Interpersonal Contact, Stereotype Acceptance, Gender Role Beliefs, Causal Attribution, and Religiosity as Predictors of Attitudes Toward Transgender Individuals

Jordan Greenburg and A. Celeste Gaia
Emory & Henry College

ABSTRACT. Previous research has shown that members of the transgender community are often the victims of prejudice and discrimination (e.g., Grant et al., 2011; James et al., 2016). However, because transgender identity is still an emerging topic, relatively few studies have exclusively examined predictors of attitudes toward transgender individuals. The present study of undergraduates (N = 110) built on previous research by exploring the role of interpersonal contact, acceptance of stereotyping, traditional gender roles, causal attribution, religiosity, and gender in attitudes toward transgender persons. As hypothesized, one-way ANOVA and multiple regression indicated that interpersonal contact with transgender individuals and attributing transgender orientation to biological factors predicted lower levels of genderism/transphobia; whereas greater acceptance of stereotyping, endorsement of traditional gender roles, and greater religiosity predicted higher levels of genderism/transphobia. Men reported higher genderism/transphobia scores than women. Findings provided insight into how attitudes toward transgender individuals may be conceptualized and shaped by social and cognitive processes. Understanding these mechanisms is an important step in reducing prejudice and minimizing its adverse effects.

Keywords: transgender, gender identity, prejudice, discrimination, stereotypes
Tate, & van Anders, 2018). Studies have indicated that individuals often negatively judge those who express nonconforming gender behaviors that do not fit within this binary conception (e.g., Auster & Ohm, 2000; Eagly, Makhijani, & Klonsky, 1992; Rudman & Fairchild, 2004). More recently, there has been a movement within the scholarly community to redefine gender identity along a spectrum and as more fluid than the original binary construct (Evans, 2014). Within this new conceptualization of gender identity, research in transgender studies has emerged as an area of serious research within psychology and other academic disciplines (Martinez-San Miguel & Tobias, 2016).

Transgender is a term used to describe individuals whose gender identity does not coincide with the sex they were assigned at birth, whereas cisgender describes people whose gender identity and expression correspond with their assigned sex (American Psychological Association, 2018). The term transgender includes individuals who identify as transsexual, genderqueer, as well as a variety of other identities (American Psychological Association, 2014). Although some measures of antitrans attitudes use the term “transsexual,” many members of the transgender community do not prefer this language because it is not an umbrella and inclusive term (GLAAD, 2016). For the purposes of this article, the terms transgender and trans will both be used as descriptors for the multitude of gender nonconforming identities. Because identifying as trans is a personal and often private experience for many people, it is difficult to determine the number of individuals who identify as such. Meerwijk and Sevelius (2017) reported that their best estimate is that 0.39% of the U.S. population identify as transgender. This was relatively consistent with a previous report that approximately 0.3% of U.S. adults indicated transgender identity (Gates, 2011).

Prejudice and Discrimination Against Transgender Individuals

Unfortunately, transgender individuals are subjected to a wide range of prejudice, harassment, and discrimination. The 2015 U.S. Transgender Survey (USTS) of 27,715 transgender individuals in the United States revealed the high prevalence of mistreatment and discrimination of children, adolescents, and adults who identify as transgender (James et al., 2016). Respondents indicated that they had experienced verbal harassment, physical and sexual assault, and general maltreatment due to their transgender identity. Fifty-four percent of respondents who identified or were perceived as transgender had been bullied and harassed while in school (K–12). Others reported being the survivors of physical (24%) and sexual (13%) assault, and 17% percent indicated that they had left K–12 school due to harassment and mistreatment. Harassment and abuse also took place in the home. In fact, 10% of respondents reported that a family member was responsible for the mistreatment, and 8% of respondents said they had to leave home for being transgender (James et al., 2016). In another study, 37% of adult transgender individuals surveyed reported at least one physical attack since they were 13 years old (Barboza, Dominguez, & Chance, 2016).

Discrimination against trans individuals extends to economic difficulties and is related to limited access to healthcare. Trans individuals reported unemployment at twice the rate of the general population and experienced severe maltreatment in the workplace due to their transgender identity and expression (James et al., 2016). Furthermore, 30% of adults reported being harassed, losing their jobs or being denied a promotion, or being physically or sexually assaulted while at work. Another study indicated that 26% of respondents had lost a job due to being transgender, and 50% had been harassed in their workplace (Grant et al., 2011). These hardships are exacerbated within minority populations (James et al., 2016).

