THE DEVELOPMENT AND PSYCHOMETRIC EVALUATION OF THE
TRANSGENDER CONGRUENCE SCALE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
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By

Holly B. Kozee, M.A.

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The Ohio State University
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Dissertation Committee:
Nancy E. Betz, Advisor
Tracy L. Tylka
Pamela S. Highlen

Approved by

Advisor
Graduate Program in Psychology
The present study proposed that the concept of congruence (Rogers, 1959) could be a useful way to conceptualize the process of transitioning in the transgender population. Congruence, as it is related to transgender persons, is defined as the degree to which a transgender individual feels that their gender identity, physical appearance and social status match with each other. When a transgender individual has attained an optimal level of congruence, the psychic distress that they previously experienced due to their gender identity, sometimes called gender dysphoria, is dampened. A scale called the Transgender Congruence Scale was constructed to measure the construct of congruence in the transgender population. An exploratory factor analysis revealed that the scale possesses three factors: appearance congruence, body comfort and gender identity pride. Evidence of the internal consistency reliability, construct validity, convergent validity and discriminant validity of the scale’s scores was garnered.
Dedicated to Binx
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VITA

May 17, 1981. Born – Canton, Ohio


The Ohio State University.

2004 - 2005. Graduate Administrative Assistant
The Ohio State University.

2005 - 2007. Graduate Teaching Assistant
The Ohio State University.

2007 - 2008. Pre-doctoral Psychology Intern
The University of Texas-Austin.

PUBLICATIONS

Research Publications


FIELDS OF STUDY

Major Field: Psychology
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CHAPTER 1

INTRODUCTION

1.1 Overview

Zucker (2001) defines the term biological sex as “attributes that, collectively and usually harmoniously, characterize biological maleness and femaleness (p.101).” For humans, these traits are composed of various genes, chromosomes, gonads, hormones, reproductive systems and genitalia (Migeon & Wisniewski, 1998; Money &Erhardt, 1972). In most cultures, there are a specific set of culturally prescribed and proscribed traits and personality characteristics that one is expected to demonstrate depending upon their biological sex at birth. The generic term for these traits and personality characteristics is gender.

Until the past century, gender was perceived by most as being wholly biologically determined. In fact, the term gender, as it is now defined, did not officially enter into the lexicon until 1955, with Money’s seminal book on gender role theory. Money (1955) was the first to officially differentiate the construct of gender from sex by defining it as “all those things that a person says or does to disclose himself or herself as having the status of boy or man, girl or woman, respectively (p.254).” Since this time, scholars have
parsed Money’s definition of gender to include two independent, but often related, constructs: gender identity and gender roles.

1.2 Differentiating Gender Roles and Gender Identity

Gender identity was defined by Stoller (1964) as a child’s “fundamental sense of belonging to a particular sex” (p.453). Gender identity is believed to be consolidated around 3 or 4 years of age (Bradley & Zucker, 1997). In contrast, gender roles are behaviors that are “consistent with cultural definitions of masculinity and femininity (p. 872, Bradley & Zucker, 1997).” This may encompass countless characteristics, including features of physical appearance, speech, attire, movement, thought processes and social roles (Bem, 1981; Fausto-Sterling, 2000; Kanter, 1977; Kessler, 1990; Lorber, 1994; Messner, 2000; Thorne, 1993; West & Zimmerman, 1987). In other words, gender identity involves the individual’s internal experience of their gender, whereas gender roles are associated with culturally constructed, external expressions of that gender (Whittle, 2000).

In most societies, traditional conceptions of both gender identity and gender roles are limited to a binary system: female or male, feminine or masculine (Bem, 1995; Butler, 1993; Kessler & McKenna, 2000). In addition, biological males are largely socialized to possess a male gender identity and instrumental (i.e., masculine) gender characteristics, while biological females are socialized to possess a female gender identity and to exhibit expressive (i.e., feminine) gender characteristics.

Individuals are impelled by cultural mores to express their social identities within the limits of the contemporary socially-constructed definition of the gender roles and gender identity that is associated with their biological sex. While dominant social
conventions in Western society permits a minimal amount of transgression in gender roles, any major deviation from the traditional gender identity binary is culturally unaccepted and will likely result in discrimination and ostracism (Gagne & Tewksbury, 1998).

Despite the societal proscription against the expression of any deviation from the traditional gender binary, there have existed many people throughout history and across cultures whose experience of their gender does not fit neatly into this system (Bullough, 1975; Cromwell, 1999; Docter, 1988; Feinberg, 1998). There are many individuals whose gender identity differs from the culturally prescribed gender identity that accompanies their biological sex that was assigned to them at birth (i.e., their natal sex). Transgender is a term currently employed within contemporary American culture to describe those who fit into this category. This includes those who possess a gender identity traditionally associated with their non-natal sex and/or those who experience their gender outside of the limits of the gender binary (Beemyn, 2003; Dozier, 2005; Ellis & Erikson, 2002).

1.3 Categories of Transgender Identity

The transgender identification includes, but is not limited to, the gender categories of pre- and post-operative transsexual, cross-dresser or transvestite, drag king and queen, and gender queer persons (Beemyn, 2003). Transsexual individuals are defined by their desire to have, or their achievement of, the expression of their non-natal sex. Some may accomplish this through medical procedures, such as sexual reassignment surgery, plastic surgery, hormone replacement therapy or vocal cord surgery. Other transsexuals may not be able to seek these interventions due to their prohibitively high cost. Therefore they
may choose to alter their body through non-surgical means such as binding their sexual organs or wearing prosthetics (Levine, et al., 1998). Transgender individuals who were born as biological males, but who identify as female are called male-to-female transsexuals or female transsexuals. Transgender individuals who were born as biological females, but who identify as male are often referred to as female-to-male transsexuals or male transsexuals.

The term cross-dresser is used to describe individuals who do not choose to undergo medical procedures, but may prefer to express their gender identity through their attire. The cross-dresser however, may or may not choose to adopt other behaviors or practices that are associated with their non-biological sex (Carroll, Gilroy & Ryan, 2002). According to the DSM-IV-TR (American Psychiatric Association, 2000), transvestites are individuals who dress in the clothes of the other gender for sexual excitement or gratification. In contrast to transsexuals, transvestites do not typically dress as the other sex full-time nor do they identify as their non-biological sex (Tewksbury & Gagne, 1996). Drag king and queens are two particular types of cross-dressers who wear clothing traditionally associated with the other gender identity for the purpose of entertainment only (Garber, 1992).

During the late 1980s, a community of individuals emerged who felt that their feelings and behaviors do not entirely fit any of the above categories (Carroll, Gilroy & Ryan, 2002; Denny, 2004). They rejected the term *transvestite* as it did not express their desire to actually live as their non-biological gender and the term *transsexual* implied that they had undergone, or wished to undergo sexual reassignment surgery (Prosser, 1997). As a result, the term *transgender* was coined by these individuals. This term has now
transformed in usage; it is commonly used as an umbrella term for any experience or expression of gender identity that is not culturally-sanctioned (Beemyn, 2003; Carroll, Gilroy & Ryan, 2002).

Recently, the term *gender queer* has increased in popular usage. The identity of gender queer refers to persons who feel that the gender-binary system is inadequate to describe their experience of the self. Individuals who identify as gender queer may experience themselves as both genders simultaneously or they may not experience themselves according to any cultural manifestation of gender. Others may report feeling as though gender is a unique manifestation of each individual person and cannot be divided into merely two categories (Beemyn, 2002; Dozier, 2005).

New terms are continually emerging within the transgender community. Examples of these terms are *gender-variant persons, trans persons, transman and transwoman, gender-bender, gender outlaws, gender trash and transsexual lesbian* (Carroll, Gilroy & Ryan, 2001). In fact, a survey by Denny and Roberts (1995) found that transgender respondents employed more than 40 terms to describe their gender identity. The variety of these terms is reflective of both the complexity and diversity of the human experience of gender, as well as gender’s relation to cultural and political forces (Feinberg, 1998).

1.4 Models of Transgenderism

For most of history in dominant Western culture, transgender individuals have traditionally been viewed as possessing a form of sexually perversion or immorality (Denny, 2004). Within the past century, however, this viewpoint has shifted in the medical and psychological community. Denny (2004) argued that, over the 100 years,
there have existed two predominant models used to conceptualize transgenderism: the transsexual model and the transgender model.

1.4.1 The Transsexual Model

The transsexual model was the first to emerge in medical research with the work of Magnus Hirschfield, a German physician. In 1910, Hirschfield invented the word transvestite in his book “The Transvestites: An investigation of the erotic drive to disguise”. In this work, he studied individuals who possessed gender dysphoria, or psychic distress related to their gender identity (Cole, et al., 2000; Ellis & Eriksen, 2002). Hirschfield proposed that there are three genders: male, female and “the third gender”. The third gender included any individual that transgressed normal sexual or gender boundaries, such as gay, lesbian, bisexual and transgender persons (Meyerowitz, 2002). Hirschfield’s line of research into human sexuality and gender identity ended as a result of the rise of the Nazi party in Europe (Meyerowitz, 2002).

As a result, research in this area did not continue until the 1950s. In 1949, the term “transsexual” was coined from the phrase “transsexualis psychopathia” by David Cauldwell, a medical writer. Harry Benjamin, a German endocrinologist, then adopted the term for use in his studies (Benjamin, 1954). A few years previous, Alfred Kinsey, the famous researcher of human sexuality, had asked Benjamin to study a young male-born child who “wanted to become a girl”. Benjamin soon realized that this case could not be adequately explained by the available diagnosis of transvestic fetishism; rather than attaining sexual gratification from dressing in traditional female clothing, the child attested to strongly feeling that she was actually female and wished to live like this all of the time (Meyerowitz, 2002).
Benjamin soon assembled a team of researchers and began locating other female-identified transsexual individuals throughout America. He discovered that regular shots of the hormone estrogen appeared to have a palliative effect on the level of his patient’s anxiety. As a result, Benjamin began treating transsexual individuals with estrogen, many of them at no cost. In 1966, Benjamin published his seminal work, *The Transsexual Phenomenon*, which discussed this treatment approach.

In this work, Benjamin employed the medical model in order to conceptualize transsexuality (Denny, 1994). Benjamin held that transsexuals were “trapped in the wrong body” and were experiencing a form of mental distress that could only be treated by altering their body (Bornstein, 1994; Rothblatt, 1994). Accordingly, he posited that this mental distress could be treated by surgically and hormonally transforming the individual’s body to their non-natal sex, a process called “transitioning” (Benjamin, 1966).

Both Hirschfield and Benjamin were instrumental in advances in sexual reassignment surgery (Meyerowitz, 2002). Over the past sixty years, huge strides have been made in the successes of this surgery for both male and female transsexuals. In 1979, the Harry Benjamin International Gender Dysphoria Association (HBIGDA) was formed. The association developed an official “standards of care” that carefully defined a set of procedures that transsexual individuals must follow in order to obtain hormonal or surgical treatment (Meyer, et al., 2001). Included among these procedures is the requirement that the individual receive therapy and procure official letters from a therapist testifying to their mental health. As a result of this requirement, the mental
health field has been established as a gatekeeper for transsexual individuals who are seeking surgery.

In 1980, following up on the guidelines set by the HBIGDA, APA’s Diagnostic and Statistical Manual-III (DSM-III; American Psychiatric Association, 1980) introduced the diagnosis of Transsexualism. This diagnosis was created for individual’s who, for at least two years, had continuing interest in altering their sexual anatomy in order to make it congruent with their gender identity. In addition, the DSM-III (American Psychiatric Association, 1980) contained the diagnosis of Gender Identity Disorder (GID). This diagnosis was characterized by a persistent discomfort with one’s biological sex and consistent identification with their non-natal sex. However, this diagnosis did not require that the individual desire the sexual organs of their non-natal sex. Gender Identity Disorder was divided up into three different age groups (i.e., childhood, adolescence or adulthood). GID Not Otherwise Specified (GID-NOS) existed as a diagnosis for those who experienced some, but not all, of the symptoms of Transsexualism and GID. In the DSM-IV (APA, 1994), the APA removed the diagnoses of Transsexualism, collapsing it into Gender Identity Disorder.

At the time, the transsexual model was historic in validating and recognizing the experiences of transsexual individuals. Where before transsexual individuals were believed to have a moral problem, they now had a medical one (Denny, 1994). Furthermore, medical doctors had a clear rationale to offer sex reassignment surgery to transsexual clients and to continue research that advanced this technology.

However, unlike Hirschfield’s belief in a “third gender”, Benjamin’s early work was predicated upon the belief that there are only two possible gender identities. Denny
(2004) contends that one of the disadvantages of this model is that it reifies the gender binary, giving transgender individuals only two choices: male or female. In this model, there is no room for individuals whose experience of their gender deviates from this. Further, according to this model, sexual reassignment surgery was the only treatment offered to palliate gender dysphoria.

1.42 Transgender Model

According to Denny (2004), the “Transgender Model” emerged through the works of Boswell (1991), who proposed that transsexualism and gender variance, are not forms of a mental disorder, but simply an example of the natural variation in human characteristics. Boswell (1991) stated:

…in the vast majority of instances, we are not so much “gender conflicted” as we are at odds – even at war – with our culture. It is our culture that imposes the polarization of gender according to biology. It is our culture that has brainwashed us, and our families and friends, who might otherwise be able to love us and embrace our diversity as desirable and natural – something to be celebrated (p. 30).

 Whereas scholars who utilized the transsexual model (e.g., Benjamin) held that the mental distress that transgender individuals experience is solely due to gender dysphoria, proponents of the transgender model (e.g., Boswell) argue that part of this distress is also the byproduct of shame and guilt that results from not fitting into the culturally-constructed gender binary (Denny, 2004). Denny (2004) stated that this “…model changed the locus of the pathology; if there is pathology, it might more properly be attributed to the society rather than the gender-variant individual (p.31).”
As a result, one of the clear benefits of this model is that it is affirming of the transgender identity; it allows transgender individuals to perceive themselves as psychologically healthy (Denny, 2004). In addition, the transgender model broadens the definition of transgenderism to include the experiences of non-transsexual gender-variant individuals. Furthermore, rather than treating all transgender individuals with sexual reassignment surgery, this model has encouraged a greater diversity in the interventions utilized to address the distress that transgender individuals experience (Denny, 2004).

Members of the medical and psychological community who use this model are more likely to encourage transgender individuals to carefully select from a huge array of transformations; their goal is to allow the individual to transition to a state that provides an optimal fit with their unique experience of their gender identity. Using this broadened view of transitioning, Rees (1996) delineated three domains in which a transgender individual may transition: medically, socially and legally.

When an individual medically transitions, they undergo medical procedures that alter their primary sexual characteristics (e.g., sexual reassignment surgery), secondary sexual characteristics (e.g., mastectomy, hormone replacement therapy) or other aspects of their physical appearance (e.g., vocal cord surgery, hair removal). An individual socially transitions when they take actions to have their friends, family and community recognize them as their gender identity. An individual may socially transition through a variety of methods, such as engaging in behaviors associated with their gender identity, dressing in the appropriate clothing and accessories for their gender identity, concealing their primary sexual characteristics or by using a name that is more congruent with their gender identity than the one given to them at birth. Finally, a transgender individual may
take action to be legally recognized by their government or other institutional bodies as their gender identity. For instance, in certain states, a transgender individual may seek to alter their sex as listed on their birth certificate or they may have their name legally changed.

While the transgender model has some clear advantages for many transgender individuals, one of its disadvantages is that it shifts attention away from transsexual individuals. While the category of transgender does include a broad array of gender-variant individuals, it is important that research recognize that a portion of these individuals are transsexual and do desire to fully transition to their non-natal sex through sexual reassignment surgery. The transgender model places less of an emphasis on these individuals.

An example of this is the current controversy related to the upcoming publication of the DSM-V. Within recent years, many members and allies of the transgender community who espouse the transgender model have openly challenged the inclusion of Transvestic Fetishism and GID within the upcoming publication of the DSM-V. They argue that these are not mental disorders to be treated and eradicated, but rather normal expressions of the variety of human identity and sexuality. They state that this diagnosis serves to “pathologize and dehumanize persons with nontraditional gender identities (Carroll, Gilroy & Ryan, 2001).” However, transsexual individuals have argued that this diagnosis is necessary in order for sexual reassignment surgery to exist as an option; the medical model requires that if a treatment is to be given (i.e., sexual reassignment surgery), there must be a condition to treat. If GID is removed from the DSM-V, there
will no longer be a diagnosable disorder that requires treatment with sexual reassignment surgery.

1.43 Models of Transgenderism and Empirical Research

Currently, extant research on the transgender population has predominantly utilized the transsexual model (Midence & Hargreaves, 1997). These studies (e.g., Cohen-Kettenis & Van Goozen, 1997, 2002) have largely examined the impact of sexual reassignment surgery on transsexual individuals. This research has certainly been useful to researchers, medical professionals and mental health practitioners in better understanding the benefits of medically transitioning for transsexual individuals. However, given the limitations of the transsexual model, these studies have limited applicability to the non-transsexual transgender population.

Over the past decade, there has been a call for more studies that utilize the transgender model. Midence and Hargreaves (1997) asserted:

Unfortunately, research [on the transgender population] has been mainly medically centered rather than patient centered, and this has hindered our understanding of the psychology of transsexuals, especially their life experiences, including the cognitive style and beliefs that influence their psychological adjustment (p. 611).

At the present time, there are a dearth of empirical studies that have explored the psychological adjustment of the larger transgender population.

1.5 Congruence

Carl Rogers, the founder of humanistic psychology, emphasized the concept of congruence in his work (Bernstein, 2005). Rogers (1959) defined congruence as a state
in which one’s true experiences of the self are accurately expressed to others. He argued that attaining congruence is tantamount to achieving the highest possible state of psychological well-being. Rogers (1959) described this concept by stating:

…when self experiences are accurately symbolized and are included in the self-concept in this accurately symbolized form, then this state is one of congruence of self and experience. If this were completely true of all self-experiences, the individual would be a fully functioning person…other terms that are in a general way synonymous [with congruence] are these: integrated, whole, genuine (p. 206).

Furthermore, Rogers postulated that the less one is congruent, the more psychic distress they will experience as a result.

The concept of congruence appears to be extremely relevant to the experience of transgender individuals; when a transgender individual’s internal experience of their gender identity is not, in the words of Roger, “accurately symbolized” by their external, physical appearance, they are experiencing a state of incongruence. Furthermore, as would be predicted by Rogers (1959), many transgender authors (e.g., Bornstein, 1994; Xavier, 1994; Xavier, 1997) have described the great mental distress, sometimes referred to as gender dysphoria, that transgender individuals experience when their appearance is incongruent in this way.

Applying Roger’s theory to the experiences of the transgender population, when a transgender individual transitions by modifying their physical appearance, sexual characteristics or legal status, they are attempting to dissipate this incongruence and move towards a state that is more congruent with their gender identity. Therefore, the
present study proposes that the construct of congruence may be employed to describe this phenomenon. Drawing from the work of Rogers, congruence, as it relates to the transgender population, is hereby defined as the degree to which a transgender individual feels a sense of unity and wholeness among their physical appearance, their social status and their gender identity, wherein the psychic discomfort that previously resulted from their gender identity no longer exists. Attaining a state of congruence, as defined here, is the ultimate goal of a transgender individual when they transition to their gender identity.

Research that would investigate variables that impact a transgender person’s level of congruence would be useful to clinicians and researchers alike in better understanding the experience of the transgender population. Furthermore, since congruence applies to both transsexuals and the larger transgender population, the measurement of this construct could advance research framed from the transgender model. Accordingly, the purpose of the present study is to construct and garner psychometric support for a scale, named the Transgender Congruence Scale (TCS), aimed at assessing the construct of congruence with a sample of individuals identifying as transgender.
2.1 Overview

The purpose of the present study is to develop and evaluate the psychometric reliability and validity of an instrument designed to measure the degree to which a transgender individual feels as though their gender identity, physical appearance and social status are congruent with one another. Accordingly, the scope of this literature review will be limited to studies and theoretical articles concerning the mental health of the transgender population, particularly during the transitioning process. The present chapter will review the findings in the literature regarding the psychosocial adjustment of the transgender population. Afterwards, research will be presented that specifically examines the impact of sexual reassignment surgery on various mental health variables for transgender individuals. Then, this literature will be summarized and the purpose of the study will be reiterated. After, approaches to scale development and evaluation will be discussed. Finally, the chapter will conclude with the research questions posed by the present study.

