Health Psychology, 19*(6), 614–618. https://psycnet.apa.org/doi/10.1037/0278-6133.19.6.613

Owen-Smith, A. A., Gerth, J., Sineath, R. C., Barzilay, J., Becerra-Culqui, T. A., Getahun, D., ... & Goodman, M. (2018). Association between gender confirmation treatments and perceived gender congruence, body image satisfaction, and mental health in a cohort of

transgender individuals. *The Journal of Sexual Medicine*, *15*(4), 591-600.

https://doi.org/10.1016/j.jsxm.2018.01.017

Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behavior,*
30(3), 241–256. https://doi.org/10.2307/2136956

Pew Research Center. (2019, June 12.) Social Media Fact Sheet.

https://www.pewresearch.org/internet/fact-sheet/social-media/#who-uses-social-media

Poloskov, E., & Tracey, T. J. G. (2013). Internalization of U.S. female beauty standards as a
mediator of the relationship between Mexican American women's acculturation and body
dissatisfaction. *Body Image, 10*(4), 501–508.

https://doi.org/10.1016/j.bodyim.2013.05.005

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for
Statistical Computing. https://www.R-project.org/

R Core Team. (2017). R: A language and environment for statistical computing. R Foundation
for Statistical Computing. https://www.R-project.org/

Rasch, G. (1966). An item analysis which takes individual differences into account. *British*
Journal of Mathematical and Statistical Psychology, 19(1), 49–57.
https://doi.org/10.1111/j.2044-8317.1966.tb00354.x

Reisner, S. L., Conron, K. J., Baker, K., Herman, J. L., Lombardi, E., Greytak, E. A., …
Matthews, A. K. (2015). "Counting" transgender and gender-nonconforming adults in
health research: Recommendations from the gender identity in US surveillance group.
Transgender Studies Quarterly, 2(1), 34–57. https://doi.org/10.1215/23289252-2848877

Reisner, S. L., Conron, K., Scout, N., Mimiaga, M. J., Haneuse, S., & Austin, S. B. (2015).
Comparing in-person and online survey respondents in the U.S. National Transgender

Discrimination Survey: Implications for transgender health research. *LGBT Health, 1*(2), 98–106. https://doi.org/10.1089/lgbt.2013.0018

Reisner, S. L., Perkovich, B., & Mimiaga, M. J. (2010). A mixed methods study of the sexual health needs of New England transmen who have sex with nontransgender men. *AIDS Patient Care and STDs, 24*(8), 501–513. https://doi.org/10.1089/apc.2010.0059

Reisner, S. L., White Hughto, J. M., Gamarel, K. E., Keuroghlian, A. S., Mizock, L., & Pachankis, J. E. (2016). Discriminatory experiences associated with posttraumatic stress disorder symptoms among transgender adults. *Journal of Counseling Psychology*, *63*(5), 509-519. https://doi.org/10.1037/cou0000143

Revelle, W. (2019) psych: Procedures for personality and psychological research. https://CRAN.R-project.org/package=psych

Robbins, A. R., & Reissing, E. D. (2018). Appearance dissatisfaction, body appreciation, and sexual health in women across adulthood. *Archives of Sexual Behavior, 47*(3), 703–714. https://doi.org/10.1007/s10508-017-0982-9

Rood, B. A., Reisner, S. L., Puckett, J. A., Surace, F. I., Berman, A. K., & Pantalone, D. W. (2017). Internalized transphobia: Exploring perceptions of social messages in transgender and gender-nonconforming adults. *International Journal of Transgenderism, 18*(4), 411-426. https://doi.org/10.1080/15552739.2017.1329048

Rood, B. A., Reisner, S. L., Surace, F. I., Puckett, J. A., Maroney, M. R., & Pantalone, D. W. (2016). Expecting rejection: Understanding the minority stress experiences of transgender and gender-nonconforming individuals. *Transgender Health, 1*(1), 151–164. https://doi.org/10.1089/trgh.2016.0012

Rosenkrantz, D.E., & Barr, S.M. (2016, August). Validating the subscales of the Objectified

    Body Consciousness Scale in a population of trans women. In Ruth E. Fassinger

    (Discussant), *Emerging areas of science, practice, and education with LGBTQ women.*

    [Symposium]. Annual Meeting of the American Psychological Association, Denver, CO.

Ross, C. E., & Mirowsky, J. (1989). Explaining the social patterns of depression: Control and

    problem solving--or support and talking? *Journal of Health and Social Behavior, 30*(2),

    206–219. https://pubmed.ncbi.nlm.nih.gov/2738367/

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. *Journal of Statistical*

    Software, 48(2), 1-36. http://dx.doi.org/10.18637/jss.v048.i02

Rubin, D. (1987). Multiple imputation for nonresponse in surveys. Wiley.

Rusticus, S. A., & Hubley, A. M. (2006). Measurement invariance of the multidimensional body-

    self relations questionnaire: Can we compare across age and gender? *Sex Roles, 55*(11–

    12), 827–842. https://doi.org/10.1007/s11199-006-9135-7

Sarkar, D. (2008). lattice: Multivariate data visualization with R. Springer.

Schenker, N., & Taylor, J. M. (1996). Partially parametric techniques for multiple imputation.

    Computational Statistics & Data Analysis, 22(4), 425-446. https://doi.org/10.1016/0167-

    9473(95)00057-7

Serano, J. (2007). Whipping girl: A transsexual woman on sexism and the scapegoating of

    femininity. Seal Press.