Not all acts of discrimination against transgender individuals are explicit, however. Transgender individuals often experience what are called “microaggressions” (Galupo, Henise, & Davis, 2014). Sue (2010) described microaggressions as subtle forms of discrimination that may be intentional or unintentional offenses that occur in everyday life. Nadal, Skolnik, and Wong (2012) identified eight categories of microaggressions directed toward trans individuals including the use of transphobic and/or incorrectly gendered terminology, endorsement of a gender normative and binary culture or behaviors, denial of personal body privacy, and an assumption of a universal transgender experience. Nadal, Davidoff, Davis, and Wong (2014) examined the emotional consequences of these microaggressions. They found that transgender individuals react to these subtle forms of discrimination with feelings of anger, betrayal, hopelessness, and distress. Further, trans individuals described such microaggression experiences as being emotionally and physically taxing (Nadal et al., 2014). Harassment
is evident even in places that are considered relatively tolerant such as college campuses. McKinney (2005) conducted a qualitative study that assessed transgender individuals’ experiences in a university setting. The results demonstrated overarching themes that included feelings of misunderstanding and lack of support from faculty and students. In 2015, 24% of transgender respondents in college or vocational schools reported verbal, physical, and sexual harassment (James et al., 2016).

Other research has identified negative physical and psychological consequences related to the wide range of discrimination against those who identify as trans. Over the course of their lives, trans individuals were more likely to have attempted suicide than the general population (Grant et al., 2011; James et al., 2016). In both Grant et al. (2011) and James et al. (2016), more than 40% reported attempting suicide in their lifetime compared to 4.6% of the general U.S. population. James et al. (2016) reported that, in the past year, 7% of respondents had attempted suicide, whereas this number was 0.6% in the general U.S. population. Rates of suicide rise for those who had lost jobs due to bias, were harassed in school, or had been physically assaulted. Compared with 5% of the general population, 39% of transgender individuals surveyed had experienced psychological distress in the past month before completing the survey (James et al., 2016).

Because of these experiences of stigmatization and prejudice, and the resulting negative consequences, it is important to assess the components of attitudes surrounding transgender identity. Herek (2000) suggested that understanding the underlying correlates of prejudice might be a step in helping to prevent such bias. Among these studies, some of the most prominent correlates of attitudes toward transgender individuals were interpersonal contact experiences and beliefs about gender.

**Intergroup Contact Theory**

Initially based on Allport’s (1954) idea that intergroup conflict could be reduced through contact between opposing groups, the contact hypothesis has received much attention because a great deal of research has been conducted on the effectiveness of interpersonal contact in reducing prejudice toward minority groups (Oskamp & Jones, 2000). Intergroup contact theory holds that more exposure to the targeted groups may reduce negative attitudes held by outsiders. A meta-analysis by Pettigrew and Tropp (2006) indicated that interpersonal contact is effective in reducing prejudice across a wide range of settings. Although originally designed as a way to improve racial and ethnic relations, interpersonal contact has been shown to be an effective method in reducing prejudice among nonracial and non-ethnic samples as well. In fact, among the studies reviewed by Pettigrew and Tropp (2006), the largest effect sizes for interpersonal contact were found in studies that analyzed interpersonal contact among those who identified as cisgender and gay men and lesbian women. Additional studies have found that greater interpersonal contact with gay and lesbian individuals leads to more accepting attitudes (e.g., Herek & Capitanio, 1996; Herek & Glunt, 1993). Specifically, participants who reported closer relationships with individuals who are gay and lesbian, as well as receiving direct disclosure about their sexual orientation, indicated less homophobia (Herek & Capitanio, 1996).