2.2 Psychosocial Adjustment of the Transgender Population

In a study conducted by Van Goozen, Cohen-Kettenis, Gooren, Frijda and Van De Poll (1994), the effects of estrogen and testosterone on aggression in male transsexuals and female transsexuals were examined. While testosterone and estrogen
exists in both biological males and females, testosterone exists in higher levels in biological males while estrogen exists in higher levels in females. Further, testosterone initiates the development of male genitalia in prenatal development. Since correlational studies have indicated a positive relation between the quantity of testosterone that a biological male produces and the amount of aggressive behavior that they engage in (Olweus, et al., 1988), the authors sought to examine whether the administration of testosterone to male transsexuals and estrogen to female transsexuals would have an effect on the participant’s level of aggression. Further, the authors predicted that gender differences would emerge between the groups.

The construct of aggression was measured using a Dutch-adapted version of the Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957). The BDHI is composed of the 11-item assault subscale, the 13-item irritability subscale, the 12-item indirect aggression subscale and the 14-item verbal aggression subscale. The construct of aggressive behavior was measured using the 24-item Anger Expression Scale (AX; Spielberger, et al., 1986), whereas the Aggressive Situations Questionnaire (ASQ; Van Goozen, et al., 1994) was used to assess the anger proneness of the subjects.

The sample was comprised of 35 male transsexuals and 15 female transsexuals who were receiving hormone therapy treatment at a hospital located in the Netherlands. The transsexual samples were administered the test battery before they started hormone therapy and again 3 months after the start of treatment. The control groups were composed of 20 non-transsexual men and 20 non-transsexual women recruited in a supermarket in Amsterdam. The control sample was administered the test battery once. A multivariate analysis of variance was utilized with “group” (i.e., control sample,
transsexual sample) and “sex” (i.e., biological female = non-transsexual female and male
transsexuals, biological male = non-transsexual male and female transsexuals) as
between-group factors and “time” (time1, time2) as a within-group factor.

Contrary to predictions, biological females were found to score significantly
higher than biological males on measures of anger expression (F(1,86)=14.95, p<.01) and
anger proneness (F(1,86)=11.54, p<.01). Further, the transsexual sample scored
significantly lower on measures of anger expression (F(1,86)=3.85, p<.05) and verbal
expression (F(1,86)=6.77, p<.01).

This study has several notable limitations. First, the authors failed to provide a
rationale for their decision to combine male transsexuals with biological females and
female transsexuals with biological males within their analyses in order to examine
between-group gender differences. The respective combination of these groups within
statistical analyses appears to be unsubstantiated. This error represents an inappropriate
use of statistical procedures. Further, the sample size for each of these groups was
inadequate. Accordingly, the results of the analyses in this study should be interpreted
with extreme caution.

sought to investigate differences in personality characteristics and sexual functioning
among men who identify as one of three groups of cross-dressers: transvestites,
transsexuals, and transgender individuals. The sample was composed of 83 transvestites,
44 transsexuals and 61 transgender individuals. The 181-item NEO-Personality
Inventory (NEO-PI; Costa & McCrae, 1985, 1989) was administered in order to measure
the personality traits of conscientiousness, extraversion, agreeableness, neuroticism and
openness. The construct of sexual functioning was measured using the 255-item Derogatis Sexual Functioning Inventory (Derogatis & Melisaretas, 1979).

On average, all three groups were found to score within the normal range for the conscientiousness, extraversion, agreeableness and neuroticism dimensions of the NEO-PI. In addition, all of the groups scored in the high range on the openness dimension. The authors stated that these findings provide evidence that transgender individuals possess personality profiles that are comparable to the general population. In addition, the authors speculated that the higher score on the openness dimension could be reflective of transgender individual’s willingness to experiment with new gender roles. Contrary to the author’s predictions, a MANOVA with the five NEO-PI domain scales did not reveal significant group differences (F[10, 362] = 1.4, p > .05). Further, the groups were not found to differ in their knowledge of sexual information, variety of sexual behaviors and experiences, attitudes toward sexual activities, negative or positive affects, and general sexual satisfaction. The results of this study provide evidence that the personality traits of different categories of transgender individuals do not vary much from either the general population or each other. The main methodological limitation of this study is that the data was collected through self-report rather than a structured clinical interview. Another limitation is that the sample in this study was drawn from individuals who attend cross-dressing social organizations. It is possible that the findings from this sample may not generalize to the general transgender population.

A study by Wolfradt and Neumann (2001) examined the body image, self-esteem and degree of depersonalization in female transsexuals. The purpose of the study was to investigate if differences exist between transsexuals and non-transsexuals on specific
indicators of personality (i.e., depersonalization, gender identity, self-esteem and body image). The construct of depersonalization was defined by the authors as a specific type of dissociation that results from feeling detached from one’s body or mental processes. This construct was measured using the 20-item Scale of Depersonalization Experiences (SDPE; Wolfradt, 1998). The construct of self-esteem was measured using the 10-item Self-Esteem Scale (SES; Rosenberg, 1965), whereas the construct of body image was measured using the 20-item Body-Image Questionnaire (BIQ; Clement & Loewe, 1996). In addition, the construct of gender identity was measured using the 21-item Gender Identity Trait Scale (GIS; Altstotter-Gleich, 1989). The transsexual sample was composed of 30 post-operative MtF transsexuals who were recruited from the University of Halle in Germany, where they were seeking vocal cord surgery in order to achieve a more female voice. The non-transsexual sample was composed of 30 males and 30 females who were recruited from the community of Halle, Germany.

All of the scales demonstrated an adequate internal consistency reliability (SDPE: $\alpha = .86$; SES: $\alpha = .78$; BIQ: $\alpha = .73$; GIS: $\alpha = .80$). Contrary to the author’s predictions, the results of the study indicated that the male transsexuals and non-transsexual males scored significantly higher on self-esteem ($p<.05$) and body image ($p<.05$) than the non-transsexual female sample. Further, there were no significant differences found between any of the groups on the measure of depersonalization. The authors did not report t-scores for their study. These findings were in contrast to previous studies that demonstrated higher levels of depersonalization in transsexual samples (Walling, et al., 1998; Hartmann, et al., 1997). The authors hypothesized that their findings were a result of their transsexual sample being entirely post-operative. Particularly due to the vocal
cord surgery, the sample in this study was composed of participants who experienced a small discrepancy between their gender identity and physical appearance. This finding appears to highlight the possible psychological benefits (i.e., increased self-esteem and body image, decreased depersonalization) that some transgender individuals may derive from physically transitioning to a state that is more congruent with their gender identity. In addition, transsexual and female participants reported significantly higher levels of expressive traits (p<.05). Further, transsexual and male participants reported higher levels of instrumental traits than the female participants (p<.05). This finding suggests that transsexual individuals may have a more flexible experience of gender than non-transgender individuals.

This study was severely limited by a small sample size. Further, the study was conducted in Germany. Given the potential cultural differences in the acceptance of gender invariance, it is difficult to determine whether the results of this study may be generalized to American transsexuals. In addition, the scales utilized in this study have limited evidence of psychometric validity and are not traditionally used in American psychological literature.

A study conducted by Lippa (2001) sought to investigate whether differences in gender-related traits exist between transsexuals and non-transsexuals. The purpose of the study was to compare transsexuals and non-transsexuals on measures of instrumentality and expressiveness, gender diagnosticity and self-ascribed masculinity and femininity. Lippa (2001) defined the construct of gender diagnosticity as the Bayesian probability that an individual is predicted to be either male or female based upon the degree to which they endorse interest in activities that are commonly associated with either the
instrumental or expressive gender. Lippa (2001) proposed that transsexuals would endorse gender-related traits that were dissimilar from the non-transsexual sample of their natal sex.

The transsexual sample was composed of 38 female transsexuals (mean age = 37) and 7 male transsexuals (mean age = 34) that were recruited from transsexual support groups in California. The non-transsexual sample was composed of 136 men (mean age = 23) and 225 women (mean age = 22) that were recruited from a human sexuality course at a large university in California. All members of the non-transsexual sample identified as heterosexual. The constructs of instrumentality and expressiveness were measured using the Personal Attributes Questionnaire (PAQ; Spence & Helmreich, 1978). Storms’ (1979) 6-item scale measured the constructs of self-ascribed masculinity and self-ascribed femininity. In addition, a 134-item scale developed by the author measured the construct of gender diagnosticity (GD). Participants were asked to rate their preferences for 74 occupations and 60 hobbies on a 5-point Likert scale.

All of the scales demonstrated an adequate internal consistency reliability (PAQ instrumentality: α = .86; PAQ expressiveness: α = .78; GD: α = .90; Storm: α = .88). Contrary to his prediction, Lippa (2001) did not find significant differences between transsexuals and non-transsexuals on measures of instrumentality and expressiveness. However, the results of the study indicated a significant difference between the female transsexual sample and non-transsexual male sample on measures of gender diagnosticity (hobbies: d=-1.93, p<.001; occupations: d=-1.84, p<.001), as well as self-ascribed masculinity (d=-.40, p<.05) and self-ascribed femininity (d=3.40, p<.001). In addition, the data appeared to indicate a significant difference between the male transsexual sample
and the non-transsexual female sample on measures of gender diagnosticity (hobbies: $d=2.45, p<.001$; occupations: $d=2.71, p<.001$), and self-ascribed masculinity ($d=3.97, p<.001$) and self-ascribed femininity ($d=-2.97, p<.001$). The results of this study appear to indicate that transsexual individuals vary from members of their natal sex in their hobbies and occupational interests, as well as the degree to which they identify as either masculine or feminine. However, the results do not appear to provide evidence that transsexuals differ from nontranssexuals in their levels of instrumentality and expressiveness.

Despite the interesting findings in this study, it has several limitations. First, an inadequate sample of transsexuals was utilized. In addition, there were severe age differences and differential recruiting techniques used for the different samples. Further, the gender diagnosticity scale used by the author has unclear and currently unsubstantiated psychometric validity. Based upon these severe limitations, the results of this study should be interpreted with extreme caution.

A paper by Hepp and Milos (2002) presented three case studies of transgender individuals with eating disorders. The patients in this study were all undergoing outpatient psychiatric services at a hospital in Switzerland for issues relating to their gender identity. For all three cases, the eating disorders were diagnosed after the patients had been seen by a psychiatrist.

The first patient described was a female transsexual diagnosed with anorexia. This patient described developing symptoms of anorexia while preparing to have sexual reassignment surgery. The second patient was a female transsexual diagnosed with bulimia. This individual reported developing bulimic symptoms after coming out as
transgender to his family. Finally, the third patient was a male transsexual with anorexia. This patient began to exhibit symptoms of anorexia during puberty.

The authors theorized that eating disorders may occur in transgender individuals as a way to facilitate the process of “passing” as the other gender. For female transsexuals who wish to achieve a more female appearance, a thin figure may be desired, as this is the cultural ideal for females. In the case of male transsexuals, the authors hypothesized that there may be a desire to maintain an underweight body mass index in order to minimize the appearance of secondary sexual characteristics (i.e., breasts, hips) and menstruation. Thusly, in both of these cases, disordered eating may be utilized as an extreme form of dieting. In addition, the authors theorized that the development of eating disorder symptomatology may be a coping strategy utilized to reduce the stress that is associated with being a sexual minority. The authors suggested that future research more closely examine the eating behavior of transgender individuals.

This study was severely limited by the use of case studies. Given the inadequate sample size and use of unstructured clinical interviews, few inferences may be drawn from this paper. In addition, this study was conducted in Switzerland. Given the potential cultural difference in transgender politics and eating disorder development, it is difficult to make any broad generalizations from this study. Nevertheless, the authors provide several potential hypotheses as to the function of disordered eating for transgender individuals.

Cohen-Kettenis and Van Goozen (2002) performed a study of the emotional and behavioral functioning of adolescents following sexual reassignment surgery. As compared to other studies that utilize a self-report format that may be prone to socially
desirable responding, the authors utilized the reports of family members and caregivers. The sample was composed of parents of 29 transsexual patients (11 female transsexuals and 18 male transsexuals) at a hospital in the Netherlands. All of the patients had been diagnosed with gender identity disorder and had either recently started or were about to begin hormone replacement therapy. The parents were administered an assessment battery and were asked to fill it out for their children. The construct of gender dysphoria was measured using the 12-item Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997), whereas the construct of emotional and behavioral problems were assessed using the Child Behavior Checklist (Achenbach, 1991). Psychopathology of the child was assessed using the DISC-IV (Shaffer, Fisher, Lucas, Dulcan & Schwab-Stone, 2000).

The data indicated that both groups of transsexuals, as a whole, scored within the normal range on the Child Behavior Checklist, indicating no significant elevation in emotional and behavioral problems as compared to the general population. The authors found that 19% of the sample met the qualifications for a mental disorder diagnosis. As this percentage does not significantly differ from the general population, the authors concluded that these findings provide evidence that adolescents with gender identity disorder are not necessarily more prone to other psychological issues. However, this study has several limitations. First, it utilized an inadequate sample size, making the findings difficult to interpret. In addition, while the Child Behavior Checklist is designed for third-party responding, there is no current empirical evidence that the other instruments used in this study are appropriate for this change in protocol.
2.3 Psychological Impact of the Sexual Reassignment Surgery

Strong identification as being a member of the opposite sex has been reported to have an onset as early as 2 or 3 (Zucker and Green, 1992). In fact, several of the diagnostic criteria for Gender Identity Disorder listed in the Diagnostic and Statistical Manual-IV (American Psychiatric Association, 2000) are particularly geared towards children (e.g., “Intense desire to participate in stereotypical games and pastimes of the other sex”). Despite the early onset of this disorder, most countries do not allow sexual reassignment surgery to be performed until an individual is 18 years of age (Cohen-Kettenis & Van Goozen, 2002). However, Cohen-Kettenis and Van Goozen (2002) purport that allowing an individual to have the surgery at a younger age can diminish their risk of psychological problems. They state:

When adolescent transsexuals have to await medical treatment for many years, it may increase their tendency to withdraw from social/romantic relationships. They may become depressed, have difficulties concentrating on schoolwork or become insecure, because they have to live a self-concept that is never socially acknowledged or reinforced. They also have complex lives, full of secrets. Developmental arrest may follow. (Cohen-Kettenis & Van Goozen, 2002, p. 413).

In addition, the authors stated that an earlier surgery increases the chances that an individual may allow them to pass as their identified-gender, particularly for male-to-female transsexuals. Cohen-Kettenis and Van Goozen (1997) stated: “instead of having to live with a deep voice and facial scarring due to electrical epilation, one can easily pass as a female”. Despite these arguments, Cohen-Kettenis and Van Goozen (2002) reported that many clinicians are hesitant to perform this surgery on adolescents based upon the
belief that adolescents do not yet possess the maturity to make such an important and life-long decision. Moreover, other clinicians fear that the disorder may purely be a transitory, developmental stage and that gender identity disorder may be a misdiagnosis (Smith, et al, 2001). The following section will review studies that have explored the psychological impact of the sexual reassignment surgery on transgender individuals.

A study by Fleming (1982) examined the impact of sexual-reassignment surgery on the body image and self-esteem of transsexuals. In addition, the study also compared the body image and self-esteem of transsexuals to non-transsexuals. The construct of body satisfaction was measured using the Body Cathexis Scale (Jourard & Secord, 1955), while the construct of self-esteem was measured using the 10-item Self-Esteem Scale (SES; Rosenberg, 1965). The transsexual sample was composed of 22 male transsexuals who were at various stages of sexual reassignment (i.e., mastectomy, hysterectomy and phalloplasty). In addition, the non-transsexual sample was composed of 22 males, recruited from an introductory psychology course.

The results of the study indicated that there were no significant differences between the transsexual and non-transsexual sample on measures of self-esteem and body satisfaction. However, the results indicated that the level of surgical treatment seemed to be related to increased body satisfaction in the transsexual sample. The findings in this study provide support for the assertion that body image satisfaction will increase as the transgender person’s body becomes less disparate from their gender identity.

It is important to note that this study was severely limited by inadequate sample sizes. In addition, two separate recruitment techniques were used. Thus, there is inadequate evidence that the comparison sample was comparable to the transgender
sample. Further, this study was conducted several decades ago. The social climate has changed considerably since this time and thus, the results of this study must be interpreted with extreme caution.

A study by Pauly and Lindgren (1977) investigated the body image of transsexuals at various stages of medically transitioning to their non-natal sex. The construct of body satisfaction was measured using the Transgender Body Image Scale (Lindgren & Pauly, 1975). This scale measured respondent’s satisfaction with both their primary sexual characteristics (i.e., genitalia), as well as secondary sexual characteristics (i.e., breasts and shape of torso). The transsexual sample was composed of 42 male transsexuals and 25 female transsexuals. Of the transsexual sample, 23 were pre-operative, 23 had undergone hormone treatment for a period of five months to ten years and 21 who were post-operative. The non-transsexual sample was composed of 32 non-transsexual males and 33 non-transsexual females recruited from the community.

The results of the study appeared to indicate significantly higher satisfaction with both primary and secondary sexual characteristics in the post-operative group, as compared to the pre-operative and hormone replacement group. Further, the non-transsexual sample reported significantly higher levels of satisfaction with both primary and secondary sexual characteristics than the transsexual sample. Pre-operative female transsexuals reported lower levels of body satisfaction with both primary and secondary sexual characteristics than pre-operative male transsexuals. However, no significant differences were found between female transsexuals and male transsexuals in the hormonal therapy and post-operative group. This finding appears to indicate that differences exist between pre-operative female and pre-operative male transsexuals in
their satisfaction with their primary and secondary sexual characteristics. However, it appears that as the individual’s appearance becomes more congruent with their gender identity (i.e., hormone replacement, post-operative), these differences disappear.

This study was limited by an inadequate sample size. Further, this study was conducted in the 1970s. Dominant and transgender culture has vastly changed since that time, therefore it is difficult to determine whether the results of this study are still applicable to the transgender population. In addition, there is limited evidence of the psychometric validity and reliability of the scale used in this study.

A study by Rehman, Lazer, Benet, Schaefer and Melman (1999) sought to examine the satisfaction and psychological functioning of post-operative transsexuals. The purpose of the study was to examine the psychological functioning of post-operative transgender individuals and to investigate whether their current functioning differed from their expectations. The sample was comprised of 28 female transsexual individuals who had completed sexual reassignment surgery between the years of 1980 and 1997. Data was collected three years following the surgery. A structured clinical interview created by the authors was utilized in order to assess the degree of personal satisfaction associated with the surgery, the evaluation of emotional and psychological issues associated with transitioning to life as a female and the participant’s perception of the impact that the surgery had on their overall quality of life.

Following surgery, 96% of the participants reported feeling a high level of satisfaction with their current life. The authors found that 85% of the participants reported that the surgery helped them to feel more psychologically stable. Additionally, 75% of the participants reported that the surgery helped to eliminate most of their
emotional problems, 14% reported that it solved a small number of their emotional problems, and 11% reported that the belief that sexual reassignment surgery cannot impact one’s emotional functioning. Further, all of the participants reported feeling satisfied with the surgery. This study has several limitations. First, the authors utilized an inadequate sample size. Additionally, the authors used an assessment that has not currently acquired empirical support. Further, the authors used a structured clinical interview format, which may have been susceptible to experimenter bias.

A study by Cohen-Kettenis and Van Goozen (1997) sought to examine psychological functioning, gender dysphoria, body image and post-operative regret in post-surgical transsexuals. The sample was composed of 22 patients (15 male transsexuals and 7 female transsexuals) at a hospital in the Netherlands who had undergone surgery at least one year before the study. The construct of gender dysphoria was measured using a scale designed by the authors, the 12-item Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997). The authors reported that created a 32-item scale and that after conducting a factor analysis, they deleted 20 items in order to make the scale unidimensional. However, the authors failed to provide any information regarding the type of factor analysis they performed or any statistical data related to the analysis. Nevertheless, they reported that the scale demonstrated adequate internal consistency reliability with a subsequent samples of 72 transsexuals (female transsexual sample: $\alpha = .92$; male transsexual sample: $\alpha = .78$). Furthermore, they reported that the scale demonstrated adequate discriminant validity in differentiating a sample of transsexual individuals from a sample of non-transsexuals ($p < .001$).
However, no additional information about the sample or methodology used in this study was provided by the authors.