Sevelius, J. M. (2013). Gender affirmation: A framework for conceptualizing risk behavior

    among transgender women of color. *Sex Roles, 68*(11–12), 675–689.

    https://doi.org/10.1007/s11199-012-0216-5

Shulman, G. P., Holt, N. R., Hope, D. A., Mocarski, R., Eyer, J., & Woodruff, N. (2017). A review of contemporary assessment tools for use with transgender and gender nonconforming adults. *Psychology of Sexual Orientation and Gender Diversity, 4*(3), 304–313. https://doi.org/10.1037/sgd0000233

Sineath, R. C., Woodyatt, C., Sanchez, T., Giammattei, S., Gillespie, T., Hunkeler, E., … Goodman, M. (2016). Determinants of and barriers to hormonal and surgical treatment receipt among transgender people. *Transgender Health, 1*(1), 129–136. https://doi.org/10.1089/trgh.2016.0013

Singh, A. A. (2013). Transgender youth of color and resilience: Negotiating oppression and finding support. *Sex Roles, 68*, 690–702. https://doi.org/10.1007/s11199-012-0149-z

Singh, A. A., & McKleroy, V. S. (2011). "Just getting out of bed is a revolutionary act": The resilience of transgender people of color who have survived traumatic life events. *Traumatology, 17*(2), 34–44. https://doi.org/10.1177/1534765610369261

Staples, J. M., Neilson, E. C., Bryan, A. E., & George, W. H. (2018). The role of distal minority stress and internalized transnegativity in suicidal ideation and nonsuicidal self-injury among transgender adults. *The Journal of Sex Research*, *55*(4-5), 591-603. https://doi.org/10.1080/00224499.2017.1393651

Steiger, J. H. (2016). Notes on the Steiger–Lind (1980) handout. *Structural Equation Modeling: A Multidisciplinary Journal, 23*(6), 777–781. https://doi.org/10.1080/10705511.2016.1217487

Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of Psychosomatic Research, 53*, 985–993. https://doi.org/10.1016/s0022-3999(02)00488-9

Strübel, J., Sabik, N., & Tylka, T. (2020). Body image and depressive symptoms among transgender and cisgender adults: Examining a model integrating the tripartite influence model and objectification theory. *Body Image*, *35*, 53-62. https://doi.org/10.1016/j.bodyim.2020.08.004

Sun, S., Hoyt, W. T., & Zhao, J. (2016). Do received stereotypes about Asian clients apply to Chinese young adults? A survey of counselors in Chinese universities. *Professional Psychology: Research and Practice, 47*(1), 38–45. https://doi.org/10.1037/pro0000057

Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate statistics. (4th ed.). Allyn & Bacon.

Takara, R., Beecher, M. E., Okiishi, J. C., Shimokawa, K., Lambert, M. J., & Griner, D. (2015). Translation of the Outcome Questionnaire-45 (OQ) into Japanese: A cultural adaptation. *Psychotherapy Research, 27*(2), 154-166. https://doi.org/10.1080/10503307.2015.1080876

Tebbe, E. A., & Moradi, B. (2016). Suicide risk in trans populations: An application of minority stress theory. *Journal of Counseling Psychology, 63*(5), 520-533. https://psycnet.apa.org/doi/10.1037/cou0000152

Testa, R. J., Habarth, J., Peta, J., Balsam, K., & Bockting, W. O. (2015). Development of the Gender Minority Stress and Resilience Measure. *Psychology of Sexual Orientation and Gender Diversity, 2*(1), 65-77. https://doi.org/10.1037/sgd0000081

Tierney, N., Cook, D., McBain, M., & Fay, C. (2020). naniar: Data structures, summaries, and visualisations for missing data. R package version 0.5.2. https://CRAN.R-project.org/package=naniar

Tracey, T. J. G. (2016). A note on socially desirable responding. *Journal of Counseling Psychology, 63*(2), 224–232. https://doi.org/10.1037/cou0000135

Valentine, S. E., & Shipherd, J. C. (2018). A systematic review of social stress and mental health among transgender and gender non-conforming people in the United States. *Clinical Psychology Review*, *66*, 24-38. https://doi.org/10.1016/j.cpr.2018.03.003

Van Buuren, S. (2007). Multiple imputation of discrete and continuous data by fully conditional specification. *Statistical Methods in Medical Research, 16*(3), 219-242. https://doi.org/10.1177%2F0962280206074463

Van Buuren, S., & Groothuis-Oudshoorn, K. (2011). mice: Multivariate imputation by chained equations in R. *Journal of Statistical Software, 45*(3), 1-67. http://dx.doi.org/10.18637/jss.v045.i03

van den Brink, F., Vollmann, M., & van Weelie, S. (2020). Relationships between transgender congruence, gender identity rumination, and self-esteem in transgender and gender-nonconforming individuals. *Psychology of Sexual Orientation and Gender Diversity*, *7*(2), 230-235. https://doi.org/10.1037/sgd0000357

van Manen, M. (1998). Modalities of body experience in illness and health. *Qualitative Health Research, 8*(1), 7–24. https://doi.org/10.1177%2F104973239800800102

Velez, B. L., Breslow, A. S., Brewster, M. E., Cox, R., & Foster, A. B. (2016). Building a pantheoretical model of dehumanization with transgender men: Integrating objectification and minority stress theories. *Journal of Counseling Psychology, 63*(5), 497–508. https://doi.org/10.1037/cou0000136

Velicer, W. F. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrika, 41*(3), 321-327. https://doi.org/10.1007/BF02293557

Velicer, W. F., & Fava, J. L. (1998). Affects of variable and subject sampling on factor pattern recovery. *Psychological Methods, 3*(2), 231–251. https://doi.org/10.1037/1082-989X.3.2.231

Wang, Y. W., Hogge, I., & Sahai, N. (2016). One size does not fit all: Ethnocultural empathy and everyday multicultural competencies. *Counseling Psychologist, 44*(2), 205–215. https://doi.org/10.1177/0011000015620661

Wang, Y., & Li, Z. (2018). Authenticity as a mediator of the relationship between power contingent self-esteem and subjective well-being. *Frontiers in Psychology, 9*(1066), 1-10. https://doi.org/10.3389/fpsyg.2018.01066

Warren, J. C., Smalley, K. B., & Barefoot, K. N. (2015). Recruiting rural and urban LGBT populations online: Differences in participant characteristics between email and Craigslist approaches. *Health and Technology, 5*(2), 103–114. https://doi.org/10.1007/s12553-015-0112-4

