



MSU Graduate Theses

Spring 2016

Development Of The Transgender Attitudes And Knowledge Scale (Trans) And Evangelical Christians' Attitudes Toward Transgender

Yasuko Kanamori

As with any intellectual project, the content and views expressed in this thesis may be considered objectionable by some readers. However, this student-scholar's work has been judged to have academic value by the student's thesis committee members trained in the discipline. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

Follow this and additional works at: <https://bearworks.missouristate.edu/theses>



Part of the [Counseling Commons](#)

Recommended Citation

Kanamori, Yasuko, "Development Of The Transgender Attitudes And Knowledge Scale (Trans) And Evangelical Christians' Attitudes Toward Transgender" (2016). *MSU Graduate Theses*. 2355.
<https://bearworks.missouristate.edu/theses/2355>

This article or document was made available through BearWorks, the institutional repository of Missouri State University. The work contained in it may be protected by copyright and require permission of the copyright holder for reuse or redistribution.

For more information, please contact BearWorks@library.missouristate.edu.

**DEVELOPMENT OF THE TRANSGENDER ATTITUDES AND KNOWLEDGE
SCALE (TRANS) AND EVANGELICAL CHRISTIANS' ATTITUDES TOWARD
TRANSGENDER**

A Masters Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Counseling

By

Yasuko Kanamori

May 2016

Copyright 2016 by Yasuko Kanamori

DEVELOPMENT OF THE TRANSGENDER ATTITUDES AND KNOWLEDGE SCALE (TRANS) AND EVANGELICAL CHRISTIANS' ATTITUDES TOWARD TRANSGENDER

Counseling, Leadership, and Special Education

Missouri State University, May 2016

Master of Science

Yasuko Kanamori

ABSTRACT

In recent years, issues surrounding transgender have gained more media and legal attention than ever before, contributing to rapidly shifting views on gender around the world. In the U.S., views of evangelical Christians on social issues are of particular interest because of the ways in which Christian thought has impacted the setting of various norms in this nation. Yet, to date, there are no known studies that have explored evangelical Christians' attitudes toward transgender persons. To address the shortcomings in the existing literature, the first phase of this study developed and validated a contextually relevant scale. A multi-phase creation and validation process, using exploratory and confirmatory factor analyses were conducted with a diverse sample ($n=533$). The resulting scale is a three-factor 29-item measure, tapping into interpersonal comfort, gender belief, and human value. Using the validated scale, the second phase of the study explored evangelical Christians' beliefs and attitudes toward transgender persons in reference to a nonreligious group ($n=438$). Data were analyzed using Two-way ANOVAs, item analyses, independent sample t-tests, and Pearson's correlations. Findings indicated that evangelical Christians showed significantly lower attitude scores and a more dichotomous/fixed view of gender compared to their nonreligious counterparts. At the same time, evangelical Christians had high ratings on the human value factor overall, which was, in turn, less correlated with the other factors—interpersonal comfort and gender beliefs—than for their secular reference group. The two studies together provide a starting point for future research on attitudes toward transgender.

KEYWORDS: transgender, attitude, evangelical, Christian, scale, validation

This abstract is approved as to form and content

Jeffrey Cornelius-White, PsyD, LPC
Chairperson, Advisory Committee
Missouri State University

**DEVELOPMENT OF THE TRANSGENDER ATTITUDES AND KNOWLEDGE
SCALE (TRANS) AND EVANGELICAL CHRISTIANS' ATTITUDES TOWARD
TRANSGENDER**

By

Yasuko Kanamori

A Masters Thesis
Submitted to the Graduate College
Of Missouri State University
In Partial Fulfillment of the Requirements
For the Degree of Master of Science, Counseling

May, 2016

Approved:

Jeffrey H.D. Cornelius-White, PsyD

Joseph F. Hulgus, PhD

Teresa K. Pegors, PhD

Julie Masterson, PhD: Dean, Graduate College

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my advisor, Dr. Jeffrey Cornelius-White, for his continuous support, guidance, enthusiasm, and patience as I worked on the research and writing of my thesis. I would also like to thank Dr. Joseph Hulgus, who, as a committee member, provided me with consistent support and encouragement. Likewise, I would like to express my sincere gratitude to Dr. Teresa Pegors, who as a friend and a committee member, was always there for me and helped me to grow as a researcher. My sincere thanks also goes to Dr. Todd Daniel for the methodological support he provided. I would finally like to thank my fellow student, Emmanuel Segui de Carreras, for his interest in my research and the assistance he provided in running the statistical analyses for my first study.

TABLE OF CONTENTS

Overview of the Studies.....	1
Introduction	1
Rationale for the Studies.....	1
Purpose of the Studies	3
Research Questions.....	4
Significance of the Studies	4
Assumptions.....	5
Limitations	5
Definition of Terms.....	5
Review of the Related Literature	7
Conceptualization of “Attitude” in Studies on Attitudes toward Sexual Minorities	
7	
What is Transgender?	10
History of Transgender and the Transgender Movement	12
Church Statements on Transgender	14
Published Studies on Attitudes toward Transgender in the Western World.....	17
Summary.....	28
 Development and Validation of the Transgender Attitudes and Knowledge Scale (TRANS)	
.....	29
Introduction.....	29
Religiosity and Attitudes toward Transgender	30
Contextual Considerations for Scale Development	31
Psychometric Considerations.....	32
Phase 1: Scale Development and Exploratory Factor Analysis.....	33
Methods	33
Results.....	37
Phase 2: Scale Validation through Confirmatory Factor Analysis	38
Methods	38
Results.....	42
Discussion	45
References.....	48
 Evangelical Christians’ Beliefs and Attitudes toward Transgender Persons.....	58
Introduction.....	58
Methods.....	61
Participants	61
Procedures.....	62
Measures	63
Results.....	64
Differences between Evangelical Christians and Nonreligious and Males and Female Persons	64

Group Differences between Evangelical Christians and Nonreligious and Males and Female Persons.....	67
Discussion.....	70
Group Differences in TRANS Factors	71
Group Differences in Relationships between TRANS Factors.....	74
Conclusions and Further Questions	75
References.....	77
Summary.....	89
Additional References.....	91
Appendices	95
Appendix A. Consent to Participate in Research.....	95
Appendix B. Consent to Participate in Research.....	97
Appendix C. TRansgender Attitudes and kNowledge Scale (TRANS)	99
Endnotes.....	100

LIST OF TABLES

Table 1. Demographic characteristics.....	53
Table 2. Factor loadings for the 29-item TRANS.....	54
Table 3. Correlations between subscales.	55
Table 4. Correlations between TRANS and validity measures ($n=238$).	56
Table 5. Demographic characteristics.....	81
Table 6. Mean and standard deviation of factor scores by group.	82
Table 7. Item means and standard deviation (SD) by religion.	83
Table 8. Subscale correlations by group.	84

LIST OF FIGURES

Figure 1. Visual representation of TRANS CFA model.....	57
Figure 2. Mean score for factor items by group.....	85
Figure 3. Scatter plot showing the relationship between interpersonal comfort and human value	86
Figure 4. Scatter plot showing the relationship between gender beliefs and human value.....	87
Figure 5. Scatter plot showing the relationship between gender beliefs and interpersonal comfort	88

OVERVIEW OF THE STUDIES

Introduction

Over the course of history, various social movements have served to challenge society to examine long-held beliefs as well as existing social systems and infrastructure. Women's suffrage along with the civil and gay rights movements are but a few examples of such movements that have taken place in the United States and continue to have a profound impact on society today. In more recent years, the transgender population has gained greater visibility and has consequently brought about a new wave of challenges to the general public. Progressive thinkers are questioning the very legitimacy of a dichotomous view of humanity, and issues such as workplace protection, access to healthcare, and reproductive rights for gender variant individuals are increasingly occupying the public discourse, requiring engagement by society at large (Currah, 2008; Davis, 2009; Fausto-Sterling, 2000; Gluckman & Trudeau, 2003).

Rationale for the Studies

In the United States, where the majority of the population identifies as Christian and where Christianity has had and continues to hold considerable sway on the setting of political, moral, and social norms, understanding Christian perspectives on transgender issues is of critical importance. Views of evangelical Christians are of particular interest because, historically, they have been the most politically vocal sector of Christianity and hold to unique beliefs about gender and the human person that inevitably impact their views on transgender issues. Specifically, evangelical Christianity holds to a binary view

of humanity with clear moral and functional implications arising from its theology, distinct from a culturally defined dichotomy or a continuum view of humanity embraced by the rest of the population (Frame, 2006; Ortlund, 2006; Pegors & Kanamori, 2014). As well, one of its core beliefs, shared by the rest of Christendom, is the affirmation of the intrinsic value of the human person despite their behavior.

While the importance of understanding the faith perspective on issues surrounding transgender seems evident, to date, there are no known studies conducted with the general lay population of evangelical Christians that examine their beliefs and attitudes toward transgender persons, which exposes a dire need for data-driven research in this area. What is more, a look at the current literature reveals several limitations of available transgender attitude scales, which may, in part, account for the absence of studies with the religious sector of the U.S. population, in addition to suggesting a need for new measures. Specifically, and most significantly, there is no indication that extant instruments used in transgender attitude studies were designed with religious sensitivity. This is a significant consideration according to Rosik, Griffith, and Cruz (2007), whose work on conservative religious groups' attitudes toward sexual minorities suggests that instruments must be designed with "sensitivities to the intricacies of their [conservative religious circles'] belief systems" in order for the measurement device to provide a valid measure of the construct of interest (p.11). As well, despite indication from the broader theoretical and empirical literature that attitudes toward sexual minorities may be best conceptualized as "wide ranging and multidimensional" (Worthington et al., 2005, p. 104), existing transgender attitude scales are limited in range and the components they

are designed to tap (Fyfe, 1983; Hong, 1983; LaMar & Kite, 1998; McNaught, 1997; Mohr, 2002).

What these findings suggest is a great gap in knowledge as to the current state of evangelical Christianity regarding their beliefs about transgender identity and attitude towards transgender persons. This existing gap is attributable to the absence of studies conducted with the Christian population, complicated by the unavailability of an appropriate instrument designed to capture religiously nuanced beliefs and attitudes regarding transgender persons.

Purpose of the Studies

The purpose of the first study is to develop and validate an instrument measuring beliefs regarding transgender identity and attitudes toward transgender individuals with sensitivity to religious nuances. The purpose of the second study is to use the validated scale to explore what evangelical Christians believe about transgender identity and their attitudes toward those who are transgender in reference to their nonreligious counterpart. The larger goal of these two studies is to provide a tool that can be utilized for and some preliminary information that can inform future studies, by both Christian and secular researchers, for the purposes of (a) gaining insight into the faith perspective on issues related to transgender, (b) promoting self-awareness and self-reflection within evangelical Christian circles as to where growth is required in their understanding of and engagement with this particular population, and (c) facilitating constructive dialogue between evangelical Christian circles and the general public regarding issues surrounding this topic and population.

Research Questions

Study 1. The following research questions guide this study:

1. Is a multidimensional conceptualization of attitudes toward transgender persons a reasonable model of the target construct?
2. Is the Transgender Attitudes and kNowledge Scale (TRANS) a reliable measure?
3. Is the Transgender Attitudes and kNowledge Scale (TRANS) a valid measure?
4. Does the Transgender Attitudes and kNowledge Scale (TRANS) provide a more nuanced measure of evangelical Christians' attitudes toward transgender persons?

Study 2. The following research questions guide this study:

1. What are the attitudes of evangelical Christians towards transgender persons and the three interrelated but distinct factors of interpersonal comfort, views on gender, and human value in relation to their secular reference group? What are the corresponding views of secular, nonreligious persons? Is there a significant difference between the groups?
2. Is the relationship between interpersonal comfort, views on gender, and human value different between evangelicals and secularists?

Significance of the Studies

The primary significance of the two studies is in that it will produce a tool and provide some precursory information that can be used to fill an existing gap in the current body of knowledge concerning attitudes toward transgender individuals. Specifically, the scale developed in the first study and the information gained through the second study will (a) allow society at large to gain a degree of insight into the faith perspective on transgender identity, (b) encourage evangelical Christians to evaluate and refine their beliefs regarding sex/gender ambiguity and their engagement with the transgender

population in a way that is consonant with their theology, and C) generate constructive dialogue between Christian and secular spheres regarding this particular subject.

Assumptions

Study 1. For the purpose of this study, the following assumptions are made:

1. This study assumes that findings from studies with sexual minorities are applicable to and useful in the conceptualization of attitudes toward transgender individuals.
2. This study assumes that participants are motivated to answer honestly.

Study 2. For the purpose of this study, the following assumptions are made:

1. This study assumes that participants are motivated to answer honestly.
2. This study assumes that the selected sample group is representative of the target population.

Limitations

Study 1. This study includes the following limitations:

1. This study is limited by the extent to which participants answered the survey questions honestly.
2. The generalizability of this study may be limited by the racial, cultural, and religious makeup of MTurk subjects.

Study 2. This study includes the following limitations:

1. This study is limited by the extent to which participants answered the survey questions honestly.
2. The generalizability of this study may be limited by the racial, cultural, and religious makeup of MTurk subjects.

Definition of Terms

Studies 1 and 2. For the purpose of this study, the following terms and definitions were used. The term, *evangelical Christians*, is defined as those who hold to the historic

Christian faith, upholding the authority of the Bible, the divinity of Christ, and the centrality of faith in Christ in the doctrine of salvation. Another term used to designate this same group in this study is “conservative Christians.” *Sex/Biological sex* is defined as “the biological indicators of male and female (understood in the context of reproductive capacity), such as in sex chromosomes, gonads, sex hormones, and non-ambiguous internal and external genitalia” (American Psychiatric Association, 2013, p. 451). *Male/female* is a designation denoting a person’s biological sex. *Masculine/feminine* is a designation denoting a person’s psychological sex. *Gender* refers to “masculinity, femininity, and the behaviors commonly associated with them” (Meyerowitz, 2002, p. 3). *Gender identity* refers to “an individual’s identification as male, female, or, occasionally, some category other than male or female” (American Psychiatric Association, 2013, p. 451). *Sexual orientation* is defined as “sexual preference involving the same sex, different sex, or a combination of both” (Heath, 2006, p. 34). *Transgender* is a condition where an individual experiences incongruence between their biological sex and their gender identity. It is also used to refer to an individual who experiences this discrepancy between their anatomical sex and felt gender identity. Other terms include “transsexual,” “trans person,” “transgender individual/person” and “gender variant/nonconforming individual/person.” *Gender dysphoria* refers to both a “general descriptive term” and a diagnostic category referring to “the distress that may accompany the incongruence between one’s experienced or expressed gender and one’s assigned gender” (American Psychiatric Association, 2013, p. 451). For the purpose of this study, *Transgender identity* is intentionally defined with a focus on the incongruence between biological sex and gender identity experienced by individuals. This definition excludes cross dressers

who typically do not experience sex-gender dissonance.

Review of the Related Literature

The purpose of the first study is to develop and validate an instrument that will measure beliefs regarding transgender identity and attitudes toward transgender individuals with sensitivity to religious nuances, particularly those of evangelical Christians. The purpose of the second study is to use the validated scale to explore evangelical Christians' beliefs and attitudes toward transgender persons in reference to their secular counterpart. Given the paucity of studies concerning attitudes toward transgender individuals, this review of the literature first provides a sampling of attitudinal studies conducted with sexual minorities in an attempt to establish a framework for conceptualizing and defining attitudes toward transgender individuals. A brief overview of what is meant by the designation transgender, an outline of the history of transgender and the transgender movement, a summary of available Church statements on transgender, and an overview of studies on attitudes toward transgender persons conducted in western societies follow in an attempt to situate and establish the salience of the studies. The chapter concludes with a summary that pulls together the issues and principles derived from the existing literature to evaluate the implications for the purposes of the two studies.

Conceptualization of “Attitude” in Studies on Attitudes toward Sexual Minorities. Historically, scholars have conceptualized attitudes toward homosexual individuals as a single construct on a bipolar continuum. More specifically, because past research has been strongly influenced by Herek's theoretical framework conceptualizing

heterosexual attitudes toward gays, lesbians, and bisexuals “along a single cognitive continuum from *condemnation* to *tolerance*,” many studies have tended to focus solely on measuring negative sentiments toward this subset of the population (Worthington, Dillon, & Becker-Schutte, 2005, p 104). As a result, scales assessing constructs such as homophobia, heterosexism, and homo-negativity have prevailed (Herek, 1984; Hudson & Ricketts, 1980; Raja & Stokes, 1998). However, with the advance in research and the development of new theories, scholars in varying fields have increasingly moved toward conceptualizing attitudes toward sexual minorities as a “multi-dimensional and wide-ranging” construct (Worthington et al., 2005, p. 104) to reflect its complexities (Fyfe, 1983; Hong, 1983; LaMar & Kite, 1998; McNaught, 1997; Mohr, 2002). In a study conducted by LaMar and Kite (1998) examining how “sex differences in attitudes toward homosexuality vary by attitude component and... [how,] within each component, the sex of the person being rated influences these attitudes,” factor analysis yielded four factors (p. 189). The four components consisted of: “condemnation/tolerance, morality, contact, and stereotypes” (LaMar & Kite, 1998, p.191). Additionally, in a series of four studies conducted by Worthington, et al. (2005) to develop and validate a scale measuring heterosexuals’ knowledge and attitudes toward lesbians, gays, and bisexuals, the “multi-dimensional and wide-ranging” (p. 104) nature of the construct of interest was confirmed. Specifically, factor analysis yielded five factors “assessing internalized affirmativeness, civil rights attitudes, knowledge, religious conflict, and hate” as “separate, but interrelated dimensions of heterosexual knowledge and attitudes regarding LGB individuals” (Worthington et al., 2005, pp. 104, 115). Findings from these studies suggest that while there are variations in the specific conceptualization of the components of

attitudes toward homosexuals, there is support for a multidimensional perspective of this construct.

Furthermore, there has been a rising recognition of the need for context and time-specific measures of attitudes toward sexual minorities. As an example, Herek (1994) questions the scale he developed in 1984 (Attitudes Toward Lesbians and Gay Men), constructed for and validated by a particular population in a particular place at a particular time, as to its utility in different eras and cultural contexts. Worthington, et al. (2005), also points out how, due to the evolution of the public discourse regarding sexual orientation, there are aspects of heterosexuals' attitudes toward homosexuals "that may not be tapped by existing measures," thus requiring new instruments that would effectively capture the complexities of the construct of interest in the present time (p. 106). Furthermore, in a study examining homophobia in conservative religious communities, Rosik, Griffith, and Cruz (2007) highlights the need for scales nuanced enough to capture the unique complexities of religious groups' attitudes arising from their belief systems. In particular, Rosik et al. (2007) identify the person-behavior distinction held by conservative Christianity, historically not tapped by homophobia scales, as a significant conceptual distinction in the Christian belief system that must be reflected in attitudinal scales used with conservative Christians. In fact, consonant with Rosik et al.'s (2007) point, several studies examining conservative religious groups' attitudes toward gays and lesbians found notable attitude differences depending on whether questions pertained to the *person* or the *behavior* of the subgroup in question (Bassett et al., 2000; Fulton et al., 1999; Wilkinson & Roys, 2005).

While the discussion above pertains to attitudes toward homosexuals, it is reasonable to infer that the principles are applicable to and worthy of consideration for the present studies as homosexual and transgender individuals share commonalities as sexual minorities. However, considerations of the uniqueness of the transgender population and identity as distinct from other sexual minorities are also explored and examined in the paragraphs below.

