

DEVELOPING AND IMPLEMENTING A SCALE TO ASSESS ATTITUDES  
REGARDING TRANSSEXUALITY

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## ABSTRACT

Two studies were conducted utilizing undergraduate psychology student samples in order to (1) develop a valid and reliable attitude scale regarding transsexuality, and (2) implement the resulting scale (Attitudes towards Transsexuality Scale). In Study One, 206 students completed surveys requesting the definition of transsexuality and opinion statements about transsexuality in order to derive statements for the initial pool of items. This was followed by an assessment for readability by five independent students. Once the preliminary item pool was generated, four experts assessed content and face validity as well as attitude valence of the items. The resulting initial questionnaire of 108 attitude statements was administered to a new sample of 143 students. Following an item analysis to identify the most discriminating items, the item pool was narrowed down to the final 47 items that make up the Attitudes towards Transsexuality Scale (ATS). In Study Two the ATS, as well as Herek's Attitudes Towards Lesbians and Gay men scale (ATLG; 1984) was administered to 382 students. In order to assess test-retest reliability, the ATS was re-administered to 107 of these students. Women did tend to have more favorable attitudes towards both transsexuals and homosexuals in the preliminary data analysis; however, once the data from participants who were not able to correctly identify the definition of the term "transsexuality" were removed from the analysis, gender differences were no longer present. There were significant differences in attitudes between the lower and upper-level student participants. An exploratory factor analysis resulted in four main factors in characterizing attitudes towards transsexuality (*Acceptance, Emotional Reaction, Rights, and Parenting*). Among the introductory-level psychology students, an additional factor was discovered (*Relationships*). In the total

sample and among psychology majors, participants who tended to have more favorable attitudes on the ATS also tended to have similar attitudes on the ATLG; they also seemed to reflect more openness to new experiences although lower levels of extroversion and conscientiousness. However, among the introductory-level students, there was no relationship found between the ATS and extroversion and conscientiousness. In conclusion, the ATS is a valid and reliable attitude scale to assess attitudes towards transsexuality. Furthermore it has the potential to be useful in a variety of clinical and educational settings.

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## DEDICATION

I would like to dedicate this thesis to my mother, Robin Nickerson, who modeled for me the amazing drive that has lead me to where I am today. Without her in my life I do not think I would be half the woman I am today.



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## INTRODUCTION

### Sex vs. Gender

To study the concept of transsexuality, there must first be an understanding of gender, sex, gender identity, and gender role. Gender is socially constructed and of a preexisting category (Thorne, 1993) that is divided into “male and female”. As such, in the United States, a person with short hair, unshaven legs, and a flat chest could be attributed the gender of male. This gender attribution is molded by cultural standards. To clarify, this means it is a socially determined aspect based on behavior, socialization, and psychological traits (Brown & Rounsley, 1996). To demonstrate the Western interpretation of gender, Kessler and McKenna (1978) conducted a study in which they investigated the importance of certain physical characteristics in the attribution of gender using plastic overlays, each exhibiting one of the following: long hair, short hair, wide hips, narrow hips, breasts, flat chest, body hair, penis, vagina, ‘unisex’ pants, and ‘unisex’ shirt. The overlays were placed one on top of the other to form complete drawings of people with varied characteristics. The study showed that 96% of the pictures of persons who had penises (regardless of other characteristics) were definitely scored as the gender male; however, pictures of persons with vaginas needed at least two other female secondary sex characteristics to be classified as female with the same frequency. This study was an example of people confusing gender with sex; although the images were of male and female sexed persons, their gender was attributed based on secondary sex characteristics at different rates.

Sex is the biological classification based primarily on external genitalia to determine assignment at birth of a boy or a girl (Brown & Rounsley, 1996). Fausto-Sterling (2000) and Money and Ehrhardt (1972) indicated that sex can typically be attributed by four different subcategories: chromosomal or genetic, gonadal, hormonal, and exterior. Chromosomal or

genetic sex refers to the genetic make-up of the individual as passed from parent to offspring. By this, a “normal” female will have the chromosomes XX, whereas the “normal” male will have one X and one Y. Thus, attributing a person’s *genetic* sex is determined by XX for female and XY for male. Attribution based on *gonadal* sex is the determination of sex based upon the gonads of the individual (if ovarian tissue or testicular tissue is present) regardless of chromosomal sex. *Hormonal* sex is attributed male or female by either the appearance of secondary sex characteristics (body hair, deepened voice, muscle mass) induced by large amounts of male hormones such as testosterone, or the occurrence of menstrual activity as activated by female hormones such as estrogen. Finally, exterior sex attributes an individual male by the evidence of a penis and/or testicles, versus a vagina or lack of a penis and testicles for the attribution of female.

Money and Ehrhardt (1972) reported that gender identity is the private, personal sense of his or her gender. It is not defined by exterior appearance or even behavior, but by what gender the individual person perceives him or herself to be. Money went on to propose that gender identity or psychosexuality is not predispositioned prior to birth, but is similar to a blank slate on which social and environmental factors are nearly the exclusive factors and that children typically acquire gender identity by the time they are three years old and. On the other hand, Imperato-McGuinley defended that it is flexible throughout childhood, solidified only by the hormones of puberty (Fausto-Sterling, 1985).

Gender roles include the behavior a person overtly displays in society to represent his or her gender identity (Money & Ehrhardt, 1972). These roles can also be ascribed sets of behavioral expectations for people based on their gender by society (Kessler & McKenna, 1978). By having an ascribed role, the individual has no choice in the role he or she is *attributed*, such

as being Hispanic, being someone's sister, or being Swedish. This is contrasted with a person having an *achieved* role, such as becoming a psychologist, being a father, or even becoming an Olympic athlete. Kessler and McKenna (1978) note that Yorburg (1974) defined gender role as also being known as the sex role of an individual in which the sex of the person is emphasized; this leads to the "expected" ascribed behaviors based on stereotypical constraints. For example, the Webster's dictionary (1973, as cited in Kessler & McKenna, 1978) has in the past dictated that a man was defined in part by having certain features such as strength and bravery. Within the concept of gender role are many facets such as activities, interests, attire, sexual partner of choice, and aptitude in a given skill (Kessler & McKenna, 1978). For example, a feminine gender role could be indicted for someone who cooks, raises the children, wears dresses, has a sexual relationship with a man, likes to read romance novels and happens to be skilled in needlework. However, it is becoming more common for women today to share activities and interests with men, as well as taking part in "male" roles such as becoming carpenters, doctors, being the "breadwinner" of the family, as well as enjoying activities and sports that may have previously more exclusive to men such as playing rugby or golf. Individuals having both masculine and feminine gender roles are considered *androgynous*.

#### Gender/Sex Inconsistencies

For most individuals, sex, gender, gender identity, and gender role are synonymous with one another, as well as being compatible with social expectations; however, there are instances when gender and physiological sex are contradictory. For example, Imperato-McGuinley (Imperato-McGuinley et al., 1974 as cited in Kessler & McKenna, 1978) conducted a study involving sexually incongruous individuals who had a genetically inherited deficiency for the androgen dihydrotestosterone, a condition coined Guevedoces by the villagers [meaning "penis-

at-twelve” (Fausto-Sterling, 1985)]. These individuals were mostly from three rural villages in San Domingo. In 38 cases of ambiguous genitalia, 18 were raised as female. However, as puberty came upon these subjects (around the age of 12 years old), their secondary sex characteristics were not those of women, but those of men. Their voices deepened, they became more muscular, their body hair increased, and most importantly, they also grew adult-sized penises and scrotums. Of these 18 adolescents, 16 assumed a male gender role and continued through life as men in their community. According to Kessler and McKenna (1978), Imperato-McGuinley concluded that even though there was a chance that the children’s psychosocial development was centered on the possibility that they may become men, if the gender identity of rearing is contrary to biological sex, the biological sex will likely prevail. In other words, gender identity was shown to be most likely predispositioned and not a product of environment indicated by the social support for this change.

### Transsexuality

Transsexuality is another example of a gender/sex inconsistency as it is a phenomenon in which the individual’s gender identity does not match his or her biological sex, thereby creating an intrapersonal conflict. Furthermore, one term for transsexuality, *Gender Dysphoria*, may truly be more aptly described as “anatomical dysphoria” due to typically less discomfort and anxiety about gender identity, but more discomfort with the body and specifically the genitalia (Brown & Rounsley, 1996). As such, transsexuality is not about sexual behavior or sexual orientation. It is about gender identity not matching the sex of the body. According to the DSM-IV [American Psychiatric Association (APA), 1994] there are two key components to diagnosing transsexuality as it is clinically termed: Gender Identity Disorder. First, there must be the presence of strong and persistent cross-sex identification; the patient has the desire to be, or the insistence that their

gender is opposite of their sex. This identification must not be merely due to any perceived cultural advantages; an example of this would be if a female-sexed person observed that male-sexed persons receive better job opportunities and thus decided to undergo the transition to the male sex to receive these benefits. Secondly, there must be evidence of significant distress or discomfort regarding their biological sex. Thus, some individuals may look upon their genitals and secondary sex characteristics as incorrect, and this forms a large measure of personal discomfort.

Gender role stereotypes may be what make the adjustment of Male-to-Female (MTF) and Female-to-Male (FTM) a very difficult transition because gender identity affects the gender role identification. If a person is transsexual, then his or her gender role may become imbalanced and therefore may result in distress and suffering. If a transsexual is undergoing a transition from male to female or female to male, the gradual transition is probably going to include both male and female gender role conflict. The transsexual will want to “pass” or come across as the desired gender as much as possible, as quickly as possible (Brown & Rounsley, 1996). By doing this, the person will perhaps feel that certain activities that are enjoyed may have to be excluded due to their not being gender typical. For example, Katie, a hypothetical male-sexed transsexual undergoing the transition from male to female, happens to dislike dresses or skirts, and absolutely detests flowers. Furthermore, she enjoys playing rugby, running marathons, and wearing comfortable clothes. In order to pass, Katie and her therapist believe that she should adopt as many “feminine” characteristics as possible, basically in order to fulfill the female gender role defined by society. Katie grows her nails out, quits rugby, stops running so that her figure becomes a bit rounder, wears dresses, and totes along a floral-print handbag. Passing is important to a transsexual because it signifies a form of acceptance by society (Brown &

Rounsley, 1996); it indicates that people are not seeing a man dressed as a woman or a woman dressed as a man, but a man or a woman whose attributed gender matches his or her gender identity.

Popular belief has it that someone identifying as transsexual is among those under the umbrella term “transgender”. Persons identifying under this term are those who significantly challenge stereotypical gender “norms” or who merely have a question or conflict regarding their gender (Boston Woman’s Health Collective, 1998). Within the transgender category are also drag kings (lesbian cross-dressers who do so for erotic or sexual pleasure, political statement, or for purely entertainment value), drag queens (gay men or female impersonators who cross-dress usually for entertainment value), cross-dressers (such as those who dress in opposite sex’s clothing for sexual arousal termed transvestites), and gender-benders (those who challenge and cross gender boundaries of tradition, usually as a political statement against stereotypical gender roles to include clothing and behavior).

Transsexuality should not be confused with homosexuality, bisexuality, transvestism, or intersexualism, although there may be a co-occurrence with any of these. Transsexuals usually do not consider themselves homosexual, even though they may exhibit same-sex sexual behavior. For example, a male-sexed person undergoing the transition to female may have a sexual relationship with a man; however, as the MTF perceives “himself” to be a woman, she considers herself to actually be in a heterosexual relationship. Many transsexuals consider themselves heterosexuals merely in the wrong-sexed body (Vida, 1996). A 1970 attitude study examined the erotic partnership between seven MTF and their male partners. The study concluded that transsexuals project feminine cues to attract the attention of a “normal” or heterosexual man, not a homosexual one (Money & Brennan, 1970). German gay activist Karl



Heinrich originally made that mistake in his classification of transsexuals being the same as homosexuals (LeVay, 1996). Heinrich coined the term “urning”, meaning follower or descendant of Uranus, with the belief that the reason for homosexuality in men was that though they had the bodies of men, they had the minds of women. LeVay (1996) further reports that Magnus Hirschfeld, a German physician and another pioneer of gay-rights, also made this incorrect classification. Hirschfeld (2000) was on a quest for “female sperm” with which to prove that homosexuals were linked with sexually variant traits. In his theory, transsexuals were those homosexuals who decided to be the sex their gender more closely resembled. Hirschfeld felt that many already held cross-sex physical traits to begin with such as narrower hips in lesbians and perhaps wider hips in gay men. However, there has been no research to suggest that such is the case.

#### Etiology of Transsexuality

It is in considering the etiology of transsexuality that the “nature versus nurture” controversy comes into play. The cause of transsexuality is not nearly as simple as “biological versus social and cultural experiences”. Like many other aspects of behavioral psychology, transsexuality is likely a product of a combination of biological and environmental factors.

What would biology have to do with the development of transsexuality? Biology includes chromosomal, hormonal, and physiological aspects, whereas environment concerns the ways in which people learn from experiences and cultural influences. According to Brown and Rounsley (1996) there are three possibilities for the “nature” or physiological aspect of the causation of transsexuality. The first one is a prenatal hormonal explanation in which hypothalamic and endocrine control are unbalanced. At about the twelfth week in prenatal development, the undifferentiated genitals of the human fetus either form into a female’s vagina or develop into a

male's penis and scrotum. By the sixteenth week of prenatal development, portions of the brain are affected specifically by the presence of testosterone, determining the development of a male or female brain. However, Brown and Rounsley state that there is a four-week critical period in which if certain hormones are not present or if there is an imbalance, future gender identity may not match that of the genitals.

The second explanation that Brown and Rounsley give for biological causes concerns the overall health of the mother; prescription drugs and severe emotional trauma or high stress may affect brain chemistry of the fetus. The third explanation is that of different brain structures. In 1995, Kruijver et al. (as appeared but not cited in Brown & Rounsley, 1996) conducted autopsies on six transsexual MTFs and found that the size of the BSTc (bed nucleus of the stria terminalis) area of the hypothalamus was approximately 44% smaller than is normal for a male, though the normal size for a female. This, however, could be attributed to estrogen supplements received by the MTF in order to promote such aspects as breast growth, skin softening, and reduction of body hair. Due to the small sample tested as well as the estrogen variable, further studies need to be conducted in order to determine if brain structure reliably varies (Brown & Rounsley, 1996).

The "nurture" or environmental aspect is supported by three theories as well (Brown & Rounsley, 1996). The first one is that of parents pressuring their child to adopt the gender role of the opposite sex; however, this has been reported to be untrue in the case of the typical transsexual. One such example of pressure to assume the opposite gender role would be the case of Bruce Reimer. However, this example is also one that supports the failings of the nurture model versus that of nature. As mentioned previously, John Money, a physician, was an avid believer that gender was malleable in that environmental factors play a large part in what determines gender. Money conducted a study regarding twin boys to support his theory (Money,

1972). One of the twins suffered a horrific accident during circumcision in which his penis had to be completely removed. The parents counseled Money regarding what action to take; Money encouraged the parents to raise their son as a daughter. As the child was at an age prior to the critical period of development, Money considered him a “blank slate” for gender identity. Bruce Reimer then became *Brenda* Reimer following additional surgery to remove the testicles as well as create a vagina and labia. According to initial reports given by Money, the test was a success and reinforced the notion that gender identity was primarily social-psychological. According to Money, Bruce-now-Brenda became more feminine and was slowly turning to his role as a little girl (Bullough & Bullough, 1995). However, upon adolescence when his parents enlightened Bruce/Brenda with the knowledge of his medical history, Bruce/Brenda felt that the procedure was unsuccessful. Bruce/Brenda again underwent surgery and became David. According to the actual recount from the viewpoint of David Reimer, the case was a failure from the outset (Colapinto, 2000). According to Colapinto (2000), Bruce/Brenda was trained to respond the way Money wanted him to, to escape the harassment and stress of not being able to give Money the answers or behavior that he wanted. Bruce/Brenda’s mother had even told Money that the feminine behavior was resisted on all levels. In fact, Bruce/Brenda showed more masculine behaviors than did his twin brother. Colapinto (2000) reported that Money knew that the study was not a success and yet proceeded to pay no heed to the data.

The second explanation of the impact of environmental factors is that if one or both of the parents were physically or emotionally absent the child would have to substitute as the “wife” or “husband” (Brown & Rounsley, 1996). Brown and Rounsley note that this could include situations of long-term depression and mental or emotional illness of a parent during which the child would take up the discarded parental role. As the child fulfills this role as

caretaker, theoretically he or she learns the behavior of the opposite gender and is reinforced by the positive outcome, whether it is praise by the parent or perhaps a more stable household.

A related theory (Brown & Rounsley, 1996) is that gender identity is affected by the presence of one overbearing and smothering parent and a weak or distant other parent; the child identifies as a stronger parent. Thus, in a FTM, if strong male role model is lacking, the female child then may assume the role of being the provider and caretaker towards the mother to compensate for the weakness of the father.

Most gender identity experts believe that overall it is an interaction of both nature and nurture that causes transsexuality although some theorize that nature provides a predisposition towards incongruous gender and then the dynamics of environmental factors will trigger the actual transsexualism (Brown & Rounsley, 1996).

## History

This following historical account was documented by the Harry Benjamin International Gender Dysphoria Association [Harry Benjamin International Gender Disorder Association (HBIGDA), 2001]. Gender Dysphoria may be a term that is considered relatively new; however, descriptions of transsexuality were apparent in classic and Greek literature. In 1830, the first medical case study was mentioned in Germany; symptoms of transsexuality were thought to be part of a form of paranoid psychosis. According to the HBIGDA, forty-seven years later, the French believed that gender reversal could be caused by testicular atrophy brought on by excessive horseback riding. Related to this, allegedly among the Native American Pueblo people, for an unknown reason it was practiced that a strong, virile man was chosen to masturbate and horseback ride excessively in order to rid him of his masculine attributes and thus enable him to assimilate himself as much as possible to the female sex, thereby losing his position in the tribe

as a man (Hammond, as cited in Benjamin, 1997).

In 1910, the German sexologist Hirschfeld spoke of transvestism and cross-dressing in his studies. In 1931, German surgeons Ludwig Levy- Lenz and Felix Abraham (Abraham, 1997) conducted the first published surgery, and shortly thereafter in 1936, Havelock Ellis wrote of living as a woman and being accepted by society. In 1949 in the United States, David Cauldwell coined the term “transsexual” and defined it as antisocial behavior. In 1952 ex-Army Sergeant Christine Jorgenson underwent an operation in Copenhagen, Denmark, by a Danish plastic surgeon. Her story was brought to the attention of the public and thus gave transgenders a potential “escape” from life as they knew it to be. With Jorgenson’s success, fellow transsexuals finally saw the potential of relief from the confines of their bodies that felt so “wrong”. In 1953 research sexologist Harry Benjamin succeeded in helping Gender Dysphoria become more accepted and better known by advocating the existence of transsexuality as well setting professional guidelines that were later formed into the Harry Benjamin Standards of Care.

With 1965 came the founding of the Gender Identity Clinic of John Hopkins Hospital in Maryland, opening to perform sex reassignment surgery (SRS). At this clinic, rigorous screening by many specialists and disciplines was implemented. Within a year of its founding, the first operation was conducted. In 1979, the Harry Benjamin International Gender Dysphoria Association provided guidelines for identifying primary transsexuals as surgical candidates and the Standards of Care were also designed. Version six of the Standards of Care, and still the most recent today, was implemented in 2001; it documents the psychiatric, psychological, medical, and surgical management of gender identity disorders.