The construct of body image was measured using the Transgender Body Image Scale (Lindgren & Pauly, 1970). The construct of psychological functioning was measured using the 83-item Dutch Personality Questionnaire (Kuiper, 1991), a shortened, Dutch version of the Minnesota Multiphasic Personality Inventory. The construct of post-operative regret was assessed using a semi-structured oral interview with 27 questions.

The data indicated a highly significant decrease in gender dysphoria following surgery (t=4.12, p<.001). The authors reported a significant increase in satisfaction with primary sexual characteristics (F=102.6, p<.05) and secondary sexual characteristics (F=41.21, p<.05) after surgery. In addition, during the interview, none of the participants expressed regret about completing the surgery. However, 10% of the male transsexual sample expressed concern over scarring following breast removal. In terms of psychological functioning, the data indicated a significant increase in extraversion following surgery (t=2.07, p<.05). In addition, a significant increase in dominance (t=3.67, p<.01) and self-esteem (t=1.727, p<.05) was found, as well as a significant decrease in feelings of inadequacy (t=1.82, p<.05). The authors reported that when both pre-test and post-test scores were compared with normative Dutch data, the scores were found to be within the normal range and comparable to the general population. The results of the study appear to indicate that the overall psychological functioning of adolescent transsexuals appear to improve in several ways following surgery.
This study has several notable limitations. First, two of the scales used in the study, the Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997) and the Transgender Body Image Scale (Lindgren & Pauly, 1975), have limited evidence of psychometric validity. Therefore, the findings related to these variables must be interpreted with caution. In addition, the study was composed of a sample from the Netherlands. As a result of potential cultural differences, the findings in this study may be difficult to generalize to American transsexuals.

A prospective follow-up study conducted by Smith, Van Goozen and Cohen-Kettenis (2001) compared the psychological and social functioning of individuals who had received sexual reassignment surgery as adolescents with transgender individuals that did not receive the surgery. The purpose of the study was to investigate whether completion of surgery during adolescence has an impact on the psychological well-being of transgender individuals. The construct of gender dysphoria was measured using the 12-item Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997), whereas the construct of satisfaction with primary and sexual characteristics was assessed with the Transgender Body Image Scale (Pauly & Lindgren, 1975). The construct of psychological functioning was measured using the 83-item Dutch Personality Questionnaire (DPQ; Kuiper, 1991), a shortened, Dutch version of the Minnesota Multiphasic Personality Inventory and the Symptom Checklist-90 (SCL-90; Derogatis, et al., 1973; Arrindell & Ettema, 1986).

The first sample was composed of 20 individuals (13 male transsexuals, and 7 female transsexuals) who had received sexual reassignment surgery as adolescents. The second sample was composed of 21 transgender individuals (13 male-identified
transgender individuals and 8 female-identified transgender individuals) who applied for
sexual reassignment surgery, but who withdrew their requests or were rejected. The
samples were administered the questionnaires during the application process for sexual
reassignment surgery and again three years later. The results of the study indicated a
significant decrease in gender dysphoria for both the transgender sample that had sexual
reassignment surgery (SRS; t=-38.48, \( p<.001 \)) and the sample that did not (non-SRS; t=-
5.13, \( p<.01 \)). In addition, a significant increase in satisfaction with primary sexual
characteristics was found for both the SRS sample (t=-5.84, \( p<.001 \)) and the non-SRS
sample (t=-2.55, \( p<.05 \)). While a significant increase in satisfaction with secondary
sexual characteristics was found for the SRS sample (t=-4.03, \( p<.001 \)), no significant
difference was found for the non-SRS sample (t=-.15, \( p=ns \)). In terms of the
psychological traits measured by the DPQ, no significant differences were found for the
SRS-sample (negativism: t=-0.61, \( p=ns \); somatization: t=-0.20, \( p=ns \); shyness: t=-0.69, \( p
=ns \); psychopathology: t=-0.15, \( p=ns \); psychopathology: t=-0.15, \( p=ns \); extraversion:
t=0.04, \( p=ns \)) or the non-SRS sample (negativism: non-SRS: t=1.09, \( p=ns \); somatization:
t=0.60, \( p=ns \); shyness: t=0.15, \( p=ns \); psychopathology: t=-0.15, \( p=ns \); psychopathology: t=-0.15, \( p=ns \);
extraversion: t=-.34, \( p=ns \)). No significant differences were found for either sample in psychoneuroticism (SRS: t=-1.2, \( p=ns \); non-SRS: t=0.18, \( p=ns \)), agoraphobia (SRS: t=-1.88, \( p=ns \); non-SRS: t=0.33, \( p=ns \)), somatization (SRS:
t=-1.22, \( p=ns \); non-SRS: t=-0.64, \( p=ns \)), inadequacy (SRS: t=-1.0, \( p=ns \); non-SRS:
t=1.64, \( p=ns \)), sensitivity (SRS: t=-1.44, \( p=ns \); non-SRS: t=0.55, \( p=ns \)) and sleeping
problems (SRS: t=-0.98, \( p=ns \); non-SRS: t=0.23, \( p=ns \)). Whereas no significant
changes were found for the non-SRS sample on dimensions of anxiety (t=-0.38, \( p=ns \),
depression ($t=0.50$, $p=ns$) and hostility ($t=-1.06$, $p=ns$), there were significant decreases in the SRS sample on these dimensions (anxiety: $t=2.07$, $p<.05$; depression: $t=-2.77$, $p<.01$; hostility: $t=-2.34$, $p<.05$).

The results of the study appear to indicate that individuals who received the surgery experienced significant improvements in several dimensions of psychological functioning that those who did not receive the surgery did not experience, including satisfaction with secondary sexual characteristics and a significant decrease in depression and hostility. However, this study had several limitations. The inadequate sample size that was used makes it difficult to generalize the findings. A second limitation concerns the possible selection bias of the sample that was used. It is highly probably that adolescents who were able to receive sexual reassignment surgery were also more likely to have parents who are supportive of their transgender identity. Due to this confounding factor, it is difficult to attribute causality of the differences between the two samples to the sexual reassignment surgery.

A study by Smith, Cohen and Cohen-Kettenis (2002) investigated changes in psychological functioning in a sample of adolescent transsexuals before and after they received sexual reassignment surgery. The purpose of the study was to examine whether surgical treatments may improve the psychological functioning of adolescents diagnosed with gender identity disorder. The construct of psychological functioning was measured using the Rorschach Comprehensive System (Exner, 1995). The authors stated that a projective measure was utilized in order to examine whether potential differences exist that may not be apparent with objective measures. The sample was comprised of 6 female transsexuals and 13 male transsexuals who were electing to have sexual
reassignment surgery at a university hospital in the Netherlands. The pre-assessment was administered a few weeks before the surgery was completed, whereas the post-assessment was administered three years later.

At the time of the pre-test, the mean score on all dimensions were within the normal range except for the dimensions of distorted perception and idiosyncratic thinking, which qualified for the clinical range. However, the data appeared to indicate a significant decrease in these variables (distorted perception: $t=3.24$, $p<.01$; idiosyncratic thinking: $t=2.06$, $p<.05$) following surgery, such that both means no longer significantly differed from the general population. The authors concluded that their results did not reveal any evidence of impairment in psychological functioning following surgery. Furthermore, the authors stated that these findings offer empirical support that sexual reassignment surgery may have potentially positive psychological benefits for adolescents. This study had several significant limitations. The authors used an inadequate sample size. In addition, selection bias could have affected the results as individuals who were more psychologically stable may have opted to participate in the study. Further, experimenter bias may have been an issue as projective tests are more prone to interpreter bias and the administrators of the tests were aware of the hypotheses of the study.

Another large-scale study by Smith, Van Goozen, Kuiper and Cohen-Kettenis (2005) sought to identify predictors of treatment outcomes for sexual reassignment surgery in adolescent and adult transsexuals. In addition, the authors examined differences between genders (i.e., female transsexuals and male transsexuals) on several
areas of functioning (e.g., gender dysphoria, body dissatisfaction, physical appearance, psychological functioning) following surgery.

The construct of gender dysphoria was measured using the 12-item Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997), whereas the construct of satisfaction with primary and secondary sexual characteristics was measured using the 30-item Transgender Body Image Scale (Lindgren & Pauly, 1975). Physical appearance was measured using the 14-item Appraisal of Appearance Inventory created by the authors. This scale utilizes three independent observers (the diagnostician, the nurse and the researcher) who assess each participant’s appearance in terms of the congruence of their various body parts with their identified-gender. Psychological functioning (i.e., negativism, somatization, shyness, psychopathology and extraversion) was measured using the 83-item Dutch Short Version of the MMPI (Luteyn, et al., 1980). In addition, the Dutch version of the 90-item Symptom Check List (Derogatis, et al., 1973; Arrindell & Ettema, 1986) was used to assess several additional dimensions of psychological functioning (i.e., agoraphobia, anxiety, depression, somatization, obsession/compulsion, suspicion, hostility, and sleeping problems). The sample was composed of 325 adolescents and adults who applied for sexual reassignment surgery at a hospital in the Netherlands. Within the sample, 222 individuals (i.e., 146 female transsexuals and 76 male transsexuals) had started hormone treatment and 188 individuals (i.e., 117 female transsexuals and 71 male transsexuals) were about to complete sexual reassignment surgery at the time of the study. A sample of 103 individuals (i.e., 74 female transsexuals and 64 male transsexuals) were seeking hormone treatment, but had not yet begun at the time that the pre-test was administered. While pre-test data was collected from all of the
participants in the study, post-test data was collected from only 126 participants (77 female transsexuals and 49 male transsexuals).

The results of the study indicated a significant decrease in gender dysphoria for all participants following surgery \( (t=49.5, p<.001) \). A main effect of gender was found with the male transsexual sample feeling less gender dysphoric \( (F=16.0, p<.001) \). In addition, there was a significant increase in satisfaction with primary sexual characteristics \( (t=25.5, p<.001) \), as well as secondary sexual characteristics \( (t=13.7, p<.001) \) found for all participants. A MANOVA appeared to indicate that the male transsexual sample were more dissatisfied with their primary sexual characteristics at post-test than female transsexual sample \( (F=7.0, p<.01) \). The data indicated that all of the participants scored lower on the Appraisal of Appearance Inventory following surgery, indicating a better appearance match with their identified-gender \( (t=10.9, p<.001) \). The scores indicated that the physical appearance of the male transsexual sample was significantly more compatible with their gender identity than for the female transsexual sample \( (F=28.3, p<.001) \). Overall, the post-test scores indicated fewer psychological problems and better psychological functioning. The entire sample demonstrated significant improvements in psychological functioning on the dimensions of negativism \( (t=6.8, p<.001) \) and shyness \( (t=5.8, p<.001) \). Additionally, there were significant declines in variables that indicate psychopathology (psychoneuroticism: \( t=5.5, p<.001 \); anxiety: \( t=4.0, p<.001 \); depression: \( t=2.1, p<.001 \); inadequacy: \( t=4.1, p<.001 \); sensitivity: \( t=4.4; p<.001 \)). No significant differences were found for any of the remaining dimensions following surgery (somatization: \( t=3.1, p=ns \); psychopathology: \( t=2.8, p=ns \); extraversion: \( t=2.9, p=ns \); agoraphobia: \( t=2.1, p=ns \); hostility: \( t=1.5, p=ns \); sleeping
problems: \( t=2.3, p=ns \)). Additionally, significant sex differences were found on the extraversion scale with the male transsexual sample scoring higher (\( F=9.2, p<.01 \)).

Overall, several significant increases in functioning were found for both groups. However, it appears as though the male transsexual sample functioned psychologically better than the female transsexual sample. The authors proposed that this difference in psychological functioning may be due to their significantly higher scores on the physical appearance appraisal. Since these findings appear to indicate that it is easier for male transsexuals to pass as their self-identified gender, the authors speculated that the male transsexuals may encounter less discrimination and other psychological risk factors.

Further, the study was conducted in the Netherlands. Given the potential cultural differences in the acceptance of gender invariance, it is difficult to determine whether the results of this study may be generalized to American transsexuals. In addition, two of the scales utilized in this study, the Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997) and the Transgender Body Image Scale (Lindgren & Pauly, 1975), have limited evidence of psychometric validity and are not traditionally used in American psychological literature. 12-item Utrecht Gender Dysphoria Scale (Cohen-Kettenis & Van Goozen, 1997). Furthermore, the authors did not provide internal reliability consistency information for the any of the scales utilized in the study.

2.4 Summary of Empirical Research

Several major themes emerge from the literature related to psychosocial adjustment issues of the transgender population. First, several studies found evidence that the transgender population scores similarly to the general population on a number of important psychosocial variables, including measures of personality characteristics (i.e.,
Brown, Wise, Costa, Herbst, Fagan & Schmidt, 1996), psychopathology (i.e., Cohen-Kettenis & Van Goozen, 1997, 2002; Smith, Cohen & Cohen-Kettenis, 2002), body dissatisfaction (Fleming, 1982; Wolfradt & Neumann, 2001) and self-esteem (Wolfradt & Neumann, 2001). Further, one study (i.e., Van Goozen, Cohen-Kettenis, Gooren, Frijda & Van De Poll, 1994) found the transgender population to possess lower levels of anger than the general population. These findings provide support for the general psychological well-being and adjustment of the transgender population in comparison to the larger population. Thus, it seems that many transgender individuals are functioning quite well psychologically. This may seem puzzling, given the psychic distress that characterizes gender dysphoria. However, it is possible that these findings indicate that many members of the transgender population have effectively minimized their gender dysphoria by transitioning to a state in which they feel that their gender identity, physical appearance and social status are adequately congruent with each other.

In fact, the literature on sexual reassignment surgery does support the contention that transitioning lessens psychic distress and improves psychological well-being. Several studies demonstrated a significant decrease in reports of gender dysphoria following surgery (i.e., Cohen-Kettenis & Van Goozen, 1997; Smith, Van Goozen & Cohen-Kettenis, 2001; Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005).

Further, transsexual individuals were found to improve on several measures related to psychological well-being, including satisfaction with life i.e., (Rehman, Lazer, Benet, Schaefer & Melman, 1999), extraversion (Cohen-Kettenis & Van Goozen, 1997) and self-esteem (i.e., Fleming, 1982; Cohen-Kettenis & Van Goozen, 1997). In addition, the findings from two studies indicated that transsexual individuals experience less
general psychic distress following surgery (i.e., Rehman, Lazer, Benet, Schaefer & Melman, 1999; Smith, Cohen & Cohen-Kettenis, 2002).

Moreover, numerous findings indicated that, following the surgery, respondents scored significantly lower on measures of specific forms psychic distress, such as body dissatisfaction (i.e., Cohen-Kettenis & Van Goozen, 1997; Fleming, 1982; Pauly & Lindgren, 1977; Smith, Van Goozen & Cohen-Kettenis, 2001; Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005), anxiety (i.e., Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005), depression, (i.e., Smith, Van Goozen & Cohen-Kettenis, 2001; Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005), feelings of inadequacy (i.e., Cohen-Kettenis & Van Goozen, 1997; Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005), hostility (i.e., Smith, Van Goozen & Cohen-Kettenis, 2001, negativism (i.e., Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005), and sensitivity (i.e., Smith, Van Goozen, Kuiper & Cohen-Kettenis, 2005).

In summation, as a whole, the transgender population appears to be functioning comparably to the general population. Furthermore, the literature seems to indicate that after receiving sexual reassignment surgery, transsexual individuals experience less gender dysphoria, greater psychological-well being and less psychic distress. These findings are in line with the construct of congruence; Rogers (1959) stated that congruence is a state in which one’s external appearance “accurately symbolizes (p. 206)” their internal experience; he posited that as one enhances their congruence, they will experience less psychic distress and achieve a higher state of psychological well-being. By definition, when a transgender individual transitions through sexual reassignment surgery, they are increasing their congruence.
2.5 **Purpose of Study**

At the present time, sexual reassignment surgery has been the only method of transitioning that has been examined for its psychological impact by empirical research. Furthermore, the studies on sexual reassignment surgery are limited in scope to the experiences of transsexual individuals. As a result, research in this domain has predominantly utilized the transsexual model to conceptualize the experience of transgender individuals (Denny, 2004; Midence & Hagreaves, 1997). At the present time, there have been no quantitative studies that examine the transitioning process of the larger transgender population. Moreover, there have not been any measures devised that could facilitate the development of future research that uses the transgender model to study transitioning.

The present study proposes that the measurement of the construct of congruence could be used as a means to explore the transitioning process of the larger transgender population. Based upon the theory of Rogers (1959), congruence, as it applies to the transgender population, is defined as the degree to which a transgender individual feels a sense of unity and wholeness among their physical appearance, their social status and their gender identity. When a transgender individual has attained an optimal level of congruence, the psychic discomfort that they experience as a result of their gender identity dissipates. The assessment of this construct may be useful in furthering research on the transitioning process, such as its relation to various psychosocial variables or the efficacy of various therapeutic or medical interventions. In addition, a scale that would assess congruence may have clinical utility to mental health practitioners who are working with transgender individuals. The scale may aid clinicians in selecting
appropriate interventions or in assessing the progress of an individual. Accordingly, the purpose of the present study is to construct and garner psychometric support for the Transgender Congruence Scale (TCS) that will assess the degree to which a transgender individual experiences congruence between their gender identity, physical appearance and social status.

2.6 Psychometrics

The purpose of the present study is to construct and evaluate the psychometric reliability and validity of the Transgender Congruence Scale. The following section will discuss approaches commonly utilized to construct and validate an assessment. This information will then be used to inform decisions made in the development and evaluation of the Transgender Congruence Scale.

2.6.1 Test Construction

In “Tests and Assessments”, Walsh and Betz (2001) state that the first step in constructing an assessment is to carefully define the construct that is intended to be measured; this definition should differentiate both what the construct is intended to measure and what it is not intended to measure. Further, the authors discuss several different approaches to constructing a test that is intended to measure a specific personality characteristic: rational, empirical and factor-analytic scale construction. In rational scale construction, the researchers use the definition of the construct to create items that logically appear to be related to the construct. This approach “is based upon the assumption that the content of the test items directly reflects the characteristic or dimension we are interested in measuring (p.80).” Next, the items are administered to a
large pool of subjects. Afterwards, the researcher conducts an item analysis in order to
decide which items should be retained in the final scale (Walsh & Betz, 2001).

Alternatively, in empirical scale construction, the selection of items for the
instrument is based upon the degree to which they are able to predict respondent’s score
on a criterion that is logically related to the construct. As a result, the content of the
items may not seem rationally associated with the construct (Walsh & Betz, 2001).

The goal of factor-analytic scale construction is to create an assessment that
possesses scales that reflect the underlying dimensions of the construct. Therefore, the
items are expected to be internally consistent with other items in the scale and the scales
(i.e., the factors) are “relatively independent (p. 82)” of one another. In this approach, a
large pool of items that are rationally related to the construct are created. These items are
then administered to a sample that is representative of the population for which the scale
is designed. Afterwards, a factor analysis is performed on the scores in order to
investigate the factor structure of the assessment. These factors are inferred to reflect the
dimensions underlying the construct; they are then made into the scales that compose the
instrument. Therefore, items are retained that load highly on one of the factors in the
instrument. Walsh and Betz (2001) state that this approach combines the “content-
relevance of items found in the rational approach to test construction and the high
correlation with a criterion (in this case the factor itself) found in the empirical approach
to test construction (p.82)” . Due to the strength of this approach, the factor-analytic
approach will be used to construct the Transgender Congruence Scale (TCS).
2.62 Test Reliability

The reliability of a test concerns the degree to which an assessment measures a particular construct in a systemic and repeatable manner (Bernstein, Penner, Clarke-Stewart & Roy, 2006). Two commonly used forms of reliability that apply to the construction of the present scale are test-retest reliability and internal consistency reliability (Walsh & Betz, 2001). The following section will discuss these two forms of reliability and discuss the potential bearing on this study.

2.62.1 Test-Retest Reliability

Test-retest reliability relates to the degree to which the scores on an assessment are stable across time. In order to examine the test-retest reliability of a scale, the scale is administered to a sample. Then, after a period of time has elapsed, the scale is administered again to the same sample. This score is only useful if the construct that the scale is intended to measure is expected to remain stable over time.