What is Transgender? In the last two decades, the term “transgender” has come to refer to individuals whose gender identities and expressions do not conform to generally accepted norms in society: it is “an umbrella term that refers to all identities or practices that cross over, cut across, move between or otherwise queer socially constructed sex/gender boundaries” (Stryker, 2006, p. 251). Although consensus is lacking, in the literature, transgender is typically understood to include a range of gender variant individuals, including transsexuals and transvestites/cross-dressers. A transsexual person is understood as “someone who believes that their physiological bodies do not represent their true sex” and takes steps to align their physical body to match their internal sense of self through hormone treatment and surgery (Lev, 2004, p. 400). A transvestite or a cross-dresser is someone who generally identifies as the gender assigned to them at birth (often referred to as “natal sex” or “natal gender”), but occasionally dresses in the clothing of the opposite sex without necessarily desiring to alter their anatomical sex (Lev, 2004; Meyerowitz, 2002). In many instances, however, transgender is used not as an umbrella term but more narrowly to refer to individuals who live cross-gendered lives without seeking medical interventions, in contrast to transsexuals, who

actually seek a somatic transition (Heath, 2006). As well, in popular culture, the terms transgender and transsexual are often used interchangeably.

The conceptualization of gender variance has seen a gradual shift from a pathological to a non-pathological model. According to Heath (2002), transsexualism first appeared as a psychiatric diagnosis in the third edition of the *Diagnostic and Statistical Manual of Mental Health Disorders* (DSM-III) in 1980, and while renamed in the subsequent edition as “gender identity disorder,” it, along with transvestitism, continued to be considered a form of mental illness. However, in more recent years, there has been a movement to depathologize various forms of gender variance—to view transgender simply as one form of a diversity of natural human identities. This shifting paradigm is reflected in the DSM-5, which has replaced “gender identity disorder” with “gender dysphoria,” a diagnosis focusing on the distress caused by the incongruity between a person’s biological sex and experienced gender as the clinical problem rather than the fact of the incongruence itself (American Psychiatric Association, 2013). Moreover, the 7th version of the Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People, published in 2012 by the World Professional Association for Transgender Health (WPATH), also clearly emphasizes the non-pathological nature of gender nonconformity of all forms throughout its document (Coleman et al., 2012).

The current literature indicates that the designation “transgender” generally encompasses a wide range of gender-nonconforming individuals, but also that there are different “shades” within this large umbrella. What also emerge from the literature are

shifts in medical and clinical models of gender variance arising from challenges to the gender binary posed by the transgender population.

History of Transgender and the Transgender Movement. While scientific research on transsexuality and the transgender movement is relatively new (Stone, 2009), the conditions of gender crossing and gender reversal have existed since antiquity. Archeological artifacts from ancient Egyptian burial sites, Greek legends and plays, and other historical records from ancient civilizations indicate the existence of gender crossing as a phenomenon at various points in early history (Savage, 2006). There are also historical documents recording more overt cases of gender reversals among European royalties between the sixteenth and nineteenth centuries (Savage, 2006). In the United States, gender variant individuals have been widely recognized by Native Americans as “two-spirit people” for centuries (Savage, 2008). While it is impossible to know whether these historical cases are comparable to what is designated today as “transsexuality,” it is reasonable to conclude that these examples at least suggest that gender-nonconformity is not a phenomenon unique to the present.

The twentieth century, however, was the era that saw a rapid increase in the visibility of individuals who transgressed conventional gender norms. Those whose biological sex did not match their gender identity began to seek help, and European doctors performed the first sex reassignment surgeries in the 1920s (Meyerowitz, 2009). In the United State, the concept of sex change was popularized through the media in the 1930s, and with the publicity of Christine Jorgenson, the first American to have sex reassignment surgery in 1952, medical professionals began to seriously address the issue of sex change in the 1950s (Meyerowitz, 2009). Scholars such as John Money and his

associates from Johns Hopkins University began researching gender identity formation and contributed to the emerging body of knowledge in the field. It was also in the 1950s that the term, “transsexual,” was used for the first time as a medical category in the United States, and both the term and the condition it described were publicized by Harry Benjamin, an endocrinologist in New York, who came to be known as one of the major medical players in transgender advocacy (Meyerowitz, 2009). Distinctions between sex, gender, gender identity, and sexual orientation were also made during this decade (Meyerowitz, 2009). The 1960s saw the formation of programs and clinics to promote the study and treatment of transsexuals. Specifically, the founding of the Erickson Educational Foundation by Reed Erickson, a female-to-male transsexual, in 1964 and the establishment of the Gender Identity Clinic at Johns Hopkins University Hospital in 1966 were landmark events of this decade (Meyerowitz, 2009). In the 1970s, transsexualism became more widely recognized, resulting in the formation of professional guidelines for treatment and the eventual establishment of the Harry Benjamin International Gender Dysphoria Association in 1979 (Meyerowitz, 2009).

The 1990s marked the rise of the contemporary transgender movement (Currah, 2008). While, to this day, attitudes vary within the Gay, Lesbian, and Bisexual (GLB) community regarding the inclusion of the transgender (T) population in their movement, their shared experience of gender norm transgression, oppression, and discrimination, has brought the groups together to collaborate in their effort toward social change (Stone, 2009). In addition, the formation of various transgender rights organizations has allowed for the transgender population to have a visible presence in society, and the Internet has further permitted them to foster connection and to organize across wide geographical

locations (Shapiro, 2004). With these changes in the social landscape, society at large has had to contend with issues previously only of interest to medical and other healthcare professionals. Specifically, issues such as educational institutions having to make decisions on whether to identify students as their self-identified gender, provision of non-gendered restrooms, changing gender designations on personal identification documents, equal opportunity in employment and housing, basic work-place protection, reproductive rights, and access to medical and psychological services have been at the forefront of recent transgender activism (Currah, 2008; Davis, 2009; Gluckman & Trudeau, 2003). As well, at a more fundamental level, the transgender movement has and continues to challenge the conventional two-gender system, causing society to reexamine its long-held paradigm.

What arises from this historical overview is, once again, a portrait of a shifting societal terrain in which gender-crossing behavior has moved from being considered abnormal to being understood as one variation of normal over the centuries. With these changes in ideologies, there has also been increasing considerations by religious circles as to their beliefs, which are examined in the next section.

Church Statements on Transgender. The challenge to the two-gender system posed by the transgender movement is of particular concern to those who hold to a traditional Christian worldview that “assigns meaning and moral relevance to the fundamental division of humanity into the categories of male and female” (Pegors & Kanamori, 2014). Evangelical Christianity has historically held to the authority of the Scriptures and looks to passages in its sacred text to establish and uphold a dualistic paradigm of humanity (Frame, 2006). In particular, what is known as the “creation

account” found in Genesis 1:27, which reads, “So God created man in his own image, in the image of God he created him; male and female he created them” (English Standard Version), is the most commonly cited passage in which the basic human dichotomy is grounded. This division of humanity into male and female also has functional significance in that it is necessary in fulfilling the gendered marital, familial, and ecclesiastical roles prescribed by the Bible (Ortlund, 2006). Thus both at a fundamental and practical level, the existence of transgender individuals challenges adherents to a traditional Biblical worldview to make sense of the seeming discrepancy found between their belief and the reality found in the world.

With increasing contact between Christian communities and the transgender population, some denominations have begun to issue statements on their stance regarding transgender identity. One such document is *Issues in Human Sexuality* drafted by the Church of England’s House of Bishops in 1991 and a follow-up statement, *Some Issues in Human Sexuality*, published in 2003. While the Church of England is not considered a part of the evangelical branch of Christianity, these statements are of interest in that the denomination shares in the human dichotomy view held by evangelical Christianity. The two documents deal with a broad array of “human sexuality” issues, which includes a brief treatment of transsexualism. Both documents present a hetero-normative and gender complementary paradigm as the basis for human sexual relationships; hence, transsexuality is addressed along with other problems of sexual addiction in the 1991 statement, illuminating the Church’s view of transsexualism as contrary to the design of humanity (Cornwall, 2009). Furthermore, the 2003 document draws considerably from the work of Oliver O’Donovan whose 1983 article on transgender is one of the most cited

theological writings on the issue to this day. Some of the salient points from O'Donovan's work endorsed by the Church of England include the "given-ness" of sex and the implication that sex is thus ultimately unchangeable through surgical manipulation and the idea that sex reassignment surgery transgresses the integrity of the human person (O'Donovan, 1983).

Specifically relevant to evangelical Christians is a document entitled *Transsexuality*, a 2000 report by the Evangelical Alliance Policy Commission (EAPC), which has since become influential within evangelical churches. This statement also takes an essentialist view of sex, holding to the view that biological sex is fundamental to being human with each person inevitably being either male or female (EAPC, 2000). The document further elaborates on the "given-ness" of the male/female identity, stating, "Because [our biological sex] is fundamental, it is not an historical phenomenon. It is not subject to development. We do not actually become male or female. Our male/femaleness 'unfolds' in a progression from genotype to phenotype," again, emphasizing the priority of the physical and consequently challenging the legitimacy of a transgender identity (EAPC, 2000, pp. 63-64). In fact, the document dismisses the psychological state (i.e. transsexuality) as having any actuality, thus endorsing the stance that the mind, not the body, must always be altered in cases of transsexuality (Cornwall, 2009).

The most recent ecclesiastical statement on the issue of transgender was put forth by the Southern Baptist Convention (SBC) when attendees of the convention passed a resolution drafted by Denny Burk, Boyce College professor, and Andrew Walker, Ethics and Religious Liberty Commission Policy Director, in June, 2014. In line with the above two documents, this resolution affirms the fundamental division of humanity into the

categories of male and female; affirms that “gender identity is determined by biological sex and not by one’s self-perception”; denounces the separation of one’s gender identity from the physical reality of biological birth sex, claiming that such a distinction “poses the harmful effect of engendering an understanding of sexuality and personhood that is fluid”; distinguishes between intersex and transgender on the basis of biological and psychological ambiguity; and consequently denounces any effort to alter one’s bodily identity to refashion it to conform with one’s perceived gender identity (Burk & Walker, 2014). Unique, however, to this document are statements regarding attitudes and behaviors that govern interactions between Christians and the transgender population. The Resolution expresses a resolve by members of the SBC to extend love and compassion to those who experience conflict between their biological sex and their felt gender identity and a stance to condemn any acts of abuse or violence committed against transgender individuals (Burk & Walker, 2014).

What the above three documents present is a set of formalized statements reflecting conservative Christians’ beliefs regarding transgender identity at the institutional level. However, what is not evident from the review of the literature is whether these institution-level beliefs and attitudes are reflective of those held by the general lay population of evangelical Christians. This is an important question, given that it is not always the case that institutional statements correspond with congregational beliefs.

Published Studies on Attitudes toward Transgender in the Western World.

While few in number, several empirical studies on attitudes toward transgender individuals have been conducted with select subgroups of the larger population.

Studies with Medical Professionals. The earliest study of this kind was conducted by Green, Stoller, and MacAndrew in 1966—a survey study with over 300 randomly selected U.S. medical professionals (psychiatrists, urologists, gynecologists, and general practitioners), using a self-constructed questionnaire, which yielded a highly pathologized view of transsexuality by the surveyed medical population. In addition, an analysis of response percentages revealed that while there were slight differences in attitudes between disciplines, with psychiatrists consistently displaying a more positive attitude relative to their colleagues, there was an overwhelming conservatism against approving sex reassignment surgery by medical professionals as a whole (Green et al., 1966). Interestingly, however, the majority of physicians expressed a surprisingly liberal view toward postoperative patients, supporting them in their change of birth certificates to reflect their new gender and to marry and adopt children in their new identity (Green et al., 1966).

A similar study was conducted in 1986, measuring U.S. medical professionals' knowledge of transsexuality and attitudes toward transsexuals. This study consisted of a three-part questionnaire, mailed to a random national sample of 2,500 healthcare professionals (five hundred from each target population: general practitioners, urologists, obstetrician-gynecologists, psychiatrists, and clinical psychologists) (Franzini & Casinelli, 1986). Part 1 of the survey consisted of questions designed to measure factual knowledge about transsexuality; Part 2 consisted of statements designed to measure participants' attitudes toward transsexual patients and sex reassignment surgery (5-point Likert scale); and Part 3 consisted of select questions from Green et al.'s instrument to allow for an evaluation of changes in medical professionals' attitudes toward transsexuals

over the 16 years between the two studies (Franzini & Casinelli, 1986). While the results must be considered with caution due to the low return rate of the surveys (9%), the study provided important insight. First, each of the five target populations possessed comparable levels of knowledge about transsexuality (Franzini & Casinelli, 1986). Furthermore, an analysis of scores from Part 2 across the five groups yielded several patterns. First, it was found that general practitioners displayed the most conservative attitudes while clinical psychologists the most liberal and favorable; second, greatest agreement was found across all five groups in support of continued scientific study of transsexuality while there was major opposition to increase in federal research funds and loans to transsexual patients; third, there was also strong support across all five groups to award transsexuals protection of civil rights and antidiscrimination legislation; and finally, measures of attitudes toward sex reassignment surgery yielded mixed results of both favorable and unfavorable postures toward the medical intervention (Franzini & Casinelli, 1986). The results of Part 3 of the survey revealed significantly more positive attitudes by medical professionals toward transsexuality compared to the 1966 study (Franzini & Casinelli, 1986). This study was significant in that it provided a more detailed understanding of medical professionals' attitudes toward transsexuality as compared to Green et al.'s previous work.

Studies with College Students. In 1983, Leitenberg and Slavin conducted the first study with undergraduate students to compare students' attitudes toward transsexuals and homosexuals. Their study, with a sample of 318 U.S. university students, established a measure of attitudes in the younger, educated population. A set of two questionnaires, each containing the same five questions, one addressing homosexuality and the other

transsexuality, were used. The first question addressed general attitudes toward transsexuality and homosexuality, the second and third targeted issues of job discrimination, the fourth pertained to beliefs about biological causality, while the fifth dealt with adoption (Leitenberg & Slavin, 1983). The study yielded several findings. First, the study showed that, in general, students held a more positive attitude toward transsexuals as indicated by the finding that a greater percentage of subjects considered homosexuality to be “always wrong” in contrast to transsexuality; second, females displayed a more favorable attitude toward transsexuality than homosexuality compared to their male counterpart; third, a greater percentage of respondents (both male and female) rejected the notion that homosexuality has a biological causality; fourth, somewhat surprisingly, despite the more generally negative attitude towards homosexuality, respondents displayed a supportive posture towards both homosexuals and transsexuals in regard to occupational opportunities, with female respondents showing approximately equal support for both groups and male respondents showing greater support for homosexuals (Leitenberg & Slavin, 1983).

In 2005, Hill and Willoughby conducted a series of three studies to develop and validate an instrument measuring hate against gender variant individuals, comprised of three key constructs, “transphobia, genderism, and gender-bashing” (p. 533). Their study was one of the first that attempted to construct an instrument that is “able to tap into both overt reactions and more subtle ideology that underlie intolerance of gender boundary transgressions” (Hill & Willoughby, 2005, p. 533). In their first study, they developed a scale measuring negative attitudes toward transgender persons that tapped into its cognitive (genderism), affective (transphobia), and behavioral (gender-bashing)

dimensions. An initial questionnaire consisting 106 items was administered to a sample of 227 undergraduate students, after which the scale was reduced to 32 items based on an analysis of item ceiling/floor effect along with item-to-total and item-subscale correlations (Hill & Willoughby, 2005). The study showed the three subscales having reasonable reliability (genderism subscale having a coefficient alpha of .83; transphobia, .94; gender-bashing, .79; and the total, .95), and “the ability to detect gender differences in attitudes toward gender-nonconformity” (Hill & Willoughby 2005, p. 535). The second study conducted with fifty-two English-speaking parents recruited at two community centers further tested the new scale (Genderism and Transphobia Scale [GTS])’s validity and reliability. Convergent validity was tested by correlating scores between the GTS and two other scales (Homophobia Scale and Gender Role Beliefs Scale) that measure conceptually similar constructs; predictive validity of the GTS was tested by evaluating whether it can predict parents’ reactions to a gender non-conforming child, using a vignette assessment questionnaire (Hill & Willoughby, 2005). The results demonstrated high internal consistency and validity of the GTS, specifically showing evidence of the instrument’s convergent and predictive validity. The third and final study was conducted with 180 undergraduate and graduate students to further assess the psychometric properties of the GTS. In particular, factor analysis was conducted to confirm the existence of the three constructs of genderism, transphobia, and gender-bashing; however, results indicated a two-factor model to be the most reasonable conceptualization of attitudes toward gender non-conforming persons, with genderism and transphobia together as one factor and gender-bashing as another (Hill & Willoughby, 2005).

The following year, Tee and Hegarty (2006) conducted a study to test hypotheses about support for and opposition to transgender civil rights in the United Kingdom. Specifically, they tested correlations between opposition to transgender civil rights and heterosexism, authoritarianism, belief in binary sex and a biological basis of gender, and select demographic variables (Tee & Hegarty, 2006). The study was conducted with 151 university psychology and engineering students, using a questionnaire booklet consisting of seven multi-item questionnaire measures (all but the three standardized prejudice measures being newly constructed measures) along with several demographic items: beliefs about gender scale, beliefs about transsexuality scale, similarity between sexual and gender minority groups scale, support for trans persons' civil rights scale, and three standardized prejudice scales (Attitudes toward Lesbians and Gay Men scale (ATLG), Modern Sexism scale (MS), and Right-Wing Authoritarianism scale (RWA)) (Tee & Hegarty, 2006). Analysis of the collected data demonstrated that there was greater opposition to transgender persons' civil rights among "men, engineering students, non-White, non-British, religious, authoritarian and heterosexist participants and those with little previous contact with gender minorities" (Tee & Hegarty, 2006, p. 77). As well, regression analysis demonstrated that heterosexism, contact with sexual minorities, authoritarianism, and belief in a biological basis of gender "all predicted unique variance in opposition to trans persons' civil rights" (Tee & Hegarty, 2006, p. 77).

In 2008, Nagoshi et al. conducted a study with 310 U.S. undergraduate students to validate a transgender prejudice scale that built on the work of Hill and Willoughby (2005), contrasting it with a homophobia measure and examining "gender differences in the predictors of transphobia" (Nagoshi et al., 2008, p. 523). The scale was an

improvement from the GTS developed by Hill and Willoughby in that it had a firm theoretical framework for its construct grounded in previous homophobia studies and presented a tighter measure capturing the key issue of the construct of interest based on the work of Bornstein (Nagoshi et al., 2008). Specifically, four hypotheses were tested in this study. First, it was hypothesized that “right-wing authoritarianism, religious fundamentalism, benevolent sexism, rape myth acceptance, and a more restricted sexuality” would correlate with both transphobia and homophobia in both men and women; second, it was hypothesized that homophobia and transphobia would be positively correlated with hyper masculinity in the forms of “aggression proneness” and “hostile sexism” in men, but not in women; third, it was hypothesized that “measures of beliefs in traditional gender roles and identity” would be more predictive of transphobia than of homophobia; and fourth, it was hypothesized that “there would be gender differences in the issues that drive prejudice against transgender and homosexual individuals” (Nagoshi et al., 2008, p. 525). The results of the study demonstrated the reliability (internal consistency) and validity (construct, convergent, and discriminant) of the newly developed Transphobia Scale (TS). The study also produced results consistent with other studies with men scoring higher than women on both homophobia and transphobia measures. Moreover, survey results demonstrated that homophobia and transphobia were highly correlated with socially conservative attitudes in both men and women; however, interestingly, belief in traditional gender roles and identities predicted only transphobia (and not homophobia) in women, while predicting both in men (Nagoshi et al., 2008). As well, the study revealed a strong correlation between “hypermasculinity” and homophobia and transphobia in men (Nagoshi et al., 2008).