## Prevalence

According to The Harry Benjamin International Gender Dysphoria Association

(HBIGDA, 2001) the American Psychiatric Association reported that in 1994, 1 in 30,000 men and 1 in 100,000 women were estimated to be transsexuals; however, the most recent prevalence information from the Netherlands indicates there may be 1 in 11,900 men and 1 in 30,400 women. Though these latter numbers may be more accurate in that transsexuality is better recognized and not as often incorrectly diagnosed, there are suspicions that there is an even larger prevalence due to misdiagnosis (such as in cases of anxiety, depression, bipolar, conduct disorder, substance abuse, unperceived forms of Gender Identity Disorder, dissociative identity disorders and intersexed conditions such as hermaphroditism, non-patient transvestites, female impersonators, non-patient transgendered people, and homosexuals), and even comorbidity (HBIGDA, 2001). Gender Identity Disorder can also fluctuate above and below clinical significance due to the continuum on which it runs; not every gender dysphoric person fully believes that he or she is the opposite sex trapped in the wrong body; furthermore, some consider themselves a third sex, one that is not all female nor all male (Hubschman, 1999).

## Diagnosis

In 1980 the Diagnostic and Statistical Manual, 3<sup>rd</sup> ed. (DSM-III) introduced the term Transsexualism; in 1994 the DSM-IV replaced that diagnosis with that of Gender Identity Disorder (GID) (HBIGDA, 2001; APA, 2000). The DSM-IV has four criteria for GID: (1) persistent and strong identification with the opposite sex, (2) persistent discomfort or sense of inappropriateness with the gender role for their sex, (3) no evidence of an intersexed condition, and (4) clinical distress or impairment in occupational, social or other important area of functioning (APA, 2000). The International Classification of Diseases (ICD-9) also provides similar criteria for the diagnosis of Gender Dysphoria, further breaking down the diagnosis into Transsexualism, Dual-role Transvestism, and Gender Identity Disorder of Childhood (HBIGDA,

2001).

Unlike transvestites, transsexuals are not normally sexually aroused by wearing clothing of the opposite sex (Reinisch, 1990). Instead, transsexuals may literally wish to be rid of their genitals and are unhappy with their bodies. In contrast, transvestites (predominantly heterosexual men) are usually quite happy with their penises and have no desire to change anything physically.

#### Why Study Attitudes Regarding Transsexuality?: Clinical Implications

Gender Dysphoria has been recognized for over forty years as a clinical/medical phenomenon; however, it has only been more recently that the general public has been aware of cross-dressing or transsexuality. This awareness has led to an increase in gender identity clinics and persons coming forth requesting clinical services (Steiner, 1990). Thus, it is the clinician's responsibility to ensure that any personal negative bias is not affecting effective clinical treatment. By being able to assess attitudes of psychologists and medical professionals alike, it is possible to take steps to undertake preventive measures against this potential impairment of treatment/therapy. Although the number of clinicians who are proficient in assisting in the transitions associated with transsexuality are increasing, perhaps few have the "political sophistication" to be able to recognize or treat effectively the stress accompanying the spiritual, emotional, and physical concerns many transsexuals face (Califia, 2003).

#### Continuum of Attitudes Related to Gender Nonconformity

Herek (1984) describes a continuum of attitudes related to gender nonconformity. Along this continuum are such factors as intolerance, tolerance, and advocacy. *Intolerance* is defined as the refusal to recognize and respect the rights of a specific group; *tolerance* is defined as recognizing and respecting the rights and beliefs of a specific group; and *advocacy* is defined as

the willingness to defend the rights and beliefs of a specific group. Following this model, it is potentially possible to be able to better predict behaviors by analyzing attitudes based on where they fall along the continuum.

There is also a value in determining if homosexuals are more condemned than transsexuals, thereby identifying whether or not this perceived or actual condemnation is a significant factor in the decision to undergo a transsexual lifestyle. Furthermore, it may be important to evaluate homosexual attitudes regarding transsexuals in order to assess subculture conflict between homosexuals and transsexuals. It must be reiterated that homosexuality is a facet of sexuality, whereas transsexuality is an issue regarding sex and gender. By this, homosexuality and transsexuality are two separate entities, but exhibit overlap in some cases. In addition to the example in which a transsexual will be involved in what he or she considers a heterosexual relationship, there are cases in which a transsexual will identify as gay or lesbian. For example, assume a female-sexed/ male-gendered transsexual prior to transition is involved in a relationship with a man. Upon the transition, the relationship may continue with both partners identifying as male, and therefore the FTM may consider his relationship a homosexual one regardless of whether his partner does. Comparing attitudes regarding transsexuality and homosexuality may in fact assist in this clarification and thereby assist in clinical therapeutic treatment.

It is noteworthy to add that Leitenberg and Slavin (1983) surveyed an undergraduate student sample and found a significant difference in attitudes toward transsexuals and homosexuals over twenty years ago. The current validity of these findings should be assessed.

Very little research has been done regarding attitudes toward transsexuality. Variables such as sexual orientation, religion, ethnicity, age, education, and geographic location have not



been thoroughly examined for their relationships with attitudes about transsexuals. Will certain ethnicities tend to view homosexuality more negatively in comparison to transsexuality, while another group shows the opposite opinions? These demographic differences are key factors that may show significant differences in non-conforming gender tolerance. It is vital that such questions be answered; however, they can only be answered if the time is taken to assess and compare attitudes. In addition, it would be useful to study if within both the heterosexual and the homosexual communities there is bias based on whether a transsexual is a biological male/gendered female (MTF) versus a biological female/gendered male (FTM); in other words, will a male-sexed/ female-gendered person typically find less acceptance due to our culture's greater acceptance of women doing non-gender conforming activities compared to men? The data are evident that such may be the case regarding attitudes regarding gay and bisexual men in comparison to lesbians and bisexual women (Herek, 2002a). A determination to see if this is a prevailing pattern is warranted.

### Subculture Controversy

Even within the gay/lesbian/bisexual/transgender (GLBT) cultural community, there are negative attitudes about transsexuality, as well as some controversy. For example, leading feminists such as Janice Raymond argue that transsexual women should not be allowed to be a part of the feminist community; their opinion is based in the view that transsexuals are a recent product of the male-dominated medical profession. Raymond believes that transsexuals are merely deviant males who wish to replace genetic women with transsexual women (Raymond, 1994). As many lesbians are active feminists, these ideas set the groundwork for friction within the lesbian/female transsexual community. Studying and comparing attitudes of homosexuals and heterosexuals toward transsexuals may lead to a better understanding as to why this rift

exists. Transsexuals may not see themselves as truly part of the GLBT subculture, although this community does perhaps offer them social support; however, the question is, to what extent?

#### Prior Research

There have only been two published studies found in which attitudes regarding transsexuals were systematically assessed (Green, Stoller, & MacAndrew, 1966; Leitenberg & Slavin, 1983). Green, Stoller, and MacAndrew (1966) conducted a survey in which a questionnaire along with a brief clinical history of a transsexual client were circulated to assess the attitudes of psychiatrists, general practitioners, urologists, and gynecologists. The questionnaire gave a brief clinical history of a patient followed by questions to assess the health professional's attitude regarding the individual described. Of the 400 people who replied, 320 of these professionals labeled the transsexual as "severely neurotic", and 60 gave a "psychotic" diagnosis. Most of the physicians indicated that they would refuse SRS as treatment, even in the case in which the client had fulfilled the four major criteria: (1) the client had undergone two years of psychotherapy, (2) a psychiatrist determined the client was not psychotic, (3) the treating psychiatrist indicated that SRS was acceptable, and (4) the client would likely commit suicide if the surgery was not performed. Of the responding psychiatrists, 94% stated that they would refuse to endorse SRS based on "moral and/or religious grounds". Fears of a malpractice suit as well as a reluctance to explain their actions to a local medical society also were reasons of refusal to perform SRS on the client. However, in the case that the client had already undergone the surgery, 75% of the respondents were willing to allow the change of legal papers such as a birth certificate and to enable the individual to marry within the new gender. Furthermore, half of the respondents indicated that they would allow the client to adopt a child following surgery. Green et al. concluded that many of the physicians based their objections towards sex

reassignment surgery on fear of malpractice suits or censure, or on religious grounds. Such studies that assess attitudes and formulate possible reasons why such attitudes are developed or maintained are imperative in order to understand the underlying theme behind prejudice and discrimination.

Leitenberg and Slavin (1983) conducted a study in Vermont to compare attitudes regarding homosexuals and transsexuals using undergraduate participants. Two questionnaires were distributed to 318 undergraduate participants: One questionnaire addressed attitudes towards homosexuality and the other addressed attitudes towards transsexuality. The first question was directed at general attitudes towards the subject. The second and third questions were directed at the issue of job discrimination. The fourth question addressed biological causality beliefs, and the fifth question requested opinions about adoption. More participants rated homosexuality as “wrong” compared to transsexuality, and this difference in favor of transsexuality was more pronounced in females compared to males. In addition, two crucial points were observed. Foremost, on average, males, more than females, were inclined toward equal opportunity for homosexuals than for transsexuals. Thus, heterosexual men, more so than heterosexual women, tended to support non-discrimination towards homosexuals versus transsexuals in regards to hiring and wages. Secondly, more participants of both sexes rejected the notion that biological factors were responsible for homosexuality but felt that transsexuality was caused by biological factors. Perhaps this goes in hand with beliefs regarding sex versus gender. These findings supported the hypothesis that homosexual denial (which is the non-acceptance of being a homosexual) and homophobia (which is the aversion to homosexuals) in some transsexuals may, in part be a reflection of society’s moral disapproval of homosexuality as compared to transsexuality (Leitenberg & Slavin, 1983). While the findings from this study

contains useful information, certain concerns stress further assessment; reliability and validity of the test instruments is unknown and as this study was conducted over twenty years ago, it would be a worthy undertaking to assess if such views are still upheld following changes in time and culture, as well as overall utilizing perhaps a more empirically sound method of examination.

What is an Attitude?

Attitudes may be a prelude to prejudice and discrimination. An *attitude* is the readiness for response in the form of a behavior (Allport, 1935, as cited in Oskamp, 1977). Besides manipulating perception, information processing, and behavior (Pratkanis et al., 1989), an attitude can be seen as an evaluation that is held regarding a range of stimuli to include the observer, others, objects, and issues (Petty & Cacioppo, 1986). Furthermore, Petty and Cacioppo state that an attitude's most practical quality is its ability to predict and influence actions or behavior. Thus, if attitude does indeed predict behavior, then if a participant has an intolerant attitude about those of another race, this would support the likelihood of engaging in hate-crime activities towards those other races. If there is an advocative attitude, there seemed to be participation in activist activities. However, there are those who may have a discordant attitude regarding a certain issue, yet follow the "norm" and engage in activities they typically would not. For example, if a group of adolescents are in a store, and several of them encourage the others to shoplift, there may be a likelihood that the others will shoplift to achieve the acceptance of their peers even though this would not be their normal mode of behavior. This example can be construed so that it fits the topic at hand; if there are a group of people ridiculing transsexuals and repeating belittling and stereotypical jokes, even though a person does not agree, he or she still may laugh or even engage in similar behavior in order to gain acceptance.

Attitude Assessment and Measurement

There are several ways in which attitudes may be assessed and measured, such as through the use of observation, performance on objective tasks, and using a self-report with a survey instrument or questionnaire (Oskamp, 1977). Chosen for its popular use and simple execution, Likert's *Summated Ratings* scale shall be used in this study; instead of requesting a "yes" or "no" response to indicate agreement with a statement, the rater is given several points to choose from (such as six points ranging from completely disagree to completely agree). The final or total attitude score is then based on the combined scores of ratings for several attitude statements about a topic.

### Scale Development

The purpose of this study was to develop a reliable and valid scale for the measurement of attitudes regarding transsexuality using a Likert Summated Ratings scale. The two most important features of an attitude scale are its validity and reliability. Validity assesses whether the test accurately measures what it is designed to measure and reliability assesses the test's measurement consistency (Oskamp, 1977). For example, for validity, the test being constructed in this research must assess attitudes regarding transsexuality, not attitudes regarding homosexuality or gender roles. Oskamp states that there are two key points regarding reliability: (1) that two different raters should agree on their rating of the item statements as favorable or unfavorable, and (2) that respondent statements are generally consistent on two different testing sessions (test-retest reliability).

According to Robinson, Shaver, and Wrightsman (1991) there are several guidelines to be implemented throughout the development of an attitude scale. Regarding item generation, there should be at least 200 items in the original pool, to better ensure coverage of possible content areas. These ultimately will be narrowed down to the best 20-50. The items must reflect

important areas within the area of interest. Content and face validities should be evaluated; do the item statements appear to reflect attitudes regarding transsexuality? Furthermore, internal consistency (the correlation of each item compared to the total of all the items measured by Cronbach's alpha) should be high. In addition, test-retest reliability should be strong with no significant difference between time one and time two test scores. Convergent validity tests whether the data gathered from this test correlate positively with similar data gathered in other studies. Finally, discriminant validity should reflect significant differences in unrelated measures, as it is not desirable to re-create a scale to measure the construct (e.g., a scale assessing attitudes toward homosexuals should not also be able to assess attitudes toward bisexuals).

Although attitude scales are fairly simple and quick, there are several problems to be noted as well. Probably most important of these is *response set avoidance* (Robinson et. al., 1991), which involves the tendency of the participant to respond in a manner not related to the contents of the item. Within this are four factors such as order effects, acquiescence, social desirability, and extremity. Order effects are when items are staged in a way in which a participant will respond to one item due to the previous item. For example, if a participant reads the statement "*Transsexuality is wrong*" followed by the statement "*Transsexuals should not be allowed to legally marry*", even if he or she may typically have a positive attitude regarding the second statement, the first statement may influence the second item response. Acquiescence is when the participant's attitude changes due to the situation in which they are. An example of this would be "yea-sayers" whom will agree to everything no matter true stance on the topic. Participants distorting their data due to social desirability will respond in a manner in which they think will make them be looked at in a positive light. For example, a participant is asked in a

questionnaire if he has ever said a lewd comment to a woman he did not know walking past him on the street. It is not a socially desirable behavior; therefore some participants will not be truthful if in fact they have done this act. Finally, extremists are those participants who will choose no middle ground in their response; their responses will be either 0 (strongly disagree) or a 5 (strongly agree) on a six-point Likert scale no matter where they truly stand. This will affect the variability of the participant's score, therefore spoiling the data. Ways to circumvent these issues are in the form of three precautions (Robinson et al., 1991). First, the scale should be interesting and not too lengthy. This will allow for an expedient collection of more accurate responses. If a participant becomes bored, then his responses may become skewed out of the simple fact that he does not want to be completing the survey anymore. Secondly, avoid "yea-saying" can be controlled by item reversal: having both positive and negative items. This relieves the possible bias that may come from a majority of positive or a majority of negative items. Thirdly, the effect of wanting to respond in a socially desirable manner can be minimized by initially placing items that hold no bias as to social desirability. Furthermore, experts can assist in rating the items.

## Hypotheses

Once a reliable and valid attitude scale is developed, it will be used to assess several hypotheses. It is predicted that there will be a positive correlation between attitudes towards transsexuality and attitudes towards homosexuality, but it will remain to be seen if heterosexual participants will indeed have more positive attitudes toward homosexuals versus transsexuals as in the study Leitenburg and Slavin (1983) conducted over 20 years ago. Furthermore, it is predicted that that homosexuals will have more favorable attitudes than heterosexuals towards transsexuals. It is also hypothesized that there will also be a significant gender difference in

attitudes towards both transsexuals and homosexuals, with women on average having more favorable attitudes. In addition, in three studies having to do with heterosexuals' attitudes towards gay men and lesbians, it was found that males maintained more hostile attitudes than females especially towards gay men (Herek, 1988; Herek & Capitanio, 1995; Herek & Capitanio, 1999; Herek, 2002a; Herek, 2002b). Herek and Capitanio (1995) attributed this to men's greater tendency to regard male homosexuality as unnatural. Herek and Capitanio (1999) also found that self-reported attitudes towards lesbians tended to be more favorable when items regarding lesbians were not referenced to gay men as well. It is expected that the findings will reflect this line of thinking in regards to attitudes towards transsexuals as well.

Furthermore, it is hypothesized that there will not be a difference in attitudes based on ethnicity. Herek and Capitanio (1999) found that although white men's attitudes towards gay men tended to be less negative when evaluated after statements about lesbians were first presented, black men's attitudes towards gay men were consistent no matter the order of the lesbian items. However, other than this finding, there were no significant differences in attitudes between heterosexual white and black participants (Herek & Capitanio, 1995; 1999).

In addition, it is hypothesized that older participants may tend to have more negative attitudes towards both transsexuals and homosexuals. Herek (2002a) reported that more negative attitudes regarding bisexuals correlated with higher age. This can go hand in hand with the hypothesis that more favorable attitudes will correlate with a lower level of education; for example, upper level undergraduate psychology students may likely show less favorable attitudes towards both transsexuals and homosexuals than the lower-level introductory undergraduate students. Another variable to explore is the ability to correctly identify the definition of the term "transsexual" at the outset of the study. It is hypothesized that there will be a significant



difference in attitudes towards both transsexuals and homosexuals between participants who are able to identify the correct definition of transsexual at the outset of the study compared to those who confuse “transsexual” with another term (e.g. transvestite, bisexual, or homosexual).

Finally, it is hypothesized that the personality factor *Openness* will correlate positively with favorable attitudes toward both transsexuals and homosexuals. As an exploratory analysis, it will be interesting to discover how other personality factors (*Neuroticism*, *Conscientiousness*, *Extroversion*, and *Agreeability*) will correlate to attitudes as well, however, in what way remains to be seen as previous research does not provide a foundation for any hypotheses.

## STUDY ONE: DEVELOPMENT OF THE SCALE

### METHOD

#### Participants

To rationally derive statements for the initial pool of items, 206 undergraduate psychology student participants were asked to complete short surveys requesting the definition of transsexuality and opinion statements about transsexuality. Five undergraduate students were then requested to assess the items for readability, highlighting confusing or poorly worded statements. Once the preliminary item pool was developed, it was reviewed by a group of four experts (two human sexuality professors, a social psychology professor, and a counselor who has transgender clients) who assessed content and face validity and attitude valence of items.

One hundred and forty-three additional undergraduate students were given the resulting initial questionnaire (demographics and personal information are provided in Tables 1 and 2). All students received credit for their participation.