In considering specific instances of interpersonal contact and reduction of transphobia, work by Walch et al. (2012) examined the effects of a speaker panel comprised of transgender individuals in reducing antitransgender attitudes. Results indicated that those who attended the speaker panel, as opposed to a traditional lecture that did not include contact with transgender individuals, showed greater immediate reductions of transphobia. Although both groups showed reduced levels of transphobia, the results suggested that face-to-face interaction with individuals who identified as transgender is more effective at reducing prejudice than learning about transgender identity from a third party. Interestingly, Crisp and Turner (2009) have found that interpersonal contact may not have to be direct or face-to-face; imagined group contact may be an effective way to reduce intergroup conflict and prejudice. Turner, Crisp, and Lambert (2007) found that imagined group contact helped to change individuals’ attitudes toward those of a different sexual orientation. Because previous research has found correlations among predictors of homophobia and antitrans attitudes (e.g., Hill & Willoughby, 2005; Tebbe, Moradi, & Ege, 2014), these studies raise important questions that could be applied to research related to interpersonal contact and attitudes toward transgender individuals. Therefore, the present study sought to examine whether greater levels of direct interpersonal contact with transgender individuals (i.e., having met a trans person) would predict lower antitrans attitude scores.
Stereotype Acceptance and Traditional Gender Role Beliefs

The idea of interpersonal contact theory is directly related to reducing preexisting stereotypes associated with marginalized groups. Stereotyping reflects preconceived perceptions about how particular groups typically act (Eagly & Steffen, 1984), and prejudice and stereotyping often go hand in hand (Gordijn, Koomen, & Stapel, 2001). Other studies have supported this association between greater prejudice and the attribution of positive and negative traits to an ethnic group (Falanga, De Caroli, & Sagone, 2014). Although not all stereotypes are negative, the categorization of individuals based on a small amount of information can be harmful. However, the application of stereotypes may seem useful to some people when attempting to understand an individual in the context of their group membership (e.g., cultural, religious, gender). Allport (1954) suggested that categorical thinking is a natural function of human thought and begins from an early age. Despite this natural tendency to categorize, research has found that, in categorizing groups, people tend to minimize differences within groups (Plous, 2003). It is possible that, in generalizing people on the basis of a social or ethnic group, the individual aspects of group members may be overlooked. Therefore, individuals may perceive trans persons as one homogenous group rather than unique individuals. Because transgender individuals tend to fall outside established gender norms, the desire to categorize and the belief in its utility are particularly important concepts in understanding transphobia.

For specific components of stereotyping and categorizing, endorsement of a binary construction of gender has been shown to be important to anti-LGBTQ attitudes. Specifically, those who believe in gender as a dichotomous concept are more likely to have negative perceptions of both LGB and transgender identity (e.g., Norton & Herek, 2012; Tee & Hegarty, 2006). Norton and Herek (2012) found that individuals who endorsed a gender binary understanding were more likely to report negative feelings toward the LGBT community. Also tied to a binary conceptualization of gender is the idea of male and female roles. Deaux and Lewis (1984) identified “masculine” and “feminine” roles as one of the primary components surrounding gender stereotypes. However, few studies have specifically analyzed the importance of traditional gender roles in transphobia levels (Claman, 2008).

As a result, the current study assessed both general stereotyping acceptance as well as endorsement of traditional gender roles. Based on this research, the present study examined whether greater acceptance of stereotypes and traditional gender roles would predict higher transphobia scores.

Causal Attribution

Causal attribution is defined as the causes that people believe are the basis for the behavior of others (Tygart, 2000). Several foundational studies assessing attitudes toward gay and lesbian individuals found that attribution of sexual orientation to biological factors (e.g., genetics), rather than environmental factors, was positively correlated with lower levels of homophobia. In fact, Tygart (2000) found that the more that participants attributed sexual orientation to biological factors, the more likely they were to support gay civil rights such as domestic partnership and marriage. Although limited, similar results have been found when assessing attitudes toward transgender individuals. Claman’s study (2008) examined participants’ ratings of the degree to which they believed that transgender orientation was primarily caused by biological factors, environmental factors, or a mixture of both. It was found that those participants who attributed transgender orientation to biology as opposed to environment were more likely to have positive attitudes regarding trans individuals (Claman, 2008). Furthermore, Tee and Hegarty (2006) found that those who believe that gender is a dichotomous construct only and that this biologically based dichotomy leads to understandings of gender were more likely to oppose transgender civil rights. Therefore, in the present study, we examined how biological and environmental attributions may play a role in antitrans attitudes.