Based upon the literature reviewed in this chapter, it is postulated that congruence will vary over time as the individual transitions. While there is no current research on this matter, given the many potential steps that one may take, as well as the lengthy process of obtaining surgery, it seems rationally unlikely that an individual will make many changes in order to transition all at the same time. Therefore, it is expected that congruence would change relatively slowly. Accordingly, it is expected that congruence would remain relatively stable over short periods of time (i.e., two – four weeks).

While test-retest reliability is an important component of a methodologically-sound assessment, it requires that data be collected from a sample at two different points in time. However, due to the rarity of transgender individuals as well as the often
“underground” nature of transgender communities, it was deemed to be too logistically difficult to obtain this data at this time. Therefore, the test-retest reliability of the TCS will not be tested in the present study.

2.622 Internal Consistency Reliability

Internal consistency reliability concerns the degree to which each item in the instrument is related to the rest of the scale. This indicates the degree to which each item in the scale is measuring the same construct that the other items are measuring. Furthermore, the internal consistency of an assessment reflects the unidimensionality of a scale, such that tests that are highly internally consistent are more likely composed of one common dimension, rather than multiple dimensions (Walsh & Betz, 2001). The internal consistency reliability of the TCS will be tested in the present study in order to examine the homogeneity of the items.

2.63 Test Validity

The validity of a test is related to the degree to which the test measures what it has been designed to measure. Further, validity is concerned with whether the assessment is related to variables to which it has been postulated to be related, according to the definition of the construct (Walsh & Betz, 2001). Walsh and Betz (2001) delineate five main forms of validity: content, criterion-related, construct, convergent and discriminant validity. The following section will describe each of these forms of validity and discuss each of their applicability to the present study.

2.631 Content Validity

Content validity is the degree to which the items on the scale represent an adequate sampling of the entire range of responses that belong to the construct.
Accordingly, a test that has high content validity should have items that assess for each major subject or experience that is related to the definition of the construct. Evidence of the content validity of a scale is most often sought through the judgment of both the creators of the test and a panel of experts on the subject that the construct is measuring (Walsh & Betz, 2001). The content validity of the TCS will be investigated. In order to ensure the content validity of the scale, the items will be reviewed on two different occasions by two expert panels.

2.6.32 Criterion-Related Validity

Criterion-related validity concerns to the extent to which the scale is related to a specific behavior is expected to be an independent indicator of the construct. This behavior is known as a criterion of the construct. Walsh and Betz (2001) discuss two different forms of criterion-related validity: predictive validity and concurrent validity. Predictive validity is established when the scores from the assessment are able to reliably predict a criterion that will occur at some point in the future, after the assessment has been taken. In contrast, concurrent validity refers to the degree to which the scores from the scale are presently related to a criterion of the construct, at the time the assessment is administered.

Gender dysphoria is the degree to which an individual is experiencing mental distress as a result of their gender identity (Deogracias, et al., 2007). Gender dysphoria and congruence are opposing concepts in that, by definition, the higher the individual’s level of congruence, the lower their gender dysphoria (i.e., psychic distress related to their gender identity) they are experiencing. Therefore, a relation between the TCS and
scales designed to measure gender dysphoria could be interpreted as evidence of concurrent validity.

There are two scales designed to measure this construct: the Utrecht Gender Dysphoria Scale (UGDS; Cohen-Kettenis & Van Goozen, 1997) and the Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults (GIGDQ; Deogracias, et al., 2007). While the UGDS is commonly used by researchers from the Netherlands, there is currently not a great deal of evidence to support the psychometric validity of this scale. Furthermore, this scale is only available in Dutch. As the translation of this scale would present other psychometric issues, this scale will not be used in the present study.

In contrast, the Deogracias, et al. (2007) did investigate the factor structure of the GIGDQ and garnered evidence for the scale’s content validity. However, this scale was not published until data collection was underway for the present study. As a result, this scale was not used in the present study. As there was no alternate measure of gender dysphoria available at the time that data collection occurred for this study, the concurrent and predictive validity of the TCS will not be investigated.

2.633 Construct Validity

Walsh and Betz (2001) state that several steps must be conducted in order for a construct to be validated. They remark that, after a construct has been clearly defined, hypotheses should be created regarding the relationship that this construct has to other variables. Next, a scale that assesses the construct of interest should be created and tested for reliability. Afterwards, the relationships that were hypothesized to exist between the
construct and other variables should be tested by assessing the correlations between the scale and instruments designed to measure the relevant variables (Walsh & Betz, 2001).

In the present study, the author has proposed that the experiences of transgender individuals may be conceptualized by the construct of congruence, based upon the work of Rogers (1959). Congruence has been defined as the degree to which the transgender individual feels that their gender identity, physical appearance and social status match each other. Based upon Roger’s theory (1959), the more congruence that a transgender individual has attained among their gender identity, physical appearance and social status, the less likely they will be to experience psychic distress. It is reasoned that as this psychic distress dissipates, the transgender individual will have more mental energy to devote to attaining psychological health. Therefore, it is hypothesized that congruence should be positively related to measures of various forms psychological well-being. Two variables that have been proposed as indicators of psychological well being are perceived meaning in life (Steger, et al., 2006) and satisfaction with life (Diener, et al., 1985).

In addition, given that as one attains congruence, their mental distress decreases, it is hypothesized that congruence is negatively related to various forms of psychic distress. One such form of psychic distress is dissatisfaction with one’s body. Given that the body is an important and integral aspect of one’s physical appearance, it is hypothesized that congruence is related to the degree to which a transgender individuals feels dissatisfied with their body. Two other common forms of psychic distress are anxiety and depression. Anxiety is an emotion associated with intense feelings of fearfulness, apprehension and frequent worrying (Bernstein, et al., 2006), while depression is an affective state in which the individual experience feelings of sadness,
hopelessness, guilt, poor self-image, and possibly suicidal ideation (Bernstein, et al., 2006). It is hypothesized that congruence will be negatively related to both anxiety and depression.

In summary, the construct of congruence is hypothesized to be positively related to variables associated with psychological health (i.e., life meaning, satisfaction with life) and negatively related to variables associated with psychic distress (i.e., body dissatisfaction, anxiety and depression). Evidence of the construct validity of the TCS will be sought by examining whether significant relationships exist between the scale and measures of each of these variables.

2.634 Convergent Validity

Convergent validity refers to the degree to which the scale is related to other measures or indicators of the same construct. If a scale is actually measuring the construct that it is purported to measure, then the scale is expected to be highly related to other scales or indicators of the same construct (Campbell & Fiske, 1959). Congruence is a novel construct proposed in the present study and has not previously been studied. As a result, there are currently no other scales designed to measure the construct.

According to the definition of congruence, a transgender individual who has attained a high level of congruence feels that their gender identity, physical appearance and social status match each other to a great extent. Congruence, by definition, is highly related to the transitioning process, such that an individual who has taken more steps to transition is expected to have a higher level of congruence. Accordingly, the number of steps that a transgender individual has taken in order to transition may be interpreted as evidence of convergent validity.
2.635 Discriminant Validity

Discriminant validity refers to whether a scale is unrelated to variables that are theorized to not be associated with the construct (Campbell & Fiske, 1959). As previously stated, a transgender individual transitions in order to attain congruence. Considering the potential social value of achieving such a state, it is possible that individuals who tend to respond to assessments in a socially desirable manner might be more likely to report higher levels of congruence. Therefore, in order to provide support that the TCS is actually measure congruence, it is important to provide evidence that the scale is not simply measuring socially desirable responding. Thus, if the TCS is found to be unrelated to a measure of socially desirable responding, this finding would provide evidence for the discriminant validity of the scale.

2.7 Research Questions

In the present study, a scale called the Transgender Congruence Scale will be created in order to assess the construct of congruence in the transgender population. In order to evaluate the psychometric quality of the TCS, the following research questions will be investigated:

Question 1: What is the factor structure of the TCS?

Question 2: Does the TCS demonstrate evidence of adequate internal consistency reliability?

Question 3: Does the TCS demonstrate evidence of convergent validity by correlating with another indicator of congruence (i.e., steps one has taken to transition)?
Question 4: Does the TCS demonstrate evidence of adequate construct validity by positively correlating with measures of psychosocial health (i.e., life meaning, life satisfaction,) and negative correlating with measures of mental distress (i.e., body dissatisfaction, anxiety and depression, anxiety)?

Question 5: Does the TCS demonstrate evidence of adequate discriminant validity by not correlating with a measure of socially desirable responding?
3.1 Participants

A sample of 166 transgender individuals was obtained. In order to recruit the sample, an email describing the study was sent to directors of LGBT resources at universities, colleges and community centers throughout the country (see Appendix A). Further, transgender support groups and LGBTQ community centers that were identified through online searches were contacted. The email requested that the director include a small advertisement (see Appendix B) describing the study in any newsletter or Listserv that their program, center, or group distributes. This advertisement stated that participants were desired for a study investigating the mental health of transgender individuals. Additionally, the advertisement contained the URL where the study was located. Interested participants were able to click on the link in the email to be taken directly to the study. Responses from 4 participants who did not complete at least 90% of any given measure were not entered into the data set. The sample was recruited over a three month period of time. In addition, the researcher received numerous unsolicited letters of support from respondents.
As previously discussed in the introductory chapter, due to the complexity and diversity in both gender identity and sexuality, many transgender individuals employ a diverse array of labels to describe their gender identity and sexual orientations (Carroll, Gilroy & Ryan, 2001; Denny & Roberts, 1997). Thus, in order to recognize the possibility of multiple gender, sexual orientation, and ethnic identities, subjects were allowed to select multiple choices for these options, as well as to enter their own self-identifications. This procedure ensured that these demographic variables were not artificially constricted due to methodological error.

While most participants identified as one gender (n = 103, 63.6%), others chose two (n = 31, 19.1%), three (n = 19, 11.7%), four (n = 6, 3.7%), or five (n = 3, 1.2%) identities to describe their gender experience. The final data set included responses from 44 FtM transgender individuals who ranged in age from 19-74 years (M = 34.82, SD = 13.08), and 60 MtF transgender individuals who ranged in age from 20-75 years (M = 48.87, SD = 10.59). Twenty-six participants identified their gender identity as transgender and ranged in age from 18-60 years (M = 35.54, SD = 14.18). Further, 15 individuals identified their gender as female and ranged in age from 20-63 years (M = 43.73, SD = 14.73), while 20 identified as male and ranged in age from 18-55 years (M = 35.85, SD = 11.23). An additional 13 participants described their gender identity as gender queer and ranged in age from 18-50 years (M = 31.15, SD = 11.09), whereas 29 participants identified as transsexual, ranging in age from 20-57 years (M = 41.72, SD = 11.84). Sixteen participants reported that they identified as cross-dressers and ranged in age from 28 – 70 years (M = 49.44, SD = 11.38). In addition, 15 of the participants entered a gender identity that was not listed as an option. These participants ranged in
age from 18-69 years ($M = 41.07, SD = 16.95$). Examples of gender identities entered included “Post op trans woman”, “transgenderist” and “gender neutral.”

When describing their sexual orientation, most participants chose one sexual orientation ($n = 140, 86.4\%)$. Other participants chose two ($n = 15, 9.3\%$) or three ($n = 4, 4.3\%$) to describe their sexual orientation. Participants identified as bisexual ($n = 57, 35.2\%$), heterosexual ($n = 54, 33.3\%$), lesbian ($n = 31, 19.1\%$), queer ($n = 24, 14.8\%$), gay ($n = 8, 4.9\%$). Some participants identified as a sexual orientation identification not offered by the researcher ($n = 17, 10.5\%$). Examples include “non or confused”, “pansexual” and “asexual.”

In terms of racial/ethnic identity, most participants described themselves as one racial/ethnic identity ($n = 153, 94.4\%$). Other participants identified as biracial ($n = 6, 3.7\%$) or multiracial ($n = 2, 1.2\%$). Participants identified as European American ($n = 151, 93.2\%$), Asian American ($n = 3, 1.9\%$), Latino/a ($n = 5, 3.1\%$), and American Indian ($n = 4, 2.5\%$). An additional six participants (5.6\%) identified as a racial/ethnic group not offered by the researchers. Examples of these racial/ethnic identities include “French Canadian” and “Human.”

Participants described themselves as middle class ($n = 73, 45.1\%$), upper-middle class ($n = 25, 15.4\%$), working class ($n = 56, 34.6\%$), or upper class ($n = 6, 3.7\%$). Two participants (1.2\%) did not report a socioeconomic identification. These numbers are fairly comparable to the national breakdown of socioeconomic class. In addition, participants described their relationship status as married/partnered ($n = 50, 30.9\%$), single ($n = 40, 29.6\%$), in a long-term relationship ($n = 25, 15.4\%$), divorced ($n = 31, 19.1\%$) or polyamorous ($n = 8, 4.9\%$). Most of the participants in the study reported that
they live in the pacific region of the United States ($n = 55, 34.0\%$). Other participants reported that they live in the northeast ($n = 31, 19.1\%$), south ($n = 37, 22.8\%$), or midwest United States ($n = 31, 19.1\%$). Several participants reported that they live in Canada ($n = 3, 1.9\%$). An additional five participants (3.1%) chose not to identify the geographic region in which they live.

3.2 Procedure

Before collecting data, the study was approved by the Behavioral/ Social Sciences Institutional Review Board of The Ohio State University. The study was hosted online by SurveyMonkey, an internet survey software company. SurveyMonkey provided a URL and server space for the data to be stored temporarily until administration was completed. Before beginning the study, participants were shown an informed consent statement and were asked to click a box to indicate their consent. Further, participants in this sample were notified that they could choose to skip any question that they do not wish to answer. Following completion of the study, the participants were shown a detailed debriefing statement, which elaborated on the purposes of the study and listed the contact information of the researchers.

This method of internet data collection has many strengths; yet, it may result in erroneous data if certain precautions are not taken (Schmidt, 1997). Several strategies were utilized in order to minimize the likelihood that fallacious data was obtained. First, as suggested by Schmidt (1997) and Dillon and Worthington (2003), the date, time and origin of the responses were examined to ensure that no duplicate surveys were submitted. In order to control for random responding and inattentiveness, 10 items were
placed throughout the survey that will ask participants to choose a specific response choice (e.g., “Please choose ‘Rarely’ for this question”).

3.3 **Instruments**

The measures that were administered include the Transgender Congruence Scale, the Meaning in Life Questionnaire (Steger, et al., 2006), the Satisfaction with Life Scale (Diener, et al., 1985), the Body Satisfaction Questionnaire (Cooper, et al., 1987), the Beck Anxiety Inventory (Beck & Steer, 1993), the Beck Depression Inventory (Beck, et al., 1961), the Transgender Transition Inventory, the Marlowe-Crown Social Desirability Scale (Crowne & Marlowe, 1960) and a brief demographic questionnaire.

3.3.1 **Congruence**

In developing initial items, Ekins and King’s (1996) book *Blending Genders: Social aspects of cross-dressing and sex-changing* was consulted, which provides a summary of the transitioning process. Each item of the scale was intended to assess different facets of congruence. Items were created until the group of items comprehensively and adequately reflected the construct.

Following initial item generation, feedback was attained from three counseling psychology professors to assess content validity. The professors reviewed the TCS items and communicated their feedback. According to the feedback provided by the panel, two additional items were added to the inventory and small grammatical changes were made. Afterwards, another expert panel consisting of three transgender individuals and one counseling psychology professor examined each item for content validity and evaluated each item for content and clarity. The expert panel was asked to rate each item for clarity by indicating how clear they believed the meaning of each item was on a scale of one to
three (i.e., 1=unclear, 2= somewhat unclear, 3=clear). Next, the expert panel was asked to assess each item in terms of the degree to which they believed it reflected the construct of congruence on a scale of 1 to 3 (i.e., 1=not under content domain, 2= somewhat inappropriate for content domain, 3=definitely part of content domain). In addition, they suggested performing minor wording changes on 4 items. The reviewers all stated that they believed that the items accurately reflected the content domain.

Examples of items include “My physical appearance adequately expresses my gender identity” and “I experience a sense of unity between my gender identity and my body.” A complete list of the TCS items are in Appendix C. For each item, respondents are asked to indicate the degree to which the item has been true for them over the past two weeks on a 5-point Likert-type scale ranging from one to five (i.e., 1=strongly disagree, 2= somewhat disagree, 3=neither agree nor disagree, 4= somewhat agree, 5=strongly agree). Five of the items were designed to be reverse-scored. The responses were summed with higher scores indicating that the individual experiences a higher level of congruence. Its scores demonstrated an adequate level of internal consistency reliability for the current sample (α = .94).

3.32 Meaning in Life

The 10-item Meaning in Life Questionnaire (MLQ; Steger, et al., 2006; see Appendix D) was used to assess the ontological significance of the life of each respondent, from their subjective perspective. The MLQ uses a 7-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree.” Through exploratory and confirmatory principal-axis factor analysis, Steger, et al. (2006) provided evidence that the MLQ consists of two main factors, that they labeled “Presence” and “Search.” The Presence scale of the MLQ
MLQ-Presence taps into the presence of meaning in one’s life; the Search scale (MLQ-Search) taps into one’s active search to create meaning in life. According to a study by Seger, et al. (2006), the scores on both scales of the MLQ were demonstrated to possess adequate internal consistency reliability (MLQ-Presence: $\alpha = .86$; MLQ-Search: $\alpha = .87$). Steger, et al. (2006) acquired evidence for the convergent validity of the MLQ by finding positive correlations between the scores of the Presence scale and scores from measures of life satisfaction ($r = .46$), love ($r = .40$), joy ($r = .49$) intrinsic religiosity ($r = .30$), extraversion ($r = .28$), and agreeableness ($r = .23$). While the scores from the Search scale were not significantly correlated with these variables, they were found to be significantly positively correlated with measures of depression ($r = .36$), neuroticism ($r = .20$) and several negative emotions, such as fear ($r = .25$) and sadness ($r = .26$). In addition, the authors (Steger, et al., 2006) garnered evidence for the discriminant validity for the MLQ by finding no significant correlation between scores from either scale and measures of social desirability (MLQ-Presence: $r = -.08$; MQP-Search: $r = .02$) and extrinsic religiosity (MLQ-Presence: $r = .15$; MQP-Search: $r = .12$). Scores for the Presence ($\alpha = .91$) and Search ($\alpha = .88$) subscales demonstrated an adequate level of internal consistency reliability for the current sample.

3.33 Satisfaction with Life

The Satisfaction with Life Scale (SWLS; Diener, et al., 1985; see Appendix E) was used to measure the construct of life satisfaction. Life satisfaction has been defined as the judgmental process by which an individual assesses the quality of their life on the basis of their own uniquely constructed criteria (Shin & Johnson, 1978). Thus, the more consistent one’s current life situation is with their subjective ideal standards, the higher

This scale consists of five items to which the respondents rate their agreement on a 7-point Likert scale (i.e., 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree). Items such as “The conditions of my life are excellent” and “If I could live my life over, I would change almost nothing” are illustrative of its content. Total scores were obtained by averaging the item responses across answered items, with a higher total score indicative of a higher degree of life satisfaction.

Diener, et al. (1985) demonstrated that its scores have adequate internal consistency reliability ($\alpha = .87$) and sufficient stability over a two-week period ($r = .82$) with a sample of American college students. The scale has demonstrated convergent validity by correlating strongly with measures of subjective well-being ($r = .68$; Diener, et al., 1985) and independent interviewer ratings of the respondent’s satisfaction with life ($r = .66$; Pavot & Diener, 1991). Further, the scale demonstrated construct validity by negatively correlating with measures of depression ($r = -.72$; Blais, et al., 1989) and negative affect ($r = -.31$; Larson, Dieter & Emmons, 1985). In addition, the scale has garnered psychometric validity with a wide range of other samples including Asian college students (Shao & Diener, 1992), male prison inmates (Joy, 1990) and the disabled (Chwalisz, et al., 1988). Its scores demonstrated an adequate level of internal consistency reliability for the current sample ($\alpha = .85$).