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scales. *Journal of Personality and Social Psychology, 54*(6), 1063–1070. https://psycnet.apa.org/doi/10.1037/0022-3514.54.6.1063

Watson, L. B., Grotewiel, M., Farrell, M., Marshik, J., & Schneider, M. (2015). Experiences of sexual objectification, minority stress, and disordered eating among sexual minority women. *Psychology of Women Quarterly, 39*(4), 458–470. https://doi.org/10.1177/0361684315575024

Watson, N., Bryan, B. C., & Thrash, T. M. (2010). Self-discrepancy: Comparisons of the psychometric properties of three instruments. *Psychological Assessment, 22*, 878–892. https://doi.org/10.1037/a0020644

Weir, J. P. (2005). Quantifying test-retest reliability using the intraclass correlation coefficient and the SEM. *Journal of Strength and Conditioning Research, 19*(1), 231–240. https://doi.org/10.1519/15184.1

Welch, B. L. (1947). The generalization of 'Student's' problem when several different population variances are involved. *Biometrika, 34*(1)*,* 28–35. https://doi.org/10.2307/2332510

Weng, L. J. (2004). Impact of the number of response categories and anchor labels on coefficient alpha and test-retest reliability. *Educational and Psychological Measurement, 64*(6), 956–972. https://doi.org/10.1177/0013164404268674

Westen, D., & Rosenthal, R. (2003). Quantifying construct validity: Two simple measures. *Journal of Personality and Social Psychology, 84*(3), 608–618. https://doi.org/10.1037/0022-3514.84.3.608

Whittaker, T. A., & Worthington, R. L. (2016). Item response theory in scale development research: A critical analysis. *Counseling Psychologist, 44*(2), 216–225. https://doi.org/10.1177/0011000015626273

Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health, 93*(2), 200–208. https://doi.org/10.2105/ajph.98.supplement_1.s29

Wiseman, M. C., & Moradi, B. (2010). Body image and eating disorder symptoms in sexual minority men: A test and extension of objectification theory. *Journal of Counseling Psychology, 57*(2), 154–166. https://doi.org/10.1037/a0018937

Witcomb, G. L., Bouman, W. P., Brewin, N., Richards, C., Fernandez-Aranda, F., & Arcelus, J. (2015). Body image dissatisfaction and eating-related psychopathology in trans

individuals: A matched control study. *European Eating Disorders Review, 23*(4), 287–293. https://doi.org/10.1002/erv.2362

Worthington, R. L., & Navarro, R. L. (2003). Pathways to the future: Analyzing the contents of a content analysis. *The Counseling Psychologist, 3*(1), 85–92. https://doi.org/10.1177/0011000002239402

Worthington, R. L., & Whittaker, T. A. (2006). Scale development research: A content analysis and recommendations for best practices. *The Counseling Psychologist, 34*(6), 806–838. https://doi.org/10.1177/0011000006288127

Yates, A., Edman, J., & Aruguete, M. (2004). Ethnic differences in BMI and body/self-dissatisfaction among Whites, Asian subgroups, Pacific Islanders, and African-Americans. *Journal of Adolescent Health, 34*(4), 300–307. https://doi.org/10.1016/j.jadohealth.2003.07.014

Appendix A: Focus Group Script

Welcome, and thank you for your participation in the this interview for better understanding and measuring body experience among transgender, nonbinary, and gender-nonconforming folx! My name is Morgan (she/her/hers), and I will be interviewing you today. I am a doctoral student in counseling psychology at the UW-Madison, and this project is part of my dissertation. I have been working in the Trans Research Lab for 6 years, where we conduct research that affirms the experience of TNG individuals in an effort to enhance their wellbeing. Now I am working on my dissertation, which involves developing a new way to think about body experience for TNG folx. My goal here is to elevate TNG voices, and this interview is an important part of that process. If you have any questions at all about my role in this research, please feel free to ask me now or anytime in the future.

You were invited to participate in the interview because you reported identifying as TNG and being interested in helping. There are no right or wrong answers, only differing points of view. I would love to hear any thoughts you may have as your unique perspective is important and valuable. Keep in mind negative comments are just as important as positive comments, so please feel free to speak up if you have a reaction to something. There may be times when you do not agree with items you read, or cannot relate to that experience. Please feel free to let me know if something feels important to mention.

You can rest assured that things will be entirely confidential. I am interested in asking a few questions afterwards about your demographic information, if you are interested in providing it. The items you help come up with today cannot be traced back to you, but it is possible that your demographic information is traceable back to you. This is because only a few people are participating in these interviews, so it is possible that I would if you reported specific demographic information. However, I'll ask you to report this information anonymously via a Qualtrics survey. It is entirely up to you if you decide to share this information, as well as how much information you choose to share.

If for any reason this discussion makes you feel uncomfortable, please know that your participation is completely voluntary and you may stop at any time. You will still receive $10 compensation for your time. I want you to feel comfortable and safe here, so please do whatever you need to do in the event that you need a break or need to stop participating. What questions do you have about this process?

My role as interviewer will be to frame the discussion and keep us on track, but the ideas and topics will primarily be up to you. Our topic for today is body experience among TNG people. The results will be used for measuring body experience and something called "objectified body consciousness" among TNG people. Objectified body consciousness is a concept that was originally applied to cisgender women. Have you ever heard of the term "male gaze"? There is a scale called the objectified body consciousness scale that is basically a way of measuring the impact of the male gaze on cis women. It is divided into three scales: Surveillance, Body Shame, and Appearance Control Beliefs. All together, the scale measures the degree to which cis women have internalized sociocultural body standards like thinness and beauty features in order to satisfy the male gaze.

Well, the original scale was administered to trans women recently and it turns out that it did not hold water! The measure was not validated for TNG people, so it makes sense that it was not useful for measuring their experience with body objectification. My goal here is to make a

new measure that is similar to the original scale, but better captures TNG people's experiences in a world dominated by cisgender body standards and cisnormative appearance expectations. What questions do you have so far?