In 2012, Walch et al. conducted a study to develop and validate a new scale measuring attitudes toward transgendered individuals. Grounded in Herek's theory that "scales assessing homophobia should strive to reflect only attitudinal items, rather than behaviors and non-evaluative beliefs about sexual minorities," the particular aim of the study was to construct a scale that tapped into people's affective reactions and cognitive evaluations of transgendered persons, apart from behavioral expressions of discrimination and violence (Walch et al., 2012, p. 1284). To this end, they conducted two studies, both with college student samples, which included exploratory and confirmatory factor analyses (Walch et al., 2012). An initial item pool of 40 questions was developed by modifying questions taken from scales measuring attitudes toward homosexuals with evidence of strong psychometric properties and by experts generating items capturing issues unique to the transgender population (Walch et al., 2012). The scale was administered along with other standardized self-report measures to assess the construct validity of the new scale. Specifically, the Genderism and Transphobia Scale (GTS) and the Acceptance of Stereotyping Questionnaire (ASQ) were incorporated to assess convergent validity, and the Rosenberg Self-Esteem Scale (RSES) and Marlowe-Crowne Social Desirability Scale (MCSDS) were included to assess discriminant validity (Walch et al., 2012). An exploratory factor analysis of the data obtained from the first sample yielded a single factor structure, and the scale was shortened by eliminating 20 items with the lowest factor loadings (Walch et al., 2012). The final 20-item scale displayed strong internal consistency with a Cronbach's alpha of .96 (Walch et al., 2012). Results from the second sample confirmed the single factor structure of the scale and demonstrated high internal consistency with a Cronbach's alpha of .95 (Walch et al., 2012). The study

showed the new scale to be psychometrically sound with high internal consistency and evidence of construct validity. Furthermore, this new Attitudes Toward Transgendered Individuals (ATTI) scale was demonstrated to provide a cleaner measure of attitudes toward transgender persons in that, unlike previous scales, it excludes an assessment of behavioral expressions of discrimination and violence (Walch et al., 2012).

Studies with the General Public. In 1998, a national survey was conducted with 992 randomly selected Swedish residents between the ages of 18 and 70 (668 responses), which aimed to explore Swedish nationals' views on sex reassignment and their attitude toward transsexuals, test whether people's views of transsexuals might differ based on theories of causality, and evaluate whether attitudes toward transsexuals vary between genders and age groups (Landen & Innala, 2000). The study used a questionnaire comprising 13 fixed response questions, and the Pearson's chi square test was used to analyze the collected data set (Landen & Innala, 2000). The study yielded an overall positive and tolerant attitude among respondents toward transsexuals in their pursuit of treatment, change of legal identification documents to reflect their new gender, and marrying in their new gender status, while there was subgroup variability (Landen & Innala, 2000). Specifically, females, younger individuals, and those who believed in a biological cause of transsexuality held substantially less restrictive attitudes than participants who were male, older, and held to a psychological view of transsexuality (Landen & Innala, 2000).

In 2013, Norton and Herek conducted the first large-scale study in the U.S., examining heterosexual adults' attitudes toward transgender people, using data gathered from a national probability sample. Specifically, the study sought to examine the

correlation between attitudes toward gender and sexual minorities; differences in attitudes toward transgender individuals between genders; the extent to which attitudes toward transgender people are related to a dichotomous view of gender; other sociological and psychological correlates of attitudes toward transgender people; and gender differences in the psychological roots of attitudes toward transgender persons (Norton & Herek, 2013). Norton and Herek (2013) used a series of 101-point feeling thermometers to examine attitudes toward transgender individuals and other sexual minorities along with several standardized scales (short version of the Attitudes Toward Lesbians and Gay Men and questions from the American National Elections Study) and questions compiled from other studies to measure other correlates to heterosexuals' attitudes toward transgender persons. Results of the study showed that U.S. heterosexuals' attitudes toward transgender people were highly correlated with their attitudes toward other sexual minorities, but were significantly less favorable; attitudes towards transgender people were also found to be more negative in heterosexual men than women (Norton & Herek, 2013). As predicted, the study also found a significant correlation between men and women's attitude towards transgender identity and adherence to a binary view of gender (Norton & Herek, 2013). Moreover, less favorable attitudes were associated with higher levels of authoritarianism, anti-egalitarianism and political conservatism for both men and women and with higher religiosity for women (Norton & Herek, 2013). The study also demonstrated that prior contact with sexual minorities is predictive of a more positive attitude toward transgender persons (Norton & Herek, 2013).

These nine studies demonstrate efforts in attitudinal studies in the western world with findings indicating demographic, sociological, and psychological correlates to

attitudes toward transgender people. Specifically, in two of the studies, men and individuals lacking prior contact with gender minorities were found to have more negative attitudes toward transgender people than women and those who have had contact with gender variant populations (Nagoshi et al., 2008; Tee & Hegarty, 2006). In addition, a positive correlation was found between less favorable attitudes toward gender nonconforming individuals and religiosity, right-wing authoritarianism, and heterosexism in three of the studies (Nagoshi et al., 2008; Norton & Herek, 2013; Tee & Hegarty, 2006); religious fundamentalism and a binary conceptualization of gender in two studies (Nagoshi et al., 2008; Norton & Herek, 2013); anti-egalitarianism in one of the studies (Norton & Herek, 2013); and older generations in another study (Landen & Innala, 2000).

While these studies document progress in research investigating various populations' attitudes toward transgender individuals, there are several limitations to these studies. First, in light of the findings based on sexual minorities studies pointing to the need for time- and context-specific scales sensitive to conservative religious beliefs, the current transgender scales likely fail to adequately capture religious nuances in the measure of attitudes toward transgender persons. Second, the majority of the studies to date have used self-constructed measures without first testing the reliability and validity of the instrument. Third, these studies are limited by the sample population in that a large portion of the studies to date has been conducted largely or exclusively with medical doctors or college students, which inevitably presents the possibility that the results may not generalize to the broader population. Fourth and finally, many of the studies have focused primarily on assessing negative feelings toward transgender persons, neglecting other dimensions of the construct of interest.

Summary. Evident from the above review of the literature is the fact that the reality of gender ambiguity and the issues raised by the transgender movement have posed significant challenges to society both at a philosophical and practical level, requiring society's continued engagement with those challenges. Somewhat surprisingly, the literature also revealed not only a paucity of studies of the subject area generally, but a complete absence of studies illuminating the current state of evangelical Christianity regarding their beliefs and attitudes toward transgender persons all together. This gap in knowledge is critical from both a secular and religious perspective. From a secular standpoint, Christian views on this subject is of great importance because of the influence Christianity has had and continues to have on the setting of various social, political, and moral norms in this country. From a faith standpoint, the increasing contact between the Christian and transgender populations and the challenges they pose to the Christian worldview demand from them a clarification of theological issues arising from the reality of ambiguous gender as well as self-reflection on their life-on-life interaction with this particular population.

In light of what was found through the review of the literature, a transgender attitude measure designed with sensitivity to religious nuances, particularly of evangelical Christians, was developed and validated then utilized to explore the faith group's attitudes toward the transgender population.

DEVELOPMENT AND VALIDATION OF THE TRANSGENDER ATTITUDES AND KNOWLEDGE SCALE (TRANS)ⁱ

Introduction

The United States has witnessed a rapid and dramatic change in attitudes toward LGBT issues. For example, the Supreme Court reversed its position on multiple civil rights issues concerning LGBT matters between the 1986 *Bowers v. Hardwick* and 2015 *Obergefell v. Hodges* rulings (Epps, 2015). Even more swiftly, public opinion has shifted regarding marriage equality by 31% within the last 19 years (McCarthy, 2015). Just in 2015, media coverage of transgender issues in particular has soared, such as in relation to Caitlyn Jenner and Lavern Cox, and public interest in transgender has skyrocketed, evidenced by web searches rising 500% between July, 2013 and July, 2015 (Google Trends, 2015). Given this rapidly changing climate, it is surprising to note that only four empirical studies of U.S. attitudes specifically towards transgender persons have been conducted in the last decade (Nagoshi et al., 2008; Nisley, 2011; Norton & Herek, 2012; Walch, Nagamake, Francisco, Stitt, & Shingler, 2012) and none at all in the last couple of years. As the United States in particular experiences a dramatic increase in media exposure and legal protections for transgender individuals (Transgender Law Center, 2015), it is critical to gather accurate measures of attitudes toward this population. The current study developed and validated a scale that has wide applicability across the U.S. population. Specifically, it used a much broader population than has been used to develop and validate other scales, taking into account both contextual and psychometric considerations not previously addressed.

Religiosity and Attitudes toward Transgender. To date, thirteen studies examining attitudes toward transgender individuals have been conducted in the western world (Antoszewski, Kasielska, Jedrzejczak, & Kruk-Jeromin, 2007; Devor, Kendel, & Strapko, 1997; Franzini & Casinelli, 1986; Green et al., 1966; Harvey, 2002; Hill & Willoughby, 2005; Landen & Innala, 2000; Leitenberg & Slavin, 1983; Nagoshi et al., 2008; Nisley, 2011; Norton & Herek, 2012; Tee & Hegarty, 2006; Walch et al., 2012). Of the thirteen studies, three specifically examined the relationship between religiosity and attitudes toward transgender persons and found religious people to hold more negative attitudes toward transgender persons compared to their nonreligious counterparts. In a study examining opposition to transgender persons' civil rights in the United Kingdom, Tee and Hegarty (2006) found that more religious people expressed stronger opposition to transgender person's civil rights. In a similar study conducted in the United States by Nagoshi et al. (2008), transphobia was found to be "significantly and highly correlated with right-wing authoritarianism, religious fundamentalism, and hostile sexism," again, suggesting that religious individuals tend to hold negative views toward transgender persons (p. 521). In the same study, researchers found that a more restrictive view of sexuality and support of traditional gender roles—traits typically associated with religiosity—were also correlated with transphobia (Nagoshi et al., 2008). As well, in a more recent study conducted with a large sample in the United States, Norton and Herek (2012) found that "women held more negative attitudes toward transgender people to the extent that they said religion provided greater guidance in their daily lives," again, indicating a positive correlation between religiosity and negative evaluations of transgender persons, though, in this case, specifically applying to females (p. 751).

Contextual Considerations for Scale Development. While the three studies examining the relationship between religiosity and attitudes toward transgender persons seem to suggest that religious individuals hold unambiguously negative attitudes toward transgender persons, Rosik, Griffith, & Cruz (2007) have warned that, in questionnaire research, nuances in attitude are often lost when scales are not constructed with sensitivity to religious beliefs, resulting in a failure to provide an accurate measure of the construct of interest. Specifically, in examining conservative religious people's attitudes toward gays and lesbians, arguably applicable to attitudes toward transgender persons, researchers have found notable attitude differences depending on whether questions focus on the *person* or the *behavior* (Bassett et al., 2000; Fulton, Gorsuch, & Maynard, 1999; Wilkinson & Roys, 2005). This person-behavior distinction is one made by Christianity, and because approximately 78% of all U.S. citizens identify as Christian (Cooperman & Lipka, 2014), there is a need for instruments to capture these variances in Christians' attitudes arising from their belief system.

A secondary contextual concern relates to the issues of timeliness. Just as researchers of attitudes toward lesbians and gays have advocated for timely, culturally relevant scales (Herek 1984; Worthington et al., 2005), this concern is highly salient in the measurement of attitudes toward transgender persons. The fact that none of the presently available, validated transgender attitude scales include questions pertaining to civil rights of transgender persons, along with the fact that only three scales have been developed within the decade, illuminate a need for new scales relevant to the present time (Hill & Willoughby, 2005; Nagoshi et al., 2008; Walch et al., 2012).

Psychometric Considerations. One of the goals of the new scale is that it be usable across the broad with the U.S. population. This requires that it be psychometrically evaluated by testing it across a wide range of ages, ethnicities, and religions. While there are three existing transgender attitude scales that have undergone psychometric evaluation (Hill & Willoughby, 2005; Nagoshi et al., 2008; Walch et al., 2012), a significant limitation of these scales is the fact that they were normed with samples consisting largely or exclusively of college students. This narrowly defined population used for scale development undermines the validity of the instrument when utilized with a broader population (Henrich, Heine, & Norenzayan, 2010).

Another limitation pertains to the reductionist conceptualization of the construct of interest. In research on attitudes toward sexual minorities, scholars have increasingly moved from a conceptualization of attitude as a single construct to that of a “multi-dimensional and wide-ranging” construct (Worthington et al., 2005, p. 104) to better account for its complexities (Fyfe, 1983; Hong, 1983; LaMar & Kite, 1998; McNaught, 1997; Mohr, 2002). For example, one study yielded four factors: “condemnation/tolerance, morality, contact, and stereotypes” (LaMar & Kite, 1998, p.191), and another yielded five factors: “internalized affirmativeness, civil rights attitudes, knowledge, religious conflict, and hate” as “separate, but interrelated dimensions of heterosexual knowledge and attitudes regarding LGB individuals” (Worthington et al., 2005, pp. 104, 115). In contrast, two of the three extant transgender attitude scales are one-dimensional (Nagoshi et al., 2008; Walch et al., 2012) and the third is bi-dimensional (Hill & Willoughby, 2005). Findings from the research on

attitudes toward sexual minorities provide support that a transgender attitudinal construct may also be multi-dimensional.

Based on the needs for a contextually-relevant and psychometrically sound instrumentation, the current two-phase study validates a scale that improves upon the limitations of earlier scales.

Phase 1: Scale Development and Exploratory Factor Analysis

The first phase of the study was devoted to the development of a psychometrically sound and contextually relevant transgender attitude scale as described above.

Methods.

Participants. A large sample sufficient to perform an exploratory factor analysis was collected using Amazon Mechanical Turk (MTurk). The use of MTurk to recruit participants was deemed appropriate for the current study based on considerations of the limitations of previous studies stemming from convenience sampling and the nature of scale validation studies requiring a substantial sample. MTurk is a 10-year-old service that has been increasingly employed as a participant-recruitment tool by social scientists and has been shown to provide samples of equal to greater quality than traditional internet and college samples, producing data that meets or exceeds “psychometric standards associated with published research” (Buhrmester, Kwang, & Gosling, 2011, p. 5).

For this study, participants were restricted to individuals residing in the U.S. over the age of 18. Because the purpose of the study was to develop and validate a scale sensitive to religious nuances, particularly those of evangelical Christians, stratified

sampling was employed, using screening questions on MTurk in combination with the quota function on the survey software Qualtrics to ensure that there was adequate evangelical Christian representation in the sample. After data screening was conducted, a sample of 295 participants consisting of 55.3% female and 44.7% male, ranging in age from 18 to 75 years with a mean age of 36.6 ($SD=11.9$), were included in the exploratory factor analysis portion of the study. Specifically, 81.4% were Caucasian, 47.1% married, and 50.5% reported holding at least a bachelor's degree. Concerning religious affiliation, 41.4% of participants indicated having no religious affiliation while 54.2% reported religious backgrounds rooted in Christianity: 36.6% evangelical Christian, 11.5% Catholic, and 6.1% non-Evangelical Christian. More details about the demographic information can be found in Table 1.

Materials. As a first step in the scale development process, a thorough review of the related literature and extant questionnaires on attitudes toward sexual minorities was conducted. The focus of the literature review was to understand how attitudes have been conceptualized in similar studies and to determine areas where improvement is necessary in existing transgender scales. Based on the literature review, the researchers determined to use a multi-dimensional model of defining attitudes toward transgender persons, consisting of dimensions falling under the two broad conceptual categories of cognitive evaluations and affective reactions and to specifically tap religious nuances in attitudes toward transgender individuals.

A large item pool consisting of 96 questions was generated, using questions from existing scales and studies, along with novel items to adequately represent the religious nuances and the various dimensions of the target construct. Of the questions incorporated

from existing scales, some were taken directly from extant transgender attitude scales (Harvey, 2002; Hill & Willoughby, 2005; Landen & Innala, 2000; Nagoshi et al., 2008; Tee & Hegarty, 2006; Walch, et al., 2012) while others were modified from extant homosexuality attitude scales (LaMar & Kite, 1998; Worthington et al., 2005). In the item-generation process, several considerations were made based on DeVellis' (2012) work: first, both positively and negatively worded items were included in order to avoid acquiescence bias; second, a Likert scale was chosen as the best item response form for this instrument as it is designed to measure attitudes; third, fairly strong language was used for each item so as not to elicit too much agreement by the use of extremely mild statements; fourth, statements were designed for clarity, brevity, and appropriateness of language as much as possible; fifth, based on insight from the literature, item wording was carefully considered in order to develop a scale adequate to capture religious nuances of attitudes toward transgender persons; and finally, a level of redundancy was allowed for in the item pool based on the assumption that specific wording might be found preferable through factor analysis.

Three experts then reviewed the initial item pool: a faculty member with expertise in sexual minorities studies, a faculty member with expertise in scale development, and a faculty member with an additional graduate degree in Christian theology as an expert in Christian thought. Each reviewer was asked to evaluate items for conceptual coherence, relevance, and appropriateness to target subpopulation in light of their area of expertise with a focus on brevity, clarity, and singularity of each item.

After consideration of expert input, questions pertaining to cognitive evaluation were refocused to target underlying beliefs regarding gender, specifically, along a fixed-

fluid continuum. Questions explicitly pertaining to human value (not found in existing scales) were included in order for the scale to illuminate the person-behavior differentiation held by Christians. Questions related to social/affective responses were designed with a view toward capturing interpersonal comfort in increasing social distance along the spectrum of closed-ness to openness, ranging from the affective states of antipathy and apathy on the one end, moving toward ambivalence, then finally to interest and acceptance on the other. Each item was worded with a personal orientation in order to avoid unnecessarily abstract statements.

After items were refined based on expert input and to reflect gender beliefs along a fixed-fluid continuum, the item pool was reduced to 48 questions to be included in the initial scale. The item pool was left sufficiently large so as not to lose its intended scope and range. The question order was randomized using a random integer set generator, and based on findings from the work of Meade and Craig (2012), three attention check items were included in the scale in order to safeguard against careless respondents. The survey building software, Qualtrics, was used to create the initial scale, and the “request response” function, which generates an alert to participants when there are unanswered questions, was also employed in order to minimize inadvertent item nonresponse. In addition to the 48 questions, eight questions were included pertaining to demographics (sex, age, ethnicity, education, marital status, and religious affiliation), gender identification, and contact with transgender persons. An open-ended comment box was provided for respondents to offer additional comments.

Procedures. After approval was obtained from the university’s Institutional Review Board, participants were recruited through MTurk. The questionnaire, along with

the informed consent (see Appendix A), was made available to subjects through the MTurk interface. The study was set up in such a way that clicking on the “next” button at the end of the informed consent would indicate subjects’ agreement and subsequently direct informed participants to the survey available on a secure webpage. Participants were paid \$.70 to complete the 5-10-minute questionnaire, a rate comparable to survey studies of similar lengths made available by other researchers on MTurk.

Results. After data collection, item-total correlation was first evaluated and four poorly performing items were eliminated, leaving 44 items with a Cronbach’s alpha value of .979 to undergo exploratory factor analysis. After completing data screening using *Statistical Package for the Social Sciences* (SPSS) (version 22.0), FACTOR (Lorenzo-Seva & Ferrando, 2015) was used to perform exploratory factor analysis (Exploratory Maximum Likelihood) in order to evaluate the initial factor structure of the scale. Oblique rotation (Normalized Direct Oblimin) was specified, as there was strong reason to believe that the factors would be correlated (factors being related dimensions of the underlying construct of interest), and factor loadings below .40 were suppressed based on Brown’s (2015) recommendation. The initial solution produced three factors with eigenvalues above 1, explaining 69.6% of the variance. A total of five items that either cross-loaded or did not load were eliminated and a second rotated factor analysis (Normalized Direct Oblimin) was performed with the remaining 39 items. The results yielded a simple solution with acceptable fit indices. In order to shorten the scale, items with loadings below .50 except question 22 (as this question loaded above the recommended value of .40 and is conceptually significant) were eliminated, which yielded a simple solution with similar fit indices. Again, for purposes of brevity and

balance of items, the question with the lowest loading on factor 1 (.553) was eliminated and a fourth rotated factor analysis was performed with the remaining 33 questions to examine the fit indices.