#### Procedure

Table 1: Demographic information for participants in Study 1 and Study 2

	Study 1 (N=143)	Study 2 All participants (N=382)	Study 2 Know/Lwr lvl (N=169)	Study 2 Know/Upper lvl (N=151)	Study 2 All Not Know (N=19)
Demographic Variables:	% (N)	% (N)	% (N)	% (N)	% (N)
<u>Gender</u>					
Male	27%(38)	22% (82)	18% (30)	22% (33)	31% (19)
Female	73%(105)	78% (300)	82% (139)	78% (118)	69% (43)
<u>Age</u>					
17	1% (1)	5% (17)	8% (14)		5% (3)
18	19% (27)	40% (154)	70% (118)	2% (3)	53% (33)
19	27% (39)	14% (54)	14% (23)	17% (26)	8% (5)
20	15% (21)	13% (50)	3% (5)	24% (36)	15% (9)
21	8% (12)	11% (42)	2% (4)	22% (33)	8% (5)
22	12% (17)	7% (25)	<1% (1)	13% (20)	6% (4)
23	5% (7)	3% (13)		9% (13)	
24	4% (5)	2% (9)	<1% (1)	5% (8)	
25	2% (3)	2% (7)		3% (5)	3% (2)
26-30	6% (8)	2% (9)	1% (2)	4% (6)	2% (1)
31-45	2% (3)	<1% (2)	<1% (1)	<1% (1)	
Mean Age (SD)	21 (3.61)	20 (2.64)	18 (1.79)	21 (2.76)	19 (2.07)
<u>Race/Ethnicity</u>					
Caucasian	83%(118)	87% (333)	88% (149)	87% (132)	84% (52)
Non-Caucasian (African-American)	17% (24)	13% (49)	12% (20)	13% (19)	16% (10)
(Hispanic)	6%(9)				
(Asian)	4%(5)				
(Other)	1%(2)				
	6%(8)				
<u>Year in school</u>					
Freshman	39%(56)	46% (175)	80% (136)	1% (2)	60% (37)
Sophomore	11%(15)	13% (49)	14% (23)	13% (20)	10% (6)
Junior	27%(38)	19% (71)	4% (6)	38% (57)	13% (8)
Senior	24%(34)	22% (86)	2% (3)	48% (72)	17% (11)
Other		<1 (1)	<1 (1)		
<u>Course enrolled</u>					
PSY 105 (intro)	44%(63)	55% (210)	100% (169)		34% (21)
Other	56%(80)	45% (172)		100% (151)	66% (41)

**Table 2. Personal information for participants in Study 1 and Study 2**

	Study 1 (N=143)	Study 2 All participants (N=382)	Study 2 Know/Lwr lvl (N=169)	Study 2 Know/Upper lvl (N=151)	Study 2 All Not Know (N=19)
<b>Personal Variables:</b>	<b>% (N)</b>	<b>% (N)</b>	<b>% (N)</b>	<b>% (N)</b>	<b>% (N)</b>
<i>Recognition of Definition of Transsexuality</i>					
Overall recognition	83% (119)	84% (320)	100% (169)	100% (151)	0% (0)
Males					
No	18%(7)				
Yes	82%(31)				
Females					
No	16%(17)				
Yes	84%(88)				
<i>Sexual Activity</i>					
Overall					
Never sexual intercourse		21% (79)	33% (55)	10% (15)	15% (9)
Not within last 3 months		15% (58)	14% (23)	19% (28)	11% (7)
Have had intercourse within past three months		64% (244)	53% (91)	71% (107)	74% (46)
Males					
Never sexual intercourse	8%(3)				
Not within last 3 months	21%(8)				
Have had intercourse within past three months	71%(27)				
Females					
Never sexual intercourse	14%(15)				
Not within last 3 months	20%(21)				
Have had intercourse within past three months	65%(68)				
<i>Sexual Orientation</i>					
Any attraction to same sex		7% (28)	7% (12)	9% (14)	3% (2)
Only attraction to opposite sex		93% (354)	93% (157)	91% (137)	96% (60)
<i>Total Number of Sexual Partners</i>					
0		21% (79)	33% (55)	10% (15)	15% (9)
1		20% (74)	24% (40)	11% (17)	28% (17)
2		13% (49)	14% (24)	11% (17)	13% (8)
3		10% (36)	9% (15)	11% (16)	8% (5)
4		8% (31)	8% (15)	8% (12)	6% (4)
5		7% (26)	4% (6)	9% (13)	11% (5)
6-10		14% (55)	6% (10)	27% (41)	7% (4)
11-14		3% (12)	1% (2)	5% (8)	3% (2)
15-19		2% (9)	<1% (1)	3% (4)	7% (4)
20+		2% (10)	<1% (1)	5% (8)	2% (1)

## Item Development

In order to collect a thorough sampling of relevant content items about transsexuality, one-page surveys were administered to 206 undergraduate students. This survey requested a short definition of the term “transsexual”, as well as a list of statements reflecting beliefs, facts, and opinions regarding transsexuality. Some examples of statements were provided. From these statements, literature reviews, and sentiments expressed in group conversations, the initial item pool of 197 statements was created. This initial item pool was then narrowed down to 163 item statements using the following guidelines as well as by removing irrelevant or duplicate items.

According to Robinson, et al. (1991), it is important that each statement is not factual. Also Robinson et. al. indicate that there are to be no double-barreled items, such as “*Transsexuals are an abomination and they mutilate their bodies*”. Participants may agree with one part of the statement but not the other, forcing them to score in a manner that may not truly reflect their attitude. Vague items such as “*All transsexuals should receive healthcare for sex reassignment surgery*” are not useful. Although a participant may believe that in general transsexuals should be allowed healthcare for SRS or hormone treatment, having the encompassing “all” does not allow for those instances in which a person may feel that it should not be covered. For example, the participant may believe that most transsexuals should receive health benefits but not those transsexuals in prison. Finally, there are not to be any items that depended on familiarity and little known facts. For example, the statement “*Transsexuals should have the same constitutional rights as I do*” may be problematic. Many people do not know exactly what rights the constitution does cover; therefore, this could be a faulty assumption of the participant’s knowledge.

## Content and Face Validity Assessment

Once this initial pool of 163 item statements was determined, five freshmen assessed the items for readability, highlighting confusing or poorly worded statements. These same items were also evaluated by a group of experts who evaluated the content validity of the items as well as evaluated the items for positive or negative attitude valence. The items had to have had either a 100% (four out of four) agreement or a 75% (three out of four with one neutral valence) agreement in order for them to be retained on the final scale. Since the number of favorable items did not equal those of unfavorable items, wording of certain items was modified in order to better balance the item valence. Thus the resulting number of items for Study One contained: 53 favorable, 51 unfavorable, and four neutral items that were not rated for valence, but retained for additional analysis: *“Transsexuality is a choice,” “Transsexuality is a disease”, “Male to female transsexuals make me feel more uncomfortable than female to male transsexuals,” “I would rather be a homosexual than a transsexual.”*

## Preliminary Scale Administration

The preliminary scale was administered to 143 undergraduate students. Testing groups each consisted of up to 20 participants and the sessions took no longer than half an hour. Participants completed the survey packet that contained the ATS attitude statements, as well as a demographic questionnaire, a matching test regarding knowledge of the definition of transsexuality, the Crowne-Marlow Social Desirability Scale (SD; Crowne & Marlow, 1960), and a filler survey regarding general health. The University of North Carolina Wilmington’s Institutional Review Board approved all procedures for administering this scale.

## Scaling and Scoring

For response variability, a Likert 6-point scale was used, ranging from points 1-6

(“strongly disagree” to “strongly agree”) to force favorability or unfavorability by denying the option of choosing a middle point. Responses were scored so that strong agreement with favorable items = 6, strong disagreement = 1. Scoring for the unfavorable items was reversed. There was a theoretical range in scores of 104-624 with high scores reflecting more favorable attitudes towards transsexuals.

#### Data Analysis

Corrected item-total correlation was used to determine the most discriminating items for the final questionnaire. An exploratory principal components factor analysis using varimax rotation was used in order to identify the main factors under which the items loaded.

### RESULTS

Table 3 presents the means, standard deviations, and corrected item-total correlations for each attitude item that was retained for the final questionnaire. Corrected item-total correlation allowed for a more unbiased correlation because each individual item is correlated with the total score minus that item. Typically, only items with a correlation of .65 or higher were retained. Twenty-seven items that were left blank by four or more participants were also discarded (listed on Table 4).

In the exploratory factor analysis (run in order to determine the factors, or main areas, that might be represented by the set of items), four main factors were discovered. Factor 1 (eigenvalue= 46.95) accounted for 24.69% of the variance. Items such as “*I think transsexuality is wrong*”, “*I do not have a problem with transsexuality*”, and “*I don’t like the idea of transsexuality in general*” loaded highest on this factor. Factor 2 (eigenvalue=5.98) accounted for 13.95% of the variance. Items such as “*Transsexuals can be good parents*”, “*Transsexuals should be allowed parental rights if there is a divorce*”, and “*Transsexuals can make valuable*

**Table 3. Means, Standard Deviations, and Corrected Item-Total Correlations**

Item	STUDY ONE			STUDY TWO (all participants)		
	Mean	SD	r Value	Mean	SD	r Value
1 I support transsexuals' freedom of expression.	4.44	1.35	0.72	3.97	1.53	0.78
2 Transsexuals are a disgrace to their families.*	4.66	1.27	0.73	4.37	1.37	0.77
3 Transsexuals are nasty.*	4.40	1.43	0.73	3.94	1.60	0.81
4 As far as I'm concerned, transsexuality is natural.	2.50	1.42	0.60	2.61	1.49	0.66
5 I don't approve of transsexuality.*	3.60	1.69	0.81	3.39	1.75	0.83
7 I do not have a problem with transsexuality.	3.87	1.48	0.81	3.94	1.59	0.80
8 Transsexuality is gross.*	3.63	1.65	0.78	3.64	1.63	0.87
9 Transsexuals shouldn't have children.*	3.35	1.70	0.71	3.32	1.65	0.74
10 Transsexuals can make valuable contributions to society.	4.63	1.20	0.60	4.54	1.37	0.56
11 I don't like the idea of transsexuality in general.*	3.15	1.50	0.80	3.2	1.61	0.83
12 Transsexuals are strange.*	3.50	1.47	0.74	3.28	1.49	0.73
14 Transsexuals are disgusting.*	4.26	1.34	0.80	3.98	1.53	0.85
15 I would be okay with transsexuals in my community.	4.27	1.17	0.71	4.00	1.44	0.77
16 Transsexuals disgust me.*	4.32	1.33	0.78	4.00	1.52	0.86
17 Transsexuals should stay the sex they were born.*	3.21	1.48	0.77	3.00	1.54	0.82
18 Transsexuals are normal.	2.97	1.35	0.67	2.94	1.36	0.72
19 I prefer not to be around transsexuals.*	3.29	1.47	0.78	3.24	1.47	0.77
20 Transsexuals can be good parents.	4.34	1.44	0.67	3.84	1.47	0.67
21 I would be devastated if my sister was a transsexual.*	3.12	1.61	0.73	3.09	1.79	0.81
23 Transsexuals are freaks.*	4.44	1.26	0.81	4.12	1.42	0.83
24 Transsexuals are emotionally unstable.*	3.69	1.43	0.65	3.43	1.51	0.71
25 I am not against transsexuality.	3.96	1.54	0.78	3.81	1.59	0.86
26 Transsexuality is wrong.*	3.60	1.58	0.78	3.57	1.68	0.87
27 I think it is okay for transsexuals to act the way they do.	3.82	1.36	0.77	3.59	1.52	0.85
29 I would be okay if my father was a transsexual.	2.26	1.50	0.60	3.59	1.52	0.85
30 Transsexuals should be allowed to adopt children.	3.44	1.63	0.74	2.21	1.55	0.69
31 In my opinion, transsexuality is too extreme.*	3.18	1.49	0.81	3.39	1.62	0.68
32 Transsexuals should have the right to live how they feel.	4.67	1.18	0.73	3.11	1.54	0.79
33 I could be friends with a transsexual.	4.27	1.27	0.72	4.15	1.33	0.70
34 Transsexuals are dirty.	4.59	1.22	0.70	4.33	1.41	0.79
35 Society should embrace the diversity transsexuality brings.	3.76	1.39	0.78	3.67	1.47	0.77
36 Transsexuals are creepy.	3.84	1.46	0.80	3.83	1.55	0.80
37 Transsexuals should be welcomed into today's society.	4.00	1.37	0.80	3.85	1.44	0.82
38 I would feel betrayed if I found out that a friend of mine is transsexual.	3.92	1.47	0.67	3.97	1.58	0.73
39 Transsexuals have an unhealthy view of sexuality.	3.60	1.52	0.77	3.49	1.65	0.81
40 Transsexuals don't deserve to be discriminated against.	4.78	1.06	0.66	4.67	1.15	0.70
41 If a friend told me they were transsexual, I would be supportive.	4.26	1.33	0.75	4.17	1.38	0.79
42 I don't like the thought of transsexuality.	3.24	1.55	0.79	3.01	1.58	0.83
43 Sex reassignment surgery should be covered by healthcare insurance.	2.27	1.42	0.64	2.22	1.43	0.61

\*Items to be reverse-scored

**Table 3. Means, Standard Deviations, and Corrected Item-Total Correlations (cont.)**

Item	STUDY ONE			STUDY TWO (all participants)		
	Mean	SD	r Value	Mean	SD	r Value
44 <i>Transsexuals should be allowed parental rights if there is a divorce.</i>	4.33	1.44	0.60	3.92	1.55	0.67
45 <i>I would be appalled if my brother was transsexual.</i>	3.01	1.70	0.67	3.04	1.77	0.77
46 <i>I find transsexuality offensive.</i>	4.16	1.30	0.73	4.06	1.51	0.82
47 <i>Transsexuals should be allowed to do what makes them comfortable with their own bodies.</i>	4.70	0.99	0.69	4.48	1.31	0.74
<b>Items not retained for Study 2</b>						
48 <i>I think transsexuality is wrong.</i>	3.62	1.57	0.80			
49 <i>I think it's possible for transsexuals to find happiness.</i>	4.68	1.27	0.63			
50 <i>Transsexuals look really bad.</i>	3.35	1.39	0.64			
51 <i>I would feel comfortable around a transsexual.</i>	3.91	1.43	0.60			
52 <i>Transsexuals should be treated like human beings.</i>	5.43	0.69	0.41			
53 <i>Transsexuals just crave attention.</i>	4.29	1.27	0.47			
54 <i>People have no right to look down on transsexuals.</i>	4.78	1.09	0.58			
55 <i>Transsexuality violates God's intentions.</i>	3.04	1.84	0.68			
56 <i>God will punish transsexuals.</i>	4.33	1.51	0.57			
57 <i>Transsexuality is not abnormal.</i>	2.89	1.42	0.43			
58 <i>Transsexuals are insecure.</i>	3.69	1.37	0.54			
59 <i>Transsexuals are afraid to be themselves.</i>	4.15	1.49	0.24			
60 <i>Transsexuals are open-minded.</i>	4.61	1.07	0.26			
61 <i>Transsexuals are weird.</i>	3.65	1.46	0.76			
62 <i>I approve of transsexuality.</i>	3.28	1.51	0.78			
63 <i>I wouldn't mind if a transsexual asked me out.</i>	1.83	1.16	0.63			
64 <i>It upsets me that some people hate transsexuals.</i>	4.28	1.17	0.55			
65 <i>Transsexuals should be allowed to marry.</i>	3.78	1.63	0.66			
66 <i>Transsexuals are deceitful.</i>	4.64	1.18	0.65			
67 <i>Transsexuals try to trick their sexual partners.</i>	4.42	1.23	0.63			
68 <i>Transsexuals can be good entertainers.</i>	4.03	1.35	0.41			
69 <i>I would be upset if my best friend was a transsexual.</i>	3.71	1.59	0.62			
70 <i>I am happy for those transsexuals who can get sex reassignment surgery.</i>	3.71	1.47	0.72			
71 <i>Transsexuals are brave.</i>	4.47	1.25	0.53			
72 <i>It upsets me that some people harm transsexuals.</i>	5.04	1.10	0.38			
73 <i>Transsexuals can be attractive.</i>	3.45	1.53	0.62			
74 <i>Transsexuals are mentally unstable.</i>	3.49	1.56	0.48			
75 <i>I think I could have fun at a transsexual club.</i>	2.79	1.55	0.60			
76 <i>Transsexuals are people just like everyone else.</i>	4.99	1.07	0.45			
77 <i>Transsexuals should be allowed to keep their children if they have them.</i>	4.70	1.24	0.56			
78 <i>God loves transsexuals.</i>	4.42	1.47	0.09			
79 <i>Transsexuals shouldn't express their views in public.</i>	4.23	1.35	0.58			
80 <i>I would date a transsexual.</i>	1.42	0.81	0.40			
81 <i>Transsexuality isn't moral.</i>	3.50	1.53	0.73			



82 *I would be upset if my mother was a transsexual.* 2.23 1.51 0.62

**Table 3. Means, Standard Deviations, and Corrected Item-Total Correlations (cont.)**

Item	STUDY ONE		
	Mean	SD	r Value
<b>Items not retained for Study 2 (cont.)</b>			
83 <i>Transsexuals should be outcast.</i>	5.01	1.06	0.51
84 <i>Transsexuals aren't bad people.</i>	4.89	0.99	0.50
85 <i>Transsexuals are trashy.</i>	4.45	1.28	0.73
86 <i>Transsexuals are often misunderstood.</i>	4.45	1.11	0.57
87 <i>Transsexuality doesn't bother me.</i>	3.72	1.50	0.78
88 <i>Transsexuals are more promiscuous than most people</i>	4.20	1.20	0.37
89 <i>Transsexuals should be quarantined.</i>	5.26	0.88	0.37
90 <i>Transsexuals should have the right to make decisions about their own bodies.</i>	4.99	1.03	0.64
91 <i>Transsexuality is immoral.</i>	3.59	1.49	0.78
92 <i>Transsexuals should have the right to make decisions about their lifestyles.</i>	4.97	0.95	0.55
93 <i>Transsexuals are afraid to commit to one lifestyle.</i>	3.75	1.21	0.50
94 <i>Transsexuals deserve to be treated with as much respect as anyone else.</i>	5.02	0.92	0.58
95 <i>Transsexuals can succeed in life.</i>	5.04	0.89	0.54
96 <i>Transsexuals shouldn't be treated any differently than you or I.</i>	4.85	1.08	0.59
97 <i>Transsexuality should be illegal.</i>	4.66	1.18	0.75
98 <i>TV should stop portraying transsexuals in a negative light.</i>	4.35	1.09	0.71
99 <i>Transsexuals are going to hell.</i>	4.66	1.18	0.61
100 <i>Transsexuals deserve respect.</i>	4.69	0.91	0.64
101 <i>I am not offended by transsexuality.</i>	4.24	1.24	0.76
102 <i>Changing your sex should be legal.</i>	4.01	1.31	0.55
103 <i>Transsexuals have a fear of normal relationships.</i>	3.53	1.41	0.54
104 <i>Transsexuality is a perversion.</i>	3.78	1.38	0.72
105 <i>Transsexuality is a sin.</i>	3.14	1.75	0.68
106 <i>Transsexuals should never have custody following a divorce.</i>	4.44	1.41	0.74
107 <i>Transsexuals shouldn't be judged.</i>	4.55	0.99	0.52
108 <i>Transsexuals should be allowed to teach children in public</i>	4.12	1.54	0.56

**Table 4. Deleted items (Study One)**

<b>Item</b>	<b># of Participants leaving item blank</b>
<i>Transsexuality violates God's intentions.</i>	5
<i>God will punish transsexuals.</i>	11
<i>Transsexuals are open-minded.</i>	4
<i>I approve of transsexuality.</i>	5
<i>Transsexuals are deceitful.</i>	6
<i>Transsexuals try to trick their sexual partners.</i>	6
<i>Transsexuals can be good entertainers.</i>	6
<i>I am happy for those transsexuals who can get sex reassignment surgery.</i>	4
<i>Transsexuals are brave.</i>	4
<i>Transsexuals can be attractive.</i>	6
<i>God loves transsexuals.</i>	11
<i>Transsexuality isn't moral.</i>	4
<i>Transsexuals are trashy.</i>	4
<i>Transsexuality is immoral.</i>	5
<i>Transsexuals are afraid to commit to one lifestyle.</i>	5
<i>TV should stop portraying transsexuals in a negative light.</i>	7
<i>Transsexuals are going to hell.</i>	11
<i>Transsexuals deserve respect.</i>	4
<i>I am not offended by transsexuality.</i>	4
<i>Changing your sex should be legal.</i>	4
<i>Transsexuals have a fear of normal relationships.</i>	9
<i>Transsexuality is a perversion.</i>	5
<i>Transsexuality is a sin.</i>	11
<i>Transsexuals should never have custody following a divorce.</i>	6
<i>Transsexuals shouldn't be judged.</i>	4
<i>Transsexuals should be allowed to teach children in public schools.</i>	6
<i>As far as I'm concerned, transsexuality is natural.*</i>	4

**\*Item reinstated do to heavy loading under factor 4**

*contributions to society*” loaded heavily under this factor. Factor 3 (eigenvalue=4.30) accounted for 13.21% of the variance. Items such as “*I could be friends with a transsexual*”, “*Transsexuals don’t deserve to be discriminated against*”, and “*Transsexuals are dirty*” loaded the heaviest under this factor. Factor 4 (eigenvalue=8.28) accounted for 8.28% of the variance. Items such as “*I would be appalled if my brother was a transsexual*”, “*I would be okay if my father was a transsexual*”, and “*As far as I’m concerned transsexuality is natural*” loaded heavily under this factor. Table 5 lists the items and their factor loadings.