I'm going to ask a few questions here. You are welcome to speak to your own experience, or to imagine a TNG person you know when reflecting on the question. Let me know which feels more comfortable for you…you can change your perspective at any point.

Questions for Interviews

1. Everyone has different feelings about their body. What feelings come up for you when you think about your body? (*What feelings do you think might come up for a TNG individual when they think about their body?*)
2. What about your body makes you feel good? (*What about a TNG person's body might make them feel good?*)
3. What about your body makes you feel not so good? (*What about a TNG person's body might make them feel not so good?*)
4. When do you notice yourself thinking more about your body? (*When do you think a TNG person might start thinking more about their body?*)
5. What situations make you more aware of your body? (*In what situations do you think a TNG person might be more aware of their body?*)
6. How do different situations make you feel differently about your body? (*How might different situations make a TNG person feel differently about their body?*)
7. Suppose you had a magic wand that could make one change to your body instantly. Would you use this? If so, what change would you make? Why? (*Suppose the TNG person you have in mind had a magic wand that could make one change to their body instantly. Do you think they might use this? If so, what change might they make? Why?*)
8. What sorts of things do you do to get ready before going out of the house? Why? (*What sorts of things do you think a TNG person might do to get ready before going out of the house? Why?*)
9. Of all the moments and situations we talked about that make you think about your body more, which one seems most important to you? (*Of all the moments and situations we talked about that might make a TNG person think about their body more, which one seems most important?*)
10. Of all the feelings we talked about that might arise when we think about our bodies, which one seems most important to you? (*Of all the feelings we talked about that might arise when a TNG person thinks about their body, which one seems most important?*)
11. Of all the changes we talked about related to body and appearance, which one seems most important to you? (*Of all the changes we talked about related to body and appearance for TNG people, which one seems most important to you?*)
12. What else would you like to share about body experience for TNG people? Are we missing anything in our discussion that feels important?
13. What questions do you have for me?

Appendix B: Screening Questions

Screening questions. Please respond to the following questions.

Question	Response options	
Are you at least 18 years of age?	Yes	No
Is your gender identity different from your sex assigned at birth?	Yes	No

Scoring. Participants who respond "Yes" to both questions will proceed to the survey. Participants who respond "No" to one or more questions will proceed to a screen thanking them for their interest and notifying them of their ineligibility to participate.

Appendix C: Body Consciousness Questionnaire – Private Body Subscale

Answer the following questions about yourself by circling the number that indicates how characteristic each statement is of you, using the following scale.

	0 =	1 =	2 =	3 =	4 =
	Extremely uncharacteristic	Uncharacteristic	Neutral	Characteristic	Extremely characteristic
1. I am sensitive to internal bodily tensions.	0	1	2	3	4
2. I know immediately when my mouth or throat gets dry.	0	1	2	3	4
3. I can often feel my heart beating.	0	1	2	3	4
4. I am quick to sense the hunger contractions of my stomach.	0	1	2	3	4
5. I'm very aware of changes in my body temperature.	0	1	2	3	4

Scoring. All items are unit weighted. Sum item scores for composite scores. Higher scores indicate greater private body consciousness.

Appendix D: Body Consciousness Questionnaire – Public Body Subscale

Answer the following questions about yourself by circling the number that indicates how characteristic each statement is of you, using the following scale.

	0 = Extremely uncharacteristic	1 = Uncharacteristic	2 = Neutral	3 = Characteristic	4 = Extremely characteristic
1. When with others, I want my hands to be clean and look nice.	0	1	2	3	4
2. It's important for me that my skin looks nice...for example, has no blemishes.	0	1	2	3	4
3. I am very aware of my best and worst facial features.	0	1	2	3	4
4. I like to make sure that my hair looks right.	0	1	2	3	4
5. I think a lot about my body build.	0	1	2	3	4
6. I'm concerned about my posture.	0	1	2	3	4

Scoring. All items are unit weighted. Sum item scores for composite scores. Higher scores indicate greater public body consciousness.

Appendix E: Positive and Negative Affect Schedule

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past week. Use the following scale to record your answers.

	1 = Very slightly or not at all	2 = A little	3 = Moderately	4 = Quite a bit	5 = Extremely
1. Interested	1	2	3	4	5
2. Distressed	1	2	3	4	5
3. Excited	1	2	3	4	5
4. Upset	1	2	3	4	5
5. Strong	1	2	3	4	5
6. Guilty	1	2	3	4	5
7. Scared	1	2	3	4	5
8. Hostile	1	2	3	4	5
9. Enthusiastic	1	2	3	4	5
10. Proud	1	2	3	4	5
11. Irritable	1	2	3	4	5
12. Alert	1	2	3	4	5
13. Ashamed	1	2	3	4	5
14. Inspired	1	2	3	4	5
15. Nervous	1	2	3	4	5
16. Determined	1	2	3	4	5
17. Attentive	1	2	3	4	5
18. Jittery	1	2	3	4	5
19. Active	1	2	3	4	5
20. Afraid	1	2	3	4	5

Scoring: Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect. Mean Scores: 33.3 (SD±7.2) Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect. Mean Score: 17.4 (SD ± 6.2).

Appendix F: Body Esteem Scale for Adolescents and Adults – Appearance and Attribution subscales

Indicate how often you agree with the following statements.

	1 = Never	2 = Seldom	3 = Sometimes	4 = Often	5 = Always	Subscale (remove column before administering)
1. I like what I look like in pictures.	1	2	3	4	5	Appearance
2. Other people consider me good looking.	1	2	3	4	5	Attribution
3. I think my appearance would help me get a job.	1	2	3	4	5	Attribution
4. I like what I see when I look in the mirror.	1	2	3	4	5	Appearance
5. There are lots of things I'd change about my looks if I could.	1	2	3	4	5	Appearance
6. I wish I looked better.	1	2	3	4	5	Appearance
7. I wish I looked like someone else.	1	2	3	4	5	Appearance
8. People my own age like my looks.	1	2	3	4	5	Attribution
9. My looks upset me.	1	2	3	4	5	Appearance
10. I'm as nice looking as most people.	1	2	3	4	5	Attribution
11. I'm pretty happy	1	2	3	4	5	Appearance

about the way I look.						
12. I feel ashamed of how I look.	1	2	3	4	5	Appearance
13. My looks help me to get dates.	1	2	3	4	5	Attribution
14. I worry about the way I look.	1	2	3	4	5	Appearance
15. I look as nice as I'd like to.	1	2	3	4	5	Appearance

Scoring. Sum item scores for each subscale. Negative items are reverse scored. Higher scores indicate higher body esteem for each subscale.