Religiosity

Measures of religiosity have often been used when assessing attitudes toward minority groups including attitudes toward trans individuals (Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Tee & Hegarty, 2006). All of these studies found high levels of religiosity to be associated with higher levels of transphobia. However, in one study, once sexual prejudice was controlled for, the correlation of religiosity became nonsignificant in men, although it remained significant for women (Nagoshi et al., 2008). Additionally, Johnson, Brems, and Alford-Keating (1997) found religiosity to be significantly correlated with more biased beliefs about the origin of sexual orientation and
Overall levels of homophobia.

One reason that greater, and more conservative in particular, religiosity may contribute to homophobia and antitrans attitudes is the literal interpretations of the Bible that are promoted within some religious communities (Burdette, Ellison, & Hill, 2005). Some religious denominations hold that biblical teachings clearly admonish same-sex relations and that participating in a gay or lesbian sexual relationship is not in accordance with Christian values (Stanton, 2014). Because many mainstream religions uphold the nuclear family and marriage between a man and a woman as the highest standard, some followers hold the belief that gay and lesbian relations (and other nonconforming sexual relationships) threaten the church and in some ways, the prosperity of the United States (Adkins, 2016). Although such beliefs may be limited to the most conservative evangelical protestant groups within the United States, the belief that gay and lesbian relationships should at least be discouraged is found in a wide range of religious teachings (Pew Research Center, 2014). Although Biblical teachings admonish same-sex relationships specifically, religious groups have begun to target transgender individuals. For instance, the Family Policy Alliance initiated a theologically-based resolution that was passed by the Kansas Republican party describing transgender individuals as not conforming to “God’s design for gender based on biological sex” and opposing any efforts to validate transgender identity (Shorman & Woodall, 2018). Therefore, the present study examined whether higher scores on religiosity would predict greater antitrans attitudes.

Gender Differences in Prejudice

In previous research, heterosexual men have reported more negative attitudes toward gay men than have heterosexual women (e.g., Herek, 1988, 2002, 2003; Kite & Whitley, 1996). A similar gender difference in attitudes toward lesbian women also has been reported, but this difference is not as robust as those found when judging gay men (Herek, 1988). Similarly, several studies have indicated that women report positive attitudes toward transgender individuals, whereas men tend to have more negative attitudes toward this group (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Worthen, 2012; Wright, Adams, & Bernat, 1999). These results converge with a variety of previous studies that analyze gender differences in prejudicial attitudes. For example, a meta-analysis by Kite and Whitley (1996) found that, across a wide range of studies, heterosexual men tended to rate gay men more negatively than did heterosexual women. In the development of an instrument to measure homophobia, Wright et al. (1999) reported that men scored higher on all three subscales of the Homophobia Scale, suggesting that male participants were more likely than their female counterparts to experience negative thoughts, negative emotions, social avoidance, and behavioral aggression toward gay and lesbian individuals. Studies in this area also have shown that men’s homophobic attitudes may be exacerbated by propensity to aggression (Nagoshi et al., 2008). Some researchers have suggested that heterosexual men have a stake in upholding the traditional idea of masculinity and that men who express feminine characteristics or behaviors that are outside of the masculine ideal may suggest being gay, which is a threat to many heterosexual men (Herek, 1986; Kimmel, 1997). Furthermore, heterosexuality is required to meet cultural standards for masculinity, particularly in the United States (Herek, 1986). However, Kite and Whitley (1996) identified some studies that have not indicated significant gender differences in this area. To further explore the role of gender in antitrans attitudes, we examined whether men would report higher scores on genderism/transphobia than would women.

The Present Study

Previous research has identified relatively consistent predictors of antitrans attitudes. Specifically, studies have shown that greater exposure to transgender individuals (e.g., Walch et al., 2012) and attributing being transgender to biological factors (e.g., Claman, 2008) are associated with lower levels of antitrans prejudice; whereas greater acceptance of stereotypes and traditional gender roles (e.g., Norton & Herek, 2012; Tee & Hegarty, 2006), as well as greater religiosity (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Tee & Hegarty, 2006) predict higher levels of prejudice toward transgender individuals. Furthermore, studies have shown that men report greater antitrans prejudice than women (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Worthen, 2012, Wright et al., 1999). Based on these previous studies, we identified six hypotheses: (a) direct interpersonal contact with transgender individuals (i.e., having met a trans person) would predict lower scores on genderism/transphobia, (b) greater levels of interpersonal contact with
transgender individuals would predict lower scores on genderism/transphobia, (c) greater acceptance of stereotypes and traditional gender roles would predict higher scores on genderism/transphobia, (d) higher scores on religiosity would predict higher scores on genderism/transphobia, (e) greater attribution of being transgender to biological factors would predict lower scores on genderism/transphobia, and (f) men would report higher scores on genderism/transphobia than women.