Items must have loaded under one of the four factors with at least a .50 factor loading for retention. Additional items were kept if they related to specific topics or if they loaded under factors 2 and 4, because these factors were limited in items. Table 5 denotes these additional items.

Forty-three of the original items met the criterion or were retained for the above reasons, with loadings ranging from .46 to .81. The four neutral statements were also included in the final scale. Thus there were 20 favorable, 23 unfavorable, and 4 neutral statements (a total of 47 items) for the final scale.

## STUDY TWO: IMPLEMENTATION OF FINAL SCALE WITH UNDERGRADUATE SAMPLE METHOD

### Participants

The final Attitudes toward Transsexuality Scale (ATS) consisting of 47 items was completed by 382 students from undergraduate psychology courses. Of those students, 107

**Table 5. Item Loadings under the four factors: Study One**

	Items	Factor	Loadings
<b>Factor One</b>			
26	<i>Transsexuality is wrong.</i>	1	0.79
5	<i>I don't approve of transsexuality.</i>	1	0.78
25	<i>I am not against transsexuality.</i>	1	0.77
27	<i>I think it is okay for transsexuals to act the way they do.</i>	1	0.76
8	<i>Transsexuality is gross.</i>	1	0.75
11	<i>I don't like the idea of transsexuality in general.</i>	1	0.75
7	<i>I do not have a problem with transsexuality.</i>	1	0.74
39	<i>Transsexuals have an unhealthy view of sexuality.</i>	1	0.71
17	<i>Transsexuals should stay the sex they were born.</i>	1	0.70
16	<i>Transsexuals disgust me.</i>	1/3	0.68/0.51
14	<i>Transsexuals are disgusting.</i>	1/3	0.67/0.51
35	<i>Society should embrace the diversity transsexuality brings.</i>	1	0.67
3	<i>Transsexuals are nasty.</i>	1/3	0.66/0.51
31	<i>In my opinion, transsexuality is too extreme.</i>	1	0.65
9	<i>Transsexuals shouldn't have children.</i>	1	0.64
1	<i>I support transsexuals' freedom of expression.</i>	1	0.63
12	<i>Transsexuals are strange.</i>	1	0.62
18	<i>Transsexuals are normal.</i>	1	0.61
30	<i>Transsexuals should be allowed to adopt children.</i>	1	0.60
21	<i>I would be devastated if my sister was a transsexual.</i>	1	0.59
19	<i>I prefer not to be around transsexuals.</i>	1/3	0.59/0.50
23	<i>Transsexuals are freaks.</i>	1/3	0.57/0.54
37	<i>Transsexuals should be welcomed into today's society.</i>	1	0.56
2	<i>Transsexuals are a disgrace to their families.</i>	1/3	0.55/0.58
42	<i>I don't like the thought of transsexuality.</i>	1	0.54
15	<i>I would be okay with transsexuals in my community.</i>	1/3	0.54/0.58
41	<i>If a friend told me they were transsexual, I would be supportive.</i>	1/3	0.52/0.54
36	<i>Transsexuals are creepy.</i>	1	0.51
43	<i>Sex reassignment surgery should be covered by healthcare insurance.**</i>	1	0.51
24	<i>Transsexuals are emotionally unstable.**</i>	1	0.46
32	<i>Transsexuals should have the right to live how they feel.</i>	1/3	0.50/0.51
<b>Factor Two</b>			
20	<i>Transsexuals can be good parents.</i>	2	0.81
10	<i>Transsexuals can make valuable contributions to society.*</i>	2	0.80
44	<i>Transsexuals should be allowed parental rights if there is a divorce.*</i>	2	0.76
46	<i>I find transsexuality offensive.</i>	2	0.67
47	<i>Transsexuals should be allowed to do what makes them comfortable with their own bodies.</i>	2	0.65

\*Items retained for being heavily loaded under factors which do not have many items

\*\*Items retained for representing topics thought necessary to specifically cover.

**Table 5. Item Loadings under the four factors: Study One (cont.)**

	Items	Factor	Loadings
<b><u>Factor Three</u></b>			
33	<i>I could be friends with a transsexual.</i>	3	0.68
40	<i>Transsexuals don't deserve to be discriminated against.</i>	3	0.66
34	<i>Transsexuals are dirty.</i>	3	0.61
2	<i>Transsexuals are a disgrace to their families.</i>	1/3	0.55/0.58
15	<i>I would be okay with transsexuals in my community.</i>	1/3	0.54/0.58
38	<i>I would feel betrayed if I found out that a friend of mine is transsexual.</i>	3	0.56
23	<i>Transsexuals are freaks.</i>	1/3	0.57/0.54
41	<i>If a friend told me they were transsexual, I would be supportive.</i>	1/3	0.52/0.54
32	<i>Transsexuals should have the right to live how they feel.</i>	1/3	0.50/0.51
16	<i>Transsexuals disgust me.</i>	1/3	0.68/0.51
14	<i>Transsexuals are disgusting.</i>	1/3	0.67/0.51
3	<i>Transsexuals are nasty.</i>	1/3	0.66/0.51
19	<i>I prefer not to be around transsexuals.</i>	1/3	0.59/0.50
<b><u>Factor Four</u></b>			
4	<i>As far as I'm concerned, transsexuality is natural.*</i>	4	0.76
29	<i>I would be okay if my father was a transsexual.*</i>	4	0.64
45	<i>I would be appalled if my brother was transsexual.</i>	4	0.57

\*Items retained for being heavily loaded under factors which do not have many items

\*\*Items retained for representing topics thought necessary to specifically cover.

returned two weeks after initially taking the survey and completed the instrument once more to assess test-retest reliability. Please refer to Tables 1 and 2 for participants' demographic and personal characteristics. The participants received class credit for their participation.

#### Procedure

Surveys were administered to students from undergraduate psychology courses in groups of up to 70 participants. Participants completed the survey packet which contained the ATS, a demographic questionnaire, a matching test regarding knowledge of the definition of transsexuality, an attitude scale regarding homosexuality (ATLG), a personality measure (NEO-FFI), the Crowne-Marlow Social Desirability Scale (SD), and a scale assessing gender role (BEM sex role inventory; Bem, 1974) which was not used for analysis.

The ATS is a 47 item measure of attitudes towards transsexuals scored on a 6-point Likert scale ranging from 1=Strongly Disagree to 6=Strongly Agree with a theoretical range of 43-258, (higher scores indicate more favorability with unfavorable items to be reverse-scored). The four neutral items are not included in the total score.

Herek's Attitudes toward Lesbians and Gay Men scale (ATLG; Herek, 1984) is a 20 item measure of attitudes toward gay men and women scored on a 9-point Likert scale ranging from 1=Completely Disagree to 9=Completely Agree with a theoretical range of 20 to 180 (higher scores indicating more favorability, unfavorable items reverse scored). The ATLG shows consistently high reliability ( $\alpha=.90$ ) and validity; less favorable attitudes on the ATLG correlated significantly with high religiosity, lack of contact with homosexuals, adherence to traditional sex role attitudes, belief in a traditional family ideology and gender, and perception of friends' agreement with one's own attitudes (Herek, 1988).

Costa and McCrae's (1992) NEO Five-Factor Inventory (NEO-FFI) is a 60 item

personality inventory that is broken down into five separate scales tapping into the factors *Neuroticism*, *Extroversion*, *Openness to experience*, *Agreeability*, and *Conscientiousness*. The NEO-FFI is scored on a 5-point Likert scale ranging from 1=Strongly Disagree to 5=Strongly Agree with each part containing a theoretical range of 20 to 100 (higher scores indicating more tendency for the specific trait, lower scores indicating less of that trait).

The Crowne-Marlow Social Desirability 33 item scale (Crowne & Marlowe, 1960) assesses the tendency to respond in the way that projects favorable images of themselves scored on a True/False basis with a theoretical range of 0-33 (higher scores indicating more of a likelihood of responses made due to desire for social acceptance, lower scores indicating less of the participant's desire to respond for social acceptance).

Participants were also asked to complete a cover sheet requesting information such as their gender, age, ethnicity, psychology course(s) enrolled in, sexual orientation, sexual activity, and level of education. These items were used to determine any correlations between these factors and attitudes about transsexuals.

To better control the possibility that knowledge affects attitude, participants were required to complete and return the knowledge (matching test) component of the packet prior to completing the rest of the surveys. In order to provide the true definitions of these terms for the participants before they completed the attitude scale, the ATS included the definitions of *transsexual*, *homosexual*, and *sex-reassignment surgery* in the directions.

### Reliability

To assess internal reliability, Cronbach's alpha reliability coefficient was determined, as well as corrected item correlations. Furthermore, 107 participants returned two weeks following the administration of the survey to take it again to assess for test-retest reliability.

## Data Analysis

A 2x2 ANOVA (general linear models procedure) was used to assess any interactions or main effects. Tukey's Test was used for post hoc analyses to control the Type I experimentwise error. Dependent t-tests were used in order to compare the two sets of scores for test-retest reliability. Pearson's correlation coefficient was used to determine correlations between personality measures and the ATS and ATLG scores. A principal components factor analysis with varimax rotation was used in order to maximize the independence of factor loadings, and explore the factor patterns for the items.

## RESULTS

### Test-retest reliability/ Cronbach's alpha reliability coefficient

The 107 returning subjects scored similarly at Time One and Time Two tests [ $F(1,106)=0.16, p=.6894$ ]. The mean ATS score at Time One was 153.51 ( $sd=54.71$ ) and the mean score at Time Two was 152.93 ( $sd=55.37$ ). Thus, test-retest reliability was shown. Cronbach's alpha reliability coefficient was determined to be strong ( $\alpha= 0.98$ ), as were corrected item correlations (please refer to Table 3).

### All Participants

The mean ATS score was 157.51( $sd=50.62$ ), with a range of 43 to 258. The mean was at around the midpoint of the scale ( $m=3.5$  out of 6). The mean ATLG score was 118.39 ( $sd=37.61$ ), with a range of 20 to 180, showing somewhat favorable scores on average ( $m= 6$  out of 9). Please refer to Tables 3 and 6 for means and standard deviations.

A 2x2 ANOVA (general linear models procedure) revealed main effects of knowledge [ $F(1,354)=6.45, p=.0115$ ] and gender [ $F(1,354)=10.76, p=.0011$ ] on ATS scores. Participants who were able to identify the correct definition of the term "transsexual" at the



**Table 6. Means, Standard Deviations, and Correlations of Variables Study Two**

VARIABLE	ALL PARTICIPANTS			LOWER LEVEL			UPPER LEVEL		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Attitudes towards transsexuality	358	157.51	50.63	160	151.73	46.01	139	169.81	52.35
Attitudes towards homosexuality	368	118.39	37.62	167	112.57	35.84	141	128.14	39.30
Social Desirability	382	14.35	5.01	169	14.62	5.08	151	13.89	4.93
Neuroticism	375	35.62	7.77	167	35.90	7.77	148	34.83	7.06
Extroversion	371	43.96	6.22	166	44.84	6.11	147	42.91	5.81
Openness	374	40.17	6.31	167	40.13	6.02	146	41.27	6.65
Agreeability	372	42.93	5.81	165	43.32	5.68	146	42.97	5.81
Conscientiousness	373	43.61	6.05	165	43.40	6.07	147	43.91	6.22

outset of the study scored more favorably on the ATS than those who could not. There was no interaction effect found between knowledge and gender [ $F(1,354)=3.17, p=.0759$ ] on ATS scores; however, the unequal cell sizes may have masked this effect. For the ATLG, there was a main effect of knowledge regarding the definition of “transsexual” [ $F(1,364)=3.89, p=.0492$ ] but no main effect of gender [ $F(1,364)=1.19, p=.2761$ ]. Participants who were able to identify the correct definition of “transsexual” at the outset of the study scored more favorably on the ATLG than those who could not. There was no interaction effect between knowledge and gender [ $F(1,364)=2.24, p=.1355$ ] on ATLG scores.

Students in the upper-level psychology classes scored higher, and therefore more favorably, on both the ATS [ $t(356)=3.51, p=.0005$ ] and the ATLG [ $t(366)=3.37, p=.0008$ ] than those participants in the Introduction to Psychology class students. Please refer to Table 6 for mean ATS and ATLG scores. Age of the participant did have a significant effect on ATS [ $F(1,355)=8.0, p=.0004$ ] as well as ATLG [ $F(1,365)=6.10, p=.0025$ ] scores. Post hoc comparison of ATS scores showed that participants under 19 scored significantly lower than both groups of older participants ( $p<.05$ ). For ATLG scores, participants under 19 scored lower than those over 21 (Tukey post hoc comparison,  $p<.05$ ); students between 19 and 21 had intermediate scores. Basically, as age of the sample increased, tolerance as measured on the ATS and ATLG also increased. As hypothesized, there were no differences found on ATS [ $t(356)=0.82, p=.4156$ ] or ATLG [ $t(366)=1.02, p=.3094$ ] scores in regards to ethnicity. However, it should be noted that non-white participants represented a small sample ( $n=49$ ); further research should be conducted with a larger sample size. For both the ATS [ $t(73)=2.87, p=.0054$ ] and the ATLG [ $t(77)=3.41, p=.0010$ ], gay men (ATS  $n=7, m=190.14$ ; ATLG  $n=7, m=165.43$ ) scored higher than straight men (ATS  $n=68, m=137.38$ ; ATLG  $n=73, m=131.05$ ). This was also true in

the case of gay (ATS  $n=19$ ,  $m=217.11$ ; ATLG  $n=19$ ,  $m=167.53$ ) versus straight (ATS  $n=263$ ,  $m=157.63$ ; ATLG  $n=271$ ,  $m=137.45$ ) women for both ATS [ $t(281)=5.19$ ,  $p<.0001$ ] and ATLG [ $t(287)=6.70$ ,  $p=.0001$ ] scores. It should be noted that the gay participants represent a small sample ( $n=28$ ), further research should be conducted with a larger sample size.

In addition, the ATS items were subjected to principal components factor analysis with varimax rotation. Please refer to Table 7 for items and loadings. Four factors accounting for a total of 30.37% of the variance were retained. Factor 1 (eigenvalue= 26.24) was labeled *Acceptance* and accounted for 9.84% of the variance indicating a main theme containing items concerned mainly with the overall acceptance of transsexuality. Items such as “*I don’t like the thought of transsexuality*”, “*Transsexuals should stay the sex they were born*”, and “*I don’t like the idea of transsexuality in general*” loaded highest on this factor. Factor 2 (eigenvalue=1.57) labeled *Emotional Reaction* accounted for 9.31% of the variance and contained items that tended to center around emotional feelings towards transsexuals. Items such as “*Transsexuals are creepy*”, “*Transsexuals are disgusting*”, and “*Transsexuals are nasty*” loaded heavily under this factor. Factor 3 (eigenvalue=1.41) labeled *Rights* accounted for 6.67% of the variance and contained items that supported a transsexual lifestyle. Items such as “*Transsexuals should have the right to live how they feel*”, “*Transsexuals don’t deserve to be discriminated against*”, and “*Transsexuals should be allowed to do what makes them comfortable in their own bodies*” loaded the heaviest under this factor. Factor 4 (eigenvalue=1.14) labeled *Parenting* accounted for 4.55% of the variance and seemed to cover acceptance of transsexuals as parents. Items such as “*Transsexuals shouldn’t have children*”, “*Transsexuals can be good parents*”, and “*Transsexuals should be allowed to adopt children*” loaded heavily under this factor.

Subjects Who Passed Knowledge Assessment

**Table 7. Item Loadings under the four factors: Study Two All Participants**

	Items	Factor	Loadings
<b>Factor One: Acceptance</b>			
11	<i>I don't like the idea of transsexuality in general.</i>	1	.69
29	<i>I would be okay if my father was a transsexual.</i>	1	.68
43	<i>I don't like the thought of transsexuality.</i>	1	.68
17	<i>Transsexuals should stay the sex they were born.</i>	1	.67
4	<i>As far as I'm concerned, transsexuality is natural.</i>	1	.65
5	<i>I don't approve of transsexuality.</i>	1	.65
46	<i>I would be appalled if my brother was transsexual.</i>	1	.65
21	<i>I would be devastated if my sister was a transsexual.</i>	1	.64
31	<i>In my opinion, transsexuality is too extreme.</i>	1	.63
26	<i>Transsexuality is wrong.</i>	1	.61
44	<i>Sex reassignment surgery should be covered by healthcare insurance.</i>	1	.60
40	<i>Transsexuals have an unhealthy view of sexuality.</i>	1	.59
18	<i>Transsexuals are normal.</i>	1	.58
25	<i>I am not against transsexuality.</i>	1	.54
27	<i>I think it is okay for transsexuals to act the way they do.</i>	1/3	.54/.56
19	<i>I prefer not to be around transsexuals.</i>	1/2	.48/.53
7	<i>I do not have a problem with transsexuality.</i>	1/2/3	.47/.49/.5
39	<i>I would feel betrayed if I found out that a friend of mine is transsexual.</i>	1	.47
24	<i>Transsexuals are emotionally unstable.</i>	1/4	.40/.41
<b>Factor Two: Emotional Reactior</b>			
14	<i>Transsexuals are disgusting.</i>	2	.80
16	<i>Transsexuals disgust me.</i>	2	.77
3	<i>Transsexuals are nasty.</i>	2	.76
37	<i>Transsexuals are creepy.</i>	2	.75
35	<i>Transsexuals are dirty.</i>	2	.73
8	<i>Transsexuality is gross.</i>	2	.71
23	<i>Transsexuals are freaks.</i>	2	.69
12	<i>Transsexuals are strange.</i>	2	.61
34	<i>I could be friends with a transsexual.</i>	2	.56
2	<i>Transsexuals are a disgrace to their families.</i>	2	.55
47	<i>I find transsexuality offensive.</i>	2/3	.53/.53
19	<i>I prefer not to be around transsexuals.</i>	1/2	.48/.53
7	<i>I do not have a problem with transsexuality.</i>	1/2/3	.47/.49/.5
15	<i>I would be okay with transsexuals in my community.</i>	2/3	.47/.45
10	<i>Transsexuals can make valuable contributions to society.</i>	2/4	.40/.40

**Table 7. Item Loadings under the four factors: Study Two All Participants (cont.)**

	Items	Factor	Loadings
<b>Factor Three: Rights</b>			
48	<i>Transsexuals should be allowed to do what makes them comfortable with their own bodies.</i>	3	.73
32	<i>Transsexuals should have the right to live how they feel.</i>	3	.69
41	<i>Transsexuals don't deserve to be discriminated against.</i>	3	.66
1	<i>I support transsexuals' freedom of expression.</i>	3	.58
36	<i>Society should embrace the diversity transsexuality brings.</i>	3	.58
38	<i>Transsexuals should be welcomed into today's society.</i>	3	.56
42	<i>If a friend told me they were transsexual, I would be supportive.</i>	3	.55
47	<i>I find transsexuality offensive.</i>	2/3	.53/.53
7	<i>I do not have a problem with transsexuality.</i>	1/2/3	.47/.49/.50
15	<i>I would be okay with transsexuals in my community.</i>	2/3	.47/.45
<b>Factor Four: Parenting</b>			
9	<i>Transsexuals shouldn't have children.</i>	4	.68
20	<i>Transsexuals can be good parents.</i>	4	.74
30	<i>Transsexuals should be allowed to adopt children.</i>	4	.73
45	<i>Transsexuals should be allowed parental rights if there is a divorce.</i>	4	.65
10	<i>Transsexuals can make valuable contributions to society.</i>	2/4	.40/.40
24	<i>Transsexuals are emotionally unstable.</i>	1/4	.40/.41

Described in the overall sample results, there were indeed initial differences between men and women in their responses towards transsexuality as well as homosexuality (women tending to score more favorably than men). However, once the data from participants who were not able to correctly identify the definition of “transsexual” were removed from the current analysis, gender differences were no longer to be found in any of the sub-samples towards either transsexuals or homosexuals. Furthermore, there were significant differences between the lower and upper-level psychology student participants. Further analysis was conducted splitting the classes and excluding data from the participants who did not know the definition of the term “transsexual” at the outset of the study.