Appendix G: Locus of Control of Behavior

Below are a number of statements about how various topics affect your personal beliefs. There are no right or wrong answers. For every item there are a large number of people who agree and disagree. Could you please put in the appropriate bracket the choice you believe to be true? Answer all the questions.

	0 = Strongly disagree	1 = Generally disagree	2 = Somewhat disagree	3 = Somewhat agree	4 = Generally agree	5 = Strongly agree
1. I can anticipate difficulties and take action to avoid them.	0	1	2	3	4	5
2. A great deal of what happens to me is probably just a matter of chance.	0	1	2	3	4	5
3. Everyone knows that luck or chance determines one's future.	0	1	2	3	4	5
4. I can control my problem(s) only if I have outside support.	0	1	2	3	4	5
5. When I make plans, I am almost certain that I can make them work.	0	1	2	3	4	5
6. My problem(s) will dominate me all my life.	0	1	2	3	4	5
7. My mistakes and problems are my responsibility to deal with	0	1	2	3	4	5
8. Becoming a	0	1	2	3	4	5

success is a matter of hard work, luck has little or nothing to do with it.

9. My life is controlled by outside actions and events.	0	1	2	3	4	5
10. People are victims of circumstance beyond their control.	0	1	2	3	4	5
11. To continually manage my problems I need professional help.	0	1	2	3	4	5
12. When I am under stress, the tightness in my muscles is due to things outside my control.	0	1	2	3	4	5
13. I believe a person can really be the master of his fate.	0	1	2	3	4	5
14. It is impossible to control my irregular and fast breathing when I am having difficulties.	0	1	2	3	4	5
15. I understand why my problem(s) varies so much from one occasion to the next.	0	1	2	3	4	5
16. I am confident of being able to deal successfully with	0	1	2	3	4	5

future problems.

17. In my case maintaining control over my problem(s) is due mostly to luck.	0	1	2	3	4	5

Scoring. The 17-item test is scored in the same direction as the Rotter I-E scale, that is, high scores indicate externality. The 10 items which relate to externality are tallied from the left-hand column of response boxes and the scores for the seven items relating to internality (items 1, 5, 7, 8, 13 and 16) are transposed so that 5 is scored as 0 (strongly disagree), 4 (generally agree) becomes 1 (generally disagree), etc., in the right-hand column of response boxes. After transposing the seven items the test is scored by summing the scores for all 17 items.

Appendix H: The Self-Concept Questionnaire – Personal Constructs (SCQ-PC)

1. Please list six characteristics that describe your body AS YOU SEE IT in your own eyes.
2. Please list six characteristics that describe your body AS YOU WOULD LIKE IT TO BE in your own eyes.
3. Please list six characteristics that describe your body AS OTHERS think it ought or should be.
4. Please enter the OPPOSITE of each characteristic you just named.
5. Please rate on a scale of 1 to 7 how much this characteristic is true for your body in the past week.

	1 Never or Almost Never True	2	3	4	5	6	7 Always or Almost Always True
[Real-Self characteristic 1]	1	2	3	4	5	6	7
[Real-Self characteristic 2]	1	2	3	4	5	6	7
[Real-Self characteristic 3]	1	2	3	4	5	6	7
[Real-Self characteristic 4]	1	2	3	4	5	6	7
[Real-Self characteristic 5]	1	2	3	4	5	6	7
[Real-Self characteristic 6]	1	2	3	4	5	6	7
[Ideal-Self characteristic 1]	1	2	3	4	5	6	7
[Ideal-Self characteristic 2]	1	2	3	4	5	6	7
[Ideal-Self characteristic 3]	1	2	3	4	5	6	7
[Ideal-Self characteristic 4]	1	2	3	4	5	6	7
[Ideal-Self characteristic 5]	1	2	3	4	5	6	7
[Ideal-Self characteristic 6]	1	2	3	4	5	6	7
[Ought-Self characteristic 1]	1	2	3	4	5	6	7
[Ought-Self characteristic 2]	1	2	3	4	5	6	7
[Ought-Self characteristic 3]	1	2	3	4	5	6	7
[Ought-Self characteristic 4]	1	2	3	4	5	6	7
[Ought-Self characteristic 5]	1	2	3	4	5	6	7
[Ought-Self characteristic 6]	1	2	3	4	5	6	7
[OPPOSITE Real-Self characteristic 1]	1	2	3	4	5	6	7
[OPPOSITE Real-Self characteristic 2]	1	2	3	4	5	6	7
[OPPOSITE Real-Self characteristic 3]	1	2	3	4	5	6	7
[OPPOSITE Real-Self characteristic 4]	1	2	3	4	5	6	7
[OPPOSITE Real-Self characteristic 5]	1	2	3	4	5	6	7
[OPPOSITE Real-Self characteristic 6]	1	2	3	4	5	6	7
[OPPOSITE Ideal-Self characteristic 1]	1	2	3	4	5	6	7

[OPPOSITE Ideal-Self characteristic 2]	1	2	3	4	5	6	7
[OPPOSITE Ideal-Self characteristic 3]	1	2	3	4	5	6	7
[OPPOSITE Ideal-Self characteristic 4]	1	2	3	4	5	6	7
[OPPOSITE Ideal-Self characteristic 5]	1	2	3	4	5	6	7
[OPPOSITE Ideal-Self characteristic 6]	1	2	3	4	5	6	7
[OPPOSITE Ought-Self characteristic 1]	1	2	3	4	5	6	7
[OPPOSITE Ought-Self characteristic 2]	1	2	3	4	5	6	7
[OPPOSITE Ought-Self characteristic 3]	1	2	3	4	5	6	7
[OPPOSITE Ought-Self characteristic 4]	1	2	3	4	5	6	7
[OPPOSITE Ought-Self characteristic 5]	1	2	3	4	5	6	7
[OPPOSITE Ought-Self characteristic 6]	1	2	3	4	5	6	7

Appendix I: Gender Minority Stress and Resilience Measure

Please indicate how much you agree with the following statements.