3.34 Body Dissatisfaction
The construct of body satisfaction was measured using the 34-item Body Satisfaction Questionnaire (BSQ; Cooper et al., 1987; see Appendix G). Respondents were asked to rate items using a six-point Likert scale (i.e., 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Often, 6 = Always). Items such as “Have you ever felt unhappy about your body?” and “How often do you refuse food because you are worried about your weight?” are illustrative of the scale’s content. The total score is derived from the sum of the item scores, with higher scores indicating greater body dissatisfaction. Several items that referred to comparing one’s body to “other women” were revised to read “other people.” Cooper, et al. (1987) garnered evidence for the convergent validity of the BSQ by finding a positive correlation between the scale and measures of disordered eating (r = .35) and body dissatisfaction (r = .66) in a sample of patients diagnosed with bulimia nervosa. In addition, a study by Rosen, Jones, Ramirez and Waxman (1996) found the scores from the BSQ to have high internal consistency reliability (α = .97) and high three-week test-retest reliability (r = .88). Furthermore, they garnered evidence of the scale’s concurrent validity through significant correlations with measures of body dysmorphic disorder (r = .58), positive evaluation of one’s attractiveness (r = .47), preoccupation with one’s appearance (r = .29) and satisfaction with nine specific areas of one’s bodies (r = .53) in a sample of body image therapy patients. Its scores demonstrated an adequate level of internal consistency reliability for the current sample (α = .87).

3.35 Anxiety

The Beck Anxiety Inventory (BAI; Beck & Steer, 1993; see Appendix H) was utilized to measure the construct of anxiety. The scale consists of 21 items that describe
various symptoms of anxiety. Items in the BAI assess for the presence of various physiological, emotional and cognitive symptoms associated with anxiety, such as the fear of dying, the feeling of choking and nervousness. Respondents are asked to select a response that best describes how frequently they experience each symptom. Responses are on a 4-point scale, ranging from 0 to 3 (i.e., 0= “Not At All”, 1= “Mildly, but it didn’t bother me much”, 2= “Moderately - it wasn’t pleasant at times”, 3= “Severely – it bothered me a lot”). The total score is derived from the sum of the item scores, with higher scores indicating more symptoms of anxiety. Internal consistency reliability for the BAI scores have been found to range from .92 to .94 (Beck & Steer, 1993). Additionally, a one-week test-retest reliability coefficient of .75 was found (Beck & Steer, 1993). Beck and Steer (1993) reported that the BAI has demonstrated concurrent validity by correlating moderately with the Hamilton Anxiety Rating Scale - Revised ($r = .51$; Hamilton, 1959) and the Cognition Checklist ($r = .51$; Steer, et al., 1994). Its scores demonstrated an adequate level of internal consistency reliability for the current sample ($\alpha = .91$).

### 3.36 Depression

The Beck Depression Inventory (BDI; Beck et al., 1961; Groth-Marnat, 1990; see Appendix I) was utilized to measure the construct of depression. Items in the BDI assess symptoms of sadness, general dissatisfaction, pessimism, guilt, suicidal ideation and poor self-image. The scale consists of 21 items that are scored on a 4-point, fixed response scale, ranging from zero to three. The response scale varies by item, with higher number indicating more intense symptoms of depression. The total score is derived from the sum of the item scores, with higher scores indicating more depressive symptoms. Internal
consistency reliability for BDI scores have been found to range from .73 to .92 with a mean of .86 and a split-half reliability coefficient of .93 (Beck, Steer, & Garbin, 1988). A meta-analysis of studies conducted on the psychometric properties of the BDI performed by Richter, Werner, Heerlein, Kraus, and Sauer (1998) found the BDI to have validity in differentiating between depressed and non-depressed people. The BDI has demonstrated concurrent validity by correlating with clinicians' ratings of depression (r = .62; Foa, Riggs, Dancu & Rothbaum, 1993). Its scores demonstrated an adequate level of internal consistency reliability for the current sample (α = .89).

3.37 Steps to Transition

A brief inventory (see Appendix J) was created in order to determine the number of steps the respondent has taken in order to transition to their gender identity. Each item was designed to reflect a different step that transgender individuals traditionally take in order to transition, as outlined by Ekins & King (1996). The 16-item scale utilizes a dichotomous (i.e., yes/no) response scale. Items such as "Adopted name not given at birth that better represents gender identity" and "Wear clothing that matches gender identity in social situations" are illustrative of the scale’s content. Respondents were given 1 point for each item they endorsed. Total scores were calculated by assigning 1 point to each item that the respondents endorsed and calculating the summation of the items. For the present sample, the scores on the inventory demonstrated an adequate level of reliability, yielding a Kuder-Richardson 20 coefficient of .91.

3.38 Socially Desirable Responding

The construct of socially desirable responding was measured using the Marlowe-Crown Social Desirability Scale (MCSDS; Crown & Marlowe, 1969; see Appendix K).
Items on the scale assess the degree to which a respondent answers in socially desirable ways. The 33-item scale utilizes a dichotomous (i.e., true/false) response scale. Items such as "I never hesitate to go out of my way to help someone in trouble" and "I have almost never felt the urge to tell someone off" are illustrative of the scale’s content. Higher scores reflect greater social desirable responding. MCSDS scores have been found to demonstrate adequate Kuder-Richardson reliability coefficient of .88 and a 2-week test-retest reliability coefficient of .89 (Crowne & Marlow, 1960). Further, evidence of the scale’s convergent validity was garnered through a significant correlation of the scores of the MCSDS with the scores of another measure of social desirability (r=.54). In the present sample, its scores demonstrated an adequate level of reliability, yielding a Kuder-Richardson 20 coefficient of .84.

3.39 Demographic Questionnaire

In addition, a brief demographic questionnaire requested the age, gender identification, sexual orientation, geographical location, ethnic identification, relationship status, gender identity and socioeconomic status of the participants (see Appendix L). In order to be as inclusive as possible, participants were able to select as many sexual orientation identifications and gender identifications as they wished. In addition, they were also given the option of entering their own gender identity. The study was structured in this way so that the methodology did not artificially limit the participant’s gender and sexual orientation identification to one.

3.4 Ordering of Instruments

The sample was given the instruments in the following order: the Transgender Congruence Scale, the Transgender Transition Inventory, the Meaning in Life
Questionnaire, the Satisfaction with Life Scale, the Body Satisfaction Questionnaire, the Beck Anxiety Inventory, the Beck Depression Inventory, the Marlow-Crowne Social Desirability Scale and the demographic questionnaire. The researcher was unable to counter-balance the order of the instruments due to constraints of the software utilized for the survey. Therefore, it is possible that fatigue affected participant’s responding for the scales administered near the end of the study.

Therefore, the instruments the measured that assessed for constructs that were of the most importance to the study (i.e., congruence, steps in transitioning) were administered first. In addition, the instruments that assessed for constructs related to mental health were purposefully placed in the middle of the battery (i.e., body dissatisfaction, anxiety and depression). Due to the prevalence of research that has pathologized the transgender identity, the researcher was concerned that respondents may be less likely to begin the study if the first questions inquired into mental health concerns. Therefore, these instruments were embedded near the middle of the test battery. Finally, questionnaires that were less integral to the purposes of the study (i.e., socially desirable responding, demographic questionnaire) were place at the end of the battery.

3.5 Design

Internal consistency reliability (i.e., Cronbach’s coefficient alpha) will be calculated for the TCS scale scores. Any items that do not substantially correlate .30 and above with the total scores of the scale will be deleted (Nunnally and Bernstein, 1994). Afterwards, a common factor analysis with principal axis factoring and direct oblimin rotation (delta = 0) will be used to explore the TCS’s factor structure. If more than one should emerge, given that the factors were hypothesized to be correlated, this analysis
would permit a moderate relationship between factors. Next, evidence of construct validity will be sought by performing Pearson $r$ correlational analyses to examine the relationship between the TCS and scales designed to measure constructs hypothesized to be related, including satisfaction with life (i.e., SWLS), meaning in life purpose and search (i.e., MLS), body satisfaction (i.e., BSQ), depression (i.e., BDI) and anxiety (i.e., BAI). In addition, the convergent validity of the TCS will be examined by utilizing Pearson $r$ correlational analyses between the TCS and a scale designed by the author to measure the number of steps an individual has taken to transition (i.e., Transgender Transition Inventory). Finally, the discriminant validity of the scale will be explored by performing a Pearson $r$ correlational analysis between the TCS and a measure of socially desirable responding (i.e., MCSDS).
4.1 **Exploratory Factor Analyses**

Before any other analyses were undertaken, the factor structure of the TCS was evaluated. To investigate the structure of the TCS, a common factor analysis with principal axis factoring was utilized. This analysis was selected over principal component analysis because the factor solution it computes is uncontaminated by error variance and unique variance (Tabachnick & Fidell, 1996). Direct oblimin rotation was chosen because it was expected that if multiple factors were found in the scale, they would be correlated and components of a broader construct for transgender congruence. The delta weight in the analysis was specified to be zero as this value allows for a moderate correlation among factors.

In order to determine the number of factors in the TCS, a statistical technique called parallel analysis (Horn, 1965) was employed. Parallel analysis has been shown to be more accurate than other methods in determining the factor structure of a scale (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Research has indicated that other commonly used methods (i.e., examining the scree plot of the eigenvalues for breaks,
retaining factors with eigenvalues greater than 1, maximum likelihood analyses) have a tendency to overfactor and often require a great deal of subjective judgment (Hayton, Allen, & Scarpello, 2004). In parallel analysis, 50 or more random data sets are generated that possess the same parameters as the actual data set. Next, each of the random data sets are factor analyzed and the eigenvalues extracted. Next, the eigenvalues are extracted from the correlation matrix of the actual data. They are compared to the criterion (i.e., 95th percentile) eigenvalues that have been calculated from the random data. Hayton, et al. (2004) recommended that researchers retain the factors in the actual data set that possess eigenvalues that are larger than the eigenvalues extracted from the random data set.

The significance of Bartlett’s test of sphericity, $\chi^2 (300) = 2794.14, p < .001$, and the size of the Kaiser-Meyer-Oklin measure of sampling adequacy (KMO = .90) revealed that the 25 TCS items had adequate common variance for factor analysis (Tabachnick & Fidell, 1996). In order to determine the number of factors present in the scale, 50 random data sets were created. The eigenvalues obtained from the 95th percentile of the random data were then compared to the eigenvalues generated from the actual data (See Table 1). The first three factors of the actual data had eigenvalues greater than the criterion generated from the random data (i.e., 10.70 [actual data] compared to 1.97 [random data] for the first factor, and 2.65 [actual data] compared to 1.77 [random data] for the second factor and 2.00 [actual data] compared to 1.64 [random data]). The remaining factors obtained from the actual data set had values lower than the corresponding criterion that was derived from the data that had been randomly generated.

Thus, three factors were interpreted. The first factor accounted for 42.78% of the
<table>
<thead>
<tr>
<th>Factor</th>
<th>Actual Eigenvalue</th>
<th>Average Eigenvalue</th>
<th>95th Percentile Eigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.696</td>
<td>1.802</td>
<td>1.968</td>
</tr>
<tr>
<td>2</td>
<td>2.647</td>
<td>1.678</td>
<td>1.773</td>
</tr>
<tr>
<td>3</td>
<td>1.999</td>
<td>1.569</td>
<td>1.644</td>
</tr>
<tr>
<td>4</td>
<td>1.043</td>
<td>1.485</td>
<td>1.554</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>1.409</td>
<td>1.485</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>1.340</td>
<td>1.400</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>1.268</td>
<td>1.331</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>1.209</td>
<td>1.252</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>1.155</td>
<td>1.200</td>
</tr>
</tbody>
</table>

Table 1: Randomly Generated Eigenvalues and Actual Eigenvalues Obtained from the Transgender Congruence Scale Using Parallel Analysis Procedures (continued)
Table 1: continued

<table>
<thead>
<tr>
<th>Factor</th>
<th>Actual Eigenvalue</th>
<th>Average Eigenvalue</th>
<th>95th Percentile Eigenvalue</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1.103</td>
<td>1.153</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1.050</td>
<td>1.100</td>
<td></td>
</tr>
</tbody>
</table>
of the total variance, Factor 2 accounted for 10.59% of the total variance and Factor 3 accounted for 8.00% of the total variance. Next, the rotated factor matrix solution was inspected to determine item-factor loadings. Criteria for factor loadings included item values greater than or equal to .40 on the primary factor and values less than or equal to .30 on other factors. According to Tabachnick and Fidell (1996), it is common practice for factor loadings of .32 or higher to be interpreted. However, a criterion of .40 was utilized in order to increase the confidence in the factors.

All items possessed a factor loading of .40 on at least one of the factors. However, eight items had cross-loadings greater than or equal to .30. Deleting these items resulted in a significant reduction in alpha level, when the alpha for the total scale was computed. Therefore, these items are calculated as a part of the overall scale score, but are not calculated into any one of the three subscales. The remaining 17 items loaded on the three factors such that Factor 1 contained nine items, Factor 2 contained five items and Factor 3 contained three items. All of these items had a factor loading greater than .40 on a primary factor and did not cross-load greater than .30 on any other factor. This solution accounted for 61.37% of the data variance. The first factor (eigenvalue = 10.70) accounted for 42.78% of the variance; its factor loadings ranged from .69 to .88. This factor was labeled Appearance Congruence. The items on this subscale are related to the degree to which the individual feels that their external appearance represents their gender identity, making it more likely that others will perceive and treat them as the gender which with they identify. This includes people with whom the individual has a close relationship (e.g., “The important people in my life recognize me as my gender identity.”), those that the individual may know less intimately (e.g., “I’m generally
comfortable with the way others perceive my gender identity when they look at me”), as well as the individual’s community (e.g., “The community that I live in recognizes me as my gender identity”). Several of the items on this subscale focus on the perception that others form of the individual’s gender based upon their physical appearance (e.g., “My outward appearance represents my gender identity”). The second factor (eigenvalue = 2.65) accounted for 10.59% of the variance; its factor loadings ranged from .40 to .83. This factor was labeled Body Comfort. The items in this subscale assess the degree to which a transgender individual feels comfortable with their body. This may include feeling an emotional and spiritual connection to their body (e.g., “I feel at home in my body”) as well as the degree to which the individual feels comfortable with their ability to have romantic and sexual relationships with others (e.g., “My body allows me to engage in sexual behaviors that express my sexuality”).

The third factor (eigenvalue = 2.00) accounted for 8.00% of the variance; its factor loading ranged from .55 to .87. This factor was labeled Gender Identity Pride. Items in this subscale are related to the degree to which a transgender individual has accepted and feels a sense of pride regarding their gender identity (e.g., “I am happy that I have the gender identity that I do”).

The TCS items are presented in Table 2. This table also contains the factor loadings, item-total correlations, and descriptive statistics (i.e., means, standard deviations) for each item. Table 3 contains a correlation matrix of the factors. Next, the item distributions were evaluated for normality by examining measures of kurtosis and skewness. The total scores from the TCS were found to have skewness and kurtosis statistics within a normal range (skewness: \( \gamma^1 = 0.03; p=ns \); kurtosis: \( \gamma^2 = -0.71 \),

70
<table>
<thead>
<tr>
<th>Retained Factor and Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Item/Total: $r$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1: Appearance Congruence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. My outward appearance represents my gender identity</td>
<td>.87</td>
<td>-.12</td>
<td>.00</td>
<td>.67</td>
<td>3.65</td>
<td>1.40</td>
</tr>
<tr>
<td>3. I do not feel that my appearance reflects my gender identity. (r)</td>
<td>.77</td>
<td>-.06</td>
<td>.04</td>
<td>.63</td>
<td>3.32</td>
<td>1.45</td>
</tr>
<tr>
<td>5. Most people that I know think of me as the gender that</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I identify with.</td>
<td>.88</td>
<td>-.13</td>
<td>-.07</td>
<td>.65</td>
<td>3.51</td>
<td>1.50</td>
</tr>
<tr>
<td>6. My physical appearance adequately expresses my gender identity.</td>
<td>.86</td>
<td>.08</td>
<td>.00</td>
<td>.79</td>
<td>3.25</td>
<td>1.44</td>
</tr>
<tr>
<td>7. I am generally comfortable with how others perceive my</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gender identity when they look at me.</td>
<td>.72</td>
<td>.15</td>
<td>.03</td>
<td>.74</td>
<td>3.60</td>
<td>1.32</td>
</tr>
</tbody>
</table>

Table 2: Item-Factor Loadings and Corrected Item-Total Correlations for Each

Transgender Congruence Scale Factor (continued)
Table 2: continued

<table>
<thead>
<tr>
<th>Retained Factor and Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Item/Total: r</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. The important people in my life recognize me as my gender identity.</td>
<td>0.73</td>
<td>-0.01</td>
<td>0.08</td>
<td>0.69</td>
<td>3.78</td>
<td>1.32</td>
</tr>
<tr>
<td>15. I am happy with the way my appearance expresses my gender identity.</td>
<td>0.73</td>
<td>0.18</td>
<td>0.13</td>
<td>0.80</td>
<td>3.23</td>
<td>1.37</td>
</tr>
<tr>
<td>24. I am able to pass as my gender identity.</td>
<td>0.69</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.61</td>
<td>3.95</td>
<td>1.20</td>
</tr>
<tr>
<td>25. The community that I live in recognizes me as my gender identity.</td>
<td>0.83</td>
<td>-0.18</td>
<td>0.07</td>
<td>0.66</td>
<td>3.59</td>
<td>1.42</td>
</tr>
</tbody>
</table>

Factor 2: Body Comfort

8. I feel at home in my body.                                                              | 0.29     | 0.70     | 0.04     | 0.74           | 3.03| 1.47 |
### Table 2: continued

<table>
<thead>
<tr>
<th>Retained Factor and Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Item/Total: $r$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. There is nothing that I would do to alter my body in order to make it better represent my gender identity.</td>
<td>-.09</td>
<td>.68</td>
<td>.06</td>
<td>.31</td>
<td>1.79</td>
<td>1.16</td>
</tr>
<tr>
<td>12. My body allows me to engage in sexual behaviors that express my sexuality.</td>
<td>-.13</td>
<td>.80</td>
<td>-.03</td>
<td>.31</td>
<td>3.04</td>
<td>1.47</td>
</tr>
<tr>
<td>22. I feel a spiritual connection to my body.</td>
<td>.23</td>
<td>.40</td>
<td>.29</td>
<td>.58</td>
<td>3.37</td>
<td>1.28</td>
</tr>
<tr>
<td>23. My present body does not allow me to be sexual with romantic partners in a way with which I am comfortable. (r)</td>
<td>-.19</td>
<td>.83</td>
<td>.04</td>
<td>.31</td>
<td>2.92</td>
<td>1.50</td>
</tr>
</tbody>
</table>

#### Factor 3: Gender Identity Pride

<table>
<thead>
<tr>
<th>Retained Factor and Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Item/Total: $r$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. I am not proud of my gender identity. (r)</td>
<td>.04</td>
<td>.07</td>
<td>.55</td>
<td>.33</td>
<td>3.86</td>
<td>1.39</td>
</tr>
<tr>
<td>19. I am happy that I have the gender identity that I do.</td>
<td>-.13</td>
<td>.14</td>
<td>.86</td>
<td>.37</td>
<td>4.16</td>
<td>1.15</td>
</tr>
</tbody>
</table>
Table 2: continued

<table>
<thead>
<tr>
<th>Retained Factor and Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Item/Total: r</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. I have accepted my gender identity.</td>
<td>-.07</td>
<td>.04</td>
<td>.87</td>
<td>.38</td>
<td>4.54</td>
<td>.81</td>
</tr>
</tbody>
</table>

Other Items: Overall Scale

<table>
<thead>
<tr>
<th>Item</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I feel a strong sense of connection to my body.</td>
<td>.37</td>
<td>.44</td>
<td>.22</td>
<td>.70</td>
<td>3.22</td>
<td>1.38</td>
</tr>
<tr>
<td>4. I experience a sense of unity between my gender identity and my body.</td>
<td>.49</td>
<td>.48</td>
<td>.05</td>
<td>.76</td>
<td>3.04</td>
<td>1.42</td>
</tr>
<tr>
<td>9. I am not happy with the way that my body looks with regards to my gender identity. (r)</td>
<td>.34</td>
<td>.49</td>
<td>.03</td>
<td>.62</td>
<td>2.64</td>
<td>1.49</td>
</tr>
<tr>
<td>11. The way my body currently looks does not represent my gender identity. (r)</td>
<td>.44</td>
<td>.58</td>
<td>-.05</td>
<td>.74</td>
<td>2.83</td>
<td>1.50</td>
</tr>
</tbody>
</table>
Table 2: continued.