#### Lower-level Psychology Students Who Could Identify the Definition of Transsexuality

The mean ATS score was 157.73 ( $sd=46.01$ ), with a range of 45 to 251. Similar to the overall sample, the mean was at around the midpoint of the scale ( $m=3.5$  out of 6), thereby indicating neither favorable nor unfavorable attitudes on average. Again similar to the overall sample, the mean ATLG score was 112.57 ( $sd=35.84$ ), with a range of 36 to 180, showing somewhat favorable scores on average towards homosexuals ( $m= 5.5$  out of 9).

It is important to note that with the removal of participants from the analysis who were not able to correctly identify the definition of the term “transsexual”, there were no longer gender differences in either the ATS [ $t(158)=0.95, p=.3444$ ] or the ATLG [ $t(165)=0.05, p=.9632$ ] scores. Furthermore, due to the gay ( $n=12$ ) and non-white ( $n=20$ ) participant sample sizes being very small, it was not appropriate to conduct these t-tests in this study. Please refer to Table 6 for means and standard deviations for the subsamples.

For this part of the subsample, Pearson correlation coefficients indicated that there were positive correlations between the ATS and ATLG [ $r(158)=.82, p=.0001$ ] and between the ATS

and *Openness* [ $r(158)=.31, p=.0001$ ] variable. Participants who tended to be more favorable in their attitudes towards transsexuals also seemed to score more favorably for homosexuals. Participants who tended to score more favorably on the ATS also seemed to be more open to new experiences. There were small but significant negative correlations between the ATS and the *Extroversion* [ $r(158)=-.18, p=.0218$ ] and *Conscientiousness* [ $r(157)=-.26, p=.0012$ ] variables. Participants whose attitudes tended to be favorable towards transsexuality seem to reflect lower levels of extroversion and conscientiousness. There were no correlations found between the ATS and the following variables: *Social desirability* [ $r(160)=-.07, p=.3762$ ], *Neuroticism* [ $r(158)=.06, p=.4407$ ], and *Agreeability* [ $r(157)=-.09, p=.2653$ ].

There were positive correlations between the ATLG and the *Openness* factor [ $r(165)=.29, p=.0002$ ]. Participants who scored more favorably towards homosexuals seemed to also score higher in openness to new experiences. There were negative correlations between the ATLG and the *Conscientiousness* [ $r(163)=-.23, p=.0026$ ], and *Social desirability* [ $r(167)=-.18, p=.0203$ ] variables. Participants who scored more favorably seemed to reflect lower levels of conscientiousness. Furthermore, participants who scored more favorably to homosexuality were concerned less with giving socially desirable responses. There were no correlations found between the ATLG and the following variables: *Extroversion* [ $r(164)=-.14, p=.0765$ ], *Neuroticism* [ $r(165)=.11, p=.1542$ ], and *Agreeability* [ $r(164)=-.10, p=.2044$ ].

There were negative correlations found between ATS scores and the following neutral statements: “*Transsexuality is a choice*” [ $r(160)=-.18, p=.0251$ ], “*Male to female transsexuals make me feel more uncomfortable than female to male transsexuals*” [ $r(159)=-.30, p=.0001$ ], and “*Transsexuality is a disease*” [ $r(159)=-.33, p=.0001$ ]. Participants who tended to have more favorable attitudes towards transsexuals seemed to be not as likely to believe that transsexuality

**Table 8. Item Loadings under the four factors: Study Two Lower Level Participants**

	Items	Factor	Loadings
<b>Factor One: Emotional Reactior</b>			
14	<i>Transsexuals are disgusting.</i>	1	.81
3	<i>Transsexuals are nasty.</i>	1	.78
16	<i>Transsexuals disgust me.</i>	1	.78
35	<i>Transsexuals are dirty.</i>	1	.74
37	<i>Transsexuals are creepy.</i>	1	.74
23	<i>Transsexuals are freaks.</i>	1	.72
8	<i>Transsexuality is gross.</i>	1	.71
12	<i>Transsexuals are strange.</i>	1	.71
34	<i>I could be friends with a transsexual.</i>	1	.58
19	<i>I prefer not to be around transsexuals.</i>	1	.55
15	<i>I would be okay with transsexuals in my community.</i>	1/2	.44/.46
<b>Factor Two: Rights</b>			
41	<i>Transsexuals don't deserve to be discriminated against.</i>	2	.71
48	<i>Transsexuals should be allowed to do what makes them comfortable with their own bodies.</i>	2	.70
32	<i>Transsexuals should have the right to live how they feel.</i>	2	.69
1	<i>I support transsexuals' freedom of expression.</i>	2	.59
36	<i>Society should embrace the diversity transsexuality brings.</i>	2	.56
47	<i>I find transsexuality offensive.</i>	2	.56
2	<i>Transsexuals are a disgrace to their families.</i>	2	.55
27	<i>I think it is okay for transsexuals to act the way they do.</i>	2	.54
25	<i>I am not against transsexuality.</i>	2	.53
7	<i>I do not have a problem with transsexuality.</i>	2	.52
38	<i>Transsexuals should be welcomed into today's society.</i>	2	.50
42	<i>If a friend told me they were transsexual, I would be supportive.</i>	2	.48
15	<i>I would be okay with transsexuals in my community.</i>	1/2	.44/.46
10	<i>Transsexuals can make valuable contributions to society.</i>	2	.41
<b>Factor Three: Relationships</b>			
46	<i>I would be appalled if my brother was transsexual.</i>	3	.78
29	<i>I would be okay if my father was a transsexual.</i>	3	.72
21	<i>I would be devastated if my sister was a transsexual.</i>	3	.68
31	<i>In my opinion, transsexuality is too extreme.</i>	3	.68
39	<i>I would feel betrayed if I found out that a friend of mine is transsexual.</i>	3	.66
17	<i>Transsexuals should stay the sex they were born.</i>	3	.55
43	<i>I don't like the thought of transsexuality.</i>	3	.51
40	<i>Transsexuals have an unhealthy view of sexuality.</i>	3	.30



**Table 8. Item Loadings under the four factors: Study Two Lower Level Participants (cont.)**

	Items	Factor	Loadings
<b>Factor Four: Acceptance</b>			
4	<i>As far as I'm concerned, transsexuality is natural.</i>	4	.66
5	<i>I don't approve of transsexuality.</i>	4	.61
26	<i>Transsexuality is wrong.</i>	4	.51
11	<i>I don't like the idea of transsexuality in general.</i>	4	.50
18	<i>Transsexuals are normal.</i>	4	.45
44	<i>Sex reassignment surgery should be covered by healthcare insurance.</i>	4	.43
<b>Factor Five: Parenting</b>			
20	<i>Transsexuals can be good parents.</i>	5	.76
30	<i>Transsexuals should be allowed to adopt children.</i>	5	.76
9	<i>Transsexuals shouldn't have children.</i>	5	.75
45	<i>Transsexuals should be allowed parental rights if there is a divorce.</i>	5	.57
24	<i>Transsexuals are emotionally unstable.</i>	5	.45

was a choice or a disease, but instead by other factors (e.g. born that way). These participants also seemed to feel more uncomfortable with the idea of a male-to-female transsexual than a female-to-male transsexual. There were positive correlations between “*I would rather be a homosexual than a transsexual*” and both the ATS scores [ $r(153)=.27, p=.0006$ ] and the ATLG scores [ $r(155)=.41, p=.0001$ ]. Participants who tended to score more favorably on both the ATS and ATLG also seemed to find being a homosexual more desirable than being a transsexual.

The lower-level sample exhibited five factors in the factor analysis versus the four found in the overall and upper-level samples. (Please see Table 8 for loadings). Factor 1 (eigenvalue=23.74) labeled *Emotional Reaction* accounted for 8.47% of the variance and was similar to the overall sample’s Factor 2 in that it contained the items tending to center around personal feelings or emotions towards transsexuals. Items such as “*Transsexuals are creepy*”, “*Transsexuals are dirty*”, and “*Transsexuals disgust me*” loaded heavily under this factor. Factor 2 (eigenvalue=1.94) labeled *Rights* accounted for 6.49% of the variance and matched Factor 3 of the overall sample containing items seemingly to cover belief in support for a transsexual lifestyle. Items such as “*Transsexuals should have the right to live how they feel*”, “*Transsexuals don’t deserve to be discriminated against*”, and “*Transsexuals should be allowed to do what makes them comfortable in their own bodies*” loaded the heaviest under this factor. Factor 3 (eigenvalue=1.64) labeled *Relationships* accounted for 6% of the variance and indicated a main theme of acceptance of family or friends as transsexuals as well as an overall general feeling towards transsexuality. This factor seemed to be unique to the lower level undergraduate sample. Items such as “*I would be devastated if my sister was a transsexual*”, “*Transsexuals should stay the sex they were born*”, and “*I would feel betrayed if I found out a friend of mine is transsexual*” loaded highest on this factor. Factor 4 (eigenvalue=1.44) labeled *Acceptance* accounted for

4.82% of the variance and seemed to contain items concerned mainly with the overall acceptance of transsexuality similar to Factor 1 of the overall sample. Items such as “*I am not against transsexuality*”, “*Transsexuality is wrong*”, and “*As far as I’m concerned, transsexuality is natural*” loaded heavily under this factor. Factor five (eigenvalue=1.17) labeled *Parenting* accounted for 4.17% of the variance seemed to reflect acceptance of transsexuals as parents and was similar to Factor 4 of the overall sample. Items such as “*Transsexuals shouldn’t have children*”, “*Transsexuals can be good parents*”, and “*Transsexuals should be allowed to adopt children*” loaded heavily under this factor.

#### Upper-level Psychology Students Who Could Identify the Definition of Transsexuality

The mean ATS score was 169.84 ( $sd=52.35$ ), with a range of 69 to 257. Similar to both the overall and the lower level samples, the mean was at around the midpoint of the scale ( $m=3.5$  out of 6). The mean ATLG score was 128.14 ( $sd=39.30$ ), with a range of 39 to 180, showing slightly more favorable attitudes towards homosexuals than both the overall and lower level samples ( $m= 6$  out of 9).

As in the lower level sample, there were no gender differences in either the ATS [ $t(137)=1.61, p=.1108$ ] or the ATLG [ $t(139)=0.44, p=.6626$ ] scores and there were still no ethnicity differences in either the ATS [ $t(137)=0.05, p=.9596$ ] or the ATLG [ $t(139)=0.32, p=.7463$ ] scores. Due to the gay ( $n=14$ ) and non-white ( $n=19$ ) participant sample sizes being very small, it was not appropriate to conduct further analyses on these groups; further research should be conducted with larger sample sizes. Please refer to Table 6 for variable means and standard deviations.

Furthermore, as in the lower level sample, Pearson correlation coefficients indicate that there were positive correlations between the ATS and ATLG [ $r(132)=.87, p=.0001$ ] and between

the ATS and *Openness* [ $r(135)=.56, p=.0001$ ] variable. Participants who tended to score more favorably towards transsexuals also tended to score more favorably towards homosexuals. These participants also seemed to be more open to new experiences. However, unlike in the lower level psychology student sample, there were no negative correlations between the ATS and the *Extroversion* [ $r(136)=-.08, p=.3365$ ] and *Conscientiousness* [ $r(136)=-.12, p=.1525$ ] variables. Similar to the lower level sample, there were no correlations found between the ATS and the following variables: *Social desirability* [ $r(139)=.13, p=.1265$ ], *Neuroticism* [ $r(137)=.15, p=.0871$ ], and *Agreeability* [ $r(135)=.12, p=.1588$ ]. Similar to the lower level sample, there was a positive correlation between the ATLG and the *Openness* factor [ $r(136)=.49, p=.0001$ ]. Participants who tended to score more favorably towards homosexuals seemed to be more open to new experiences. However, the only negative correlation was to the *Conscientiousness* [ $r(137)=-.26, p=.0021$ ] variable. Participants who scored more favorably towards homosexuals tended to score lower in conscientiousness. As in the lower level sample, there were no correlations found between the ATLG and the following variables: *Extroversion* [ $r(137)=-.10, p=.2598$ ], *Neuroticism* [ $r(138)=.13, p=.1367$ ], and *Agreeability* [ $r(136)=.03, p=.7455$ ]. Unlike the lower level sample, there were also no correlations found between the ATLG and the *Social desirability* [ $r(141)=.10, p=.2217$ ] variable. Please refer to Table 6 for variable means and standard deviations.

As in the lower level sample, there were negative correlations found between ATS scores the following conditional statements: “*Transsexuality is a choice*” [ $r(138)=-.42, p=.0001$ ], “*Male to female transsexuals make me feel more uncomfortable than female to male transsexuals*” [ $r(137)=-.37, p=.0001$ ], and “*Transsexuality is a disease*” [ $r(137)=-.48, p=.0001$ ]. Participants who tended to have more favorable attitudes towards transsexuals seemed to be not

as likely to believe that transsexuality was a choice or a disease. These participants also seemed to feel more uncomfortable with the idea of a male-to-female transsexual than a female-to-male transsexual. Also similar to the lower level sample, there were positive correlations between “*I would rather be a homosexual than a transsexual*” and both the ATS scores [ $r(133)=.25$ ,  $p=.0040$ ] and the ATLG scores [ $r(131)=.31$ ,  $p=.0003$ ]. Participants who tended to score more favorably on both the ATS and ATLG also seemed to possibly find being a homosexual was more desirable than being a transsexual.

The four factors evident for the upper level sample basically coincide with the factors of the overall sample (please refer to Table 9). Factor 1 (eigenvalue= 27.94) labeled *Acceptance* accounted for 10.07% of the variance indicating a main theme containing items concerned mainly with the overall acceptance of transsexuality. Items such as “*I don’t like the thought of transsexuality*”, “*Transsexuals should stay the sex they were born*”, and “*I would be okay if my father was transsexual*” loaded highest on this factor. Factor 2 (eigenvalue=1.48) labeled *Emotional Reaction* accounts for 9.82% of the variance containing items that tend to center around emotions towards transsexuals. Items such as “*Transsexuals are creepy*”, “*Transsexuals are disgusting*”, and “*Transsexuals are nasty*” loaded heavily under this factor. Factor 3 (eigenvalue=1.42) labeled *Rights* accounts for 6.27% of the variance and contains items seemingly to cover belief in support for a transsexual lifestyle. Items such as “*Transsexuals should have the right to live how they feel*”, “*Transsexuals don’t deserve to be discriminated against*”, and “*Transsexuals should be allowed to do what makes them comfortable in their own bodies*” loaded the heaviest under this factor. Factor 4 (eigenvalue=1.03) labeled *Parenting* accounts for 5.70% of the variance and seems to cover acceptance of transsexuals as parents of transsexuals. Items such as “*Transsexuals shouldn’t have children*”, “*Transsexuals can be good*

**Table 9. Item Loadings under the four factors: Study Two Upper Level Participants**

	Items	Factor	Loadings
<b><u>Factor One: Acceptance</u></b>			
11	<i>I don't like the idea of transsexuality in general.</i>	1	.70
44	<i>Sex reassignment surgery should be covered by healthcare insurance.</i>	1	.70
18	<i>Transsexuals are normal.</i>	1	.69
43	<i>I don't like the thought of transsexuality.</i>	1	.67
17	<i>Transsexuals should stay the sex they were born.</i>	1	.66
4	<i>As far as I'm concerned, transsexuality is natural.</i>	1	.65
21	<i>I would be devastated if my sister was a transsexual.</i>	1	.64
29	<i>I would be okay if my father was a transsexual.</i>	1	.63
5	<i>I don't approve of transsexuality.</i>	1	.62
46	<i>I would be appalled if my brother was transsexual.</i>	1	.62
31	<i>In my opinion, transsexuality is too extreme.</i>	1	.58
40	<i>Transsexuals have an unhealthy view of sexuality.</i>	1	.57
36	<i>Society should embrace the diversity transsexuality brings.</i>	1/3	.56/.55
30	<i>Transsexuals should be allowed to adopt children.</i>	1/2	.55/.67
27	<i>I think it is okay for transsexuals to act the way they do.</i>	1/3	.55/.58
25	<i>I am not against transsexuality.</i>	1/2	.54/.54
19	<i>I prefer not to be around transsexuals.</i>	1/2	.52/.54
26	<i>Transsexuality is wrong.</i>	1/2	.52/.51
12	<i>Transsexuals are strange.</i>	1/2	.52/.50
<b><u>Factor Two: Emotional Reaction</u></b>			
14	<i>Transsexuals are disgusting.</i>	2	.78
37	<i>Transsexuals are creepy.</i>	2	.77
16	<i>Transsexuals disgust me.</i>	2	.76
3	<i>Transsexuals are nasty.</i>	2	.73
8	<i>Transsexuality is gross.</i>	2	.70
35	<i>Transsexuals are dirty.</i>	2	.69
23	<i>Transsexuals are freaks.</i>	2	.68
7	<i>I do not have a problem with transsexuality.</i>	2	.58
2	<i>Transsexuals are a disgrace to their families.</i>	2	.56
47	<i>I find transsexuality offensive.</i>	2	.56
30	<i>Transsexuals should be allowed to adopt children.</i>	1/2	.55/.67
25	<i>I am not against transsexuality.</i>	1/2	.54/.54
19	<i>I prefer not to be around transsexuals.</i>	1/2	.52/.54
26	<i>Transsexuality is wrong.</i>	1/2	.52/.51
34	<i>I could be friends with a transsexual.</i>	2	.51
12	<i>Transsexuals are strange.</i>	1/2	.52/.50
15	<i>I would be okay with transsexuals in my community.</i>	2	.50
42	<i>If a friend told me they were transsexual, I would be supportive.</i>	2	.49

**Table 9. Item Loadings under the four factors: Study Two Upper Level Participants (cont.)**

	Items	Factor	Loadings
<b><u>Factor Three: Rights</u></b>			
32	<i>Transsexuals should have the right to live how they feel.</i>	3	.75
48	<i>Transsexuals should be allowed to do what makes them comfortable with their own bodies.</i>	3	.73
38	<i>Transsexuals should be welcomed into today's society.</i>	3	.59
41	<i>Transsexuals don't deserve to be discriminated against.</i>	3	.56
36	<i>Society should embrace the diversity transsexuality brings.</i>	1/3	.56/.55
27	<i>I think it is okay for transsexuals to act the way they do.</i>	1/3	.55/.58
10	<i>Transsexuals can make valuable contributions to society.</i>	3/4	.36/.37
1	<i>I support transsexuals' freedom of expression.</i>	3	.52
<b><u>Factor Four: Parenting</u></b>			
9	<i>Transsexuals shouldn't have children.</i>	4	.60
20	<i>Transsexuals can be good parents.</i>	4	.68
24	<i>Transsexuals are emotionally unstable.</i>	4	.50
39	<i>I would feel betrayed if I found out that a friend of mine is transsexual.</i>	4	.53
45	<i>Transsexuals should be allowed parental rights if there is a divorce.</i>	4	.62
10	<i>Transsexuals can make valuable contributions to society.</i>	3/4	.36/.37

*parents*”, and “*Transsexuals should be allowed to adopt children*” loaded heavily under this factor.

## DISCUSSION

Development of a valid and reliable attitude scale is a complex and in-depth task. According to Robinson, et al. (1991), care must be afforded to the adherence of certain guidelines to ensure coverage of content areas, content and face validity, high internal consistency, strong test-retest reliability, all of which this scale did exhibit. Although attitude scales are fairly simple and easy to administer, one of the most notable problems is the failure to avoid response set avoidance (e.g. order effects, acquiescence, social desirability, and extremity). Special care was taken with the development of the scale to thwart the influence of these issues. In keeping with the guidelines set by Robinson, et al., the scale was developed to be interesting and not excessive in length, both positive and negative items were used, items were included that held no bias to social desirability, and experts assisted in rating the items for content, wording, and clarity.