Subscale			0 = Strongly Disagree	1 = Somewhat Disagree	2 = Neither Agree or Disagree	3 = Somewhat Agree	4 = Strongly Agree
D	1.	I have had difficulty getting medical or mental health treatment (transition-related or other) because of my gender identity or expression* ⌐SEP¬	0	1	2	3	4
D	2.	Because of my gender identity or expression, I have had difficulty finding a bathroom to use when I am out in public. ⌐SEP¬	0	1	2	3	4
D	3.	I have experienced difficulty getting identity documents that match my gender identity. ⌐SEP¬	0	1	2	3	4
D	4.	I have had difficulty finding housing or staying in housing because of my gender identity or expression. ⌐SEP¬	0	1	2	3	4
D	5.	I have had difficulty finding employment or keeping employment, or have been denied	0	1	2	3	4

		promotion because of my gender identity or expression ⌐L⌐SEP				
R	6.	I have had difficulty finding a partner or have had a relationship end because of my gender identity or expression. ⌐L⌐SEP	0	1	2	3	4
R	7.	I have been rejected or made to feel unwelcome by a religious community because of my gender identity or expression ⌐L⌐SEP	0	1	2	3	4
R	8.	I have been rejected by or made to feel unwelcome in my ethnic/racial community because of my gender identity or expression. ⌐L⌐SEP	0	1	2	3	4
R	9.	I have been rejected or distanced from friends because of my gender identity or expression. ⌐L⌐SEP	0	1	2	3	4
R	10.	I have been rejected at school or work because of my gender identity or expression.	0	1	2	3	4
R	11.	I have been rejected or	0	1	2	3	4

	distanced from family because of my gender identity or expression.					
V	12. I have been verbally harassed or teased because of my gender identity or expression. (For example, being called "it.")	0	1	2	3	4
V	13. I have been threatened with being outed or blackmailed because of my gender identity or expression.	0	1	2	3	4
V	14. I have had my personal property damaged because of my gender identity or expression.	0	1	2	3	4
V	15. I have been threatened with physical harm because of my gender identity or expression.	0	1	2	3	4
V	16. I have been pushed, shoved, hit, or had something thrown at me because of my gender identity or expression.	0	1	2	3	4
V	17. I have had sexual contact with someone against	0	1	2	3	4

	my will because of my gender identity or expression. ⌐SEP¬					
V	18. I have heard negative statements about transgender or gender nonconforming people.	0	1	2	3	4
NA	19. I have to repeatedly explain my gender identity to people or correct the pronouns people use. ⌐SEP¬	0	1	2	3	4
NA	20. I have difficulty being perceived as my gender. ⌐SEP¬	0	1	2	3	4
NA	21. I have to work hard for people to see my gender accurately. ⌐SEP¬	0	1	2	3	4
NA	22. I have to be "hypermasculine" or "hyperfeminine" in order for people to accept my gender. ⌐SEP¬	0	1	2	3	4
NA	23. People don't respect my gender identity because of my appearance or body. ⌐SEP¬	0	1	2	3	4
NA	24. People don't understand me because they don't see my gender as I do. ⌐SEP¬	0	1	2	3	4
IT	25. I resent my gender	0	1	2	3	4

	identity or expression					
IT	26. My gender identity or expression makes me feel like a freak.	0	1	2	3	4
IT	27. When I think of my gender identity or expression, I feel depressed.	0	1	2	3	4
IT	28. When I think about my gender identity or expression, I feel unhappy	0	1	2	3	4
IT	29. Because my gender identity or expression, I feel like an outcast.	0	1	2	3	4
IT	30. I often ask myself: Why can't my gender identity or expression just be normal?	0	1	2	3	4
IT	31. I feel that my gender identity or expression is embarrassing.	0	1	2	3	4
IT	32. I envy people who do not have a gender identity or expression like mine.	0	1	2	3	4
P	33. My gender identity or expression makes me feel special and unique. ⌐L¬ SEP	0	1	2	3	4
P	34. It is okay for me to have people know that my gender identity is different from my sex assigned at birth.	0	1	2	3	4

P	35. I have no problem talking about my gender identity and gender history to almost anyone. SEP	0	1	2	3	4
P	36. It is a gift that my gender identity is different from my sex assigned at birth. SEP	0	1	2	3	4
P	37. I am like other people but I am also special because my gender identity is different from my sex assigned at birth. SEP	0	1	2	3	4
P	38. I am proud to be a person whose gender identity is different from my sex assigned at birth. SEP	0	1	2	3	4
P	39. I am comfortable revealing to others that my gender identity is different from my sex assigned at birth. SEP	0	1	2	3	4
P	40. I'd rather have people know everything and accept me with my gender identity and gender history. SEP	0	1	2	3	4
NE	41. If I express my gender identity,	0	1	2	3	4

	others wouldn't accept me. ⌜L⌟ SEP					
NE	42. If I express my gender identity, employers would not hire me. ⌜L⌟ SEP	0	1	2	3	4
NE	43. If I express my gender identity, people would think I am mentally ill, "crazy."	0	1	2	3	4
NE	44. If I express my gender identity, people would think I am disgusting or sinful.	0	1	2	3	4
NE	45. If I express my gender identity, most people would think less of me. ⌜L⌟ SEP	0	1	2	3	4
NE	46. If I express my gender identity, most people would look down on me.	0	1	2	3	4
NE	47. If I express my gender identity, I could be a victim of crime or violence. ⌜L⌟ SEP	0	1	2	3	4
NE	48. If I express my gender identity, I could be arrested or harassed by police. ⌜L⌟ SEP	0	1	2	3	4
NE	49. If I express my gender identity, I could be denied good medical care. ⌜L⌟ SEP	0	1	2	3	4