The result was an interpretable, simple three-factor solution, accounting for 74.5% of the variance. Each of the 33 items had moderate to high factor loadings, ranging from .459 to .967. The first factor consisted of 16 items measuring interpersonal comfort; the second, 11 indicators pertaining to gender beliefs, tapping into conceptualization of gender as either a fixed dichotomy or a fluid continuum; and the third, six items concerning human value. The reliability estimates for each factor were high— $\alpha = .974$ for factor 1, $\alpha = .946$ for factor 2, and $\alpha = .944$ for factor 3—revealing high internal consistency of each subscale. Cronbach's alpha for the overall scale was .974, also indicating the reliability of the overall scale. No corrected item-subscale correlation values fell below .30, thus all 33 items were retained to be included in the final scale (Nunnally & Bernstein, 1994). The fit indices for the three-factor solution also indicated a good fit with the following values: RMSEA = .061, RMSR = .0224, NNFI = .94, and CFI = .95.

Phase 2: Scale Validation through Confirmatory Factor Analysis

The purpose of the second phase of the study was to administer the newly developed instrument to an independent sample to test the stability of the factor structure and further analyze its reliability and validity.

Methods.

Participants. MTurk was employed again to obtain a large sample of participants residing in the U.S., 18 and older, for the confirmatory factor analysis (CFA) phase of the study. The “Set Embedded Data” function in Qualtrics was used to reject subjects who participated in phase 1 of the study to assure a sample independent from the first. The same stratified sampling procedure was used to ensure evangelical Christian representation in the sample population. After data screening, a sample of 238 participants consisting of 55.5 % female and 44.5% male, ranging in age from 19 to 66 years with a mean age of 33 ($SD = 10.3$) were included in the second phase of the study. Of the sample, 80.3% were Caucasian, 37.8% married, and 46.6% reported holding at least a bachelor’s degree. Specifically, 38.7 % of participants indicated having no religious affiliation while 58% reported religious backgrounds rooted in Christianity: 41.6% evangelical Christian, 10.1% Catholic, and 6.3% non-evangelical Christian. More details of the demographic characteristics of the sample can be found in Table 1.

Materials. Participants were presented with a questionnaire consisting of the newly developed TRansgender Attitude and kNowledge Scale (TRANS) and four standardized self-report measures along with eight demographic questions (sex, age, ethnicity, education, marital status, religious affiliation, gender identification, and contact with transgender persons) in order to test the psychometric properties of TRANS. Specifically, the Attitudes Toward Transgender Individual Scale (ATTI) and the Genderism and Transphobia Scale (GTS) were included to test for convergent validity, and the Rosenberg Self-Esteem Scale (RSES) and the short form of the Marlowe-Crowne Social Desirability Scale (M-C SDS) were utilized to test discriminant validity.

The ATTI is a single-factor 20-item scale developed by Walch et al. (2012), assessing transgender stigma. Respondents are asked to rate items such as “Transgender individuals should not be allowed to cross dress in public” on a 5-point Likert scale, ranging from 1 = *strongly agree* to 5 = *strongly disagree*. After reversing negatively worded items, higher scores reflect greater acceptance of transgender persons. The scale has demonstrated reliability ($\alpha = .95$) as well as evidence of convergent and discriminant validity.

The GTS is a two-factor 32-item scale developed by Hill and Willoughby (2005), measuring “violence, harassment, and discrimination toward cross-dressers, transgenderists, and transsexuals” without the use of explicit labels (p. 531). Questions such as “I have beat up men who act like sissies,” “Feminine boys should be cured of their problems,” and “God made two sexes only” are used to measure the latent variable. Responses are rated on a 7-point Likert scale, ranging from 1 = *strongly agree* to 7 = *strongly disagree*, with a higher overall score reflecting greater tolerance (in attitude and behavior) of gender-nonconforming individuals. According to Hill and Willoughby (2005), the measure demonstrates strong internal consistency ($\alpha = .94-.96$ overall) along with evidence of convergent and discriminant validity.

The RSES is a widely used measure of global self-esteem developed by Rosenberg (1965). It is a 10-item scale with statements such as “I am able to do things as well as most other people” and “I certainly feel useless at times,” which are rated on a 4-point Likert scale, ranging from 1 = *strongly agree* to 4 = *strongly disagree*. After reverse coding negatively worded items, a higher score denotes greater self-esteem. The scale has

demonstrated evidence of reliability (average Cronbach's alpha value of .81) and validity in multiple studies across multiple cultures (Schmitt & Allik, 2005).

The original Marlowe-Crowne Social Desirability Scale (M-C SDS) is a 33-item scale developed by Crowne and Marlowe (1960), assessing participants' tendency to provide a socially desirable response, using a true-false response format. Some questions in the scale include: "There have been occasions when I took advantage of someone" and "I'm always willing to admit it when I make a mistake." The scale is reported to have high internal consistency ($K-R20 = .88$) and strong evidence of convergent and discriminant validity (Crowne & Marlowe, 1960). In the study at hand, the 13-item short form C developed by Reynolds (1982), which strongly correlates with the original version ($r = .93$), was utilized.

Procedures. Just as in the first phase of the study, participants were recruited through MTurk, and the five scales (in the order of TRANS, GTS, ATTS, RESES, MC-SDS), along with the informed consent (see Appendix A), were made available to subjects through the MTurk interface. Again, the study was set up in such a way that clicking on the "next" button at the end of the informed consent would indicate subjects' agreement and subsequently direct informed participants to the questionnaire available on a secure webpage. The question order in TRANS was randomized using a random integer set generator, and based on findings from the work of Meade and Craig (2012), a total of five attention check items were included in the questionnaire in order to safeguard against careless respondents. The survey building software, Qualtrics, was used to create the questionnaire, and the "request response" function, which generates an alert to participants when there are unanswered questions, was also designated in order to

minimize inadvertent item nonresponse. Participants were paid \$.80 to complete the 7-12-minute questionnaire, a rate based on other survey studies of similar length made available on MTurk by other researchers.

Results. First, data screening was performed to ensure that the collected data met key assumptions (sufficient sample size, interval-level scale, and multivariate normality) required for factor analysis using maxim likelihood (ML) estimation (Brown, 2015). Following data screening, FACTOR (Lorenzo-Seva & Ferrando, 2015) was used to run an exploratory factor analysis to examine whether the factor structure of TRANS from phase 1 of the study would be reproduced with the independent sample. The analysis yielded a three-factor structure, replicating the results of the first EFA with the exception of Q3.2 (“I have a hard time respecting transgender individuals”) cross loading on factors 1 and 2 instead of yielding a simple structure. Factor loadings (between .419 and .946), reliability estimates (Cronbach’s alpha values: factor 1 $\alpha = .983$, factor 2 $\alpha = .966$, factor 3 $\alpha = .961$), and model fit indices (RMSEA = .073, CFI = .94, NNFI = .93, RMSR = .023) were largely comparable to the results of phase 1 of the study with RMSEA in the second sample being slightly higher than the original sample, though still falling within the acceptable range (Brown, 2005), suggesting a generally stable factor structure of TRANS.

The authors then conducted a CFA using IBM SPSS Amos 22.0 with ML estimation to further assess the stability of the factor structure of the refined scale. Based on prior evidence from the original EFA and theory bearing on the multidimensionality of attitudinal scales, a model with three factors was specified in which 16 indicators loaded on factor 1 (interpersonal comfort), 11 indicators on factor 2 (gender beliefs), and

six indicators on factor 3 (human value). In the measurement model, error measurements were presumed to be uncorrelated and no indicator double-loadings were permitted. The three factors—interpersonal comfort, gender beliefs, and human value—were permitted to correlate based on evidence of factor-interrelatedness from the original EFA. Accordingly, the model was over-identified with 492 *df* and yielded a model fit approaching the acceptable range: RMSEA = .089, TLI = .90, CFI = .90. Modification indices and standardized residuals were then examined to identify localized areas of strain. Q3.25 was eliminated because of high modification index values, and CFA was rerun, which produced a better model fit. The same procedure was repeated three additional times, where, in each round, an item with a high modification index value was eliminated with each iteration producing increasingly better model fit. The item elimination process was not pursued beyond the fourth iteration, as the fifth produced a poorer fit. In this manner, a total of four items (Q3.25, Q3.2, Q3.27, and Q3.29) were eliminated from the scale.

At this point, modification indices were examined to consider possible error covariances to attain greater parsimony. Two errors, e8 and e2, were permitted to correlate because there was reason to believe that there would be error covariance due to similar wording and close conceptual correspondence between Q3.20 and Q3.21; and a CFA with the revised parameter specifications, in fact, yielded a better model fit. Two additional errors, e24 and e21, were also permitted to correlate for the same reason. The revised model (see Figure 1), specifying three factors (with 14 indicators loading on factor 1, 10 indicators on factor 2, and five indicators on factor 3), three factor covariances, and two error covariances (e8 and e2, e21 and e24) resulted in an

interpretable model, sufficiently reproducing the observed relationship among indicators: χ^2 ($df = 372, p < .000$) = 897.02, RMSEA = .077 (90% CI = .071-.084), CFI = .94, TLI = .93, and SRMR = .045. Additionally, each of the 29 items had moderate to high factor loadings, ranging from .43 to .94, suggesting that the indicators are highly related to the purported factors (see Table 2). The values of factor correlations among the three subscales also supported the multidimensional conceptualization of the construct of interest (see Table 3). The reliability estimate for each factor was high— $\alpha = .972$ for factor 1, $\alpha = .95$ for factor 2, and $\alpha = .928$ for factor 3—revealing high internal consistency of each subscale. Cronbach's alpha for the overall scale was .977, also demonstrating the reliability of the overall scale.

In order to evaluate the convergent validity of the new scale, correlations between TRANS and two previously validated transgender attitude measures (ATTI and GTS) were examined using Pearson's coefficients. Because higher scores on all three scales indicate more favorable attitude towards transgender individuals, it was expected that TRANS would demonstrate a strong positive correlation with both the ATTI and the GTS. Upon calculating Pearson's coefficients, TRANS was found to correlate strongly in the expected direction with the GTS ($r = .881, p < .001$) and the ATTI ($r = .954, p < .001$), thus demonstrating its convergent validity (see Table 4).

Discriminant validity of TRANS was evaluated by examining the correlation coefficients between TRANS and two scales assessing constructs that are theoretically unrelated to attitudes toward transgender persons; it was expected that TRANS would not correlate significantly with either the RESES, measuring global self-esteem, or the M-C SDS, assessing social desirability. In fact, TRANS correlated poorly with the RESES ($r = -$

.024, $p = .715$ and the M-C SDS ($r = .041$, $p = .529$, thereby demonstrating discriminant validity of TRANS (see Table 4). It is noteworthy that there was almost no correlation between scores on TRANS and M-C SDS, suggesting that participants completed TRANS without regard to social desirability.

Discussion

Findings from the present study suggest that the new TRansgender Attitude and kNowledge Scale (TRANS) is a psychometrically sound, multi-dimensional instrument with demonstrated reliability and validity. There were strong factor and overall alpha coefficient values, and factor loadings were moderate to high on all indicators. TRANS also evidences construct validity as demonstrated by its expected performance on tests of convergent and discriminant validity against theoretically related and unrelated constructs.

TRANS exhibits clear improvements over previous transgender attitude scales in at least four ways. First, unlike previous studies, the present study was conducted with more diverse, non-college samples, significantly improving upon the generalizability of the scale. Second, TRANS demonstrates superiority to previous scales in that it reflects the multi-dimensional conceptualization of attitudes toward sexual minorities, increasingly recognized in the literature (Fyfe, 1983; Hong, 1983; LaMar & Kite, 1998; McNaught, 1997; Mohr, 2002; Worthington et al., 2005), which are lacking in extant scales. Factor analyses established and confirmed the three factor structure, and the moderate to high factor correlations support the notion that factors in TRANS are inter-related dimensions of a single underlying construct. Third, TRANS, as a three-

dimensional scale consisting of 29 questions, is the briefest multi-dimensional transgender attitude measure presently available, given that the shortest scale (TS with 9 questions) is a one-factor scale and the GTS, while bi-dimensional, contains 33 questions (Nagoshi et al., 2008; Hill & Willoughby, 2005). Fourth, TRANS is superior to previous scales in that it is contextually relevant, the various aspects of which will be discussed below.

First, TRANS demonstrates time-specificity, a quality deemed consequential for attitudinal measures (Herek, 1994; Worthington et al., 2005). Specifically, TRANS contains items pertaining to transgender civil rights, not found in extant transgender attitude scales, capturing the current public discussion surrounding civil rights issues of transgender persons (Currah, 2008; Davis, 2009; Gluckman & Trudeau, 2003). The inclusion of items, such as “If a transgender person identifies as female, she should have the right to marry a man” and “Transgender individuals should have the same access to housing as any other person” is representative of TRANS’ sensitivity to the recent, focused attention given in the U.S. to transgender issues.

Second, TRANS manifests contextual relevance to the unique cultural climate of the U.S., namely the large Christian representation in its population. In particular, TRANS exhibits an appreciation of beliefs held by the conservative religious sector of its population, which research has corroborated as vital in attitudinal studies for a nuanced, thus more accurate, measure of the construct. More specifically, because TRANS was designed for the U.S. population, the binary view of humanity and the intrinsic value of human beings—beliefs held by evangelical Christians—are incorporated in the scale. What is more, factor analyses confirmed two distinct factors reflecting the two notions:

one containing items pertaining to gender beliefs (ex. “Humanity is only male or female, there is nothing in between”) and the other consisting of statements regarding human value (ex. “Transgender individuals are valuable human beings regardless of how I feel about transgenderism”).

Given that TRANS exhibits evidence of psychometric strength with demonstrated superiority to prior measures in its contextual relevance and capacity to assess multiple dimensions of beliefs and attitudes within a diverse population, it can be reasonably assumed that TRANS will serve as an effective tool with various subsets of the population. For example, there is a complete absence of data-driven studies examining U.S. evangelical Christians’ beliefs and attitudes toward transgender persons, despite the fact that they have been the most politically vocal sector of Christianity and have strongly influenced the setting of social norms throughout U.S. history. One of this group’s core beliefs is the affirmation of the intrinsic value of the human person in spite of their behavior, which is captured in the popular expression: “Love the sinner, hate the sin.” Rosik et al. (2007), referring to insight gained from Watson and his associates (1993, 1998, 2003), maintain that there is a danger of “scientific misrepresentation of religion [that] can occur through... a type of vicious circularity where the operationalization of a construct predestines a particular finding,” whereby evangelical Christians may not be adequately evaluated (p. 11). The use of TRANS is particularly appropriate in that the instrument was specifically designed with sensitivity to religious beliefs.

With the increasing visibility of the transgender population and their expected need for both mental and physical care, TRANS would also be appropriate for examining healthcare professionals’ attitudes toward transgender persons. Similarly, there is utility

for TRANS in educational institutions for an assessment of transgender receptivity at the levels of student, faculty, and administration. Based on the growing number of young people identifying as gender non-conforming, the demand for climate research in educational settings is likely to rise. Additionally, utilizing TRANS to explore possible correlates—such as age, gender, education, and contact with sexual and gender minorities—to attitudes toward transgender is also warranted. The three-dimensional structure of TRANS, tapping into interpersonal comfort, gender beliefs, and human value also lends itself to an examination of possible relationship between a person's view of gender and value of human beings with their level of comfort with transgender persons. While the definition of “transgender” in TRANS is intentionally broad, it may be modified to designate a narrower definition for research purposes. For example, there may be value in exploring possible variations in attitudes depending on stage of transition (pre- vs. postoperative), subgroup (MTF, FTM, gender-fluid, etc.), and age (children, adolescents, adults) of transgender persons.

In its present form, TRANS offers a valid, reliable, and contextually relevant instrument with the capacity to assess multiple dimensions of attitude and knowledge within a diverse population inclusive of conservative religious groups.

References

- Antoszewski, B., Kasielska, A., Jedrzejczak, M., & Kruk-Jeromin, J. (2007). Knowledge of and attitude toward transsexualism among college students. *Sexuality and Disability*, 25, 29-35.
- Bassett, R. L., Hodak, E., Allen, J., Bartos, D., Grastorf, J., Sittig, L., & Strong, J. (2000). Homonegative Christians: Loving the sinner but hating the sin. *Journal of Psychology and Christianity*, 19(3), 258-269.

- Brown, T. M. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). New York: Guilford Press.
- Buhrmester, M., Kwang, T., & Gossling, S.D. (2011). Amazon's mechanical turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6(1), 3-5.
- Cooperman, A., & Lipka, M. (2014). U.S. doesn't rank high in religious diversity. *Pew Research Center*. Retrieved March 16, 2015, from <http://www.pewresearch.org/fact-tank/2014/04/04/u-s-doesnt-rank-high-in-religious-diversity/>
- Crowne, D., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349-354.
- Currah, P. (2008). Stepping back, looking outward: Situating transgender activism and transgender studies — Kris Hayashi, Matt Richardson, and Susan Stryker frame the movement. *Sexuality Research and Social Policy*, 5(1), 93-105.
- Davis, D. (2009). Transgender issues in the workplace: HRD's newest challenge opportunity. *Advances in Developing Human Resources*, 11(1), 109-120.
- DeVellis, R. F. (2012). *Scale development theory and applications* (3rd ed.). Los Angeles, CA: Sage Publications.
- Devor, H., Kendel, M., & Strapko, N. (1997). Feminist and lesbian opinions about transsexuals. In B. Bullough, V. Bullough & J. Elias (Eds.), *Gender Blending* (pp. 146-157). Amherst, NY: Prometheus.
- Epps, G. (June 26th, 2015). The U.S. Supreme Court fulfills its promises on same-sex marriage. *The Atlantic*. Retrieved July 18, 2015 from: <http://www.theatlantic.com/politics/archive/2015/06/same-sex-marriage-supreme-court-obergefell/396995/>
- Franzini, L. R., & Casinelli, D. L. (1986). Health professionals' factual knowledge and changing attitudes toward transsexuals. *Social Science & Medicine*, 22(5), 535-539.
- Fulton, A. S., Gorsuch, R. L., & Maynard, E. A. (1999). Religious orientation, antihomosexual sentiment, and fundamentalism among Christians. *Journal for the scientific study of religion*, 38(1), 14-22.
- Fyfe, B. (1983). Homophobia or homosexual bias reconsidered. *Archives of Sexual Behavior*, 12, 549-553.