The 47 item ATS has proven to be a reliable and valid scale regarding attitudes towards transsexuals and transsexuality. Using an undergraduate college student sample, the ATS showed test-retest reliability, established face and content validities, as well as a strong internal validity as evidenced by Cronbach’s alpha. In addition, significant discriminant validity was supported in the fact that participants scored differently on the ATS versus the ATLG. By this, the ATS indicates that attitudes towards transsexuals differed from attitudes towards homosexuals and therefore shows that the two attitude scales assess unique constructs.

The analysis was broken down based on several subsamples due to the initial differences



seen between these subgroups: all participants consisting of lower and upper-level psychology students, all participants who were able to identify the correct definition of “transsexual”, only lower-level students who were able to identify the correct definition of “transsexual”, and only upper-level (psychology major) students who were able to identify the definition of “transsexual”.

The purpose of the exploratory factor analyses, were to discover the main themes in responding to the scale. It can be seen that attitudes about transsexuals are not a unidimensional phenomenon as evidenced by the several main factors accounting for a majority of the variance in each sample. Within the overall and the upper-level samples, four main factors were found: *Acceptance, Emotional Reaction, Rights, and Parenting*. However, it was interesting to note that in the lower-level (non-psychology majors or psychology majors just beginning their coursework) sample, five main factors were found, one being unique to this sample. This additional factor was *Relationships*, which seemed to be centered on the acceptance on family or friends as transsexuals. Possibly this specific age group has more of a focus on friendships and family, as well as in general scoring less favorably in their attitudes towards both transsexuals and homosexuals than the other sample.

Dissimilar to the findings of Leitenberg and Slavin (1983), heterosexuals tended to have more favorable attitudes towards homosexuals than transsexuals. Furthermore, although there were initial differences found in attitudes based on gender (women tending to have more favorable attitudes than men), this difference was no longer evident once data from participants who could not correctly identify the term “transsexual” were excluded from the sample being analyzed.

As hypothesized, there was a significant difference in scores based on the participant’s

ability to correctly identify the term “transsexual” at the outset of the study versus confusing the term with another (e.g. transvestite, bisexual, or homosexual). In fact, as mentioned above, this difference in scores accounted for the gender difference found in the overall sample.

As expected and following the research of Herek and Capitanio (1995; 1999), there were no significant differences in attitudes towards both transsexuality and homosexuality based on ethnicity. However, it should be noted that the non-white participant sample size was small and further studies could be conducted using a more equal sample size.

Based on prior similar research, it was predicted that older participants would tend to have more negative attitudes towards both transsexuals and homosexuals (Herek, 2002); however, the reverse was true for this sample. More favorable attitudes tended to positively correlate with age and level of education, to the point where possibly even a year difference in psychology courses and age had a favorable effect on attitudes towards both transsexuals and homosexuals. Findings in this study showed that as age increases, so does the tolerance of attitudes towards both transsexuals and homosexuals. This could be due to more experience with or exposure to transsexuality/homosexuality or even due to the upper-classmen (psychology majors) studying related issues in their psychology courses. It should be noted that as an undergraduate sample has a limited age range, it is not appropriate to generalize these findings with the general population.

An additional hypothesis was that certain personality variables would correlate with attitudes towards transsexuals and homosexuals. Specifically, it was correctly predicted that the variable *Openness* would positively correlate with more favorable attitudes toward both transsexuals and homosexuals. Furthermore, it was also predicted that other personality factors would correlate with attitudes. However, it was interesting to note that although the lower-level

sample showed that participants who tended to have more favorable attitudes towards transsexuals also tended to have lower levels of *Extroversion* and *Conscientiousness*, the upper-level sample showed no correlation between attitudes towards transsexuals and these two variables. Again, it may be that age and experience with psychology-related topics has something to do with the above findings. In addition, in the lower-level sample, participants who tended to have less favorable attitudes towards homosexuals also tended to show a greater desire to have themselves come across as responding in a way that was socially desirable. However, the upper-level sample showed no such correlation.

#### ATS Functionality

The ATS appears to be a valid and reliable scale designed to assess attitudes towards transsexuals. By implementing it along with Herek's ATLG we can see that within this undergraduate sample, several things can be determined. Contrary to the original hypothesis, there seem to be no gender differences in attitudes towards both transsexuals and homosexuals once the factor of knowledge is controlled. Thus, participants who were able to correctly identify the term "transsexual" tended to have more favorable attitudes toward both transsexual and homosexuals regardless of gender. It can be hypothesized that ignorance about a certain topic can influence the attitude toward that topic. Perhaps education and more visibility of transsexuality and homosexuality (as seen in recent years) will lead towards consistently more favorable attitudes in the general community.

Furthermore, there was a strong positive correlation between attitudes towards homosexuals and attitudes towards transsexuals; participants who had more favorable attitudes towards homosexual also tended to have favorable attitudes towards transsexuals. However, data suggest that participants may tend to view homosexuality in a more favorable light than

transsexuality; scores reflecting attitudes towards homosexuality were on average slightly more favorable. Not surprisingly, more favorable attitudes towards transsexuals and homosexuals also tended to correlate with a greater level of “openness to new experiences”. In addition, participants who tended to have more favorable attitudes towards homosexuality also tended to have lower levels of *Conscientiousness* (self-discipline, achievement-striving, and deliberation).

Within the overall sample, on average more participants (82%) tended to agree with the item statement “*Transsexuality is a choice*” and fewer (77.4%) agreed with the item statement “*Transsexuality is a disease*”. Interestingly, participants who scored more favorably also tended to be the ones less inclined to think that transsexuality was a choice or that it was a disease. Support in the former aspect regarding choice follows Herek and Capitanio’s findings (1995); heterosexual participants tended to have more favorable attitudes towards homosexuals when they believed that the orientation was not due to choice.

In addition, it was discovered that participants with less favorable attitudes towards transsexuals tended to also feel that male-to-female (MTF) transsexuals made them more uncomfortable than female-to-male (FTM) transsexuals; of all participants, 55% agreed with the statement “*Male-to-female transsexuals make me more uncomfortable than female-to-male transsexuals*”. Sex roles (Bem, 1974) could possibly have an influence on these findings and it would be interesting to later identify in further research how attitudes towards MTF and FTM transsexuals differ.

On average, within the overall sample, more participants would rather be homosexual than transsexual (66.7%). In addition, participants who tended to have more favorable attitudes towards transsexuals also tended to have the belief that they would rather be a homosexual than a transsexual. It would be interesting to research this further as to why such is the case. Perhaps

there is a belief that transsexuals have more hardships in life than homosexuals do; participants would be less inclined to want to be in a transsexual's position.

### Limitations

Although we tested the ATS with a sample of over 300 undergraduate participants, it should be noted that the sample used was limited in age range as well as in diversity. Although there were significant differences found between the youngest and the eldest groups of participants, it is unfortunate that it was not feasible to study a broader range of ages. In regards to ethnicity, the sample size for non-white participants was small and therefore may not be suitable for reporting ( $n=49$  non-white versus  $n=333$  white participants.). This is also true in regards to participants who had at least some attraction to the same sex ( $n=28$  homosexual attraction versus  $n=354$  attracted to only the opposite sex). By these under-representations, it was not possible to analyze for more differences in attitudes that may be related to these variables.

### Comparison to Prior Research

There have only been two published studies found in which attitudes towards homosexuality and/or transsexuality were assessed (Green & Money, 1969; Leitenberg & Slavin, 1983), both conducted well over twenty years ago. Furthermore, the instruments used are also vastly different, one simply asking five questions of undergraduate sample regarding beliefs about both transsexuals and homosexuals (Leitenberg & Slavin, 1983), and the other one consisted of the administration of a quick survey following a brief clinical description of a hypothetical transsexual client given to a sample of psychiatrists, general practitioners, urologists, and gynecologists (Green & Money, 1969).

Leitenberg and Slavin (1983) found that more participants rated homosexuality as “wrong” compared to transsexuality. These findings supported the hypothesis that homosexual

denial and homophobia in some transsexuals may, in part be a reflection of society's moral disapproval of homosexuality as compared to transsexuality. However, in the current study, the reverse was found to be true. It was found that participants tended to score slightly more favorably towards homosexuals compared to transsexuals, plus, more participants responded that they would rather be a homosexual than a transsexual.

Herek (2002) found that more negative attitudes towards bisexuals correlated with greater age. However, in this study, it was found that for both attitudes towards transsexuals as well as homosexuals greater age in fact correlated with more favorable attitudes.

#### Implications for Future Research

In this study, several variables were analyzed in regards to attitudes about transsexuals and transsexuality. However, there are many more which were not included that could facilitate a better understanding of why people harbor the attitudes that they do and how that affects our society and specifically transsexuals themselves (e.g., demographic region, religiosity, and personal familiarity with transsexuals and homosexuals).

As mentioned above, gay participants tended to score more favorably than their heterosexual counterparts regarding attitudes towards both transsexuality and homosexuality. However, the number of gay participants was small and should be later reassessed with a larger sample. With this larger sample, as well as a larger sample of participants all together, it should be possible to assess the known-groups validity of the ATS by reviewing attitudes of diverse groups such as gay, lesbian, bisexual and transgender activist groups (e.g. community "Pride" organizations) versus attitudes maintained by more conservative groups to include religious and some anti-transsexual/ anti-gay entities (e.g. New Christian Right); the sample sizes were too small to facilitate this even though there were active groups representing such diversity on

campus. Evidence of a significant difference in attitudes would further validate the ATS.

As this sample was limited in age range, it is questionable as to the exact nature of attitudes as related to age. Although there were significant differences found between the youngest and the eldest groups of participants, it is unfortunate that it was not feasible to assess a wider age. As stated above, previous research regarding attitudes towards bisexuals found that attitudes were less favorable as age increased (Herek, 2002). Herek's study consisted of a sample with a mean of 45 years; however, the current sample's mean age was 20 years. It would be an interesting endeavor to explore a possible generational-gap variable regarding attitudes towards both transsexuals and homosexuals.

In addition, Span and Vidal (2003) reported that within their study of attitudes toward homosexuals, the number of homosexual friends correlated negatively with homophobia scores. Thus, in future studies, a question regarding personal knowledge of both homosexuals and transsexuals should be added in order to assess if attitudes will be more favorable when a personal factor is evident.

Herek (2002) also reported that more negative attitudes regarding bisexuals correlated with lower socioeconomic status, higher religiosity, political conservatism, authoritarianism, and lack of contact with homosexuals. Along with this, Leitenberg and Slavin (1983) found that on average, males, more than females, were inclined toward equal opportunity for homosexuals than for transsexuals. Thus, heterosexual men, more so than heterosexual women, tended to support non-discrimination towards homosexuals versus transsexuals in regards to hiring and wages. Future studies will benefit from including several of these factors that were not included in the present study.

Further research could also address the ATS's predicative validity. Petty and Cacioppo

(1986) stated that an attitude's most practical quality is its ability to predict and influence actions or behavior. By this, if attitude does indeed predict behavior, then if a participant has a less than favorable attitude, there may be an increase in the likelihood of an engagement in discrimination or even hate-crime activities. If there is a more favorable attitude, there may be an increase in the participation in equal opportunity practices or even involvement with activist activities. Although attitudes do not always predict behavior, it is perhaps possible to identify predictors of hate crime activity and intolerant beliefs, thereby to assist in the development of effective mechanisms for tolerance and safety. For example, determination of the correlation between attitude and behavior regarding the transsexual population by the comparison of attitude and future hate-crime activity within a prison system could be beneficial to avoid conflicts that may be life-threatening for incarcerated transsexuals.

Future use of this scale and related studies should include implementing a wider demographic web by the use of mail or internet formats in order to assess several un-tapped variable to include geographic differences (e.g., do Californians view transsexuality more favorably than homosexuality whereas in North Carolina the reverse is true?), as well as providing a larger sample pool from which to draw from.

## CONCLUSION

There is limited research on and even minimal general exposure to transsexuality. This diminished awareness leads to a need to discern attitudes towards transsexuals and transsexuality in order to further educate the general public as well as clinicians. As evidenced by both the minimal exploration of attitudes towards transsexuals as well as the differences in results between studies that were conducted over 20 years apart, it is evident that the ATS is able to



offer a valuable and reliable contribution to pre-existing data. By being able to assess these attitudes, it is possible to gain insight as to why biases exist and what can be done to circumvent them. Clinicians in particular will benefit from this in that they can become aware of their own biases that can potentially interfere with effective treatment. As shown by the less favorable attitudes when the respondent was not knowledgeable enough to initially be able to identify the correct definition of the term “transsexual”, it may be beneficial to educate the general population in order to bring about a more supportive atmosphere. Could ignorance be a deterrent for tolerance? Will education about transsexual as well as homosexual lifestyles create a more favorable and understanding environment for the transsexual and homosexual populations? More often education about these areas is brought to the classrooms in texts and instruction as well as the overall population in the form of literature and documentaries; however, is this minimal amount enough? Perhaps there should be a push for more exposure to try to create a difference in attitudes in the general population. Should this push be more pronounced with clinicians who may come into contact with transsexual clients/patients in the form of general educational instruction and voluntary workshops? The ATS could potentially enable a clinician practicing with this population to be aware of his or her own biases that may unduly affect the therapeutic relationship. Will the quality of care be improved if a better understanding of our own prejudices and beliefs is obtained?

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**Appendix A. Current Topics Study**

A. Please write a short definition of *transsexual*:

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B. Please list as many short statements as you can about transsexuals or transsexuality. Try to list at least 5 statements. These can reflect your beliefs, any facts you know, your opinions, what you have learned from others, or what you think other's opinions are. These can be factual or opinion statements.

For example, if you were writing statements about oranges- your statements might be:

*Oranges are round.*  
*Oranges are my favorite fruit.*  
*Most people eat oranges.*  
*Oranges are tangy*  
*Oranges are just too sticky.*

Statements about transsexuals or transsexuality:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

Thanks!

**Appendix B. Undergraduate Student Transsexuality Item Analysis**

Please rate the following statements for their **READABILITY** and **CLARITY**: Is the statement too long? Does it contain words that you do not understand? Does the statement need to be rephrased? Any other comments? If you feel that the statement needs to be rephrased, please make your corrections on the statement itself.

		Too long?	Words you don't know?	Other comments?
1	I think it's possible for transsexuals to find happiness.			
2	Transsexuals look really bad.			
3	I would know a transsexual if I met one.			
4	I would feel comfortable around a transsexual.			
5	Most people shy away from transsexuals.			
6	Transsexuals have an unhealthy view of sexuality.			
7	I support transsexuals' freedom of expression.			
8	Transsexuals are a disgrace to their families.			
9	Transsexuals are nasty.			
10	I feel sorry for the families of transsexuals.			
11	I don't approve of transsexuality.			
12	Transsexuals should be treated like the human beings they are.			
13	Transsexuals wouldn't fit in at my school.			
14	Transsexuals just crave attention.			
15	People have no right to look down on transsexuals.			
16	I hope I never meet a transsexual.			
17	If I were a transsexual, my friends and family would accept me.			
18	Transsexuality is a choice.			
19	Transsexuality violates God's intentions.			
20	Transsexuals never look legit.			
21	Transsexuality is accepted by society.			
22	God will punish transsexuals.			
23	Transsexuality should not be treated like it's a crime.			
24	Transsexuality is gross.			
25	Transsexuals deserve to get more sexually transmitted diseases than other people.			

**Appendix B. Transsexuality Attitude Questionnaire (cont.)**

		Too long?	Words you don't know?	Other comments?
26	Transsexuality is not abnormal.			
27	Transsexuality is just another one of Mother Nature's quirks.			
28	I would kill myself if I was a transsexual.			
29	There is no chance I could have been born a transsexual			
30	Transsexuals take necessary chances when they have sex reassignment surgery.			
31	Transsexuals shouldn't have children.			
32	Transsexuals are often abused in mainstream society.			
33	Most people dislike transsexuals.			
34	Transsexuality can happen to anyone.			
35	Transsexuals are insecure.			
36	Transsexuals are dirty.			
37	Transsexuals are not afraid to be themselves.			
38	Transsexuals are open-minded.			
39	Transsexuals are weird.			
40	Transsexuals are confused about who they are.			
41	I approve of transsexuality.			
42	I wouldn't mind if a transsexual asked me out.			
43	I don't like the idea of transsexuality in general.			
44	I can understand why some people are supportive of transsexual rights.			
45	Transsexuality scares me.			
46	Transsexuals are strange.			
47	Transsexuality is more acceptable in women than in men.			
48	Transsexuals need psychiatric help.			
49	Transsexuals are disgusting.			
50	It upsets me that some people hate transsexuals.			
51	Transsexuals disgust me.			
52	Transsexuals should stay the sex they were born.			
53	Transsexuals should be allowed to marry.			
54	Transsexuals are deceitful.			



**Appendix B. Transsexuality Attitude Questionnaire (cont.)**

		Too long?	Words you don't know?	Other comments?
55	Transsexuals try to trick their sexual partners.			
56	Transsexuals can be good entertainers.			
57	I would be upset if my best friend was a transsexual.			
58	Transsexuals are normal.			
59	Transsexuality is not a choice.			
60	I am happy for those transsexuals who can get sex reassignment surgery.			
61	Transsexuals are brave.			
62	I prefer to not be around transsexuals.			
63	It upsets me that some people harm transsexuals.			
64	I would be devastated if my sister was transsexual.			
65	Transsexuals are freaks.			
66	Transsexuals can be attractive.			
67	Transsexuals are emotionally unstable.			
68	Transsexuals are mentally unstable.			
69	I am not against transsexuality.			
70	I think I could have fun at a transsexual club.			
71	Transsexuality is wrong.			
72	I think it is okay for transsexuals to act the way they do.			
73	Transsexuals have deep, unresolved issues.			
74	Transsexuality is a disease.			
75	Transsexuals are people just like everyone else.			
76	Transsexuals should be allowed to adopt children.			
77	Female to male transsexuals make me feel uncomfortable.			
78	In my opinion, transsexuality is too extreme.			
79	Transsexuals should be allowed to keep their children if they have them.			
80	Male to female transsexuals are more accepted than female to male transsexuals.			
81	I think transsexuality is wrong.			
82	God loves transsexuals.			

**Appendix B. Transsexuality Attitude Questionnaire (cont.)**

		Too long?	Words you don't know?	Other comments?
83	I could be friends with a transsexual.			
84	Transsexuality is a lifestyle choice.			
85	Male to female transsexuals make me feel uncomfortable.			
86	I would be okay with transsexuals in my community.			
87	Transsexuals shouldn't express their views in public.			
88	I would date a transsexual.			
89	Transsexuality is a way to make a statement about being different.			
90	Transsexuals should have the right to live how they feel.			
91	Christians should love and not judge transsexuals.			
92	Transsexuality isn't moral.			
93	I would be upset if my mother was transsexual.			
94	Transsexuals should be outcast.			
95	I like to see a man be a man.			
96	Society should embrace the diversity transsexuality brings.			
97	Transsexuality is interesting.			
98	Transsexuals are creepy.			
99	Transsexuals should be welcomed in today's society.			
100	I do not have a problem with transsexuality.			
101	I would feel betrayed if I found out a friend of mine is transsexual.			
102	Transsexuals don't deserve to be discriminated against.			
103	I like to see a woman be a woman.			
104	Transsexuals aren't bad people.			
105	Transsexuals want to be something they are not.			
106	Transsexuals should try to be normal like everyone else.			
107	If someone I know is a transsexual, it is none of my business.			
108	If a friend told me they were transsexual, I would be supportive.			
109	Transsexuals are trashy.			
110	I don't like the thought of transsexuality.			
111	Transsexuals are often misunderstood.			
112	Transsexuals don't care about their bodies.			
113	Transsexuality doesn't bother me.			