ND	50. Because I don't want others to know my gender identity, I don't talk about certain experiences from my past or change parts of what I will tell people. [SEP]	0	1	2	3	4
ND	51. Because I don't want others to know my gender identity, I modify my way of speaking. [SEP]	0	1	2	3	4
ND	52. Because I don't want others to know my gender identity, I pay special attention to the way I dress or groom myself. [SEP]	0	1	2	3	4
ND	53. Because I don't want others to know my gender identity, I avoid exposing my body, such as wearing a bathing suit or nudity in locker rooms. [SEP]	0	1	2	3	4
ND	54. Because I don't want others to know my gender identity, I change the way I walk, gesture, sit, or stand. [SEP]	0	1	2	3	4
CC	55. I feel part of a community of people who share my gender identity.	0	1	2	3	4

	SEP					
CC	56. I feel connected to other people who share my gender identity. SEP	0	1	2	3	4
CC	57. When interacting with members of the community that shares my gender identity, I feel like I belong. SEP	0	1	2	3	4
CC	58. I'm not like other people who share my gender identity. SEP	0	1	2	3	4
CC	59. I feel isolated and separate from other people who share my gender identity.	0	1	2	3	4

Scoring: For Discrimination (D) scale, code responses as 1 if "Yes" at any point, and 0 if "Never", then sum item scores. For Rejection (R) scale, code responses as 1 if "Yes" at any point, and 0 if "Never", then sum item scores. For Victimization (V) scale, discard last item, code responses as 1 if "Yes" at any point, and 0 if "Never", then sum item scores. For Non-Affirmation (NA), Internalized Transphobia (IT), Pride (P), Negative Expectations (NE), Non-Disclosure (ND), and Community Connectedness (CC) scales, code responses as (0) Strongly Disagree, (1) Somewhat Disagree, (2) Neither Agree/Disagree, (3) Somewhat Agree, and (4) Strongly Agree. The final two items of the CC scale should be reverse scored. Either the NE or ND scale is administered depending on whether the respondent reports living in their affirmed gender the majority of the time.

Appendix J: Inventory of Interest in Steps to Affirm Gender

Some people are interested in changing their appearance to better match their gender identity. Please mark the selection that best describes your interest or experience with accessing steps to affirm your gender. You may select more than one answer.

	0 = No interest	1 = Maybe interested	2 = Definitely interested but cannot access at this time	3 = Currently access / Have accessed in the past
Medical				
Blockers (Spiro, Histrelin, etc.)	0	1	2	3
HRT (e.g., testosterone, progesterone, etc.)	0	1	2	3
Surgery (top, bottom, tracheal, face, liposuction, etc.)	0	1	2	3
Voice therapy	0	1	2	3
Other (please list)	0	1	2	3
Appearance				
Chest binding / Breast padding	0	1	2	3
Tucking / Packing	0	1	2	3
Walking or sitting differently	0	1	2	3
Changing my clothing	0	1	2	3
Changing my hair	0	1	2	3
Exercising more	0	1	2	3
Changing my diet	0	1	2	3
Other (please list)	0	1	2	3

Scoring. Recode scores from "Currently access / Have accessed in the past" as a score of 2. Sum scores for each category (i.e., Medical, Appearance). Higher scores indicate greater interest in taking steps to affirm gender.

Appendix K: Demographics

Question	Response Options
How old are you?	(select age 18 - 100)
What is the highest level of education you have completed?	Less than high school
	High school or GED
	Associates or 2-year degree
	Some college
	Bachelors degree
	Masters degree
	Professional degree (M.D., J.D., Ph.D.)
What is your employment status? (Select all that apply)	Employed part-time
	Employed full-time
	Part-time student
	Full-time student
	Military (reservist)
	Military (active duty)
	Homemaker/Full-time caretaker
	Unemployed and not currently working for work
	Unemployed and currently looking for work
	Unable to work due to disability
	Retired
What is your total personal income before taxes, from all sources, last year?	Less than $10,000
$10,000 - $19,999	$20,000 - $29,9999
	$30,000 - $39,999
	$40,000 - $49,999
	$50,000 - $59,999
	$60,000 - $69,999
	$70,000 - $79,999

$80,000 - $89,999

$90,000 - $99,999

$100,00 - $149,999

$150,000 or more

What socio-economic class have you spent the majority of your life in?	Lower class
	Working class
	Middle class
	Upper middle class
	Upper class
	Other (please specify): [text entry]
Think of the ladder below as representing where people stand in the U.S. At the top of the ladder are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, and worst jobs or no job. Where would you place yourself on this ladder?	(select number 1-10)
Which of the following best describes you?	Woman
	Man
	Androgynous
	Gender neutral
	Nonbinary
	Pangender
	Bigender
	Genderqueer
	Gender fluid
	Other (please specify): [text entry]
Do any of the following labels apply to you?	Transgender
	Intersex

	None of the above
Which of the following best describes how you view your sexual orientation? (Please choose all that apply)	Asexual
	Bisexual
	Gay
	Lesbian
	Pansexual
	Queer
	Same-Gender-Loving
	Straight/Heterosexual
	Other (please specify): [text entry]
Which of the following best describes how you view your race/ethnicity? (Please choose all that apply)	Asian
	Black/African American/Caribbean American
	Latina/Latino/Latinx/Hispanic
	Middle Eastern
	Native American/Alaska Native
	Native Hawaiian/Pacific Islander
	White/Caucasian/European American
	Other (please specify): [text entry]
Do you identify as a person with a disability?	Yes/No
Which of the following describes your religious faith/spirituality? (Please choose all that apply)	I do not identify with any
	Agnostic (not sure if there is higher power)
	Atheist (do not believe in a higher power)
	Buddhist
	Catholic
	Hindu