- Gluckman, R., & Trudeau, M. (2003). Trans-itioning feminism: the politics of transgender in the reproductive rights movement. *Women's Global Network for Reproductive Rights*, 79, 15-16.
- Google Trends-Website Search interest-United States, 2004-present. (n.d.). *Google Trends*. Retrieved July 24, 2015 from:
<https://www.google.com/trends/explore#q=transgender&geo=US&cmpt=q&tz=Et c%2FGMT%2B5>
- Green, R., Stoller, R. J., & MacAndrew, C. (1966). Attitudes toward sex transformation procedures. *Archives of General Psychiatry*, 15(2), 178-182.
- Harvey, J. (2002). *Attitudes of the general population toward transsexuals*. Unpublished doctoral dissertation, Southern California University for Professional Studies.
- Henrich, J. Heine, S.J., & Norenzayan, A. (2010). The weirdest people in the world? (free access). *Behavioral and Brain Sciences*, 33(2-3), 61-83.
- Herek, G. M. (1994). Assessing heterosexuals' attitudes toward lesbians and gay men: A review of empirical research with the ATLG scale. In B. Greene & G. M. Herek (Eds.), *Lesbian and gay psychology: Theory, research and clinical applications* (pp. 206-228). Thousand Oaks, CA: Sage Publications.
- Hill, D., & Willoughby, B. (2005). The development and validation of the genderism and transphobia scale. *Sex Roles*, 53(7/8), 531-544.
- Hong, S. (1983). Sex, religion, and factor analytically derived attitudes toward homosexuality. *Australian Journal of Sex, Marriage, & Family*, 4, 142-150.
- LaMar, L., Kite, M. (1998). Sex differences in attitudes toward gay men and lesbians: A multidimensional perspective. *The Journal of Sex Research*, 35(2), 189-196.
- Landen, M., & Innala, S. (2000). Attitudes toward transsexualism in a Swedish national survey. *Archives of Sexual Behavior*, 29(4), 375-388.
- Leitenberg, H., & Slavin, L. (1983). Comparison of Attitudes Toward Transsexuality and Homosexuality. *Archives of Sexual Behavior*, 12 (4), 337-346.
- Lorenzo-Seva, U., & Ferrando, P. J. (2015). FACTOR. *Universitat Rovira i Virgili*. Retrieved July 31, 2015 from:
<http://psico.fcep.urv.es/utilitats/factor/MainMenu.html>
- McCarthy, Justin (2015). U.S. Support for gay marriage stable after high court ruling. *Gallup Poll, July, 2015*. Retrieved July 18, 2015 from:
http://www.gallup.com/poll/184217/support-gay-marriage-stable-high-court-ruling.aspx?utm_source=Politics&utm_medium=newsfeed&utm_campaign=tiles

- McNaught, B. (1997). *Now that I'm out, what do I do?* New York: St. Martin's Press.
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, 17(3), 43-455.
- Mohr, J. J. (2002). Heterosexual identity and the heterosexual therapist: An identity perspective on sexual orientation dynamics in psychotherapy. *The Counseling Psychologist*, 30, 532-566.
- Nagoshi, J. L., Adams, K. A., Terrell, H. K., Hill, E. D., Brzuzy, S., & Nagoshi, C. T. (2008). Gender differences in correlates of homophobia and transphobia. *Sex Roles*, 59(7-8), 521-531.
- Norton, A. T., & Herek, G. M. (2012). Heterosexuals' attitudes toward transgender people: findings from a national probability sample of U.S. adults. *Sex Roles*, 68, 738-753.
- Nisley, M. (2011). *Counseling professionals' attitudes toward transgender people and responses to transgender clients*. Unpublished doctoral dissertation, Western Michigan University.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Reynolds, W. (1982). The development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, 38(1), 119-125.
- Rosenberg, M. (1989). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosik, C., Griffith, L., Cruz, Z. (2007). Homophobia and conservative religion: Toward a more nuanced understanding. *American Journal of Orthopsychiatry*, 77(1), 10-19.
- Schmitt, D. & Allik, J. (2005) Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology*, 89(4), 691-721.
- Tee, N., & Hegarty, P. (2006). Predicting opposition to the civil rights of trans persons in the United Kingdom. *Journal of Community & Applied Social Psychology*, 16(1), 70-80.
- Transgender Law Center (2015). Retrieved February 18, 2015 from <http://transgenderlawcenter.org>

- Walch, S., Nagamake, S., Francisco, J., Stitt, R., & Shingler, K. (2012). The attitudes toward transgender individuals scale: Psychometric properties. *Archives of Sexual Behavior*, 41(5), 1283-1291.
- Wilkins, W. W., & Roys, A. C. (2005). The components of sexual orientation, religiosity, and heterosexuals' impressions of gay men and lesbians. *Journal of Social Psychology*, 145(1), 65-83.
- Worthington, R., Dillon, F., Becker-Schutte, A. (2005). Development, reliability, and validity of the lesbian, gay, and bisexual knowledge and attitudes scale for heterosexuals (LGB-KASH). *Journal of Counseling Psychology*, 52(1), 104-118.

Table 1. Demographic characteristics

Characteristic	Sample1 N=295		Sample2 N=238	
	<i>n</i>	%	<i>n</i>	%
Sex				
Male	132	44.7%	106	44.5%
Female	163	55.3%	132	55.5%
Ethnicity/Race				
African American	16	5.4%	16	6.7%
Asian/Pacific Islander	17	5.8%	9	3.8%
Caucasian	240	81.4%	191	80.3%
Latino/Hispanic	14	4.7%	15	6.3%
Native American	1	.3%	2	.8%
Biracial/Multiracial	6	2%	5	2.1%
Other	1	.3%	0	0%
Education				
Less than High School	2	.7%	0	0%
High School Diploma	30	10.2%	16	6.7%
Some College	76	25.8%	81	34%
Associate's Degree	38	12.9%	30	12.6%
Bachelor's Degree	110	37.3%	90	37.8%
Advanced Degree	39	13.2%	21	8.8%
Marital Status				
Single	120	40.7%	125	52.5%
Married	139	47.1%	90	37.8%
Separated	6	2%	4	1.7%
Divorced	19	6.4%	13	5.5%
Widowed	3	1%	2	.8%
Remarried	0	0%	1	.4%
Other	8	2.7%	3	1.3%
Religious Affiliation				
None	122	41.4%	92	38.7%
Evangelical Christian	108	36.6%	99	41.6%
Catholic	34	11.5%	24	10.1%
Jewish	2	.7%	3	1.3%
Muslim	1	.3%	2	.8%
Christian Non-Evangelical	18	6.1%	15	6.3%
Non-Western Religion	10	3.4%	3	1.3%

Table 2. Factor loadings for the 29-item TRANS

Item	Factor loading
Factor 1 Interpersonal comfort	
1. I would feel comfortable having a transgender person into my home for a meal	.91
2. I would be comfortable being in a group of transgender individuals	.89
3. I would be uncomfortable if my boss was transgender	.87
4. I would feel uncomfortable working closely with a transgender person in my workplace	.43
5. If I knew someone was transgender, I would still be open to forming a friendship with that person	.94
6. I would feel comfortable if my next-door neighbor was transgender	.79
7. If my child brought home a transgender friend, I would be comfortable having that person into my home	.91
8. I would be upset if someone I'd known for a long time revealed that they used to be another gender	.82
9. If I knew someone was transgender, I would tend to avoid that person	.94
10. If a transgender person asked to be my housemate, I would want to decline	.89
11. I would feel uncomfortable finding out that I was alone with a transgender person	.85
12. I would be comfortable working for a company that welcomes transgender individuals	.89
13. If someone I knew revealed to me that they were transgender, I would probably no longer be as close to that person	.94
14. If I found out my doctor was transgender, I would want to seek another doctor	.92
Factor 2 Beliefs on gender	
15. A person who is not sure about being male or female is mentally ill	.81
16. Whether a person is male or female depends upon whether they feel male or female	.73
17. If you are born male, nothing you do will change that	.89
18. Whether a person is male or female depends strictly on their external sex-parts	.84
19. Humanity is only male or female; there is nothing in between	.90
20. If a transgender person identifies as female, she should have the right to marry a man	.79
21. Although most of humanity is male or female, there are also identities in between	.81
22. All adults should identify as either male or female	.89
23. A child born with ambiguous sex-parts should be assigned to be either male or female	.66
24. A person does not have to be clearly male or female to be normal and healthy	.80
Factor 3 Human value	
25. Transgender individuals are valuable human beings regardless of how I feel about transgenderism	.85
26. Transgender individuals should be treated with the same respect and dignity as any other person	.90
27. I would find it highly objectionable to see a transgender person being teased or mistreated	.82
28. Transgender individuals are human beings with their own struggles, just like the rest of us	.86
29. Transgender individuals should have the same access to housing as any other person	.84

Table 3. Correlations between subscales

	2	3
1. Interpersonal comfort	.85	.77
2. Beliefs on gender		.62
3. Human value		

Table 4. Correlations between TRANS and validity measures ($n = 238$)

	Correlation with TRANS (r)
Convergent	
ATTI	.954*
GTS	.881*
Discriminant	
RSES	-.024
M-C SDS	.041
Note. * $p < .001$ (2-tailed)	

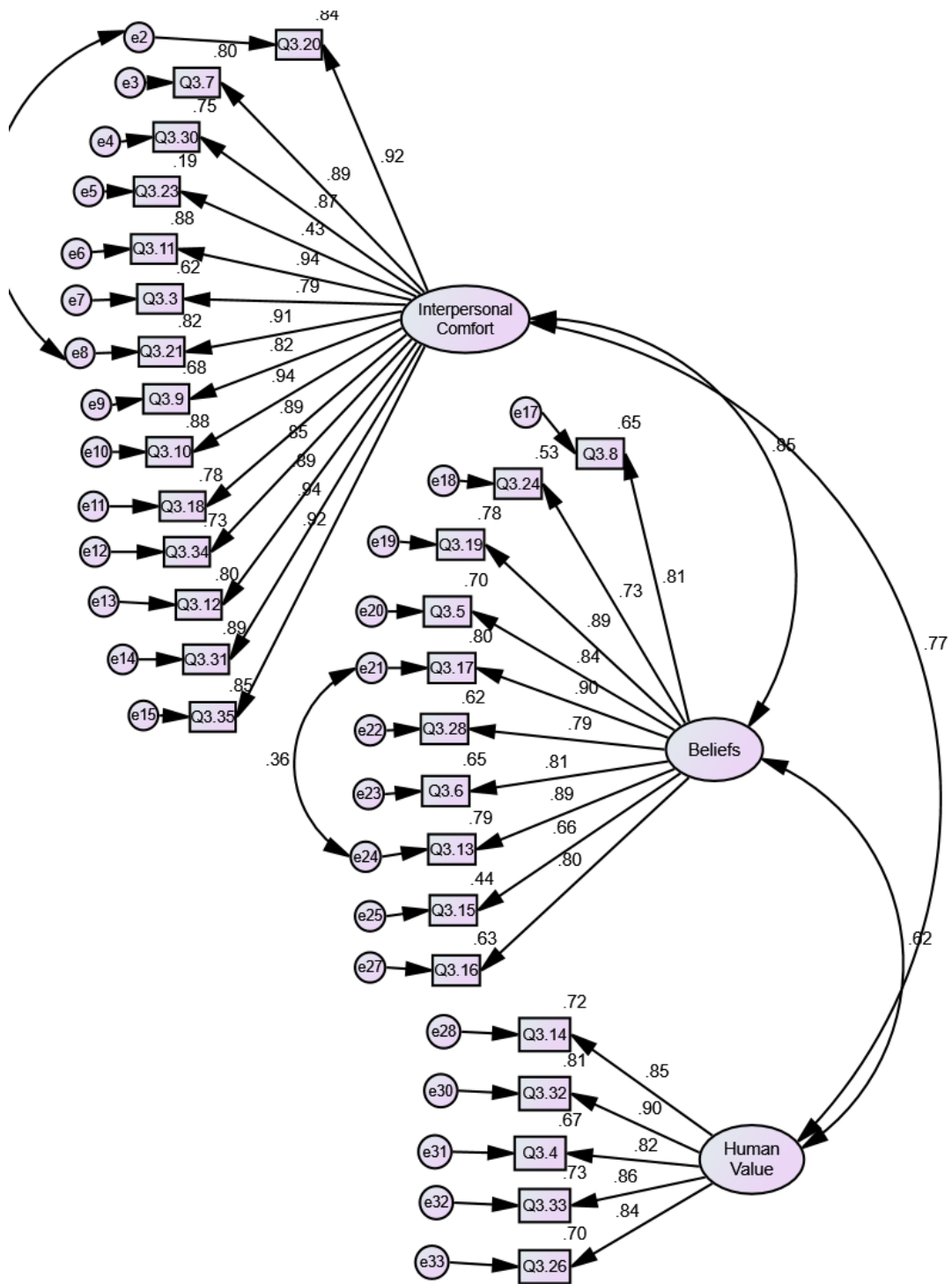


Figure 1. Visual representation of TRANS CFA model

EVANGELICAL CHRISTIANS' BELIEFS AND ATTITUDES TOWARD TRANSGENDER PERSONSⁱⁱ

Introduction

In recent years, views on gender in the United States have been changing rapidly, demanding thoughtful engagement by society at large. The specific issue of transgender is a major driving force in this movement, which, in the last few years, has gained more public attention than ever before. For example, web searches for the word “transgender” rose 500% between July, 2013 and July, 2015 (Google Trends, 2015). Along with the increase in public and media attention in the U.S., public policy is changing rapidly around a multitude of legal issues such as increased protections and medical benefits for transgender individuals (Transgender Law Center, 2015). Nevertheless, evidence suggests that transgender persons continue to experience a high degree of discrimination and stress with resultant social and health problems (Bradford, Reisner, Honnold, & Xavier, 2013; Miller & Grollman, 2015), indicating that there remains a wide range of attitudes and beliefs toward transgender individuals in this nation. It is therefore critical to better measure and understand the U.S. public’s attitudes and beliefs toward this population, such that discussions around public policy, social action, and education reflect the most accurate and timely information.

In considering the U.S. public’s attitudes and beliefs, the role of Christianity in the United States is difficult to overestimate. Approximately 78% of the population identifies as Christian (Cooperman & Lipka, 2014), and Christianity has held and continues to hold considerable sway on the shaping of social norms, including norms

related to gender. Specifically, a majority of Christians hold to a binary view of humanity, in which all individuals are created either male or female (Frame, 2006; Ortlund, 2006). This view can be considered distinct from a culturally defined dichotomy based on social construction (Pegors & Kanamori, 2014). While this dichotomous view has been used to downplay the rights and even “existence” of transgender individuals, another strongly held belief within Christendom is the affirmation of the intrinsic value of the human person. When measuring the attitudes and beliefs of this population toward transgender persons and related issues, it is important, therefore, to allow for the nuance of such beliefs. Furthermore, while these beliefs are held by a majority of Christians, in this paper, the focus was limited to evangelical Christians due to the fact that they constitute a distinct sector of Christianity known for their social and political influence.

Given the evolving discussions surrounding gender in the U.S., there has been an effort within evangelical Christianity to self-examine their theology in regard to sex and gender ambiguity, and statements have recently been issued by certain evangelical denominations regarding their view toward transsexuality (Cornwall, 2009). To date, the Evangelical Alliance Policy Commission (EAPC) (in 2000) and the Southern Baptist Convention (SBC) (in 2014) have issued statements on their views on transsexuality (Burk & Walker, 2014; EAPC, 2000). While these documents present formalized statements reflecting evangelical Christians’ views of transgender identity at the institutional level, to date, there are no known measures of this subpopulation’s beliefs and attitudes toward transgender persons.

What is presently available in the western world is thirteen studies that provide insight into medical professionals’, counselors’, and the general public’s attitudes toward

transgender persons based on survey studies (Antoszewski, Kasielska, Jedrzejczak, & Kruk-Jeromin, 2007; Devor, Kendel, & Strapko, 1997; Franzini & Casinelli, 1986; Green et al., 1966; Harvey, 2002; Hill & Willoughby, 2005; Landen & Innala, 2000; Leitenberg & Slavin, 1983; Nagoshi et al., 2008; Nisley, 2011; Norton & Herek, 2012; Tee & Hegarty, 2006; Walch, Nagamake, Francisco, Stitt, & Shingler, 2012). Of these, only three studies have examined the interaction between religiosity and attitudes and beliefs regarding transgender. Tee and Hegarty (2006) found that more religious people held stronger opposition to transgender persons' civil rights. Nagoshi et al. (2008), found transphobia to be "significantly and highly correlated with right-wing authoritarianism, religious fundamentalism, and hostile sexism" (p. 521). In the same study, researchers found that support of traditional gender roles and a restrictive view on gender diversity—typically associated with religiosity—were also correlated with transphobia. A more recent study conducted with a large sample in the United States by Norton and Herek (2012) found that "women held more negative attitudes toward transgender people to the extent that they said religion provided greater guidance in their daily lives" (p. 751). These existing studies generally found more negative attitudes toward transgender persons with greater religiosity.

While some information exists on the relationship between broad religiosity and attitudes towards transgender persons, there is an absence of specific knowledge about evangelical Christians' beliefs and attitudes toward this particular population. From a secular standpoint, better understanding evangelical Christian perspectives on this subject is important because of the influence of Christianity on the shaping of the country's moral terrain as well as of educational, social, corporate, and governmental entities.

Understanding attitudes and beliefs of this subpopulation may facilitate constructive dialogue and help inform public policy strategies to decrease discrimination towards transgender people while being inclusive of evangelical beliefs. From a Christian standpoint, increasing contact between the Christian and transgender populations along with the existence of individuals who identify as transgender within Christian communities (Kennedy, 2008; Swenson, 2010; Wheeler, 2004) demand from these communities a clarification of their theology on gender and self-reflection on their interaction with the transgender population. Furthermore, evangelical Christians' views on this topic are of concern for educational institutions involved in the training of psychologists as they bear the responsibility of training clinicians with diversity competencies, part of which involves respecting the religious beliefs of Christian trainees as an aspect of religious diversity (Haldeman & Rasby, 2014; Russell & Bohan, 2014). This study was conducted in light of the many ways in which knowledge of U.S. evangelical Christians' attitudes toward transgender persons is important for social, religious, and educational action.

In this study, the following research questions were investigated:

1. What are the attitudes of evangelical Christians towards transgender persons and the three interrelated but distinct factors of interpersonal comfort, gender beliefs, and human value in relation to their secular reference group? What are the corresponding views of secular, nonreligious persons? Is there a significant difference between the groups?
2. Is the relationship between interpersonal comfort, gender beliefs, and human value different between evangelicals and secularists?

Methods

Participants. Amazon Mechanical Turk (MTurk), a 10-year-old service increasingly used by social scientists (Buhrmester, Kwang, & Gosling, 2011) was

employed as the participant recruitment tool for the survey study. Participation was restricted to individuals residing in the U.S. over the age of 18. Because the purpose of the study was to measure evangelical Christians' beliefs and attitudes toward transgender persons against their secular reference point, stratified sampling procedures were employed, utilizing screening questions on MTurk in combination with the quota function on the survey software Qualtrics to ensure that there was adequate nonreligious and evangelical Christian representation in the sample.

Survey data was acquired from a total of 731 participants. Given the study's focus on evangelic Christians, participants were excluded who reported other religious affiliation (Catholic: 86; Christian-non-evangelical: 45; Jewish: 7; Muslim: 5; Non-western religion: 13), leaving 282 participants who self-reported as evangelical Christian and 293 participants who reported no religious affiliation. After participants were selected who reported as either evangelical Christian or nonreligious and data screening was conducted, a total of 483 participants were included in the study. The two subgroups (nonreligious $n = 253$, evangelical Christian $n = 230$) were similar in age, education, and race, but differed in marital status in that more evangelical Christian participants identified as married compared to the nonreligious group. Demographic information is reported for this final pool in Table 5.

Procedures. After approval was obtained from the university's Institutional Review Board, participants were recruited through MTurk for the survey study. The informed consent (see Appendix B) along with a survey consisting of the TRansgender Attitudes and kNowledge Scale (TRANS) and demographic questions pertaining to gender, age, ethnicity, marital status, education, and contact with transgender persons

were included. Based on findings from the work of Meade and Craig (2012), the scale included attention check items in order to safeguard against careless respondents. Clicking on the “next” button at the end of the informed consent indicated subjects’ agreement and directed informed participants to the survey available on a secure website. SPSS (version 22.0) was used for both data cleaning and analyses.