<table>
<thead>
<tr>
<th>Retained Factor and Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Item/Total: r</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. My physical body represents my gender identity.</td>
<td>.55</td>
<td>.49</td>
<td>.03</td>
<td>.82</td>
<td>2.67</td>
<td>1.45</td>
</tr>
<tr>
<td>16. I feel that my mind and body are consistent with</td>
<td>.48</td>
<td>.58</td>
<td>.06</td>
<td>.80</td>
<td>2.85</td>
<td>1.50</td>
</tr>
<tr>
<td>one another.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I have a strong sense of my gender identity.</td>
<td>.11</td>
<td>-.23</td>
<td>.49</td>
<td>.23</td>
<td>4.49</td>
<td>.87</td>
</tr>
<tr>
<td>21. My government recognizes me as my gender identity.</td>
<td>.54</td>
<td>.30</td>
<td>-.05</td>
<td>.59</td>
<td>2.48</td>
<td>1.55</td>
</tr>
</tbody>
</table>

Note. N = 162. (r) indicates reverse scored items.
<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TCS total</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. TCS-AC</td>
<td>.88*</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. TCS-BC</td>
<td>.74*</td>
<td>.39*</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>4. TCS-GIP</td>
<td>.49*</td>
<td>.32*</td>
<td>.35*</td>
<td>---</td>
</tr>
</tbody>
</table>

*Note. N = 162. TCS = Transgender Congruence Scale; TCS-AC = Appearance Congruence subscale of the Transgender Congruence Scale; TCS-BC = Body Comfort subscale of the Transgender Congruence Scale; TCS-GIP = Gender Identity Pride subscale of the Transgender Congruence Scale.

*p<.01

Table 3: Factor Correlation Matrix
In contrast both the Appearance Congruence subscale and the Gender Identity Pride subscale were found to possess significant skewness and kurtosis (Appearance Congruence: skewness: $\gamma^1 = -0.38; p < 0.05$; kurtosis: $\gamma^2 = -1.06, p < 0.01$; Gender Identity Pride: skewness: $\gamma^1 = -1.03; p < 0.001$; kurtosis: $\gamma^2 = 0.67, p < 0.05$). The Body Comfort subscale was not found to possess significant skewness and kurtosis (skewness: $\gamma^1 = 0.14; p=ns$; kurtosis: $\gamma^2 = -0.82, p=ns$). While significant skewness and kurtosis existed on the Appearance Congruence and Gender Identity Pride subscales, the total scores from the TCS were not found to be significant. Therefore, transformations were not conducted.

4.2 Internal Consistency Reliability

Cronbach’s coefficient alpha was utilized to determine whether the TCS scores had adequate internal consistency reliability. Alphas were .94 for the total TCS, .93 for the Appearance Congruence subscale, and .79 for the Body Comfort subscale and .70 for the Gender Identity Pride subscale. In addition, analyses indicated that the deletion of any item on the scale would not increase the alpha, indicating that each item contributed incrementally to its scale or subscale. These scores provide evidence that TCS scores had adequate internal consistency reliability. These scores are presented in Table 4.

4.3 Validity Evidence

Before exploring the validity of the scales, analyses were conducted to determine whether age, race/ethnicity and socio-economic status were related to the scores of the Transgender Congruence Scale (TCS), the Transgender Transition Inventory (TTI), the Meaning In Life Questionnaire (MLQ; Steger, et al., 2006), the Satisfaction With Life Scale (SWLS; Diener, et al., 1985), the Body Satisfaction Questionnaire (BSQ; Cooper et al., 1987), the Beck Anxiety Inventory (BAI; Beck & Steer, 1993) and the Beck
<table>
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<tr>
<th>Measure</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\alpha$</th>
<th>Response</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<tr>
<td>1. TCS total</td>
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<td>.87</td>
<td>.94</td>
<td>1 – 5</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td>2. TCS-AC</td>
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<td>1.11</td>
<td>.93</td>
<td>1 – 5</td>
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<td>3. TCS-BC</td>
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<td>.79</td>
<td>1 – 5</td>
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<td></td>
<td></td>
<td></td>
<td>.74**</td>
<td>.39**</td>
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<td>1 – 5</td>
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<td></td>
<td></td>
<td></td>
<td>.49**</td>
<td>.32**</td>
<td>.35**</td>
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<td>5. MLQ-PRES</td>
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<td></td>
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<td>.49**</td>
<td>.38**</td>
<td>.40**</td>
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<td>6. MLQ-SEARCH</td>
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<td>-.09</td>
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<td>7. SWLS</td>
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<td>8. BSQ</td>
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<td>-.68**</td>
<td>-.67**</td>
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<td>-.32**</td>
<td>-.17</td>
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<td>0 – 63</td>
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<td>-.54**</td>
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<td>.59**</td>
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Table 4: *Means, Standard Deviations, Alphas, and Intercorrelations of the Measures* (continued)
Table 4: continued

<table>
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<tr>
<th>Measure</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\alpha$</th>
<th>Response</th>
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<td>0 – 1</td>
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<td>.67**</td>
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<td>.25*</td>
<td>.15*</td>
<td>.11</td>
<td>.33**</td>
<td>-.54**</td>
<td>-.03</td>
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<td>.13</td>
<td>.14</td>
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<td>-.20*</td>
<td>.27**</td>
<td>.32***</td>
<td>.15</td>
<td>-.23</td>
<td>.28**</td>
</tr>
</tbody>
</table>

Note. $N = 162$. TCS = Transgender Congruence Scale; TCS-AC = Appearance Congruence subscale of the Transgender Congruence Scale; TCS-BC = Body Comfort subscale of the Transgender Congruence Scale; TCS-GIP = Gender Identity Pride subscale of the Transgender Congruence Scale; TTI = Transgender Transition Inventory; MLQ-Search = Search scale of the Meaning in Life Questionnaire; MLQ-Presence = Presence scale of the Meaning in Life Questionnaire; SWLS = Satisfaction with Life Scale; BSQ = Body Satisfaction Questionnaire; BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; MCSDS = Marlow-Crowne Social Desirability Scale.

*p < .05.

**p < .01

***p < .001
Depression Inventory (BDI; Beck et al., 1961; Groth-Marnat, 1990). If these measures were related to any of the demographic variables, the effects of the variables would be controlled for in the analyses. Since a small portion of the participants represented non-white ethnic groups, the scores for the participants of color (including bi/multi-racial participants) were clustered together and compared to the scores of the European-American participants. A multivariate analysis of variance (MANOVA) did not reveal any mean group differences between European-Americans and Women of Color, \(F(10, 122) = 1.69, \text{ns}, \text{Wilks’ } \Lambda = .88\) and no mean socio-economic differences, \(F(30, 359) = 1.06, \text{ns}, \text{Wilks’ } \Lambda = .78\), for the study measures. Age was significantly correlated to the BAI \((r = -.37, p<.001)\) and the BDI \((r = -.22, p<.01)\). However, age was not significantly related to any of the other measures (range of \(r\)s = -.03 to .10, all \(p\)s >.05). Therefore, age was controlled using a partial correlation analyses for the the Beck Depression Inventory (Beck et al., 1961; Groth-Marnat, 1990 and the Beck Anxiety Inventory (Beck & Steer, 1993).

4.31 **Additional construct validity evidence.**

The TCS was found to correlate with other measures of variables related to mental health, including satisfaction with life (i.e., SWLS), meaning in life (i.e., MLQ-search and MLQ-presence), body dissatisfaction (i.e., BSQ), depression (i.e., BDI) and anxiety (i.e., BAI). These correlations are presented in Table 4.

In support of the construct validity of the TCS, a strong effect size was found between total scores on the TCS and the SWLS \((r=.61, p<.01)\). In addition, a strong effect size was found between the scores of the SWL and the Appearance Congruence subscale \((r=.44, p<.01)\) and the Body Comfort subscale \((r=.56, .01)\).
while a medium effect size was found with the Gender Identity Pride subscale ($r=.35, p<.01$).

Further, a medium effect size was found between the total scores on the TCS and the ML-Presence scale ($r=.49, p<.01$). In regards to the specific subscales, the scores from all three of the subscales were found to possess medium effect sizes with the TCS (Appearance Congruence: $r=.38, p<.01$; Body Comfort: $r=.40, p<.01$; Gender Identity Pride: $r=.41; p<.01$). This finding provides further support for the construct validity of the TCS.

In contrast, a significant correlation was not found between the scores of the ML-Search scale and the total scores from the TCS ($r=-.13, p=ns$). In addition, the scores from the ML-Search scale did not significantly correlate with any of the three subscales of the TCS (Appearance Congruence: $r=-.13, p=ns$; Body Comfort: $r=-.13, p=ns$; Gender Identity Pride: $r=-.09; p< ns$). This finding suggests that the search for life meaning is not associated with the construct of congruence for transgender individuals.

The scores the BSQ and the total scores of the TCS were found to possess a large effect size ($r=.64, p<.01$). In addition, strong effect sizes were also found between the scores from the BSQ were also found and the Appearance Congruence subscale ($r=.68, p<.01$) and the Body Comfort subscale ($r=.67, p<.01$). The scores from the BSQ was found to possess a small effect size with the Gender Identity Pride subscale ($r=.18, p<.05$). While this correlation is statistically significant, it does not hold practical significance.

In addition, a large negative effect size was found between the total scores from the TCS and the scores from the BDI ($r=-.55, p<.01$). Further, the scores from the BDI
were found to have a medium effect size with the scores from both the Appearance Congruence subscale \((r=-.38; \ p<.01)\) and the Gender Identity Pride subscale \((r=-.36; \ p<.01)\). The scores from the BDI were found to possess a large effect size with the Body Comfort subscale \((r=-.54 \ p<.01)\).

Furthermore, the total scores from the TCS were found to possess a medium negative effect size with the scores from BAI \((r=-.33, \ p<.01)\). In addition, a medium negative effect size was found between the scores from the Body Comfort subscale and the BAI \((r=-.32, \ p<.01)\). In contrast, the scores from the BAI was found to have a small effect size with the Appearance Congruence subscale \((r=-.18, \ p=ns)\) or the Gender Identity Pride subscale \((r=-.17, \ p=ns)\).

### 4.32 Convergent validity evidence

The present study inquired as to whether evidence of the convergent validity of the TCS could be garnered by examining the correlation between the TCS and another measure of a parallel construct, the TTI. Total scores on the TCS were found to have a large effect size with the TTI, \((r=.60, \ p<.01)\). In particular, the Appearance Congruence subscale had large effect size with the TTI \((r=.67, \ p<.01)\), while the Body Comfort and Gender Identity Pride subscales possessed small effect sizes (Body Comfort: \(r=.21, \ p<.05\); Gender Identity Pride: \(r=.25, \ p<.01\)). These correlations are presented in Table 4.

### 4.33 Discriminant validity evidence

The MCSDS was not found to significantly correlate with the total scores on the TCS \((r=.16, \ p=ns)\) or any of the scores of its subscales (Appearance Congruence: \(r=.13, \ p=ns\); Body Comfort: \(r=.14; \ p=ns\); Gender Identity Pride: \(r=.13\)). These results yield evidence of the scale’s discriminant validity. These correlations are presented in Table 4.
CHAPTER 5
DISCUSSION

5.1 Overview

The present chapter will present the conclusions and potential contributions of the study to research and clinical practice. Afterwards, the limitations of the study will be discussed and suggestions for future research will be outlined. In this study, the Transgender Congruence Scale (TCS) was constructed. Next, the psychometric properties of the TCS were analyzed, including its factor structure, and the reliability and validity of its scores.

This study was guided by five research questions. The first question inquired as to the factor structure of the scale. The second question addressed the internal consistency reliability of the TCS’s scores. The last three questions concerned the potential evidence of the construct, convergent and discriminant validity of its scores.

5.2 Discussion of findings from Exploratory Factor Analysis

The scale was administered to a sample of 161 transgender individuals. According to the analysis chosen, the data indicated that the TCS consists of three factors. A factor analysis indicated which items from the data set belonged to each subscale. All of the items possessed adequate factor loadings to meet the criteria for
interpretation. However, eight items loaded on multiple factors. Deleting these items substantially decreased the Cronbach’s coefficient alpha for the scale; therefore, these items were retained as part of the overall scale score, without making them a part of any of the three factors.

Based upon the content of the items that loaded on each factor, the resulting three subscales were labeled Appearance Congruence, Body Comfort and Gender Identity Pride. The Appearance Congruence subscale possessed items that related to the degree to which transgender individuals felt that their external appearance is consistent with their gender identity, making it more likely that others will perceive and treat them as the gender with which they identify. The Body Comfort subscale contained items that assessed the degree to which transgender individuals felt comfortable with (as well as a spiritual or emotional connection to) their body. Finally, the Gender Identity Pride subscale contained items relating to the degree to which transgender individuals have accepted and felt a sense of pride regarding their gender identity.

5.3 Discussion of Scale’s Reliability Evidence

The internal consistency reliability of the instrument’s scores was investigated using Cronbach’s coefficient alpha. The results revealed an alpha of .94 for the overall scale’s scores, which is considered to be high (Nunally & Bernstein, 1994). In addition, the three subscale scores possessed adequate internal consistency reliability, with the Appearance Congruence subscale scores having an alpha of .93, the Body Comfort subscale scores having an alpha of .79 and the Gender Identity Pride subscale scores having an alpha of .70. These score provide initial evidence for the internal consistency reliability of the scale.
5.4 Discussion of Scale’s Validity Evidence

The construct, convergent and discriminant validity of the TCS’s scores was explored by examining the effect sizes and whether significant correlations existed between the scores from the TCS and measures of other constructs proposed to be either related or unrelated to congruence.

5.4.1 Discussion of Scale’s Construct Validity

Evidence for the TCS’s construct validity was garnered via significant correlations between the scores from the scale and scores from instruments designed to measure indicators of psychological health (i.e., satisfaction with life and the presence of meaning in life) and psychic distress (i.e., body dissatisfaction, depression and anxiety).

According to the definition of congruence, as an individual attains a higher sense of congruence among their gender identity, physical appearance and social status, they are expected to experience less psychic distress. Therefore, it was proposed that the existence of a significant positive correlation between the scores of the TCS and measures of various forms psychological well-being (i.e., satisfaction with life, the presence of and search for meaning in life) and a significant negative correlation between the TCS and measures of various forms of psychic distress (i.e., body dissatisfaction, depression and anxiety) could be interpreted as initial support for the construct validity of the TCS. The results of these findings are discussed below.

5.4.1.1 Congruence and Satisfaction with Life

Rogers (1959) defined congruence as a state in which one’s true experiences of the self are accurately expressed to others. He argued that attaining congruence is tantamount to achieving the highest possible state of psychological well-being. Applying
Roger’s theory of congruence to the experiences of the transgender population, when a transgender individual transitions by modifying their physical appearance, sexual characteristics or legal status, they are attempting to dissipate this incongruence and move towards a state that is more congruent. Therefore, according to Roger’s theory, the more congruence that a transgender individual has attained among their gender identity, physical appearance and social status, the less likely they will be to experience psychic distress. It is reasoned that as this psychic distress dissipates, the transgender individual will have more mental energy to devote to attaining psychological health. Accordingly, it is expected that transgender respondents who report higher levels of congruence will also be more likely to report higher levels of various indicators of psychological well-being.

Satisfaction with one’s life has been identified as an indicator of psychological well-being (Diener et al., 1985). It was therefore postulated that a significant and positive correlation between the scores from the TCS and the scores from a scale designed to measure satisfaction with life, the Satisfaction with Life Scale (SWLS; Diener, et al., 1985) could be interpreted as garnering support for the construct validity of the TCS. In fact, the scores from the overall TCS were found to be strongly and positive associated with the scores from the SWLS. In other words, this finding suggests that individual’s who report higher levels of congruence are also more likely to report a greater sense of overall satisfaction with their life.

In addition, all three subscales of the TCS (i.e., Appearance Congruence, Body Comfort and Gender Identity Pride) were found to be moderately and positively related to the scores from the SWLS. This finding appears to indicate that a greater sense of appearance congruence, comfort with one’s body and pride in one’s gender identity are
all associated with higher levels of satisfaction with one’s life in the transgender population.

5.4.12 Congruence and Meaning in Life

Another important indicator of psychological well-being is perceived meaning in life (Steger et al., 2006). Thus, it was postulated that the existence of a positive and significant correlation between the scores from the TCS and the scores from a measure of perceived life meaning, the Meaning in Life Questionnaire (MLQ; Steger, et al., 2006), could be interpreted as offering support for the construct validity of the TCS. The MLQ possessed two independent scales: one scale that assessed the current presence of one’s meaning in life (i.e., MLQ-Presence), while the other assessed the degree to which an individual is currently directing their attention to searching for a sense of meaning in their life (i.e., MLQ-Search).

The scores from the MLQ-Presence scale were, in fact, found to be moderately and positively related to the total scores of the TCS. Furthermore, the data indicated that the scores of the MLQ-Presence scale were also moderately, positively correlated to all three of the specific subscales of the TCS (i.e., Appearance Congruence, Body Comfort and Gender Identity Pride). According to the previously mentioned proposition, this finding garners support for the construct validity of the TCS.

In contrast, however, the scores from the MLQ-Search scale were not found to be significant correlated with the total score of the TCS or any of its subscales. Thus, this finding does not appear to support the construct validity of the TCS. A potential reason for these disparate findings may lie in the distinction between the constructs that the MLQ-Presence scale and the MLQ-Search scale are designed to measure. While both
scales examine an individual’s perception of their meaning in life, the scales measure two

different phases in the process (Steger, et al., 2006). The MLQ-Search scale assesses the
degree to which an individual finds the search for life purpose to be an important pursuit
and one in which they are currently investing time and mental energy. This does not

necessarily indicate that they have reached a point of satisfaction with this struggle. In

contrast, the MLQ-Presence scale appears to assess a latter stage in the process where an
individual has already identified the factors that are meaningful and important in their
life. Individuals who score high on this scale are expected to have a clear sense of the
life goals that they are striving to achieve (Steger, et al., 2006). It can therefore be

expected that people who score high on this scale may be more likely to have attained a
sense of contentment with their life circumstances, whereas this may not necessarily be
true for those who score high on the MLQ-Search subscale.

As previously noted, Steger et al. (2006) found the scores from the MLQ-Search
scale to be positively correlated to scores from measures of sadness, depression and fear.
This was interpreted by the authors as indicating that the more one is currently engaged
in this search, the more likely they are to be experiencing these various forms of negative
affect. Notably, this same study did not find evidence of a significant correlation
between the scores from the MLQ-Search scale and the scores from the Satisfaction with
Life Scale (SWL; Diener, et al., 1985). In fact, this finding was replicated in the present
study. Therefore, it is significant to note that the MLQ-Search did not significantly

correlate with other measures of psychological well-being that are proposed to be related
to congruence. Therefore, while this finding may be interpreted as providing evidence
that contradicts the construct validity of the TCS, it may also be interpreted as indicating
that the construct of the search for meaning in life is unrelated and independent of the
construct of congruence in transgender individuals.

5.413 Congruence and Body Dissatisfaction

As it is defined, one aspect of congruence is transgender individuals’ feelings of
unity and wholeness between their physical appearance and their gender identity. Since
one’s body is an important and integral part of one’s physical appearance, it was expected
that transgender individuals who report lower levels of congruence would be expected to
report higher levels of dissatisfaction with their body. Therefore, it was proposed that a
significant negative correlation between the scores of the TCS and the scores of a scale
designed to measure body dissatisfaction, the Body Satisfaction Questionnaire (BSQ;
Cooper et al., 1987), could be interpreted as providing support for the construct validity
of the TCS’s scores. The results of the study did, in fact, indicate that the total scores
from the TCS were significantly negatively related to the scores from the BSQ. Thus,
according to the aforementioned proposition, this finding may be interpreted as providing
preliminary support for the construct validity of the TCS.