**Appendix B. Transsexuality Attitude Questionnaire (cont.)**

		Too long?	Words you don't know?	Other comments?
114	Transsexuals aren't that way by choice.			
115	Sex reassignment surgery should be covered by healthcare insurance.			
116	I wouldn't know how to act around a transsexual.			
117	I wouldn't have a problem with people who are transsexual.			
118	Transsexuals are more promiscuous than most people.			
119	Transsexuals should be quarantined.			
120	Transsexuals should have the right to make decisions about their own bodies.			
121	Transsexuals can be good parents.			
122	Transsexuality is immoral.			
123	Transsexuals should have the right to make decisions about their lifestyles.			
124	Transsexuals are afraid to commit to one lifestyle.			
125	Transsexuals have not discovered who they really are.			
126	I would hang out with a transsexual.			
127	Transsexuals deserve to be treated with as much respect as anyone else.			
128	Transsexuals should be allowed parental rights if there is a divorce.			
129	I would be appalled if my brother was transsexual.			
130	If transsexuals are allowed to marry, they should only be allowed to marry other transsexuals.			
131	Transsexuals can succeed in life.			
132	Transsexuals shouldn't be treated any differently than you or I.			
133	I find transsexuality offensive.			
134	I'd rather be a homosexual than a transsexual.			
135	Female to male transsexuals are more accepted than male to female transsexuals.			
136	Transsexuals should be allowed to do what makes them comfortable with their own bodies.			
137	Most transsexuals must have been sexually abused as children.			

**Appendix B. Transsexuality Attitude Questionnaire (cont.)**

		Too long?	Words you don't know?	Other comments?
138	Transsexuals shouldn't be looked down upon.			
139	Transsexuality is no one's fault.			
140	Transsexuality should be illegal.			
141	Transsexuals are just experimenting with their sexuality.			
142	TV should stop portraying transsexuals in a negative light.			
143	Transsexuals are going to hell.			
144	Transsexuals deserve respect.			
145	Transsexuals are sick.			
146	I want to learn more about transsexuality.			
147	Transsexuals aren't like me at all.			
148	Transsexuals just want the best of both worlds.			
149	I am not offended by transsexuality.			
150	Changing your sex should be legal.			
151	Transsexuals have control over their desire to be the other sex.			
152	The growing acceptance of transsexuality indicates an decrease in American values.			
153	Transsexuals have a fear of normal relationships.			
154	As far as I'm concerned, transsexuality is natural.			
155	Transsexuality is a perversion.			
156	Transsexuals can make valuable contributions to society.			
157	Transsexuality is a sin.			
158	Transsexuals should never have custody following a divorce.			
159	I would be okay if my father was transsexual.			
160	Transsexuals shouldn't be judged.			
161	Transsexuals should be allowed to teach children in public schools.			
162	Transsexuals are just afraid to commit to one gender.			
163	Transsexuals just want to avoid the label "homosexual" when in fact they really are.			

### Appendix C. Expert Transsexuality Item Analysis Cover Page

You are asked to rate approximately 190 statements about transsexuality/transsexuals for their acceptability as attitude statements for use in a questionnaire. The general criteria for writing attitude statements are given below. Please read each statement and determine if it conforms to these criteria. If so rate the statement as acceptable. If not, rate the statement as unacceptable and please make suggested changes on the statement itself.

In addition, please note whether **agreement** with the statement would reflect a positive or negative attitude about transsexuality/transsexuals. If you are not sure what type of attitude would be reflected by agreement, write "neither".

Also, please note whether or not you think that the statement is **relevant**, in that agreement with the statement does reflect a positive or negative attitude about transsexuality/transsexuals.

Any additional comments are welcome. Use the additional sheet provided. Thank you for your time.

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#### **GENERAL CRITERIA FOR WRITING ATTITUDE STATEMENTS:**

1. An attitude statement must be debatable. The statement should not be factual or capable of being interpreted as factual.
2. Avoid statements that refer to the past rather than the present.
3. Avoid use of statements that may be interpreted in more than one way. It is best to avoid use of any word or phrase that can be construed to mean different things by different readers.
4. Avoid statements that are likely endorsed by everyone or almost no one.
5. Select statements that appear to be related to only one attitude continuum and cover the entire favorability range. Students will be asked to indicate their choice of "strongly agree" ranging to "strongly disagree" with each statement.
6. Avoid the use of double-barreled statements. Try to limit each statement to one thought.
7. All the statements should be short. A good informal rule is to avoid sentences over 20 words long.
8. Never group two or more sentences together as one attitude statement.
9. The use of universals such as **all**, **always**, **none**, and **never** may introduce ambiguity and should be avoided.
10. The use of modifiers such as **only**, **just**, and **merely** is acceptable; however their use should be careful and rare.
11. Try to avoid colorless, affectiveless statements. Statements should have some emotionality.
12. Try to use simple, not complex, sentences.
13. Better results are obtained by the use of active rather than passive voice in the sentence structure.
14. If possible, use the term of the attitude as the subject of the sentence.
15. Avoid the use of technical jargon, academic phrases, uncommon words, etc. Use words that can be understood easily.
16. General English grammar rules apply: Avoid negative expressions if a positive can be used; Avoid double infinitives; Avoid double negatives; Avoid redundant phrases in the same statement; Avoid excessive use of phrases such as **"I think, feel, believe..."**.

**Appendix D. Expert Transsexuality Item Analysis**

	General Criteria	Attitude Valence	Relevant?	Comments?
	ACCEPT/ UNACCEPT	POSITIVE/ NEGATIVE		
1	I think it's possible for transsexuals to find happiness.			
2	Transsexuals look really bad.			
3	I would know a transsexual if I met one.			
4	I would feel comfortable around a transsexual.			
5	Most people shy away from transsexuals			
6	Transsexuals have an unhealthy view of sexuality.			
7	I support transsexuals' freedom of expression.			
8	Transsexuals are a disgrace to their families.			
9	Transsexuals are nasty.			
10	I feel sorry for the families of transsexuals.			
11	I don't approve of transsexuality.			
12	Transsexuals should be treated like the human beings they are.			
13	Transsexuals wouldn't fit in at my school.			
14	Transsexuals just crave attention.			
15	People have no right to look down on transsexuals.			
16	I hope I never meet a transsexual.			
17	If I were a transsexual, my friends and family would accept me.			
18	Transsexuality is a choice.			
19	Transsexuality violates God's intentions.			
20	Transsexuals never look legit.			
21	Transsexuality is accepted by society.			
22	God will punish transsexuals.			
23	Transsexuality should not be treated like it's a crime.			
24	Transsexuality is gross.			
25	Transsexuals deserve to get more sexually transmitted diseases than other people.			
26	Transsexuality is not abnormal.			
27	Transsexuality is just another one of Mother Nature's quirks.			
28	I would kill myself if I was a transsexual.			
29	There is no chance I could have been born a transsexual.			

**Appendix D. Expert Transsexuality Item Analysis (cont.)**

		General Criteria	Attitude Valence	Relevant?	Comments?
		ACCEPT/ UNACCEPT	POSITIVE/ NEGATIVE		
30	Transsexuals take necessary chances when they have sex reassignment surgery.				
31	Transsexuals shouldn't have children.				
32	Transsexuals are often abused in mainstream society.				
33	Most people dislike transsexuals.				
34	Transsexuality can happen to anyone.				
35	Transsexuals are insecure.				
36	Transsexuals are dirty.				
37	Transsexuals are not afraid to be themselves.				
38	Transsexuals are open-minded.				
39	Transsexuals are weird.				
40	Transsexuals are confused about who they are.				
41	I approve of transsexuality.				
42	I wouldn't mind if a transsexual asked me out.				
43	I don't like the idea of transsexuality in general.				
44	I can understand why some people are supportive of transsexual rights.				
45	Transsexuality scares me.				
46	Transsexuals are strange.				
47	Transsexuality is more acceptable in women than in men.				
48	Transsexuals need psychiatric help.				
49	Transsexuals are disgusting.				
50	It upsets me that some people hate transsexuals.				
51	Transsexuals disgust me.				
52	Transsexuals should stay the sex they were born.				
53	Transsexuals should be allowed to marry.				
54	Transsexuals are deceitful.				
55	Transsexuals try to trick their sexual partners.				
56	Transsexuals can be good entertainers.				
57	I would be upset if my best friend was a transsexual.				
58	Transsexuals are normal.				

**Appendix D. Expert Transsexuality Item Analysis (cont.)**

		General Criteria ACCEPT/ UNACCEPT	Attitude Valence POSITIVE/ NEGATIVE	Relevant?	Comments?
59	Transsexuality is not a choice.				
60	I am happy for those transsexuals who can get sex reassignment surgery.				
61	Transsexuals are brave.				
62	I prefer to not be around transsexuals.				
63	It upsets me that some people harm transsexuals.				
64	I would be devastated if my sister was transsexual.				
65	Transsexuals are freaks.				
66	Transsexuals can be attractive.				
67	Transsexuals are emotionally unstable.				
68	Transsexuals are mentally unstable.				
69	I am not against transsexuality.				
70	I think I could have fun at a transsexual club.				
71	Transsexuality is wrong.				
72	I think it is okay for transsexuals to act the way they do.				
73	Transsexuals have deep, unresolved issues.				
74	Transsexuality is a disease.				
75	Transsexuals are people just like everyone else.				
76	Transsexuals should be allowed to adopt children.				
77	Female to male transsexuals make me feel uncomfortable.				
78	In my opinion, transsexuality is too extreme.				
79	Transsexuals should be allowed to keep their children if they have them.				
80	Male to female transsexuals are more accepted than female to male transsexuals.				
81	I think transsexuality is wrong.				
82	God loves transsexuals.				
83	I could be friends with a transsexual.				
84	Transsexuality is a lifestyle choice.				
85	Male to female transsexuals make me feel uncomfortable.				
86	I would be okay with transsexuals in my community.				



**Appendix D. Expert Transsexuality Item Analysis (cont.)**

		<b>General Criteria</b>	<b>Attitude Valence</b>	<b>Relevant?</b>	<b>Comments?</b>
		<b>ACCEPT/ UNACCEPT</b>	<b>POSITIVE/ NEGATIVE</b>		
87	Transsexuals shouldn't express their views in public.				
88	I would date a transsexual.				
89	Transsexuality is a way to make a statement about being different.				
90	Transsexuals should have the right to live how they feel.				
91	Christians should love and not judge transsexuals.				
92	Transsexuality isn't moral.				
93	I would be upset if my mother was transsexual.				
94	Transsexuals should be outcast.				
95	I like to see a man be a man.				
96	Society should embrace the diversity transsexuality brings.				
97	Transsexuality is interesting.				
98	Transsexuals are creepy.				
99	Transsexuals should be welcomed in today's society.				
100	I do not have a problem with transsexuality.				
101	I would feel betrayed if I found out a friend of mine is transsexual.				
102	Transsexuals don't deserve to be discriminated against.				
103	I like to see a woman be a woman.				
104	Transsexuals aren't bad people.				
105	Transsexuals want to be something they are not.				
106	Transsexuals should try to be normal like everyone else.				
107	If someone I know is a transsexual, it is none of my business.				
108	If a friend told me they were transsexual, I would be supportive.				
109	Transsexuals are trashy.				
110	I don't like the thought of transsexuality.				
111	Transsexuals are often misunderstood.				
112	Transsexuals don't care about their bodies.				
113	Transsexuality doesn't bother me.				
114	Transsexuals aren't that way by choice.				
115	Sex reassignment surgery should be covered by healthcare insurance.				
116	I wouldn't know how to act around a transsexual.				

**Appendix D. Expert Transsexuality Item Analysis (cont.)**

	<b>General Criteria</b> <b>ACCEPT/ UNACCEPT</b>	<b>Attitude Valence</b> <b>POSITIVE/ NEGATIVE</b>	<b>Relevant?</b>	<b>Comments?</b>
117	I wouldn't have a problem with people who are transsexual.			
118	Transsexuals are more promiscuous than most people.			
119	Transsexuals should be quarantined.			
120	Transsexuals should have the right to make decisions about their own bodies.			
121	Transsexuals can be good parents.			
122	Transsexuality is immoral.			
123	Transsexuals should have the right to make decisions about their lifestyles.			
124	Transsexuals are afraid to commit to one lifestyle.			
125	Transsexuals have not discovered who they really are.			
126	I would hang out with a transsexual.			
127	Transsexuals deserve to be treated with as much respect as anyone else.			
128	Transsexuals should be allowed parental rights if there is a divorce.			
129	I would be appalled if my brother was transsexual.			
130	If transsexuals are allowed to marry, they should only be allowed to marry other transsexuals.			
131	Transsexuals can succeed in life.			
132	Transsexuals shouldn't be treated any differently than you or I.			
133	I find transsexuality offensive.			
134	I'd rather be a homosexual than a transsexual.			
135	Female to male transsexuals are more accepted than male to female transsexuals.			
136	Transsexuals should be allowed to do what makes them comfortable with their own bodies.			
137	Most transsexuals must have been sexually abused as children.			
138	Transsexuals shouldn't be looked down upon.			
139	Transsexuality is no one's fault.			
140	Transsexuality should be illegal.			
141	Transsexuals are just experimenting with their sexuality.			

**Appendix D. Expert Transsexuality Item Analysis (cont.)**

		General Criteria ACCEPT/ UNACCEPT	Attitude Valence POSITIVE/ NEGATIVE	Relevant?	Comments?
142	TV should stop portraying transsexuals in a negative light.				
143	Transsexuals are going to hell.				
144	Transsexuals deserve respect.				
145	Transsexuals are sick.				
146	I want to learn more about transsexuality.				
147	Transsexuals aren't like me at all.				
148	Transsexuals just want the best of both worlds.				
149	I am not offended by transsexuality.				
150	Changing your sex should be legal.				
151	Transsexuals have control over their desire to be the other sex.				
152	The growing acceptance of transsexuality indicates an decrease in American values.				
153	Transsexuals have a fear of normal relationships.				
154	As far as I'm concerned, transsexuality is natural.				
155	Transsexuality is a perversion.				
156	Transsexuals can make valuable contributions to society.				
157	Transsexuality is a sin.				
158	Transsexuals should never have custody following a divorce.				
159	I would be okay if my father was transsexual.				
160	Transsexuals shouldn't be judged.				
161	Transsexuals should be allowed to teach children in public schools.				
162	Transsexuals are just afraid to commit to one gender.				
163	Transsexuals just want to avoid the label "homosexual" when in fact they really are.				

## **Appendix E. Attitudes Survey**

This study is being conducted to gather information about college students' beliefs, and attitudes regarding various topics. Your participation in this research is entirely voluntary. You may refuse to participate or you may stop participating at any time without penalty or loss of benefits. You may choose not to respond to any question that makes you feel uncomfortable.

Do not put your name or any identifying information on any of the questionnaires. You will not be associated with your responses or with the research findings.

Thanks for your participation!

## Appendix F. Background Information

**Directions:** Please answer the following questions. Do not put your name or any identifying information on this questionnaire. Please respond as honestly and accurately as you can. Remember that there is no way to identify you with your responses.

1. Age: \_\_\_\_\_
2. Gender (Circle one): Male Female
3. Race (Circle one): African-American Caucasian Hispanic Asian Other
4. Year in school (Circle one):  
Freshman Sophomore Junior Senior Other \_\_\_\_\_
5. What psychology class is you currently enrolled in?  
PSY 105 (Intro) Other \_\_\_\_\_
6. Do you recycle? Never Sometimes As often as possible
7. Which of the following describes you? (Check your answer)  
\_\_\_\_\_ I have never had sexual intercourse.  
\_\_\_\_\_ I have had sex, but am not currently sexually active (NO sex in last 3 months)  
\_\_\_\_\_ I am currently sexually active (sex within the last 3 months)
8. Whom do you have sex with? If you have never had sex, whom do you think you will have sex with? (Circle your response)  
1 2 3 4 5  
Only men Mostly men Equally men and women Mostly women Only women
9. Over the course of your life, with how many different people have you had sexual intercourse? (Circle the number)  
0 1 2 3 4 5 6-10 11-15 15-20 More than 20
10. Would you consider yourself a “cat person”, a “dog person”, or neither? (Circle your answer)  
“Cat Person” “Dog Person” Neither
11. How often do you exercise? (Circle your answer)  
Never about 1 time/month about 2-3 times/month  
1 time/week 2-3 times/week 4 or more times/week

## Appendix G. Knowledge Assessment

Please complete the following matching quiz before answering the other surveys.

Match each description in Column 1 with the correct term in Column 2.

	COLUMN 1	COLUMN 2
_____ 1	person who believes that he or she was born with the body of the other gender	a Transvestite
_____ 2	person who is sexually attracted to both males and females	b Aerobic exercise
_____ 3	lower intensity activities performed for longer periods of time (uses oxygen)	c Homosexual
_____ 4	contraceptive that uses hormones	d Birth control pills
_____ 5	high intensity activities for a high rate of work for a short period of time (without oxygen)	e Transsexual
_____ 6	person who is sexually aroused by wearing clothes of the other gender	f Anaerobic exercise
_____ 7	activity to reuse materials and conserve resources	g Recycling
_____ 8	person who is sexually attracted to others of the same gender	h Sex reassignment surgery
_____ 9	process to transform genitalia to match a person's sense of gender	i Bisexuality

**Appendix H. Initial ATS for Study One**

**ATS**

Please enter the degree to which to agree or disagree with each statement using the following code. There are no right or wrong answers.

<b>SA = Strongly Agree</b>
<b>A = Agree</b>
<b>MA = Minimally Agree</b>
<b>MD = Minimally Disagree</b>
<b>D = Disagree</b>
<b>SD = Strongly Disagree</b>

- \_\_\_\_\_ 1. I think it's possible for transsexuals to find happiness.
- \_\_\_\_\_ 2. Transsexuals look really bad.
- \_\_\_\_\_ 3. I would feel comfortable around a transsexual.
- \_\_\_\_\_ 4. Transsexuals have an unhealthy view of sexuality.
- \_\_\_\_\_ 5. I support transsexuals' freedom of expression.
- \_\_\_\_\_ 6. Transsexuals are a disgrace to their families.
- \_\_\_\_\_ 7. Transsexuals are nasty.
- \_\_\_\_\_ 8. I don't approve of transsexuality.
- \_\_\_\_\_ 9. Transsexuals should be treated like human beings.
- \_\_\_\_\_ 10. Transsexuals just crave attention.
- \_\_\_\_\_ 11. People have no right to look down on transsexuals.
- \_\_\_\_\_ 12. Transsexuality is a choice.
- \_\_\_\_\_ 13. Transsexuality violates God's intentions.
- \_\_\_\_\_ 14. God will punish transsexuals.
- \_\_\_\_\_ 15. Transsexuality is gross.
- \_\_\_\_\_ 16. Transsexuality is not abnormal.
- \_\_\_\_\_ 17. Transsexuals shouldn't have children.
- \_\_\_\_\_ 18. Transsexuals are insecure.
- \_\_\_\_\_ 19. Transsexuals are dirty.
- \_\_\_\_\_ 20. Transsexuals are not afraid to be themselves.
- \_\_\_\_\_ 21. Transsexuals are open-minded.
- \_\_\_\_\_ 22. Transsexuals are weird.
- \_\_\_\_\_ 23. I approve of transsexuality.
- \_\_\_\_\_ 24. I wouldn't mind if a transsexual asked me out.
- \_\_\_\_\_ 25. I don't like the idea of transsexuality in general.
- \_\_\_\_\_ 26. Transsexuals are strange.
- \_\_\_\_\_ 27. Transsexuals are disgusting.
- \_\_\_\_\_ 28. It upsets me that some people hate transsexuals.
- \_\_\_\_\_ 29. Transsexuals disgust me.
- \_\_\_\_\_ 30. Transsexuals should stay the sex they were born.
- \_\_\_\_\_ 31. Transsexuals should be allowed to marry.
- \_\_\_\_\_ 32. Transsexuals are deceitful.
- \_\_\_\_\_ 33. Transsexuals try to trick their sexual partners.
- \_\_\_\_\_ 34. Transsexuals can be good entertainers.
- \_\_\_\_\_ 35. I would be upset if my best friend was a transsexual.
- \_\_\_\_\_ 36. Transsexuals are normal.
- \_\_\_\_\_ 37. I am happy for those transsexuals who can get sex reassignment surgery.
- \_\_\_\_\_ 38. Transsexuals are brave.