Measures. For this study, the TRansgender Attitudes and kNowledge Scale (TRANS) was utilized to measure evangelical Christians’ beliefs and attitudes toward transgender persons. This instrument was chosen for two reasons. One, TRANS was deemed appropriate for this study because, unlike existing scales, it is a measure specifically designed with cultural sensitivity to the U.S. population with a particular focus on capturing religious nuances of the Christian faith tradition with demonstrated psychometric strength (Kanamori, Cornelius-White, Pegors, Daniel, & Hulgus, 2015). Additionally, this scale was selected because of its multidimensional conceptualization of attitudes toward transgender persons, which is a model increasingly supported in the literature (LaMar & Kite, 1998; McNaught, 1997; Mohr, 2002; Worthington, Dillon, & Becker-Schutte, 2005). TRANS is a three-factor 29-item scale measuring attitudes toward transgender persons. The factors tap into interpersonal comfort, gender beliefs as a fixed dichotomy or a fluid continuum, and human value. Responses are rated on a 7-point Likert scale, ranging from 1 = *strongly disagree* to 7 = *strongly agree*. After reverse-coding of negatively worded items, a higher score indicates a more positive overall attitude toward transgender persons. The scale has demonstrated reliability with Cronbach’s alpha values for each factor ranging from .928 to .972 and an overall alpha

value of .977 along with evidence of convergent and discriminant validity (Kanamori et al., 2015).

Results

Differences between Evangelical and Nonreligious and Male and Female

Persons. The primary interest of this study was to determine differences between evangelical Christians and their secular counterparts in attitudes and beliefs toward transgender persons. Because the literature suggests gender differences in attitudes toward transgender individuals (Antoszewski, et al., 2007; Harvey, 2002; Hill & Willoughby, 2005; Landen & Innala, 2000; Leitenberg & Slavin, 1983; Nagoshi et al., 2008; Norton & Herek, 2012; Nisley, 2011; Tee & Hegarty, 2006), three two-way ANOVAs were conducted to evaluate the effects of religious affiliation and gender on transgender attitudes along the three factors of TRANS. Religion (nonreligious and evangelical Christian) and gender (male and female) were the independent variables in this study. The dependent variables were each of the three factors—interpersonal comfort, gender beliefs, and human value—on TRANS, which were tested separately. Interpersonal comfort had a possible raw range of 84 points (from 14 to 98), gender beliefs had a possible raw range of 60 (from 10 to 70), and human value had a possible raw range of 30 points (from 5 to 35). The means and standard deviations for the three measures as a function of the two independent variables are presented in Table 6.

The test for homogeneity of variance, employing Levene's test, indicated that the data did not meet this assumption. However, given that the two-way ANOVA is robust to violations of assumptions, particularly when the sample size is large, it was determined

that a two-way ANOVA was appropriate for this study ($n = 483$).

The outputs of the two-way ANOVA indicated a highly significant main effect for religion and gender for all three attitude factors of TRANS. For religion, evangelical Christians scored lower than nonreligious persons on all three factors (interpersonal comfort: $F(1, 479) = 99.71, p < .001, d = .91$; gender beliefs: $F(1, 479) = 164.38, p < .001, d = 1.17$; human value: $F(1, 479) = 21.21, p < .001, d = .42$). For gender, females scored higher than males on all three factors (interpersonal comfort: $F(1, 479) = 20.27, p < .001, d = .41$; gender beliefs: $F(1, 479) = 33.53, p < .001, d = .53$; human value: $F(1, 479) = 16.29, p < .001, d = .37$). These differences for both religion and gender were statistically large, with religion being larger than gender. Additionally, there was no significant interaction between religion and gender for any of the three factors (interpersonal comfort: $F(1, 479) = .24, p = .622, d = .06$; gender beliefs: $F(1, 479) = .63, p = .429, d = .06$; human value: $F(1, 479) = 2.03, p = .115, d = .13$), indicating that differences in factor scores between evangelical Christians and nonreligious persons were not due to gender (see Figure 2).

Figure 2, plotting factor item means by group, reveals some other noticeable trends. Both groups rated human value quite highly, their averages being well above those for the other two factors. Furthermore, all averages for both groups were above the midline. While this is less meaningful for gender beliefs, for the other two factors it suggests that, on average, subjects from both groups did not show attitudes in the “negative” range of the scale, thus indicating a generally favorable attitude toward transgender persons for both groups.

To gain further insight into differences in attitudes toward transgender persons

between evangelical and nonreligious Americans, items on each of the factors were examined. For the interpersonal comfort factor, the largest mean difference was found on Q1.10 (reverse coded), “If a transgender person asked to be my housemate, I would want to decline,” with evangelical Christians scoring 4.18 ($SD = 2.01$) on average while nonreligious persons scored 5.75 ($SD = 1.53$), suggesting that, overall, evangelical Christians are far less open to living with transgender persons ($d = .878$). An examination of the standard deviation for items on this factor also showed that evangelical Christians displayed greater variability in ratings on all items, suggesting that there is more of a range in how evangelical Christians feel toward transgender persons compared to their nonreligious counterpart (see Table 7).

For items on the gender beliefs factor, the largest mean difference was found on Q2.5 (reverse coded), “Humanity is only male or female; there is nothing in between,” with evangelical Christians scoring 3.80 ($SD = 1.92$) on average while nonreligious persons scored 5.59 ($SD = 1.61$), suggesting that evangelical Christians clearly hold a more dichotomous view of humanity while nonreligious persons view gender categories more along a continuum ($d = 1.01$). Of interest also is the fact that on Q2.3 (reverse coded), “If you are born male, nothing you do will change that,” the most frequently selected response was “1” (which denotes *strongly agree* after reverse coding) for evangelical Christians, while for the secular group, it was “7” (*strongly disagree*). This finding suggests that more evangelical Christians hold to a fixed view of gender compared to nonreligious persons, more of whom adhere to a fluid view of gender. As was the case for items on the interpersonal comfort factor, evangelical Christians displayed greater variability in their responses. Of note also is the fact that the most

frequently selected response across all items on this factor was “4,” designating *neither agree nor disagree*, for evangelical Christians (5 out of 10 items), while for nonreligious individuals, it was “7,” denoting *strongly agree* (8 out of 10 items). This finding seems to demonstrate that, in general, the evangelical Christian group is less decided on their views regarding gender compared to their nonreligious counterpart.

For the human value factor, the average rating on all items in both groups were in the 6–point range (6.20 - 6.88) and the standard deviation ranged between .64 and .94, suggesting that the between-group difference on items on the human value factor was small relative to the other two factors. Furthermore, the most frequently chosen response across all items for both groups was “7,” indicating an overwhelming affirmation of transgender persons’ value regardless of the group.

Of interest also is the contrast between secularists and evangelicals on attitudes toward transgender civil rights. For example, the average rating of a civil rights item found on the gender believers factor, “If a transgender person identifies as female, she should have the right to marry a man,” was 6.38 ($SD = .97$) for nonreligious Americans, with 62.1% of the respondents strongly agreeing (selecting “7”) with the statement. In contrast, the mean value for the same item for evangelical Christians was 4.82 ($SD = 1.88$) with only 22.6% of the subjects strongly agreeing (selecting “7”) with the statement ($d = 1.04$). On the other hand, the average ratings of the statement found on the human value factor, “Transgender individuals should have the same access to housing as any other person,” were high for both groups (evangelical Christian: $M = 6.42$, $SD = .79$; secular: $M = 6.68$, $SD = .65$; $d = .36$).

Group Differences in the Relationships between Interpersonal Comfort,

Gender Beliefs, and Human Value. The Authors (2015) reported that there was a moderate to high positive correlation between all three factors of TRANS (interpersonal comfort, human value, and gender beliefs). In the analyses for the present study, the researchers set out to determine whether the relationships between these three factors differed between evangelical Christians and nonreligious persons. Given findings from the two-way ANOVAs in which differences in scores on these three factors were found for both gender and religion, the comparisons were run within gender (see Table 8).

First, the relationship between the human value and interpersonal comfort factors for each religious group was tested by calculating the Pearson's correlation of these two factors for males and females separately. For all groups, significant positive correlations were found between the two factors (evangelical Christian Females: $r(151) = .562, p < .001$; evangelical Christian Males: $r(75) = .562, p < .001$; nonreligious Females: $r(114) = .668, p < .001$; nonreligious Males: $r(135) = .794, p < .001$) (See Figure 3 for plot). To test whether this relationship differed between evangelical Christians and nonreligious persons, a comparison was made between correlation scores of these groups after applying Fisher's r -to- z transformation. Here, evangelical Christians showed a significantly lower correlation than nonreligious persons between interpersonal comfort and human value, but this was only true for males ($z = 3.08, p < .01$) and not females ($z = 1.38, p = .168$). In other words, for evangelical males, there is a smaller relationship between interpersonal comfort with transgender persons and the affirmation of transgender persons' value.

Second, group differences in the relationship between the human value and gender beliefs factors was tested. For all groups, divided by religion and gender,

significant positive correlations were found between these two factors (evangelical Christian Females: $r(151) = .403, p < .001$; evangelical Christian Males: $r(75) = .316, p < .01$; nonreligious Females: $r(114) = .585, p < .001$; nonreligious Males: $r(135) = .603, p < .001$) (see Figure 4 for plot). Results from the comparison of these correlation scores after applying Fisher's r -to- z transformation revealed that the evangelical Christian group showed significantly lower correlations than the nonreligious group across both males ($z = 2.56, p < .05$) and females ($z = 1.95, p = .05$), though for females this effect was barely significant, indicating that, being evangelical Christian is associated with a weaker relationship between one's views on gender and an endorsement of transgender persons' human value.

Third, the correlation between the factors, interpersonal comfort and gender beliefs, was tested for the evangelical Christian and nonreligious groups by gender and significant positive correlations were found between these two factors (evangelical Christian Females: $r(151) = .736, p < .001$; Christian Males: $r(75) = .707, p < .001$; nonreligious Females: $r(114) = .719, p < .001$; nonreligious Males: $r(135) = .704, p < .001$) (see Figure 5 for plot). Results from the comparison of these correlation scores after applying Fisher's r -to- z transformation indicated that there were no significant differences between the groups in either males ($z = -.04, p = .97$) or females ($z = -.29, p = .77$). In other words, being evangelical or nonreligious showed no difference in the relationship between one's interpersonal comfort with transgender persons and one's view on gender.

Overall, what these results suggest is that interpersonal comfort and views on gender are strongly positively related for both evangelical Christians and nonreligious

persons across gender with no significant differences between the groups. However, for evangelical Christian males in particular (as compared to nonreligious males), the endorsement of a transgender person's human value is less dependent on the level of interpersonal comfort or a particular view of gender. For females on the other hand, these differences between religious groups are not significant for the relationship between interpersonal comfort and human value, but are marginally significant for the relationship between views on gender and human value, suggesting that these effects may be stronger with males.

Discussion

Results from the study at hand provide the first study to date that reports attitudes and beliefs towards transgender persons with a sample of the U.S. evangelical Christian population. TRANS (Kanamori et al., 2015) was used to measure two attitude subscales (interpersonal comfort, human value) and one belief subscale (gender beliefs). Relative to a sample who identified as nonreligious, the evangelical Christian group showed significantly lower attitude scores and a more dichotomous/fixed view of gender. At the same time, the evangelical Christian group displayed greater variability in their attitudes toward transgender persons, had high ratings on human value overall, and this score was less correlated with the other factors than for the nonreligious group, suggesting that human value for evangelical Christians is somewhat less dependent on these factors. On questions pertaining to civil rights, evangelical Christians, on average, gave a lower rating (less support) than nonreligious persons, though the effect size for the question on access to housing was small. From a public policy standpoint, these results indicate that

highlighting the humanity and value of transgender persons as God's creation may imply a strategy that already would have broad support to reduce discrimination towards transgender individuals. Likewise, within training settings, these findings provide insight into a possible entry point to build concern toward transgender persons among evangelical psychologists-in-training.

Group Differences in TRANS Factors. The results of the two-way ANOVA showed that the main effects of both religion and gender were significant when comparing scores on all three factors of TRANS: overall, the nonreligious group scored higher than the evangelical Christian group as did females compared to males across all factors. The fact that evangelical Christians scored lower on the two attitude subscales is consonant with previous work that has shown a positive relationship between religiosity in general and negative attitudes toward transgender persons (Nagoshi et al., 2008; Tee & Hegarty, 2006). Interestingly, while a more recent study (Norton & Herek, 2012) found such a relationship only in females, the current study found these differences between the evangelical Christian and nonreligious groups for both genders.

Findings from the current study, revealing gender differences in attitudes toward transgender persons, are also in agreement with previous studies that found females to be more accepting towards transgender individuals than males (Antoszewski, et al., 2007; Harvey, 2002; Hill & Willoughby, 2005; Landen & Innala, 2000; Leitenberg & Slavin, 1983; Nagoshi et al., 2008; Norton & Herek, 2012; Nisley, 2011; Tee & Hegarty, 2006). Additionally, it is important to note that results of the two-way ANOVA revealed that there was no significant interaction between religion and gender, indicating that differences in attitudes/beliefs toward transgender persons between nonreligious and

evangelical Americans are not based on gender in contrast to the finding by Norton & Herek (2012).

Even given these differences between groups, it is noteworthy that both evangelical Christians and nonreligious persons displayed overwhelming endorsement of the fundamental value of transgender persons. On a scale of 1-7, with 6 labeled as *agree* and 7 labeled as *strongly agree*, the average across questions in the human value factor was 6.59 ($SD = .66$) for the nonreligious group and 6.34 ($SD=.72$) for evangelical Christians (See Appendix C for items on this factor). These findings suggest that there is a universal degree of affirmation of transgender persons' value regardless of religious affiliation; and for evangelical Christians, this seems to capture one of their core beliefs, which attests to the intrinsic value of all persons regardless of behavior, as captured in the popular saying, "love the sinner, hate the sin." As well, the finding that, overall, both groups gave high rating on the human value factor while evangelical Christians scored lower relative to their secular counterpart, suggests that human value is not a binary concept, but rather one that is assessed along a continuum.

On the factor measuring interpersonal comfort, nonreligious Americans displayed a strong degree of comfort in associating with transgender individuals ($M = 6.08$, $SD=1.02$). In contrast, for evangelical Christians, the mean rating of items across the same factor was lower ($M = 5.01$) with greater variability ($SD = 1.49$), indicating that this subgroup experiences a lesser degree of comfort in interacting with transgender persons. This between-group difference in comfort level may be attributed, at least in part, to the fact that a slightly larger percentage of the nonreligious group (38.3%) reported having contact with those who identify as transgender as compared to the evangelical Christian

group (31.7%), which fits with prior studies reporting that less familiarity with transgender persons corresponds to higher levels of anti-transgender attitudes (Hill & Willoughby, 2005; Nisley, 2010; Tee & Hegarty, 2006). While the difference in contact is not dramatic, encouraging personal and professional contact between evangelicals and transgender people within and outside the church may improve evangelical Christians' comfort level in interacting with the transgender population. At the same time, it is again noteworthy that even while the evangelical Christian group scored lower relative to the nonreligious group, the mean score of items on the interpersonal comfort factor for evangelical Christians was still 5.01 on a 1-7 scale with 5 designating *somewhat agree*, suggesting that, overall, evangelical Christians do feel somewhat comfortable in associating with transgender persons. This finding is significant in that while there may be opposition to civil rights from church organizations, evangelicals individually generally feel more comfortable than not in relating to transgender persons. This finding also challenges the popular notion that evangelical Christians hold strong phobias toward those who do not conform to a gender binary and is significant in that it could potentially serve to break down the "us vs them" stance that often seems to exist between the groups.

On the gender beliefs factor, the nonreligious group held more fluid and continuous view of gender ($M = 5.58$, $SD=1.16$) while evangelical Christians held to a more fixed and dichotomous view of gender ($M = 4.19$, $SD=1.45$). This finding aligns with the theology of gender taught at the institutional level in the broadly evangelical Christian tradition, specifically, a belief system that upholds a dualistic paradigm of humanity grounded in the fabric of creation (Frame, 2006; Ortlund, 2006; Pegors & Kanamori, 2014). At the same time, an evaluation of the most frequently selected

response across all items on this scale (“4” designating *neither agree nor disagree* for evangelical Christians and “7” designating *strongly agree* for the nonreligious group) seem to suggest that, on the whole, evangelical Christians are less decided than nonreligious persons when it comes to their beliefs pertaining to gender.

Group Differences in Relationships between TRANS Factors. The second set of analyses measured the degree to which the correlation between factors differed between the nonreligious and evangelical Christian groups. While not consistent for females, evangelical Christian males showed lower correlations between human value and both interpersonal comfort and gender beliefs. Even still, correlates were moderate to high between all three factors for all groups.

The fact that the interpersonal comfort subscale was positively correlated with both gender beliefs (higher scores indicating a more “continuous/fluid” view) and human value suggests that, for both groups, greater levels of comfort in relating to transgender persons may be expected for those who hold to a gender non-binary and affirm the intrinsic value of transgender persons, which supports Norton and Herek (2012) who found that negative attitudes were associated with a binary view of gender. However, results from the current study provides more nuance by showing a weaker relationship between gender belief and human value for evangelical Christians relative to their secular counterpart. In other words, for evangelical Christians, there is a greater likelihood that human value may still be rated high, even given a more dichotomous view of gender. While nothing definitive may be said about a causal relationship between human value and gender beliefs, what seems to be the case is that, for evangelical Christians, holding to a gender binary does not directly translate into a devaluing of transgender persons, nor

does a high regard for transgender persons necessarily stem from a more fluid view of gender. The results, in fact, may reflect evangelical Christians holding the tension between two of their faith's core beliefs regarding humanity—the divinely appointed dual nature of humanity imbued with meaning and moral implications in the present world and the value of human beings as image bearers of God (Frame, 2006; Pegors & Kanamori, 2014)—as specifically applied to transgender persons.

Additionally, it is noteworthy that, in the present study, the correlation between interpersonal comfort and human value for evangelical Christian males was significantly lower than nonreligious males, suggesting that for evangelical Christian males, their ratings of transgender persons' value is less dependent upon how comfortable they feel interacting with transgender persons as compared to nonreligious males. Alternatively, this finding may suggest that, for evangelical Christian males, their level of comfort in associating with transgender persons is less related to their ratings of transgender persons' value. Stated another way, evangelical Christian males (compared to nonreligious males) may experience more discomfort in relating to transgender persons even while affirming their intrinsic value as human beings. This finding, again, may be indicative of a tension, held particularly by evangelical Christian males, that arises from holding to their religious belief that each person is valuable as an image bearer of God even as they struggle at the level of feeling comfortable in interacting with transgender persons.

Conclusions and Further Questions

As the first data-driven study of U.S. evangelical Christians' beliefs and attitudes

toward transgender persons, the present study produced some insightful preliminary findings. First, the study found that evangelical Christians hold more negative views towards transgender persons on all three dimensions examined. However, the findings also showed that those views are still more positive than negative, especially the affirmation of the intrinsic value of transgender persons. In other words, there may be substantial support within evangelical Christian memberships to reduce discrimination towards transgender persons.

Next, findings from the current study related to within- and between-group factor relationship differences reveal a need for examining possible causal relationships between factors of TRANS. Given the associations between factors, understanding how, specifically, gender views, interpersonal comfort with transgender persons, and the valuing of transgender individuals are related may be useful towards informing social, religious, and educational action. For example, given the relationship between contact and reduced phobia (Hill & Willoughby, 2005; Nisley, 2010; Tee & Hegarty, 2006), might the shared value in human dignity coupled with increased contact lead to greater interpersonal comfort?

Additionally, the present study was designed to provide a general sense of evangelical Christians' beliefs and attitudes toward the transgender population, but future studies should work to expand knowledge of how factors within the evangelical Christian community play into beliefs and attitudes toward transgender persons. Specifically, exploring possible correlates to attitudes towards transgender—such as certain religious behaviors and doctrinal beliefs along with other demographic factors—is of interest. As well, an exploration of attitude-behavior relationship in evangelical Christians toward the

transgender population may be informative.

There are additional limitations. Because the current study was conducted exclusively with an MTurk sample, future work with a non-web-based sample of evangelical Christians would be appropriate as there are, at present, no data available as to whether the religious representation in MTurk is comparable to that of the general population. Likewise, given the limitations of self-report measures and quantitative methods, data gathered from observation and qualitative interviews could add to current findings. Finally, even though Christianity is the predominant religion in the U.S., there is a diversity of religious beliefs in the country (Pew Research Center, 2015); thus it would be beneficial to explore other religious affiliates' attitudes toward transgender persons.