The scores from the BSQ were found to be strongly related to the scores from the
Appearance Congruence and Body Comfort subscales. This finding appears to be
consistent with the definitions given to the specific subscales; the Appearance
Congruence and Body Comfort subscales were respectively defined as assessing the
degree to which transgender individuals feel that their external appearance matches their
gender identity, and their overall sense of comfort with their bodies. Thus, according to
these definitions, both of these subscales directly relate to participants’ relationship with
their body. Consistent with this, the scores from the Appearance Congruence and Body
Comfort subscale were both found to be strongly and negatively related to the scores from the BSQ. Accordingly, these findings may, therefore, be interpreted as providing initial support for the given definitions of these subscales.

The correlation between the scores from the BSQ and the Gender Identity Pride subscale were not found to be practically significant. This Gender Identity Pride subscale possess items that assess for a respondents’ sense of acceptance and pride in their gender identity. In contrast to the other two subscales of the TCS, this subscale does not directly address respondents’ relationship with their body. Therefore, this finding appears to be consistent with the definition of the Gender Identity Pride subscale,

5.4.14 Congruence and Depression

The definition of congruence states that as transgender individuals experience higher levels of this construct, their increased sense of consistency among their physical appearance, social status and gender identity will dampen their psychic distress. Thus, it may be expected that a transgender individual who is currently reporting low levels of congruence will be more likely to report experiencing other indicators of psychic distress. Depression is a common form of psychic distress in which an individual experiences feelings of sadness, hopelessness, guilt, suicidal ideation and poor self-image (Bernstein, et al., 2006). Accordingly, it was proposed that a significant negative correlation between the scores of the TCS and the scores of a measure of depression, the Beck Depression Inventory (BDI; Beck et al., 1961; Groth-Marnat, 1990), could be interpreted as garnering support for the construct validity of the TCS’s scores. The results of the study did, in fact, indicate that the total scores of the TCS possessed a moderate-to-strong negative correlation with the scores of the BDI.
In addition, all three subscales were found to be significantly and negatively related to the scores of the BDI. In other words, these results indicate that individuals who report higher levels of appearance congruence, comfort with their body and pride in their gender identity were less likely to report experiencing symptoms of depression.

5.415 Congruence and Anxiety

Another common form of psychic distress is anxiety. Anxiety is associated with intense feelings of fearfulness, apprehension and frequent worrying (Bernstein, et al., 2006). According to the definition of congruence, it would be expected that individuals who are experiencing low levels of congruence would be more likely to experience symptoms of anxiety. Therefore, it was proposed that a significant, negative correlation between the scores of the TCS and the scores of a measure of anxiety, the Beck Anxiety Inventory (BAI; Beck & Steer, 1993) would provide additional support for the construct validity of the TCS’s scores. Indeed, the total scores from the TCS were found to possess a moderate negative correlation with the scores from the BAI.

However, a significant correlation was not found between the scores of the BAI and the scores from the Appearance Congruence subscale. This finding appears to indicate that the degree to which a transgender individual feels that their external appearance matches their internal experience of their gender identity is not related to their current level of anxiety. Similarly, the scores of the BAI also did not produce a significant correlation with the scores from the Gender Identity Pride subscale. Therefore, these results do not provide evidence of an association between transgender individuals’ sense of acceptance and pride of their gender identity and feelings of anxiety.
Interestingly, however, the scores from both of these subscales were related to symptoms of depression. According to these results, it seems that feelings of sadness, hopelessness and guilt are more likely to be associated with transgender individuals’ level of appearance congruence and pride in their gender identity than feelings of fearfulness and apprehension.

In contrast, the scores from the Body Comfort subscale were found to be moderately and negatively related to the scores of the BAI. Therefore, this result appears to indicate that transgender individuals who report lower levels of comfort with their body are more likely to report experiencing symptoms of anxiety. In summary, these findings suggest that the feeling of psychic tension that characterizes anxiety may be more likely to be related to transgender individuals’ comfort with their body than their feeling of congruence with their physical appearance or their pride in their gender identity.

5.42 Discussion of Scale’s Convergent Validity

Transitioning was defined as the process by which a transgender individual alters their physical appearance to make it consistent with their internal experience of their gender identity. Therefore, by definition, congruence and the process of transitioning are similar constructs. The convergent of validity of the scale was explored by examining the relationship of the TCS to another scale designed by the author to measure the number of steps a transgender individual has taken to transition, the Transgender Transition Inventory. The scores of the TTI were found to be highly correlated with scores from the overall TCS, thus providing further support for the convergent validity of the TCS. In addition, a strong correlation was found between the scores of the TTI and...
the Appearance Congruence subscale, while weak, but significant, correlations were found between the scores of the TTI and the Body Comfort and Gender Identity Pride subscales. This finding makes sense given that taking more steps to transition may be expected to more directly relate to individuals’ feelings that their external appearance matches their gender identity.

5.43 Discussion of Scale’s Discriminant Validity

As previously stated, the attainment of congruence is the ultimate goal as a transgender individual goes through the transition process. Considering the potential social value of achieving such a state, it was important to explore whether a relationship existed between the scores from the TCS and a measure of the degree to which an individual responds to questions in a socially desirable manner, the Marlowe-Crown Social Desirability Scale (MCSDS; Crown & Marlowe, 1969). The MCSDS was not found to significantly correlate with the total scores of the TCS or any of its subscales. This finding suggests that the scores on the TCS are not significantly related to socially desirable responding. Accordingly, this finding provides support for the discriminant validity of the TCS’s scores.

5.5 Summary of Findings

In summary, an exploratory factor analysis indicated that the TCS possesses three correlated factors. These factors were labeled the Appearance Congruence subscale, the Body Comfort subscale and the Gender Identity Pride subscale. The results of this study provided support for the internal consistency reliability of the TCS’s scores and its subscale scores. Evidence of the scale’s construct validity was garnered through findings of significant positive correlations between the scores of the TCS and scores of measures
of psychological well-being (i.e., satisfaction with life and presence of life meaning) that were theorized to be positively related to congruence. In addition, significant negative correlations between the TCS and measures of constructs that proposed to be negatively related to congruence (i.e., body dissatisfaction, depression and anxiety) provided further support of the construct validity of the scale. In contrast, the scores from a scale designed to measure a construct that was proposed to be associated with congruence (i.e., search for life meaning) was not found to be significantly correlated with the TCS. According to this finding, it was proposed that congruence and the search for life meaning are two independent and unrelated constructs for transgender individuals. Support for the convergent validity of the TCS was found through a strong correlation between the scores from the scale and the scores from a scale designed to measure a construct that is highly related, the number of steps that the respondent has taken to transition. Finally, support for the discriminant validity of the TCS was found via the lack of a significant correlation between the scores of the scale and the scores of a measure of socially desirable responding. In summation, the findings of this study provide support for a three-factor structure of the TCS, as well as support for the internal consistency reliability, construct validity, convergent validity and discriminant validity of the TCS’s scores.

5.6 Implications of Findings

The TCS is designed to assess the degree to which transgender individuals feel unity and wholeness among their physical appearance, their social status and their gender identity, a construct termed congruence. The results of this study have implications for the theory on transgender identity and mental health services delivered to transgender
clients. The following section will discuss the various implications in each of these domains.

5.61 Theoretical Implications

According to the literature review, to date, there has not been an empirical research study that has conceptualized the transitioning process for transgender individuals utilizing the construct of congruence, or any similar construct. The construct of congruence may be a useful means to conceptualize transgender individuals’ development, as well as the level of psychic distress that they are currently experiencing as a result of their gender identity not matching their physical appearance and social status. Furthermore, the factor analysis of the TCS identified three main, correlated factors that compose congruence: appearance congruence, body comfort and gender identity pride. These factors may be conceptualized as the areas that contribute to a transgender individual’s sense of feeling whole. These findings may be useful in guiding future theory on the gender identity of transgender individuals.

5.62 Clinical Implications

This scale may be utilized by clinicians to assess the level of distress a transgender client is currently experiencing as a result of their gender identity. In her book, “Gender Loving Care: A guide to counseling gender-variant clients”, Ettner (1999) proposes that an important task of mental health therapists is to assist clients in understanding where they lie on the range that exists in the level of distress one can experience due to their gender identity, physical appearance and social status being incongruent. The TCS can be used for these means. It may be administered to
transgender clients at the time of intake to establish a baseline level of congruence, as well as throughout the course of therapy to identify any changes.

Based on the definition of congruence, it is expected that individuals who scores low on the overall scale may be experiencing more psychic distress as a result of their physical appearance and social status not matching their gender identity than individuals with a higher score. Therefore, should an individual score low on the TCS, increasing the client’s level of congruence may be an important focus of therapy. Ettner (1999) remarked that, for transgender clients who are experiencing a high level of distress due to their gender identity, it is imperative to begin addressing this issue at the outset of therapy as “gender problems are…central to [the] formation, regulation, and defense of self...Many other seemingly intractable problems the client faces (including some Axis I and Axis IV factors) ‘dissolve’ when the client confronts the gender issue with a trusted and supportive ally (p.113).”

Accordingly, therapy with these clients may assist individuals in better understanding the nature of their gender identity, in identifying and prioritizing the transitioning steps that they believe will increase their congruence and in supporting the client as they take these steps to transition (Ettner, 1999). Therefore, an important part of the therapist’s task is to educate the client about the huge range and complexity that exists in the transitioning process. Transgender activist Kate Bornstein (1995) remarked on this matter by stating, “How sad for a person to be missing out on some expression of identity, just for not knowing there are options.” (p. 51). The Transgender Transition Inventory that was developed in this study may be helpful in this regard, as the inventory lists is composed of various steps transgender individuals often take in order to transition.
However, while this inventory may be useful as a means to begin exploring new options, therapists are cautioned against being overly prescriptive when suggesting these steps as part of a treatment plan. It is highly important that therapists emphasize the large range of options and strategies that an individual may select in order to gain a higher level of congruence (Miller, 1996). In addition, it is equally important to emphasize that the steps that it may take to attain congruence is unique for each individual (Bornstein, 1996; Ettner, 1999; Miller, 1996). As Miller (1996) stated, “[The clinician’s] responsibility, among others, is to teach [the transgender client] how to learn in this situation, not to tell them what they are about (p. 22).”

Further, it may be useful for the clinician to identify the subscales of the TCS that the client scored lower on. This may be additionally beneficial in guiding the selection of therapeutic interventions and treatment recommendations that the therapist might make. The next section will discuss treatment recommendations for clients who score low on each of the subscales.

5.621 Clinical Implications for Appearance Congruence Subscale

Based on a summary of the items, low scores on the Appearance Congruence subscale indicate that individuals do not feel that their current appearance (i.e., physical body, sexual characteristics and attire) adequately represents or expresses their gender identity. This disparity may be expected to cause transgender individuals psychic distress as their external self does not match their internal experience of their gender. Further, if transgender individuals’ appearance does not match cultural standards of appearance for their gender identity, it will be more likely that family, friends, acquaintances or the larger community may not perceive or treat them as the gender with which they identify.
Thus, as a result, their status as a social being will be less likely to match their gender identity.

Individuals who score low on this scale have two main options to increase their feeling of appearance congruence: they may alter their external appearance in some way to better match their gender identity or alternatively, they may work to increase their acceptance of their appearance as it currently is. Should individuals choose to alter their external appearance, there are numerous and varied ways in which they may choose to do so. Examples of this include dressing in attire that matches their gender identity or altering their primary or secondary sexual characteristics.

However, before any of these steps are taken, the mental health therapist should encourage individuals to examine their expectations of what the results of these modifications will be (Kirk & Rothblatt, 1995). For instance, “Often the M-F transsexual fantasizes a beautiful female figure and a lovely lilting feminine voice, both resulting from hormone use. Be assured, neither will happen (p. 23).” Therefore, it is important that the therapist assist transgender individuals in creating realistic expectations regarding the level of appearance congruence they may reasonably achieve.

Additionally, when individuals begin to alter their physical appearance in order to transition, it will be necessary that they begin to disclose their identity as transgender to friends, family and acquaintances. Israel and Tarver (1997) stated that this is “…perhaps the most significant mental health and social support issue faced by transgender individuals revolves around the disclosure of one’s transgender status and needs to others (p. 48).” The therapist can be useful in helping transgender individuals role play and prepare how they would like to come out as transgender to those around them (Israel &
In addition, individuals will likely need a great deal of support from the therapist at this time, as it is possible that family and friends may not be accepting of their identity. It is encouraged that clients engage in an increased amount of self-care and stress management activities during this time (Ettner, 1999). While taking these steps may decrease individuals’ psychic distress ultimately, in the immediate time they may experience increased distress as a result of potentially losing available social support.

Additionally, if a transgender individual’s body makes it difficult for them to easily pass as their gender identity, it is likely that their appearance will identify them as transgender to strangers. As a result, given the discrimination and violence that has existed towards the transgender community, safety issues are of the utmost importance during this time. The therapist may wish to do some safety planning with their client for situations in which they experience harassment that may lead to physical or sexual violence. Further, the therapist may wish to encourage their client to take self-defense courses.

In addition to changing transgender individuals’ appearance to match their gender identity, appearance congruence may also be improved by helping to increase their acceptance of their current body. Acceptance-based therapies, such as dialectical behavioral therapy (Linehan, 1993) or acceptance and commitment therapy (Hayes, Strosahl, et al, 1999), may be useful in this regard. These therapies emphasize increasing awareness of one’s present psychological experiences, such as one’s desires, feelings and physiological sensations through mindfulness techniques. Then, the client is encouraged to recognize and accept their experience, as it currently is. While there has not been any empirical research on the transgender population with these therapies currently, these
approaches may be helpful in assisting a transgender individual to both recognize their desire for a body that is more congruent with their gender identity, while accepting their current body as it is in the present moment.

5.622 Clinical Implications for Body Comfort Subscale

The items on the Body Comfort subscale relate to the degree to which respondents feel both a sense of comfort with and a spiritual or emotional connection to their body. A study participant electively sent an email to the researcher that highlights the importance of this concept. The participant stated:

The questions related to connection with my body were thought provoking. Lots of ambivalence for me there! So, my responses probably indicate some contradictions…there's a big difference between how I think I should feel (grateful that I've been able to do what I have and that I can mostly pass) and how I feel (sadness that achieving an ambiguous link between my sense of self and what my body looks like has required so much time and money, and a sadness that I haven't been able to find a belief that I might be loved by someone - I guess I believe that trans people continue to be viewed as largely undesirable). Said another way, although my outward appearance usually allows me to pass, I'm still not really happy that my history, including my body's history, will likely always be difficult to navigate for anyone in an emotionally or physically intimate relationship with me. Having said that, my connection with my body has to do with things other than just my gender identity (I can feel good being in my body while dancing, doing yoga or tai chi).
This email underscores the distinction between appearance congruence and body comfort; while the respondent appears to have achieved a satisfactory level of appearance congruence (i.e., “my outward appearance usually allows me to pass”), they still appear to struggle with feeling connected to their body in an emotional or spiritual way (i.e., “[it]” will likely always be difficult to navigate for anyone in an emotionally or physically intimate relationship with me”). This has implications for individuals’ ability to use their body in a romantically or sexually intimate way.

Clients who score low on this subscale may be in need of interventions that strengthen their sense of connection to their body. Mindfulness-based therapies have been proposed as a modality to increase awareness of and connection to the body (Stewart, 2004). These approaches may be particularly effective in helping to increase transgender clients’ body comfort. In addition, the clinician may refer transgender clients to a therapist who uses Bioenergetic Therapies; these interventions are designed to enhance their awareness of and connection to their physical body (Anderson, 2007; Menkin, 1996; West, 1994). Bioenergetic Analysis is a psychotherapy based in psychodynamic principles, that incorporates interventions that incorporate both the body and the mind, as the two are viewed as deeply connected. In this therapy, as the client discusses their struggles, the therapist pays special attention to their body posture and breathing pattern. The therapist then teaches the client forms of physical expression that deviate from their typical movement patterns; the goals of this intervention is to both broaden the client’s awareness of the various ways that they constrict their body, as well as enhance the client’s connection to their body (Anderson, 2007).
Therapist may also suggest that transgender clients take part in physical activities that emphasize connection with one’s body, such as yoga, dancing or martial arts. For instance, a study by Daubenmier (2005) found that practitioners of yoga had a significantly greater sense of body awareness in comparison to aerobic exercisers and a control group of individuals who did neither yoga nor aerobic exercise. Further, dance/movement therapy has also been proposed as means to increase individuals’ connection with their bodies (Berrol, 1992).

5.623 Clinical Implications for Gender Identity Pride Subscale

While it is crucial that therapists who work with transgender clients are transgender-affirming, it is especially vital when clients score low on the Gender Identity Pride subscale. For an individual who is struggling with acceptance of their gender identity, it is imperative that their therapist avoid “…portraying transgender individuals or transgender-associated experiences, feelings or thoughts as pathologically diseased, mentally ill, deviant, or in any other manner that exacerbates marginalization of the transgender individual within social, medical, and mental health infrastructures (Israel & Tarver, 1997, p. 20).” These individuals may benefit from therapy that is specifically focused on affirming and exploring the client’s feelings about their gender identity. This may involve exploring issues of shame or internalized transphobia (Ettner, 1999).

Psychoeducation about the nature of gender identity may also be useful for many clients. Therapists may educate clients within therapy about the complex nature of biological sex, gender identity and gender roles. In addition, bibliotherapy may be particularly beneficial. Clients may be directed to online resources on transgender identity such as gender.org, gpac.org, isna.org or transhistory.org. Further, they may
benefit from reading biographical accounts of transgender individuals, such as “Stone Butch Blues” (Feinberg, 1993), “Gender Outlaw: On Men, Women, and the Rest of Us” (Bornstein, 1994), or “Crossing: A memoir” (McCloskey, 1999).

Furthermore, clients seeking to increase their pride and acceptance of their gender identity may benefit from activities that involve direct contact with other transgender individuals. Communicating directly with other transgender individuals may help lessen the individual’s feeling of isolation and alienation, while cultivating a sense of pride and acceptance about their gender identity. This may be done by connecting through online websites, the use of transgender support groups or involvement in their local transgender or GLBT community.

There exist a plethora of online websites, chatrooms, messageboards and listSers that allow transgender individuals to communicate, provide support to each other and organize (Carroll, Gilroy & Ryan, 2001). Online communication may be an especially attractive option for those who have not yet come out to others as transgender, due to the ease with which they may maintain their anonymity (Shapiro, 2004). In addition, online communication may be helpful for individuals who live in rural locations or communities with fledgling transgender or GLBT communities, as it is possible to connect with the large communities that exist throughout the country (Shapiro, 2004).

Individuals who have started to attain a higher level of comfort with their gender identity may be encouraged to become active in their local transgender or GLBT community. Depending on the prominence of the transgender community within their area, individuals may find a plethora of ways to become involved. For instance, they may choose to attend events held by transgender/GLBT social or political organizations.
Further, should the individual desire a higher level of involvement, they may become involved with organizing or volunteering at events. Individuals who are at an advanced stage of comfort with their gender identity may choose to advocate for transgender issues within their personal life, work environment or larger community.

However, it is important to note some of the reasons that therapists should exercise caution before encouraging clients to participate in such activities. A qualitative study by Gagne et al. (1997) found that the majority of female transsexual individuals received strong pressure in therapy to both fully physically transition and to come out as transgender to others. First, therapists should be mindful of the individual’s level of comfort with their friends, family and community being aware of their transgender identity (Ettner, 1999). While encouraging client’s to step out of their comfort zone is typically a healthy and therapeutically useful activity, it is important that the therapist be respectful of the client’s boundaries and level of readiness for this.

Moreover, therapists should be aware that some transgender individuals may choose to not connect identify themselves as transgender to others, instead preferring to remain “stealth.” A “stealth” transgender individual is someone who no longer identifies as transgender once they have transitioned, instead exclusively identifying as male or female (Cromwell, 2003). While it is important to assess the individual for internalized transphobia, the present author contends that for some individuals, remaining “stealth” is an appropriate choice and should not be interpreted as necessarily indicative of shame, pathology or a developmental deficit (Cromwell, 2003).

In addition, therapists should be aware that transphobia is still a strong entity within many GLBT communities (Weiss, 2004). Therefore, mental health clinicians
should attempt to become aware of the degree of acceptance of transgender individuals within the organizations to which they refer their clients. In order to avoid this potential difficulty, therapists may choose to refer clients to groups or organizations designed to serve the transgender population solely, should they exist within their community.