	Muslim
	Protestant Christian
	Spiritual
	Other (please specify): [text entry]
Within which state do you reside?	(select state)
What is your ZIP code?	[text entry]
Within which type of area do you reside?	Rural
	Suburban
	Urban
Who do you currently live with?	Living on my own
	Roommate(s)
	My partner(s)
	Shelter mates
	My parent(s) or permanent legal guardian(s)
	My child(ren)
	I am currently homeless
	Other (please specify): [text entry]

Appendix L: Hypothesized Relationships Between OBCT Scale Scores and Scales

Administered in Study 1

OBCT Scale	Scale / Subscale	Hypothesized correlation (*r*)
Surveillance	BCQ – Public	0.7
	BSQ – Private	0.2
Body Shame	GMSR – Internalized Transphobia	0.7
	PANAS – Negative Affect	0.4
	BESAA - Appearance	-0.7
Appearance Control Beliefs	Inventory of Interest in Steps to Affirm Gender	0.5
	Locus of Control of Behavior	0.4
	PANAS – Positive Affect	0.1

Appendix M: Hypothesized Relationships Between OBCT Scale Scores and Scales

Administered in Study 2

OBCT Scale	Scale / Subscale	Hypothesized correlation (r)
Surveillance	BESAA – Attribution	-0.5
Body Shame	GMSR – Pride	-0.4
	GMSR – Community Connectedness	-0.3
	SCQ-PC – Real-Ideal Discrepancy	0.4
Appearance Control Beliefs	SCQ-PC – Real-Ought Discrepancy	0.3

Appendix N: Digital Flier Advertising Focus Group Recruitment

Who is conducting the study and what is it about?

Researchers from the University of Wisconsin-Madison are recruiting participants for a study to better understand how transgender, nonbinary, and gender-nonconforming individuals relate to their bodies.

Who can join this study?

You can participate in this study if you are an adult (aged 18+) who identifies as transgender, nonbinary, or gender-nonconforming. We want to raise your voice!

What will I be asked to do?

You will be asked to participate in a focus group at the University of Wisconsin-Madison School of Education. We are interested in hearing your feedback about a survey. It will last approximately 1 hour.

Will I be paid?

Yes, you will be paid $15 for your time.

PLEASE CONTACT IF INTERESTED IN PARTICIPATING:

Morgan Sinnard (Study Coordinator)
        512-953-7034
        sinnard@wisc.edu

Stephanie Budge (Principal Investigator)
        608-263-3753
        budgewisc.edu

Appendix O: Digital Flier Advertising Study 1 and Study 2 Recruitment

Who is conducting the study and what is it about?
Researchers from the University of Wisconsin-Madison are recruiting participants for a study to better understand how transgender, nonbinary, and gender-nonconforming individuals relate to their bodies.

Who can join this study?
You can participate in this study if you are an adult (aged 18+) who identifies as transgender, nonbinary, or gender-nonconforming. We want to raise your voice!

What will I be asked to do?
You will be asked to complete an online survey from the location of your choice. It will take you approximately 45 minutes.

Will I be paid?
Every 20th person to complete the survey will receive **$100** until we run out of funds. We have $4,000 total to compensate participants. We anticipate a total of 800 survey participants for the entire study. Your chance of winning the $100 is estimated to be 5%.

HOW TO ACCESS SURVEY
Scan this QR code with your mobile device OR paste link in your Internet browser:

PLEASE CONTACT WITH QUESTIONS:

Morgan Sinnard (Study Coordinator)
    512-953-7034
    sinnard@wisc.edu

Stephanie Budge (Principal Investigator)
    608-263-3753
    budge@wisc.edu

Appendix P: Objectified Body Consciousness Scales for Trans and Nonbinary Adults

(OBCT)

Instructions: Below are a number of statements about how one might experience their body. There are no right or wrong answers. Please use the slider to mark the choice that is most true for you. The slider may fall somewhere in between numbers.

Please note that we use *trans* as an umbrella term to refer to transgender, gender nonconforming, and/or nonbinary people. We use the term *cisgender* to refer to people who identify with the sex they were assigned at birth.

The response options are:

1 = Strongly Disagree
2 = Somewhat Disagree
3 = Neutral
4 = Somewhat Agree
5 = Strongly Agree

1. I think a lot about whether my clothes fit me right.
2. I often think about aspects of my body that I dislike.
3. I feel bad about myself when I haven't made the effort to look like my gender (examples: trans man, trans woman, nonbinary, etc.).
4. Trans people should wear clothes that clearly match their gender (examples: trans woman, trans man, nonbinary, etc.).
5. When I am with others, I try to hide aspects of my body that I dislike.
6. Trans people should work hard to blend in with cisgender people.
7. I frequently check to see if my body looks right.
8. It is important that trans people put in the effort to look like their gender (examples: trans woman, trans man, nonbinary, etc.).

9. When I see myself naked, I get in a bad mood.

10. Trans people should seek medical interventions to look more like their gender (examples: trans woman, trans man, nonbinary, etc.).

11. I often wonder about whether people are staring at me.

12. I often think about where my clothes cling to my body.

13. When I get dressed in the morning, I think a lot about how others will perceive my gender.

14. I often think about whether aspects of my body make me stick out as trans.

15. I think it is important to wear clothes that hide aspects of my body that I dislike.

16. It is important to me that my clothes make my body look good.

17. I often think about how I look.

18. I worry that something is wrong with me when I am misgendered.

19. A person can be perceived as their gender (examples: trans woman, trans man, nonbinary, etc.) if they are willing to work at it.

20. I often think about whether people can tell I am trans.

Scoring. Sum scores for each scale. Items 2, 5, 9, and 15 and correspond to the Body Shame (BS) scale. Items 4, 6, 8, 10, and 19 correspond to the Cisnormative Appearance Control Beliefs (CACB) scale. Items 1, 12, 7, 16, and 17 correspond to the Appearance Surveillance (AS) scale. Items 3, 11, 13, 14, 18, and 20 correspond to the Gender Surveillance (GS) scale.