References

- Antoszewski, B., Kasielska, A., Jedrzejczak, M., & Kruk-Jeromin, J. (2007). Knowledge of and attitude toward transsexualism among college students. *Sexuality and Disability*, 25, 29-35.
- Bradford, J., Reisner, S., Honnold, J., & Xavier, J. (2013). Experiences of transgender-related discrimination and implications for health: Results from the Virginia transgender health initiative study. *American Journal of Public Health*, 103(10), 1820-1829.
- Burk, D., & Walker, A. (2014). *On transgender identity*. 15, October, 2014, from <http://www.sbc.net/resolutions/2250/on-transgender-identity><http://www.sbc.net/resolutions/2250/on-transgender-identity>
- Buhrmester, M., Kwang, T., & Gossling, S.D. (2011). Amazon's mechanical turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6(1), 3-5.
- Cooperman, A., & Lipka, M. (2014). U.S. doesn't rank high in religious diversity. *Pew Research Center*. Retrieved March 16, 2015, from <http://www.pewresearch.org/fact-tank/2014/04/04/u-s-doesnt-rank-high-in-religious-diversity/>

- Cornwall, S. (2009). "State of Mind" versus "Concrete Set of Facts": The Contrasting of Transgender and Intersex in Church Documents on Sexuality. *Journal of the Institute for the Study of Christianity and Sexuality*, 15(1), 7-28.
- Devor, H., Kendel, M., & Strapko, N. (1997). Feminist and lesbian opinions about transsexuals. In B. Bullough, V. Bullough & J. Elias (Eds.), *Gender Blending* (pp. 146-157). Amherst, NY: Prometheus.
- Evangelical Alliance Policy Commission. (2000). *Transsexuality: A report by the evangelical alliance policy commission*. London: Evangelical Alliance.
- Franzini, L. R., & Casinelli, D. L. (1986). Health professionals' factual knowledge and changing attitudes toward transsexuals. *Social Science & Medicine*, 22(5), 535-539.
- Frame, J. (2006). Men and women in the image of God. In J. Piper & W. Grudem (Eds.), *Recovering biblical manhood & womanhood* (pp. 225-232). Wheaton, IL: Crossway Books.
- Google Trends-Website Search interest-United States, 2004-present. (n.d.). *Google Trends*. Retrieved July 24, 2015 from: <https://www.google.com/trends/explore#q=transgender&geo=US&cmpt=q&tz=Et c%2FGMT%2B5>
- Green, R., Stoller, R. J., & MacAndrew, C. (1966). Attitudes toward sex transformation procedures. *Archives of General Psychiatry*, 15(2), 178-182.
- Haldeman, D. C., & Raspberry, R. L. (2014). Multicultural training and student beliefs in cultural context. *Psychology of Sexual Orientation and Gender Diversity*, 1(4), 289-292.
- Harvey, J. (2002). *Attitudes of the general population toward transsexuals*. Unpublished doctoral dissertation, Southern California University for Professional Studies.
- Hill, D., & Willoughby, B. (2005). The development and validation of the genderism and transphobia scale. *Sex Roles*, 53(7/8), 531-544.
- Kanamori, Y., Cornelius-White, J. H. D., Pegors, T. K., Daniel, T., & Hulgus, J. F. (2015). *Development and validation of the TRansgender Attitudes and kNowledge Scale (TRANS)*. Manuscript submitted for publication.
- Kennedy, J. (2008, February). The transgender: Evangelicals hope to respond with both moral authority and biblical compassion to gender identity disorder. *Christianity Today*. 54-58.

- LaMar, L., Kite, M. (1998). Sex differences in attitudes toward gay men and lesbians: A multidimensional perspective. *The Journal of Sex Research*, 35(2), 189-196.
- Landen, M., & Innala, S. (2000). Attitudes toward transsexualism in a Swedish national survey. *Archives of Sexual Behavior*, 29(4), 375-388.
- Leitenberg, H., & Slavin, L. (1983). Comparison of Attitudes Toward Transsexuality and Homosexuality. *Archives of Sexual Behavior*, 12 (4), 337-346.
- McNaught, B. (1997). *Now that I'm out, what do I do?* New York: St. Martin's Press.
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, 17(3), 43-455.
- Miller, L., & Grollman, E. (2015). The social costs of gender nonconformity for transgender adults: Implications for discrimination and health. *Sociological Forum*, 30(3), 809-831.
- Mohr, J. J. (2002). Heterosexual identity and the heterosexual therapist: An identity perspective on sexual orientation dynamics in psychotherapy. *The Counseling Psychologist*, 30, 532-566.
- Nagoshi, J. L., Adams, K. A., Terrell, H. K., Hill, E. D., Brzuzy, S., & Nagoshi, C. T. (2008). Gender differences in correlates of homophobia and transphobia. *Sex Roles*, 59(7-8), 521-531.
- Nisley, M. (2011). *Counseling professionals' attitudes toward transgender people and responses to transgender clients*. Unpublished doctoral dissertation, Western Michigan University.
- Norton, A. T., & Herek, G. M. (2012). Heterosexuals' attitudes toward transgender people: findings from a national probability sample of U.S. adults. *Sex Roles*, 68, 738-753.
- Ortlund, R. (2006). Male-female equality and male headship: Genesis 1-3. In J. Piper & W. Grudem (Eds.), *Recovering biblical manhood & womanhood* (pp. 95-112). Wheaton, IL: Crossway Books.
- Pegors, T., & Kanamori, Y. (2014, June). *Sex/gender ambiguity: Perspectives on foundational issues*. Paper presented at the Center for Bioethics and Human Dignity Annual Conference, Deerfield, IL.
- Pew Research Center. America's changing religious landscape (2015). *Pew Research Center*. Retrieved September 10, 2015, from <http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape/>

- Russell, G. M., & Bohan, J. S. (2014). Toward a contextual understanding of psychology trainees' religious conflicts. *Psychology of Sexual Orientation and Gender Diversity*, 1(4), 293-301.
- Swenson, Erin. (2010, March 9). Becoming myself: A transgender pastor's story. *Christian Century*, 28-33.
- Tee, N., & Hegarty, P. (2006). Predicting opposition to the civil rights of trans persons in the United Kingdom. *Journal of Community & Applied Social Psychology*, 16(1), 70-80.
- Transgender Law Center (2015). Retrieved February 18, 2015 from <http://transgenderlawcenter.org>
<http://transgenderlawcenter.org>
- Walch, S., Nagamake, S., Francisco, J., Stitt, R., & Shingler, K. (2012). The attitudes toward transgendered individuals scale: Psychometric properties. *Archives of Sexual Behavior*, 41(5), 1283-1291.
- Wheeler, B. (2004, January 13). Strange company: Why liberals need conservatives. *Christian Century*. 18-20.
- Worthington, R., Dillon, F., Becker-Schutte, A. (2005). Development, reliability, and validity of the lesbian, gay, and bisexual knowledge and attitudes scale for heterosexuals (LGB-KASH). *Journal of Counseling Psychology*, 52(1), 104-118.

Table 5. Demographic characteristics

Characteristic		
<i>N</i> = 483		
	<i>n</i>	%
Sex		
Male	214	44.30%
Female	269	55.70%
Ethnicity/Race		
African American	33	6.80%
Asian/Pacific Islander	28	5.80%
Caucasian	385	79.70%
Latino/Hispanic	24	5.00%
Native American	4	8.00%
Biracial/Multiracial	9	1.90%
Other	0	0%
Education		
Less than High School	1	20%
High School Diploma	42	8.70%
Some College	157	33%
Associate's Degree	62	12.80%
Bachelor's Degree	170	35.20%
Advanced Degree	51	10.60%
Marital Status		
Single	226	46.80%
Married	209	43.30%
Separated	9	1.90%
Divorced	24	5.00%
Widowed	5	1.00%
Other	10	2.10%
Religious Affiliation		
None	253	52.40%
Evangelical Christian	230	47.60%

Table 6. Mean and standard deviations of factor scores by group

Gender	Religion	Mean	Standard Deviation	<i>n</i>
Factor 1 Interpersonal comfort				
Male	Nonreligious	81.36	15.99	137
	Evangelical Christian	65.81	20.87	77
	Total	75.76	19.36	214
Female	Nonreligious	89.54	10.44	116
	Evangelical Christian	72.37	20.64	153
	Total	79.78	19.00	269
Total	Nonreligious	85.11	14.30	253
	Evangelical Christian	10.17	20.90	230
	Total	78	19.24	483
Factor 2 Gender beliefs				
Male	Nonreligious	52.25	12.62	137
	Evangelical Christian	37.92	13.36	77
	Total	47.09	14.59	214
Female	Nonreligious	60.09	8.65	116
	Evangelical Christian	43.88	14.69	153
	Total	50.87	14.81	269
Total	Nonreligious	55.84	11.64	253
	Evangelical Christian	41.88	14.51	230
	Total	49.19	14.82	483
Factor 3 Human value				
Male	Nonreligious	32.17	3.89	137
	Evangelical Christian	31.16	3.70	77
	Total	31.8	3.85	214
Female	Nonreligious	33.91	2.11	116
	Evangelical Christian	31.99	3.49	153
	Total	32.81	3.12	269
Total	Nonreligious	32.96	3.31	253
	Evangelical Christian	31.71	3.58	230
	Total	32.37	3.49	483

Table 7. Item means and standard deviation (SD) by religion

Nonreligious <i>n</i> = 253		Evangelical Christian <i>n</i> = 230		
Item	Mean	SD	Mean	SD
Interpersonal comfort				
Q1.1	6.20	1.23	5.34	1.57
Q1.2	5.77	1.43	4.52	1.85
Q1.3	5.95	1.43	4.67	1.92
Q1.4	5.74	1.79	4.94	1.82
Q1.5	6.24	1.03	5.46	1.46
Q1.6	6.14	1.22	5.23	1.56
Q1.7	6.26	1.04	5.17	1.71
Q1.8	5.91	1.33	4.42	1.90
Q1.9	6.23	1.09	5.29	1.57
Q1.10	5.75	1.53	4.18	2.01
Q1.11	6.19	1.19	5.36	1.67
Q1.12	6.40	.99	5.57	1.42
Q1.13	6.25	1.10	5.31	1.63
Q1.14	6.08	1.37	4.72	1.97
Gender beliefs				
Q2.1	6.02	1.40	4.96	1.71
Q2.2	5.21	1.64	3.87	1.93
Q2.3	5.45	1.64	3.84	1.97
Q2.4	5.32	1.66	3.94	1.88
Q2.5	5.59	1.61	3.80	1.90
Q2.6	6.38	.97	4.82	1.88
Q2.7	5.47	1.55	4.08	1.92
Q2.8	5.30	1.68	3.49	1.81
Q2.9	4.99	1.53	4.04	1.43
Q2.10	6.11	1.21	5.03	1.65
Human value				
Q3.1	6.54	.79	6.28	.94
Q3.2	6.66	.69	6.35	.82
Q3.3	6.45	.86	6.20	.88
Q3.4	6.64	.67	6.47	.73
Q3.5	6.68	.65	6.42	.79

Table 8. Subscale correlations by group

	2	3
Nonreligious Male (<i>n</i> = 137)		
1. Interpersonal comfort	.70*	.79*
2. Gender beliefs		.60*
3. Human Value		
Nonreligious Female (<i>n</i> = 116)		
1. Interpersonal comfort	.72*	.67*
2. Gender beliefs		.59*
3. Human Value		
Evangelical Christian Male (<i>n</i> = 77)		
1. Interpersonal comfort	.71*	.56*
2. Gender beliefs		.32**
3. Human Value		
Evangelical Christian Female (<i>n</i> = 153)		
1. Interpersonal comfort	.74*	.56*
2. Gender beliefs		.40*
3. Human Value		

Note. * $p < .001$, ** $p < .05$

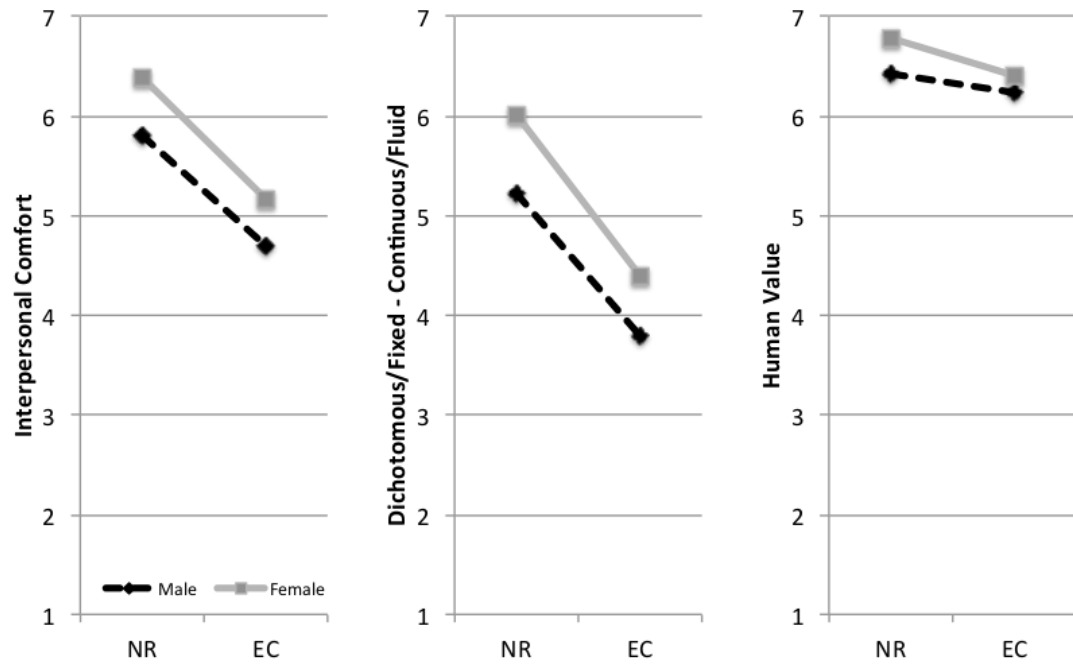


Figure 2. Mean scores for factor items by group.
 Note. NR = nonreligious, EC = Evangelical Christian

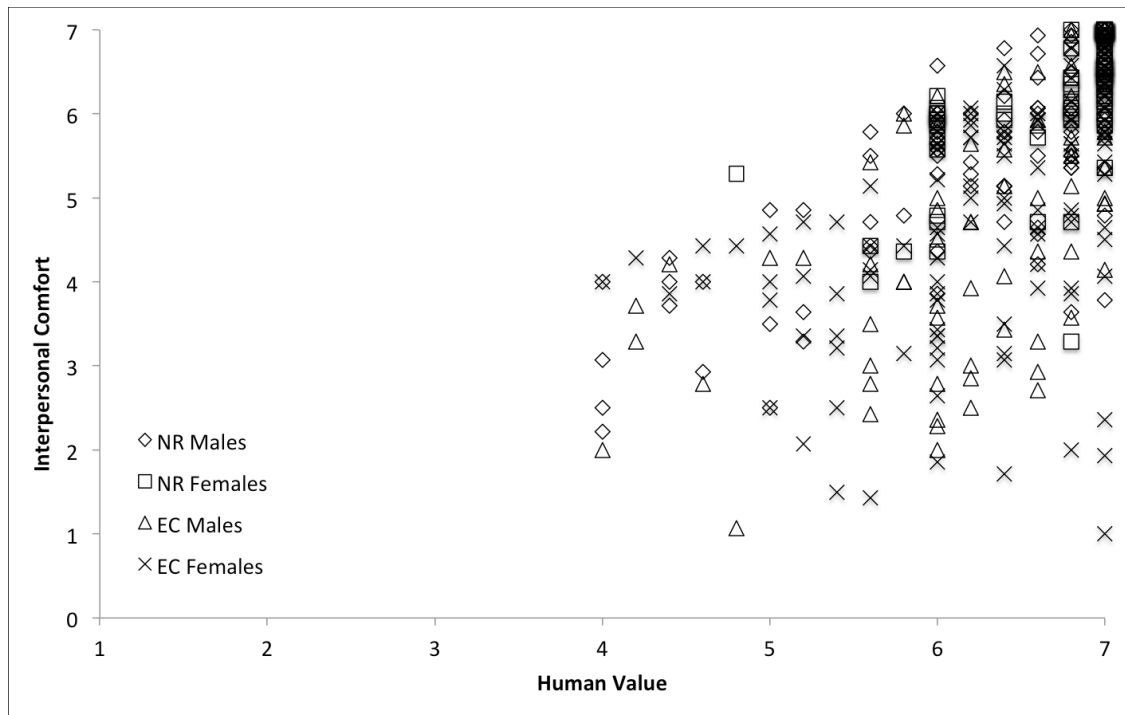
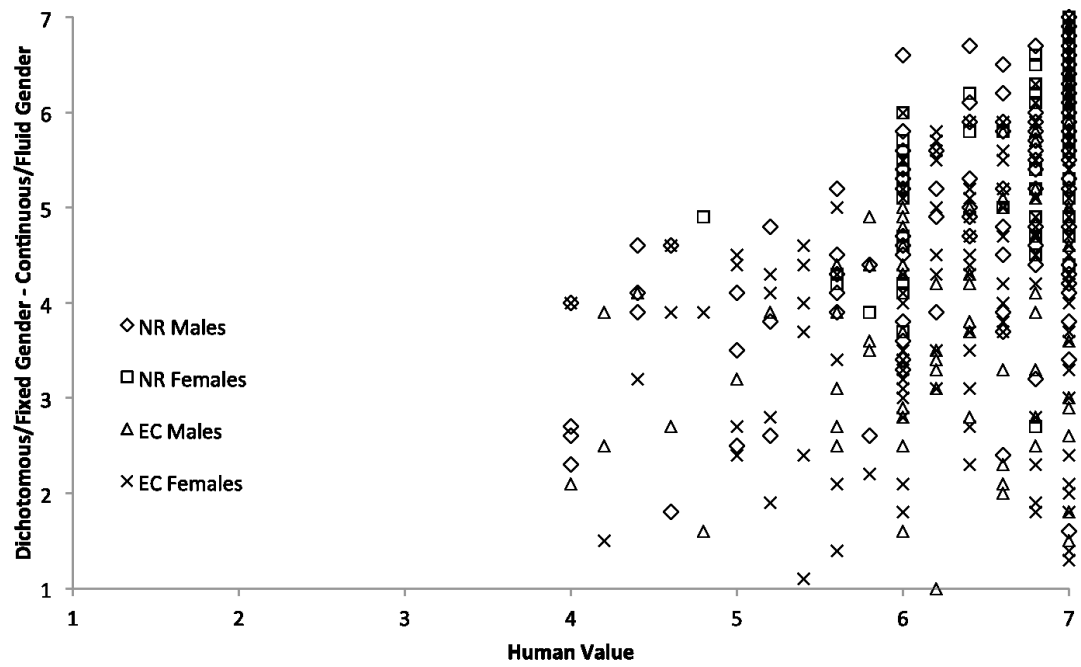


Figure 3. Scatter plot showing the relationship between interpersonal comfort and human value



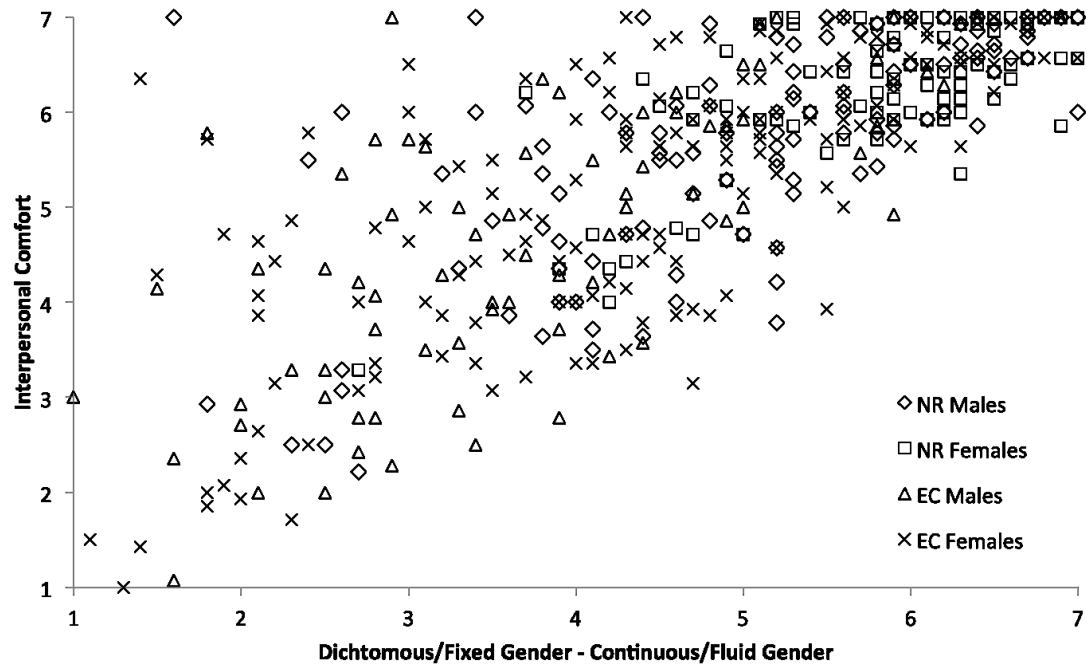


Figure 5. Scatter plot showing the relationship between gender beliefs and interpersonal comfort

SUMMARY

Findings from the present studies are significant in that they fill an existing gap in the current body of knowledge concerning attitudes toward transgender individuals. The first study produced TRANS, a transgender attitude scale with demonstrated improvements from extant measures of the same construct. Specifically and most importantly, TRANS is a psychometrically sound and contextually sensitive instrument that is time-specific and culturally relevant to the cultural climate of the U.S. consisting of a significant Christian representation. As such, TRANS has promise for wide utility for future studies with various U.S. subpopulations to make further advances in the field of transgender research.