5.7 Summary

The Transgender Congruence Scale (TCS) is a novel in providing a quantitative indicator of the direct source of mental duress for transgender individuals: the degree to which individuals feel that their gender identity, physical appearance and social status are incongruent with each other. The present study described the development and construction of the TCS. An exploratory factor analysis indicated that the TCS consists of three subscales: Appearance Congruence, Body Comfort and Gender Identity Pride. Evidence of the internal consistency reliability, construct validity, convergent validity and discriminant validity of total TCS scores and the subscale scores were garnered and discussed. Afterwards, the theoretical, research and clinical implications of the TCS were delineated. Specific treatment recommendations were offered for mental health clinicians treating clients who received low scores on the overall scale, as well as each of its subscales.

5.8 Limitations

While an exploratory factor analysis indicated that the Transgender Congruence Scale has three subscales, a confirmatory factor analysis is necessary in order to provide stronger support for the existence of these three subscales. In addition, the study did not examine the test-retest reliability of the TCS’s scores. Accordingly, it is unclear whether the scores on this scale will remain stable over time. While an individual’s total score on
this scale is predicted to fluctuate over time as an individual’s relationship to their gender identity changes, it is likely that these changes would happen slowly. Therefore, it is theorized that the Transgender Congruence Scale scores should maintain high test-retest reliability over a two-week period. Furthermore, it is also predicted that longer periods of time between testing would result in proportionately lower levels of test-retest reliability.

Furthermore, the sample was largely composed of individuals identifying as white. Accordingly, the results of this study generalize to this particular subset of the transgender population. In addition, due to software limitations, the order of the scales in the study were not able to be counterbalanced. Therefore, it is possible that fatigue affected the responses near the end of the survey. This is another limitation of the study. Additionally, evidence of the study’s convergent validity was sought by exploring the relationship of the TCS to another scale developed by the author, the TTI. While the present study was able to provide evidence of the internal consistency reliability of the TTI, currently the validity and reliability of TTI scores have not yet been established. As a result, findings related to the TTI should be interpreted with extreme caution.

5.9 Future Research

In order to provide further support for the psychometric validity of the Transgender Congruence Scale, it is vital that a confirmatory factor analysis be conducted. In addition, a two-week test-retest reliability study is necessary to garner evidence of the stability of its scores. Further, to establish evidence of the concurrent validity of the scale, it may be useful to examine the relationship between the TCS and the recently published Gender Identity Disorder/Gender Dysphoria Questionnaire for Adults and Adolescents (Deogracias, et al., 2007). Predictive validity may also be sought
by exploring whether scores from the TCS significantly predict future score’s on the TTI, which measures the number of steps that an individual has taken to transition.

In addition, to increase the clinical utility of the scale, it may be useful to administer the scale to large enough sample to create norms for the scale. This data may then be used to establish criterions to divide score ranges into different groups reflective of different levels of congruence, such as low congruence, average congruence and high congruence.

This study utilized a sample that was composed of a combination of individuals belonging to a variety of sexual orientations (e.g., gay, lesbian, bisexual, queer, etc.) and subgroups within the transgender population (e.g., male-to-female transsexuals, female-to-male transsexuals, transvestites, gender queer individuals, etc.). In this study, individuals were allowed to choose multiple gender and sexuality identifications, in order to respect the variability and complex nature of these identifications, particularly for the transgender population. However, due to this decision, it was statistically difficult to examine between-group differences. Future studies may wish to sample individuals who identify with one primary gender identity or sexual orientation to examine whether significant differences exist in levels of congruence. Furthermore, future studies may wish to examine samples composed of racial/ethnic minorities, as the sample used in this study was largely white.

Furthermore, a longitudinal study that examines this construct alongside other psychological variables would enhance researcher’s understanding of common trajectories for the transitioning process. Furthermore, future studies might examine whether these trajectories differ for various sub-groups within the transgender population.
(e.g., male-to-female transsexuals, female-to-male transsexuals, transvestites, gender
queer individuals, etc.).

In addition, researchers may employ the scale to explore the impact that various
interventions have on a transgender individual’s level of congruence. For instance, the
TCS can be used to examine the effectiveness of interventions like sexual reassignment
surgery or various forms of psychotherapy in increasing congruence. Further, the TCS
may be used to help researchers explore whether various psychological, social,
developmental and lifestyle factors are related to congruence. For example, studies may
use the TCS to examine whether variables like a comorbid diagnosis, stress levels, a
strong social support network, attachment style in childhood, or current alcohol/substance
abuse are related to levels of congruence. This research may be used to identify those
factors that may be most beneficial in increasing a transgender individual’s sense of
wholeness and unity.
LIST OF REFERENCES


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APPENDIX A

SAMPLE LETTER TO LGBTQ COORDINATORS
Hi!

I am a doctoral student at The Ohio State University in the counseling psychology program. My dissertation is on the mental health of the transgender population. I was wondering if you would be willing to place the URL and a short description of the study (see bottom of email) on any listServ, webpage or newsletter that the GLBT Community Center of Colorado puts out.

Let me tell you a little bit about the study. As of right now, there is a dearth of available literature that attempts to identify the factors that may be important in the mental health of the transgender population. Unfortunately, many of the studies that do exist typically come from a perspective that marginalizes and/or pathologizes the transgender identity. My study is seeking to remedy this by examining transgender mental health from a positive and affirming perspective. It is my lofty hope that this study will be beneficial to the trans community. I am seeking about 300 transgender individuals above the age of 18 to complete the study online. It should take about 15-20 minutes to complete and it's completely anonymous. However, if a participant wishes to, they can enter their email address at the end of the study to be entered into a drawing in which a participant will be chosen at random to receive $50. We have received Human Subjects IRB approval from Ohio State University and the study will be online until May 15th. At the bottom of this email is a short description of the study and a link that you can include in your newsletter or Listserv. Please feel free to email or phone me if you have any questions or concerns. Thank you so much for your time and consideration!

Holly Kozee, M.A.
Doctoral Candidate
Counseling Psychology
The Ohio State University
kozee.1@osu.edu
Transgender Individuals Needed for  
Brief Online Research Study

To date, there has been little research done on the psychological issues that may accompany a transgender individuals as they transition. You can help to change this by participating in a brief online study that is currently being conducted by researchers in the department of psychology at Ohio State University. The study takes about 20 minutes to complete and is completely anonymous. Also, participants will be offered the chance to be entered into a drawing for $50. If you are interested go to:  
http://www.surveymonkey.com/s.asp?u=56251707790 or email kozee.1@osu.edu for the link or any questions.
APPENDIX C

TRANSGENDER CONGRUENCE SCALE
For the purposes of this scale, gender identity is defined as the gender(s) that you experience yourself as; it is not necessarily related to your biological sex at birth. For the following items, please indicate the response that best describes your experience over the past two weeks.

1. My outward appearance represents my gender identity.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

2. I feel a strong sense of connection to my body.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

3. I do not feel that my appearance reflects my gender identity. (r)
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

4. I experience a sense of unity between my gender identity and my body.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

5. Most people that I know think of me as the gender that I identify with.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

7. I am generally comfortable with how others perceive my gender identity when they look at me.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

8. I feel at home in my body.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

9. I am not happy with the way that my body looks with regards to my gender identity.
   Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

10. There is nothing that I would do to alter my body in order to make it better represent my gender identity.
    Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

11. The way my body currently looks does not represent my gender identity.
    Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

12. My body allows me to engage in sexual behaviors that express my sexuality.
    Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

13. My physical body represents my gender identity.
    Strongly Disagree  Somewhat Disagree  Neither Agree nor Disagree  Somewhat Agree  Strongly Agree

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14. The important people in my life recognize me as my gender identity.

15. I am happy with the way my appearance expresses my gender identity.

16. I feel that my mind and body are consistent with one another.

17. I have a strong sense of my gender identity.

18. I am not proud of my gender identity.

19. I am happy that I have the gender identity that I do.

20. I have accepted my gender identity.

21. My government recognizes me as my gender identity.

22. I feel a spiritual connection to my body.

23. My present body does not allow me to be sexual with romantic partners in a way with which I am comfortable.

24. I am able to pass as my gender identity.

25. The community that I live in recognizes me as my gender identity.

Reverse: 3, 9, 11, 18, 23

Appearance Congruence subscale: 1, 3, 5, 6, 7, 14, 15, 24, 25

Body Comfort subscale: 8, 10, 12, 22, 23

Gender Identity Pride subscale: 18, 29, 20
APPENDIX D

MEANING IN LIFE QUESTIONNAIRE
Please take a moment to think about what makes your life important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and there are no right or wrong answers. Please answer according to the scale below.

<table>
<thead>
<tr>
<th>Absolutely</th>
<th>Mostly</th>
<th>Somewhat</th>
<th>Can’t Say</th>
<th>Somewhat</th>
<th>Mostly</th>
<th>Absolutely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untrue</td>
<td>Untrue</td>
<td>Untrue</td>
<td>True or False</td>
<td>True</td>
<td>True</td>
<td>True</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. ____ I understand my life’s meaning.
2. ____ I am looking for something that makes my life feel meaningful.
3. ____ I am always looking to find my life’s purpose.
4. ____ My life has a clear sense of purpose.
5. ____ I have a good sense of what makes my life meaningful.
6. ____ I have discovered a satisfying life purpose.
7. ____ I am always searching for something that makes my life feel significant.
8. ____ I am seeking a purpose of mission for my life.
9. ____ My life has no clear purpose.
10. ____ I am searching for meaning in my life.

Presence: 1,4,5,6,9-reverse coded
Search: 2,3,7,8,10
APPENDIX C

SATISFACTION WITH LIFE SCALE
Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is as follows:

1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = neither agree nor disagree
5 = slightly agree
6 = agree
7 = strongly agree

Strongly Disagree
Disagree
Slightly Disagree
Neither Agree nor Disagree
Slightly Agree
Agree
Strongly Agree

1. ____ In most ways my life is close to my ideal.
2. ____ The conditions of my life are excellent.
3. ____ I am satisfied with my life.
4. ____ So far I have gotten the important things I want in life.
5. ____ If I could live my life over, I would change almost nothing.
APPENDIX D

BODY SATISFACTION QUESTIONNAIRE
We would like to know how you have been feeling about your appearance over the PAST FOUR WEEKS. Please read each question and indicate the appropriate answer.

<table>
<thead>
<tr>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. Has feeling bored made you brood about your shape?
2. Have you been so worried about your shape that you have been feeling that you ought to diet?
3. Have you thought that your thighs, hips or bottom are too large for the rest of you?
4. Have you been afraid that you might become fat (or fatter)?
5. Have you been worried about your flesh not being firm enough?
6. Has feeling full (eg. after eating a large meal) made you feel fat?
7. Have you felt so bad about your shape that you have cried?
8. Have you avoided running because your flesh might wobble?
9. Has being with thin people made you self-conscious about your weight?
10. Have you worried about your thigh spreading out when sitting down?
11. Has eating even a small amount of food made you feel fat?
12. Have you noticed the shape of other people and felt that your own shape compared unfavorably?
13. Has thinking about your shape interfered with your ability to concentrate (eg. while watching television, reading, listening to conversations)?
14. Has being naked, such as when taking a bath, made you feel fat?
15. Have you avoided wearing clothes that make you particularly aware of the shape of your body?
16. Have you imagined cutting off fleshy areas of your body?
17. Has eating sweets, cakes or other high calorie food made you feel fat?
18. Have you not gone out to social occasions (eg., parties) because you felt bad about your shape?
19. Have you felt excessively large and rounded?
20. Have you felt ashamed of your body?
21. Has worry about your shape made you diet?
22. Have you felt happiest about your shape when your stomach has been empty (e.g., in the morning)?
23. Have you thought that you are the shape you are because you lack self-control?
24. Have you worried about other people seeing rolls of flesh around your waist and stomach?
25. Have you felt that it is not fair that other people are thinner than you?
26. Have you vomited in order to feel thinner?
27. When in company, have you worried about taking up too much room (e.g., sitting on a sofa or a bus seat)?
28. Have you worried about your flesh being dimply?
29. Has seeing your reflection (e.g., in a mirror or shop window) made you feel bad about your shape?
30. Have you pinched areas of your body to see how much fat there is?
31. Have you avoided situations where people could see your body (e.g., communal changing rooms or swimming baths)?
32. Have you taken laxatives in order to feel thinner?
33. Have you been particularly self-conscious about your shape when in the company of other people?
34. Has worry about your shape made you feel you ought to exercise?
APPENDIX E

BECK DEPRESSION INVENTORY
Beck Depression Inventory

Choose one statement from among the group of four statements in each question that best describes how you have been feeling during the past few days. Circle the number beside your choice.

<table>
<thead>
<tr>
<th>Question</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I do not feel sad.</td>
<td>I feel sad.</td>
<td>I am sad all the time and I can't snap out of it.</td>
<td>I am so sad or unhappy that I can't stand it.</td>
</tr>
<tr>
<td>2</td>
<td>I am not particularly discouraged about the future.</td>
<td>I feel discouraged about the future.</td>
<td>I feel I have nothing to look forward to.</td>
<td>I feel that the future is hopeless and that things cannot improve.</td>
</tr>
<tr>
<td>3</td>
<td>I do not feel like a failure.</td>
<td>I feel I have failed more than the average person.</td>
<td>As I look back on my life, all I can see is a lot of failure.</td>
<td>I feel I am a complete failure as a person.</td>
</tr>
<tr>
<td>4</td>
<td>I get as much satisfaction out of things as I used to.</td>
<td>I don't enjoy things the way I used to.</td>
<td>I don't get any real satisfaction out of anything anymore.</td>
<td>I am dissatisfied or bored with everything.</td>
</tr>
<tr>
<td>5</td>
<td>I don't feel particularly guilty.</td>
<td>I feel guilty a good part of the time.</td>
<td>I feel quite guilty most of the time.</td>
<td>I feel guilty all of the time.</td>
</tr>
<tr>
<td>6</td>
<td>I don't feel I am being punished.</td>
<td>I feel I may be punished.</td>
<td>I expect to be punished.</td>
<td>I feel I am being punished.</td>
</tr>
<tr>
<td>7</td>
<td>I don't feel disappointed in myself.</td>
<td>I am disappointed in myself.</td>
<td>I am disgusted with myself.</td>
<td>I hate myself.</td>
</tr>
<tr>
<td>8</td>
<td>I don't feel I am any worse than anybody else.</td>
<td>I am critical of myself for my weaknesses or mistakes.</td>
<td>I blame myself all the time for my faults.</td>
<td>I blame myself for everything bad that happens.</td>
</tr>
<tr>
<td>9</td>
<td>I don't have any thoughts of killing myself.</td>
<td>I have thoughts of killing myself, but I would not carry them out.</td>
<td>I would like to kill myself.</td>
<td>I would kill myself if I had the chance.</td>
</tr>
<tr>
<td>10</td>
<td>I don't cry any more than usual.</td>
<td>I cry more now than I used to.</td>
<td>I cry all the time now.</td>
<td>I used to be able to cry, but now I can't cry even though I want to.</td>
</tr>
<tr>
<td>11</td>
<td>I am no more irritated by things than I ever am.</td>
<td>I am slightly more irritated now than usual.</td>
<td>I am quite annoyed or irritated a good deal of the time.</td>
<td>I feel irritated all the time now.</td>
</tr>
<tr>
<td>12</td>
<td>I have not lost interest in other people.</td>
<td>I am less interested in other people than I used to be.</td>
<td>I have lost most of my interest in other people.</td>
<td>I have lost all of my interest in other people.</td>
</tr>
<tr>
<td>13</td>
<td>I make decisions about as well as I ever could.</td>
<td>I put off making decisions more than I used to.</td>
<td>I have greater difficulty in making decisions than before.</td>
<td>I can't make decisions at all anymore.</td>
</tr>
<tr>
<td>14</td>
<td>I don't feel that I look any worse than I used to.</td>
<td>I am worried that I am looking old or unattractive.</td>
<td>I feel that there are permanent changes in my appearance that make me look unattractive.</td>
<td>I believe that I look ugly.</td>
</tr>
<tr>
<td></td>
<td>0: No change</td>
<td>1: Slight</td>
<td>2: Moderate</td>
<td>3: Severe</td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>-----------</td>
<td>-------------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| 15 | I can work about as well as before.  
    0: I haven't lost much weight, if any, lately.  
    1: I have lost more than five pounds.  
    2: I have lost more than ten pounds.  
    3: I have lost more than fifteen pounds. (Score 0 if you have been purposely trying to lose weight.) |
| 16 | I can sleep as well as usual.  
    0: I am no more worried about my health than usual.  
    1: I am worried about physical problems such as aches and pains, or upset stomach, or constipation.  
    2: I am very worried about physical problems, and it's hard to think of much else.  
    3: I am so worried about my physical problems that I cannot think about anything else. |
| 17 | I don't get more tired than usual.  
    0: I have not noticed any recent change in my interest in sex.  
    1: I am less interested in sex than I used to be.  
    2: I am much less interested in sex now.  
    3: I have lost interest in sex completely. |
| 18 | My appetite is no worse than usual.  
    0: My appetite is not as good as it used to be.  
    1: My appetite is much worse now.  
    2: I have no appetite at all anymore. |
APPENDIX F

BECK ANXIETY INVENTORY
Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Not At All</th>
<th>Mildly but it didn’t bother me much.</th>
<th>Moderately - it wasn’t pleasant at times</th>
<th>Severely – it bothered me a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbness or tingling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling hot</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wobbliness in legs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unable to relax</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of worst happening</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dizzy or lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Heart pounding/racing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Terrified or afraid</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nervous</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling of choking</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hands trembling</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Shaky / unsteady</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of losing control</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty in breathing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fear of dying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Scared</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Indigestion</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Faint / lightheaded</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Face flushed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Hot/cold sweats</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
APPENDIX G

TRANSGENDER TRANSITION INVENTORY
For the last set of questions, please indicate whether you have taken any of the following actions in the transitioning process. Please feel free to skip any questions that you do not feel comfortable answering.

Please indicate whether you have taken any of the following actions in order to transition to your gender identity.

___ Come out as transgender to family
___ Come out as transgender to friends
___ Come out as transgender to coworkers or fellow students
___ Adopted name not given at birth that better represents gender identity
___ Currently called adopted name by family
___ Currently called adopted name by friends
___ Currently called adopted name by coworkers/fellow students
___ Legally had name changed to adopted name
___ Wear clothing that matches gender identity in social situations
___ Wear clothing that matches gender identity at work/school
___ Legally changed sex on birth certificate (if live in state where this is possible)
___ Driver's license changed to reflect gender identity
___ Had surgery to alter your genitalia
___ Undergone hormone replacement therapy
___ Had cosmetic surgery to alter your physical appearance in order to make it more congruent with your gender identity
APPENDIX H

MARLOW-CROWN DESIRABILITY SCALE
Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is TRUE or FALSE as it pertains to you personally, then write a T for TRUE or an F for False in the blank.

1. Before voting, I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
19. I sometimes try to get even rather than forgive and forget.
20. When I don't know something I don't at all mind admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my wrong-doings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car.
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.

3, 5, 6, 9, 10, 11, 12, 14, 15, 16, 19, 22, 23, 28, 30, 32
APPENDIX I

DEMOGRAPHIC INFORMATION
Please indicate the demographic information that best describes you.

Age: _____

Ethnic Identification (please check all that apply):
- _____ African American
- _____ Asian American
- _____ Caucasian/White
- _____ Native American
- _____ Latino
- _____ Other: please specify: _______________________

Relationship status:
- _____ Single
- _____ Married
- _____ Long term relationship
- _____ Polyamorous
- _____ Divorced

Socio-Economic Identification
- _____ Upper class
- _____ Middle class
- _____ Upper-middle class
- _____ Working class

Sexual Orientation (please check all that apply):
- _____ Lesbian
- _____ Bisexual
- _____ Gay
- _____ Heterosexual
- _____ Queer
- _____ Other: (please specify) _______________________

Gender Identity (please check all that apply):
- _____ Female-to-Male Transgender
- _____ Female
- _____ Male-to-Female Transgender
- _____ Male
- _____ Gender Queer
- _____ Transgender
- _____ Drag King
- _____ Drag Queen
- _____ Transsexual
- _____ Cross-dresser
- _____ Other: (please specify) _______________________

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