39. I prefer to not be around transsexuals.

<b>SA = Strongly Agree</b>
<b>A = Agree</b>
<b>MA = Minimally Agree</b>
<b>MD = Minimally Disagree</b>
<b>D = Disagree</b>
<b>SD = Strongly Disagree</b>

- \_\_\_\_\_ 40 It upsets me that some people harm transsexuals.
- \_\_\_\_\_ 41 I would be devastated if my sister was transsexual.
- \_\_\_\_\_ 42 Transsexuals are freaks.
- \_\_\_\_\_ 43 Transsexuals can be attractive.
- \_\_\_\_\_ 44 Transsexuals are emotionally unstable.
- \_\_\_\_\_ 45 Transsexuals are mentally unstable.
- \_\_\_\_\_ 46 I am not against transsexuality.
- \_\_\_\_\_ 47 I think I could have fun at a transsexual club.
- \_\_\_\_\_ 48 Transsexuality is wrong.
- \_\_\_\_\_ 49 I think it is okay for transsexuals to act the way they do.
- \_\_\_\_\_ 50 Transsexuality is a disease.
- \_\_\_\_\_ 51 Transsexuals are people just like everyone else.
- \_\_\_\_\_ 52 Transsexuals should be allowed to adopt children.
- \_\_\_\_\_ 53 In my opinion, transsexuality is too extreme.
- \_\_\_\_\_ 54 Transsexuals should be allowed to keep their children if they have them.
- \_\_\_\_\_ 55 I think transsexuality is wrong.
- \_\_\_\_\_ 56 God loves transsexuals.
- \_\_\_\_\_ 57 I could be friends with a transsexual.
- \_\_\_\_\_ 58 Male to female transsexuals make me feel more uncomfortable than female to male transsexuals.
- \_\_\_\_\_ 59 I would be okay with transsexuals in my community.
- \_\_\_\_\_ 60 Transsexuals shouldn't express their views in public.
- \_\_\_\_\_ 61 I would date a transsexual.
- \_\_\_\_\_ 62 Transsexuals should have the right to live how they feel.
- \_\_\_\_\_ 63 Transsexuality isn't moral.
- \_\_\_\_\_ 64 I would be upset if my mother was transsexual.
- \_\_\_\_\_ 65 Transsexuals should be outcast.
- \_\_\_\_\_ 66 Society should embrace the diversity transsexuality brings.
- \_\_\_\_\_ 67 Transsexuals are creepy.
- \_\_\_\_\_ 68 Transsexuals should be welcomed in today's society.
- \_\_\_\_\_ 69 I do not have a problem with transsexuality.
- \_\_\_\_\_ 70 I would feel betrayed if I found out a friend of mine is transsexual.
- \_\_\_\_\_ 71 Transsexuals don't deserve to be discriminated against.
- \_\_\_\_\_ 72 Transsexuals aren't bad people.
- \_\_\_\_\_ 73 If a friend told me they were transsexual, I would be supportive.
- \_\_\_\_\_ 74 Transsexuals are trashy.
- \_\_\_\_\_ 75 I don't like the thought of transsexuality.
- \_\_\_\_\_ 76 Transsexuals are often misunderstood.
- \_\_\_\_\_ 77 Transsexuality doesn't bother me.
- \_\_\_\_\_ 78 Sex reassignment surgery should be covered by healthcare insurance.
- \_\_\_\_\_ 79 Transsexuals are more promiscuous than most people.
- \_\_\_\_\_ 80 Transsexuals should be quarantined.
- \_\_\_\_\_ 81 Transsexuals should have the right to make decisions about their own bodies.



\_\_\_\_\_ 82 Transsexuals can be good parents.

<b>SA = Strongly Agree</b>
<b>A = Agree</b>
<b>MA = Minimally Agree</b>
<b>MD = Minimally Disagree</b>
<b>D = Disagree</b>
<b>SD = Strongly Disagree</b>

- \_\_\_\_\_ 83 Transsexuality is immoral.
- \_\_\_\_\_ 84 Transsexuals should have the right to make decisions about their lifestyles.
- \_\_\_\_\_ 85 Transsexuals are afraid to commit to one lifestyle.
- \_\_\_\_\_ 86 Transsexuals deserve to be treated with as much respect as anyone else
- \_\_\_\_\_ 87 Transsexuals should be allowed parental rights if there is a divorce.
- \_\_\_\_\_ 88 I would be appalled if my brother was transsexual.
- \_\_\_\_\_ 89 Transsexuals can succeed in life.
- \_\_\_\_\_ 90 Transsexuals shouldn't be treated any differently than you or I.
- \_\_\_\_\_ 91 I find transsexuality offensive.
- \_\_\_\_\_ 92 I'd rather be a homosexual than a transsexual.
- \_\_\_\_\_ 93 Transsexuals should be allowed to do what makes them comfortable with their own bodies.
- \_\_\_\_\_ 94 Transsexuality should be illegal.
- \_\_\_\_\_ 95 TV should stop portraying transsexuals in a negative light.
- \_\_\_\_\_ 96 Transsexuals are going to hell.
- \_\_\_\_\_ 97 Transsexuals deserve respect.
- \_\_\_\_\_ 98 I am not offended by transsexuality.
- \_\_\_\_\_ 99 Changing your sex should be legal.
- \_\_\_\_\_ 100 Transsexuals have a fear of normal relationships.
- \_\_\_\_\_ 101 As far as I'm concerned, transsexuality is natural.
- \_\_\_\_\_ 102 Transsexuality is a perversion.
- \_\_\_\_\_ 103 Transsexuals can make valuable contributions to society.
- \_\_\_\_\_ 104 Transsexuality is a sin.
- \_\_\_\_\_ 105 Transsexuals should never have custody following a divorce.
- \_\_\_\_\_ 106 I would be okay if my father was transsexual.
- \_\_\_\_\_ 107 Transsexuals shouldn't be judged.
- \_\_\_\_\_ 108 Transsexuals should be allowed to teach children in public schools.

## Appendix I. Social Desirability

### SD

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* and then circle T for True or F for False.

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

## Appendix J. NEO-PIS

### NEO-PIS

This questionnaire contains 60 statements. Read each statement carefully. For each statement, circle the response that best represents your opinion.

Circle **SD** if you *Strongly Disagree* or the statement is definitely false.

Circle **D** if you *Disagree* or the statement is mostly false.

Circle **N** if you are *Neutral* on the statement, you cannot decide, or the statement is about equally true or false.

Circle **A** if you *Agree* or the statement is mostly true.

Circle **SA** if you *Strongly Agree* or the statement is definitely true.

- |  |           |          |          |          |           |
|--|-----------|----------|----------|----------|-----------|
| 1. I am not a worrier.   | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 2. I like to have a lot of people around me.   | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 3. I don't like to waste my time daydreaming.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 4. I try to be courteous to everyone I meet.   | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 5. I keep my belongings clean and neat.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 6. I often feel inferior to others.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 7. I laugh easily.   | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 8. Once I find the right way to do something, I stick to it.                                     | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 9. I often get into arguments with my family and co-workers.                                     | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 10. I'm pretty good about pacing myself so as to get things done on time.                        | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 11. When I'm under a great deal of stress, sometimes I feel like I'm going<br>to pieces.         | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 12. I don't consider myself especially "light-hearted."  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 13. I am intrigued by the patterns I find in art and nature.                                     | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 14. Some people think I'm selfish and egotistical.   | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 15. I am not a very methodical person.   | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 16. I rarely feel lonely or blue.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 17. I really enjoy talking to people.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 18. I believe letting students hear controversial speakers can only confuse<br>and mislead them. | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 19. I would rather cooperate with others than compete with them.                                 | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 20. I try to perform all the tasks assigned to me conscientiously.                               | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 21. I often feel tense and jittery.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 22. I like to be where the action is.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 23. Poetry has little or no effect on me.  | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |
| 24. I tend to be cynical and skeptical of others' intentions.                                    | <b>SD</b> | <b>D</b> | <b>N</b> | <b>A</b> | <b>SA</b> |

25. I have a clear set of goals and work toward them in an orderly fashion.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
26. Sometimes I feel completely worthless.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
27. I usually prefer to do things alone.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
28. I often try new and foreign foods.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
29. I believe that most people will take advantage of you if you let them.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
30. I waste a lot of time before settling down to work.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
31. I rarely feel fearful or anxious.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
32. I often feel as if I'm bursting with energy.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
33. I seldom notice the moods or feelings that different environments produce.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
34. Most people I know like me.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
35. I work hard to accomplish my goals.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
36. I often get angry at the way people treat me.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
37. I am a cheerful, high-spirited person.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
38. I believe we should look to our religious authorities for decisions on moral issues.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
39. Some people think of me as cold and calculating.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
40. When I make a commitment, I can always be counted on to follow through.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
41. Too often, when things go wrong, I get discouraged and feel like giving up.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
42. I am not a cheerful optimist.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
44. I'm hard-headed and tough-minded in my attitudes.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
45. Sometimes I'm not as dependable or reliable as I should be.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
46. I am seldom sad or depressed.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
47. My life is fast-paced.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
48. I have little interest in speculating on the nature of the universe or the human condition.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
49. I generally try to be thoughtful and considerate.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
50. I am a productive person who always gets the job done.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
51. I often feel helpless and want someone else to solve my problems.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
52. I am a very active person.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
53. I have a lot of intellectual curiosity.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
54. If I don't like people, I let them know it.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
55. I never seem to be able to get organized.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>

56. At times I have been so ashamed I just wanted to hide.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
57. I would rather go my own way than be a leader of others.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
58. I often enjoy playing with theories or abstract ideas.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
59. If necessary, I am willing to manipulate people to get what I want.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
60. I strive for excellence in everything I do.	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>

Appendix K. Bem Sex Role Inventory

BSRI

Rate yourself on each item, on a scale from 1 (never to almost never true) to 7 (always to almost always true).

- 7= Always to Almost Always True
- 6= Usually True
- 5= Often True
- 4= Occasionally True
- 3= Sometimes but Infrequently True
- 2= Usually Not True

- |   |                                       |
|---|---------------------------------------|
| _____ 1. self reliant                   | _____ 41. warm                        |
| _____ 2. yielding                       | _____ 42. solemn                      |
| _____ 3. helpful                        | _____ 43. willing to take a stand     |
| _____ 4. defends own beliefs            | _____ 44. tender                      |
| _____ 5. cheerful                       | _____ 45. friendly                    |
| _____ 6. moody                          | _____ 46. aggressive                  |
| _____ 7. independent                    | _____ 47. gullible                    |
| _____ 8. shy                            | _____ 48. inefficient                 |
| _____ 9. conscientious                  | _____ 49. acts as a leader            |
| _____ 10. athletic                      | _____ 50. childlike                   |
| _____ 11. affectionate                  | _____ 51. adaptable                   |
| _____ 12. theatrical                    | _____ 52. individualistic             |
| _____ 13. assertive                     | _____ 53. does not use harsh language |
| _____ 14. flatterable                   | _____ 54. unsystematic                |
| _____ 15. happy                         | _____ 55. competitive                 |
| _____ 16. strong personality            | _____ 56. loves children              |
| _____ 17. loyal                         | _____ 57. tactful                     |
| _____ 18. unpredictable                 | _____ 58. ambitious                   |
| _____ 19. forceful                      | _____ 59. gentle                      |
| _____ 20. feminine                      | _____ 60. conventional                |
| _____ 21. reliable                      |                                       |
| _____ 22. analytical                    |                                       |
| _____ 23. sympathetic                   |                                       |
| _____ 24. jealous                       |                                       |
| _____ 25. leadership ability            |                                       |
| _____ 26. sensitive to others' needs    |                                       |
| _____ 27. truthful                      |                                       |
| _____ 28. willing to take risks         |                                       |
| _____ 29. understanding                 |                                       |
| _____ 30. secretive                     |                                       |
| _____ 31. makes decisions easily        |                                       |
| _____ 32. compassionate                 |                                       |
| _____ 33. sincere                       |                                       |
| _____ 34. self-sufficient               |                                       |
| _____ 35. eager to soothe hurt feelings |                                       |
| _____ 36. conceited                     |                                       |
| _____ 37. dominant                      |                                       |
| _____ 38. soft spoken                   |                                       |
| _____ 39. likeable                      |                                       |
| _____ 40. masculine                     |                                       |

**Appendix L. Attitudes Towards Lesbians and Gays**

**ATLG**

Please rate each item from points 1 (completely disagree) to 9 (completely agree).

- 9= Completely Agree
- 8= Very Strongly Agree
- 7= Strongly Agree
- 6= Agree
- 5= Can Neither Agree nor Disagree
- 4= Disagree
- 3= Strongly Disagree
- 2= Very Strongly Disagree
- 1= Completely Disagree

- \_\_\_ 1. Lesbians just can't fit into our society
- \_\_\_ 2. A woman's homosexuality should not be cause for job discrimination in any situatic
- \_\_\_ 3. Male homosexual couples should be allowed to adopt children the same as heterosexual couples.
- \_\_\_ 4. Female homosexuality is detrimental to society because it breaks down the natural division between the sexes.
- \_\_\_ 5. I would not be too upset if I leaned my son was a homosexua
- \_\_\_ 6. Lesbians are sick.
- \_\_\_ 7. If a man has homosexual feelings, he should do everything he can to overcome the
- \_\_\_ 8. State laws regulating private, consenting lesbian behavior should be loosent
- \_\_\_ 9. The idea of male homosexual marriages seem ridiculous to m
- \_\_\_ 10. Male homosexuals should not be allowed to teach in school
- \_\_\_ 11. Male homosexuality is a perversior
- \_\_\_ 12. Female homosexuality in itself is no problem, but what society makes of it can be a proble
- \_\_\_ 13. Male homosexuality is merely a different kind of lifestyle that should not be condemne
- \_\_\_ 14. The growing number of lesbians indicates a decline in American moral
- \_\_\_ 15. Female homosexuality is an inferior form of sexualit
- \_\_\_ 16. I think male homosexuals are disgusting
- \_\_\_ 17. Female homosexuality is a threat to many of our basic social institution
- \_\_\_ 18. Just as in other species, male homosexuality is a natural expression of sexuality in human m
- \_\_\_ 19. Homosexual behavior between two men is just plain wrong
- \_\_\_ 20. Female homosexuality is a sir

**Appendix M. (Final) Attitudes towards Transsexuals Scale**

**ATS**

Please use the scale below to note the degree to which you agree or disagree with each statement. There are no right or wrong answers.

Definition of Terms

**Transsexual:** person who believes that he or she was born with the body of the other gender.

**Homosexual:** person who is only sexually attracted to people of the same gender

**Sex-Reassignment Surgery:** process to transform genitalia to match a person's sense of gender

<b>SA = Strongly Agree</b>
<b>A = Agree</b>
<b>MA = Minimally Agree</b>
<b>MD = Minimally Disagree</b>
<b>D = Disagree</b>
<b>SD = Strongly Disagree</b>

- \_\_\_\_\_ 1. I support transsexuals' freedom of expression.
- \_\_\_\_\_ 2. Transsexuals are a disgrace to their families.
- \_\_\_\_\_ 3. Transsexuals are nasty.
- \_\_\_\_\_ 4. As far as I'm concerned, transsexuality is natural.
- \_\_\_\_\_ 5. I don't approve of transsexuality.
- \_\_\_\_\_ 6. Transsexuality is a choice.
- \_\_\_\_\_ 7. I do not have a problem with transsexuality.
- \_\_\_\_\_ 8. Transsexuality is gross.
- \_\_\_\_\_ 9. Transsexuals shouldn't have children.
- \_\_\_\_\_ 10. Transsexuals can make valuable contributions to society.
- \_\_\_\_\_ 11. I don't like the idea of transsexuality in general.
- \_\_\_\_\_ 12. Transsexuals are strange.
- \_\_\_\_\_ 13. Male to female transsexuals make me feel more uncomfortable than female to male transsexuals.
- \_\_\_\_\_ 14. Transsexuals are disgusting.
- \_\_\_\_\_ 15. I would be okay with transsexuals in my community.
- \_\_\_\_\_ 16. Transsexuals disgust me.
- \_\_\_\_\_ 17. Transsexuals should stay the sex they were born.
- \_\_\_\_\_ 18. Transsexuals are normal.
- \_\_\_\_\_ 19. I prefer to not be around transsexuals.



<b>SA =</b>	<b>Strongly Agree</b>
<b>A =</b>	<b>Agree</b>
<b>MA =</b>	<b>Minimally Agree</b>
<b>MD =</b>	<b>Minimally Disagree</b>
<b>D =</b>	<b>Disagree</b>
<b>SD =</b>	<b>Strongly Disagree</b>

- \_\_\_\_\_ 20. Transsexuals can be good parents.
- \_\_\_\_\_ 21. I would be devastated if my sister was transsexual.
- \_\_\_\_\_ 22. I'd rather be a homosexual than a transsexual.
- \_\_\_\_\_ 23. Transsexuals are freaks.
- \_\_\_\_\_ 24. Transsexuals are emotionally unstable.
- \_\_\_\_\_ 25. I am not against transsexuality.
- \_\_\_\_\_ 26. Transsexuality is wrong.
- \_\_\_\_\_ 27. I think it is okay for transsexuals to act the way they do.
- \_\_\_\_\_ 28. Transsexuality is a disease.
- \_\_\_\_\_ 29. I would be okay if my father was transsexual.
- \_\_\_\_\_ 30. Transsexuals should be allowed to adopt children.
- \_\_\_\_\_ 31. In my opinion, transsexuality is too extreme.
- \_\_\_\_\_ 32. Transsexuals should have the right to live how they feel.
- \_\_\_\_\_ 33. I think transsexuality is wrong.
- \_\_\_\_\_ 34. I could be friends with a transsexual.
- \_\_\_\_\_ 35. Transsexuals are dirty.
- \_\_\_\_\_ 36. Society should embrace the diversity transsexuality brings.
- \_\_\_\_\_ 37. Transsexuals are creepy.
- \_\_\_\_\_ 38. Transsexuals should be welcomed in today's society.
- \_\_\_\_\_ 39. I would feel betrayed if I found out a friend of mine is transsexual.
- \_\_\_\_\_ 40. Transsexuals have an unhealthy view of sexuality.
- \_\_\_\_\_ 41. Transsexuals don't deserve to be discriminated against.
- \_\_\_\_\_ 42. If a friend told me they were transsexual, I would be supportive.
- \_\_\_\_\_ 43. I don't like the thought of transsexuality.
- \_\_\_\_\_ 44. Sex reassignment surgery should be covered by healthcare insurance.
- \_\_\_\_\_ 45. Transsexuals should be allowed parental rights if there is a divorce.
- \_\_\_\_\_ 46. I would be appalled if my brother was transsexual.
- \_\_\_\_\_ 47. I find transsexuality offensive.
- \_\_\_\_\_ 48. Transsexuals should be allowed to do what makes them comfortable with their own bodies.

## BIOGRAPHICAL SKETCH

Nova A. Swanstrom was born on September 10, 1978, in Redwood City California. She graduated from Campbell University (NC) with a B.A. degree in Psychology while she was in the United State Marine Corps for a five-year enlistment. In 2003 she entered the graduate program in Psychology at the University of North Carolina at Wilmington where she conducted research under the direction of Dr. Katherine Bruce. Ms. Swanstrom graduated in December 2006, and desires to begin a doctoral program within the next several years. Until then, she hopes to publish her work, teach at the local university, and to provide psychological services to the community.