As the first study of American evangelical Christians' attitudes toward transgender persons, the second study, utilizing the newly developed scale, TRANS, provides valuable insight into the faith groups' beliefs and attitudes toward transgender persons in reference to its nonreligious counterparts. On the one hand, findings from this study challenge evangelical Christians to examine their beliefs and practices surrounding gender, transgender, and related issues. On the other hand, the more nuanced findings from the present study (as compared to previous studies) also give reason for the secular sector of the U.S. to reconsider popular notions regarding evangelical Christians and their views on and ways of relating with gender minorities. As well, findings from this study provide valuable insight into possible strategies to reduce discrimination against transgender persons in the U.S., of interest and benefit to individuals and institutions at all levels of society.

It is the researchers' hope that the newly developed scale and the preliminary findings from the present work will promote continued and further exploration in the nascent field of transgender attitude research to (a) encourage thoughtful engagement by evangelical Christians with the topic of transgender, at both the personal and cultural levels, (b) foster constructive dialogue between religious and secular sectors of the U.S., and (c) produce findings that may inform social, political, and educational action that contributes to an improved overall cultural climate in the U.S.

ADDITIONAL REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. (5th ed.). Washington, D.C.: American Psychiatric Association.
- Bassett, R. L., Hodak, E., Allen, J., Bartos, D., Grastorf, J., Sittig, L., & Strong, J. (2000). Homonegative Christians: Loving the sinner but hating the sin. *Journal of Psychology and Christianity*, 19(3), 258-269.
- Burk, D., & Walker, A. (2014). *On transgender identity*. 15, October, 2014, from <http://www.sbc.net/resolutions/2250/on-transgender-identity><http://www.sbc.net/resolutions/2250/on-transgender-identity>
- Central Board of Finance of the Church of England (1991). *Issues in human sexuality: A statement by the house of bishops*. London: Church House Publishing. Retrieved from: <https://www.churchofengland.org/media/445118/humansexualitych5.pdf>
- Central Board of Finance of the Church of England (2003). *Some issues in human sexuality, a Guide to the debate: A discussion document from the house of bishops' group on issues in human sexuality*. London: Church House Publishing. Retrieved from: <http://www.chpublishing.co.uk/uploads/documents/0715138685.pdf>
- Cornwall, S. (2009). "State of Mind" versus "Concrete Set of Facts": The Contrasting of Transgender and Intersex in Church Documents on Sexuality. *Journal of the Institute for the Study of Christianity and Sexuality*, 15(1), 7-28.
- Coleman, E., Bockting, W., Botzer, M., Cohen-Kettenis, P., DeCuypere, G., Feldman, J., et al. (2012). Standards of care for the health of transsexual, transgender, and gender-nonconforming people. *World Professional Association for Transgender Health*. Retrieved from: http://admin.associationonline.com/uploaded_files/140/files/Standards%20of%20Care,%20V7%20Full%20Book.pdf
- Currah, P. (2008). Stepping back, looking outward: Situating transgender activism and transgender studies — Kris Hayashi, Matt Richardson, and Susan Stryker frame the movement. *Sexuality Research and Social Policy*, 5(1), 93-105.
- Davis, D. (2009). Transgender issues in the workplace: HRD's newest challenge opportunity. *Advances in Developing Human Resources*, 11(1), 109-120.
- Evangelical Alliance Policy Commission. (2000). *Transsexuality: A report by the evangelical alliance policy commission*. London: Evangelical Alliance.

- Fausto-Sterling, A. (2000). *Sexing the Body: Gender Politics and the Construction of Sexuality*. New York: Basic Books.
- Frame, J. (2006). Men and women in the image of God. In J. Piper & W. Grudem (Eds.), *Recovering biblical manhood & womanhood* (pp. 225-232). Wheaton, IL: Crossway Books.
- Franzini, L. R., & Casinelli, D. L. (1986). Health professionals' factual knowledge and changing attitudes toward transsexuals. *Social Science & Medicine*, 22(5), 535-539.
- Fulton, A. S., Gorsuch, R. L., & Maynard, E. A. (1999). Religious orientation, antihomosexual sentiment, and fundamentalism among Christians. *Journal for the scientific study of religion*, 38(1), 14-22.
- Fyfe, B. (1983). Homophobia or homosexual bias reconsidered. *Archives of Sexual Behavior*, 12, 549-553.
- Gluckman, R., & Trudeau, M. (2003). Trans-itioning feminism: the politics of transgender in the reproductive rights movement. *Women's Global Network for Reproductive Rights*, 79, 15-16.
- Green, R., Stoller, R. J., & MacAndrew, C. (1966). Attitudes toward sex transformation procedures. *Archives of General Psychiatry*, 15(2), 178-182.
- Heath, R. A. (2006). *The Praeger handbook of transsexuality: Changing Gender to match mindset*. West Port, CT: Praeger.
- Herek, G. M. (1994). Assessing heterosexuals' attitudes toward lesbians and gay men: A review of empirical research with the ATLG scale. In B. Greene & G. M. Herek (Eds.), *Lesbian and gay psychology: Theory, research and clinical applications* (pp. 206-228). Thousand Oaks, CA: Sage Publications.
- Herek, G. M. (1984). Attitudes towards lesbians and gay men: A factor analytic study. *Journal of Homosexuality*, 10, 39-51.
- Hill, D., & Willoughby, B. (2005). The development and validation of the genderism and transphobia scale. *Sex Roles*, 53(7/8), 531-544.
- Hong, S. (1983). Sex, religion, and factor analytically derived attitudes toward homosexuality. *Australian Journal of Sex, Marriage, & Family*, 4, 142-150.
- Hudson, W. & Ricketts, W. (1998). A strategy for the measurement of homophobia. *Journal of Homosexuality*, 5, 357-372.

- LaMar, L., Kite, M. (1998). Sex differences in attitudes toward gay men and lesbians: A multidimensional perspective. *The Journal of Sex Research*, 35(2), 189-196.
- Landen, M., & Innala, S. (2000). Attitudes toward transsexualism in a Swedish national survey. *Archives of Sexual Behavior*, 29(4), 375-388.
- Leitenberg, H., & Slavin, L. (1983). Comparison of Attitudes Toward Transsexuality and Homosexuality. *Archives of Sexual Behavior*, 12 (4), 337-346.
- Lev, A. I. (2004). *Transgender emergence: Therapeutic guidelines for working with gender variant people and their families*. Binghamton, NY: The Haworth Clinical Practice Press.
- McNaught, B. (1997). *Now that I'm out, what do I do?* New York: St. Martin's Press.
- Meyerowitz, J. J. (2002). *How sex changed: A history of transsexuality in the United States*. Cambridge, MA: Harvard University Press.
- Mohr, J. J. (2002). Heterosexual identity and the heterosexual therapist: An identity perspective on sexual orientation dynamics in psychotherapy. *The Counseling Psychologist*, 30, 532-566.
- Nagoshi, J. L., Adams, K. A., Terrell, H. K., Hill, E. D., Brzuzy, S., & Nagoshi, C. T. (2008). Gender differences in correlates of homophobia and transphobia. *Sex Roles*, 59(7-8), 521-531.
- Norton, A. T., & Herek, G. M. (2012). Heterosexuals' attitudes toward transgender people: findings from a national probability sample of U.S. adults. *Sex Roles*, 68, 738-753.
- O'Donovan, O. (1983). Transsexualism and Christian marriage. *The Journal of Religious Ethics*, 11(1), 135-162.
- Ortlund, R. (2006). Male-female equality and male headship: Genesis 1-3. In J. Piper & W. Grudem (Eds.), *Recovering biblical manhood & womanhood* (pp. 95-112). Wheaton, IL: Crossway Books.
- Pegors, T., & Kanamori, Y. (2014, June). *Sex/gender ambiguity: Perspectives on foundational issues*. Paper presented at the Center for Bioethics and Human Dignity Annual Conference, Deerfield, IL.
- Raja, S., & Stokes, J. P. (1998). Assessing attitudes toward lesbians and gay men: The Modern Homophobia Scale. *Journal of Gay, Lesbian, and Bisexual Identity*, 3, 113-134.

- Rosik, C., Griffith, L., Cruz, Z. (2007). Homophobia and conservative religion: Toward a more nuanced understanding. *American Journal of Orthopsychiatry*, 77(1), 10-19.
- Savage, H. (2006). Changing sex?: Transsexuality and Christian theology. Unpublished doctoral dissertation, Durham University, UK.
- Shapiro, E. (2004). 'Trans' cending barriers. *Journal of Gay & Lesbian Social Services*, 16(3-4), 165-179.
- Stone, A. L. (2009). More than adding a T: American lesbian and gay activists' attitudes towards transgender inclusion. *Sexualities*, 12(3), 334-354.
- Stryker, S. (2006). (De)subjugated knowledges: An introduction to transgender studies. In S. Stryker & S. White (Eds.), *The Transgender studies reader* (pp. 1-17). New York: Routledge.
- Tee, N., & Hegarty, P. (2006). Predicting opposition to the civil rights of trans persons in the United Kingdom. *Journal of Community & Applied Social Psychology*, 16(1), 70-80.
- Walch, S., Nagamake, S., Francisco, J., Stitt, R., & Shingler, K. (2012). The attitudes toward transgender individuals scale: Psychometric properties. *Archives of Sexual Behavior*, 41(5), 1283-1291.
- Wilkins, W. W., & Roys, A. C. (2005). The components of sexual orientation, religiosity, and heterosexuals' impressions of gay men and lesbians. *Journal of Social Psychology*, 145(1), 65-83.
- Worthington, R., Dillon, F., Becker-Schutte, A. (2005). Development, reliability, and validity of the lesbian, gay, and bisexual knowledge and attitudes scale for heterosexuals (LGB-KASH). *Journal of Counseling Psychology*, 52(1), 104-118.

APPENDICES

Appendix A

Missouri State University Institutional Review Board

CONSENT TO PARTICIPATE IN RESEARCH

Validation of the TRansgender Attitudes and kNowledge Scale

Informed Consent Form

We invite you to participate in a research study conducted by Yasuko Kanamori, a student in the counseling program at Missouri State University. Dr. Jeffrey Cornelius-White is the Missouri State University faculty advisor for this study.

- **PURPOSE OF THE STUDY**

The purpose of this study is to validate a scale measuring beliefs regarding transgender identity and attitudes toward transgender persons, especially those of evangelical Christians.

- **POTENTIAL RISKS AND DISCOMFORT**

Risks involved in this study include the possibility of experiencing discomfort and/or negative emotions due to the sensitive and controversial nature of the topic explored in this survey. As explained below, the anonymous nature of the study will protect against participants being connected with this research study; and you will also be free to discontinue participation in the study if, at any time, you feel uncomfortable.

- **ANTICIPATED BENEFITS TO SUBJECTS**

You will most likely receive no direct benefit from participating in this study. However, participation will provide researchers with valuable information that will allow for the validation of a new scale that could be utilized to fill an existing gap in the current body of knowledge concerning attitudes toward transgender individuals.

- **CONFIDENTIALITY**

This survey is anonymous. You will not be asked to provide any identifying information on this survey and IP addresses will not be collected. Should the results of the research be published or discussed in conferences, no information will be included that would reveal your identity.

- **PARTICIPATION AND WITHDRAWAL**

Your participation in this study is completely voluntary. If you choose to participate, you are free to decline to answer any question you do not wish to answer for any reason. If you decide not to complete this survey after you begin, you may simply close out of the browser.

- **RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue your participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, you may contact Dr. Jeffrey Cornelius-White, Missouri State University Counseling Department Advisor, Park Central Office Building 123, 417-836-6517.

- **OFFER TO ANSWER QUESTIONS**

If you have any questions about this study, you may call Yasuko Kanamori at 417-300-7046 or Dr. Jeffrey Cornelius-White at 417-836-6517.

If you are willing to participate in this research study, please click on the NEXT button at the bottom of the page to begin. Thank you for your time and cooperation – it is greatly appreciated.

Appendix B

Missouri State University Institutional Review Board

CONSENT TO PARTICIPATE IN RESEARCH

A Study of Evangelical Christians' Beliefs and Attitudes Toward Transgender Persons

Informed Consent Form

We invite you to participate in a research study conducted by Yasuko Kanamori, a student in the counseling program at Missouri State University. Dr. Jeffrey Cornelius-White is the Missouri State University faculty advisor for this study.

- **PURPOSE OF THE STUDY**

The purpose of this survey study is to explore evangelical Christians' beliefs regarding transgender identity and their attitudes toward transgender persons in order gain insight into the current state of evangelical Christianity on this particular topic and to generate constructive dialogue between Christian and secular spheres.

- **POTENTIAL RISKS AND DISCOMFORT**

Risks involved in this study include the possibility of experiencing discomfort and/or negative emotions due to the sensitive and controversial nature of the topic explored in this survey. As explained below, the anonymous nature of the study will protect against participants being connected with this research study; and you will also be free to discontinue participation in the study if, at any time, you feel uncomfortable.

- **ANTICIPATED BENEFITS TO SUBJECTS**

You will most likely receive no direct benefit from participating in this study. However, participation will provide researchers with valuable information that could be utilized to fill an existing gap in the current body of knowledge concerning attitudes toward transgender individuals.

- **CONFIDENTIALITY**

This survey is anonymous. You will not be asked to provide any identifying information on this survey and IP addresses will not be collected. Should the results of the research be published or discussed in conferences, no information will be included that would reveal your identity.

- **PARTICIPATION AND WITHDRAWAL**

Your participation in this study is completely voluntary. If you choose to participate, you are free to decline to answer any question you do not wish to answer for any reason. If you decide not to complete this survey after you begin, you may simply close out of the browser.

- **RIGHTS OF RESEARCH SUBJECTS**

You may withdraw your consent at any time and discontinue your participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, you may contact Dr. Jeffrey Cornelius-White, Missouri State University Counseling Department Advisor, Park Central Office Building 123, 417-836-6517.

- **OFFER TO ANSWER QUESTIONS**

If you have any questions about this study, you may call Yasuko Kanamori at 417-300-7046 or Dr. Jeffrey Cornelius-White at 417-836-6517.

If you are willing to participate in this research study, please click on the NEXT button at the bottom of the page to begin. Thank you for your time and cooperation – it is greatly appreciated.

Appendix C

TRansgender Attitudes and kNowledge Scale (TRANS) (7-point scale: strongly disagree to strongly agree)

FACTOR 1 (Interpersonal Comfort)

1. I would feel comfortable having a transgender person into my home for a meal.
2. I would be comfortable being in a group of transgender individuals.
3. I would be uncomfortable if my boss was transgender.
4. I would feel uncomfortable working closely with a transgender person in my workplace.
5. If I knew someone was transgender, I would still be open to forming a friendship with that person.
6. I would feel comfortable if my next-door neighbor was transgender.
7. If my child brought home a transgender friend, I would be comfortable having that person into my home.
8. I would be upset if someone I'd known for a long time revealed that they used to be another gender.
9. If I knew someone was transgender, I would tend to avoid that person.
10. If a transgender person asked to be my housemate, I would want to decline.
11. I would feel uncomfortable finding out that I was alone with a transgender person.
12. I would be comfortable working for a company that welcomes transgender individuals.
13. If someone I knew revealed to me that they were transgender, I would probably no longer be as close to that person.
14. If I found out my doctor was transgender, I would want to seek another doctor.

FACTOR 2 (Gender Beliefs: Fixed Dichotomy - Fluid Continuum)

1. A person who is not sure about being male or female is mentally ill.
2. Whether a person is male or female depends upon whether they feel male or female.
3. If you are born male, nothing you do will change that.
4. Whether a person is male or female depends strictly on their external sex-parts.
5. Humanity is only male or female; there is nothing in between.
6. If a transgender person identifies as female, she should have the right to marry a man.
7. Although most of humanity is male or female, there are also identities in between.
8. All adults should identify as either male or female.
9. A child born with ambiguous sex-parts should be assigned to be either male or female.
10. A person does not have to be clearly male or female to be normal and healthy.

FACTOR 3 (Human Value)

1. Transgender individuals are valuable human beings regardless of how I feel about transgenderism.
2. Transgender individuals should be treated with the same respect and dignity as any other person.
3. I would find it highly objectionable to see a transgender person being teased or mistreated.
4. Transgender individuals are human beings with their own struggles, just like the rest of us.
5. Transgender individuals should have the same access to housing as any other person.

ENDNOTES

ⁱ This study submitted for potential publication to *Archives of Sexual Behavior* on August 6, 2015 with the following reference: Kanamori, Y., Cornelius-White, J. H. D., Pegors, T. K., Daniel, T., & Hulgus, J. F. Development and validation of the TRansgender Attitudes and kNowledge Scale (TRANS).

This study was resubmitted for potential publication to *Archives of Sexual Behavior* on March 21, 2016 with the following reference: Kanamori, Y., Cornelius-White, J. H. D., Pegors, T. K., Daniel, T., & Hulgus, J. F. Development and validation of the Transgender Attitudes and Beliefs Scale (TABS).

ⁱⁱ This study was submitted for potential publication to *Psychology of Sexual Orientation and Gender Identity* on September 22, 2015 with the following reference: Kanamori, Y., Pegors, T. K., Cornelius-White, J. H. D., & Hulgus, J. F. Evangelical Christians' beliefs and attitudes toward transgender persons.

This study was resubmitted for potential publication to *Psychology of Sexual Orientation and Gender Identity* on February 11, 2016 with the following reference: Kanamori, Y., Pegors, T. K., Cornelius-White, J. H. D., & Hulgus, J. F. A Comparison between self-identified evangelical Christians' and nonreligious persons' attitudes toward transgender.