Method

Participants
Participants were 110 undergraduate students (39 men, 64 women, 2 other, 5 missing) at a small liberal arts school in the southeastern United States. Five participants (4.5%) discontinued participation before completing the study. The mean age of the students was 19.73 years (SD = 1.14). Of the 105 participants who completed the questionnaire, most participants identified as European American (86.7%, n = 91); followed by African American/Black (4.8%, n = 5); Asian/Pacific Islander (3.8%, n = 4); “other” (3.8%, n = 4); and Native American/American Indian (0.9%, n = 1). Most participants (89.5%, n = 94) indicated their sexual orientation as straight/heterosexual, with 7.6% (n = 8) identifying as bisexual, 1% (n = 1) gay, 1% (n = 1) lesbian, and 1% (n = 1) other. Those who indicated they were gay, lesbian, bisexual, or other (n = 11) were removed from the analyses in order to specifically examine attitudes of participants who indicated they were cisgender/heterosexual.

Participants distributed among all four years of educational status with 24.8% (n = 26) first-year, 37.1% (n = 39) sophomore, 24.8% (n = 26) junior, and 13.3% (n = 14) senior students. Students were recruited from a variety of classes including Psychology, French, Accounting, and Political Science. Participation from these classes was voluntary. No payment was provided, although some professors chose to provide extra credit for participation.

Materials
Participants completed the instruments in the following order: (a) informed consent agreement, (b) demographics form, (c) the Genderism and Transphobia Scale – Revised Short Form (GTS-RSF), (d) the Gender Role Stereotypes Scale (GRSS; Mills, Culbertson, Huffman, & Connell, 2012), (e) the Acceptance of Stereotyping Questionnaire (Carter, Hall, Carney, & Rosip, 2006), (e) the Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960), (f) the Rohrbaugh and Jessor Religiosity Scale (Rohrbaugh & Jessor, 1975), and (g) items to assess transgender identity attribution and interpersonal contact (Claman, 2008).

Acceptance of Stereotyping Questionnaire. The Acceptance of Stereotyping Questionnaire measures the extent to which participants accept stereotyping in everyday life as useful (Carter et al., 2006). Participants indicate their agreement with 12 statements using a 6-point scale ranging from 0 (strongly disagree) to 6 (strongly agree). After summing scores, mean scores are calculated, which can range from 0–6, with higher scores indicating greater acceptance of stereotyping. Items include “Sometimes when I meet new people, I can predict their behavior or attitudes just from knowing what social/cultural groups they belong to” and “Stereotypes have too much influence on our behavior toward others” (reverse scored). In studies to establish reliability, the Acceptance of Stereotyping Questionnaire had a mean Cronbach’s α of .78 and a test-retest correlation of .70. Carter et al. (2006) also has reported evidence for convergent and discriminant validity. In the present study, Cronbach’s α indicated an acceptable level of internal consistency at .84. The mean score was 2.11 (SD = 0.85, Median = 2.25), which corresponds most closely to responses of “slightly disagree.” Scores ranged from 0.17 (low levels of stereotype acceptance) to 4.00 (high levels of stereotype acceptance).

Gender Role Stereotypes Scale (GRSS). The GRSS measures the degree to which participants endorse a traditional binary view of gender roles (GRSS; Mills et al., 2012). The scale consists of eight items that describe certain tasks that are typically considered masculine or feminine. Participants rate these items using a 5-point scale ranging from 1 (should always be done by the man) to 5 (should always be done by the woman) based on their beliefs that the tasks should always be done by the man, the woman, or both. The scale is scored by summing responses to the four items of the male stereotype subscale and the four items of the female stereotype subscale and then calculating the mean score for each. Mean scores on each subscale can range from 1–4. An item from the male stereotype scale is “Mow the lawn,” and from the female stereotype scale, “Prepare meals.” Higher scores on the female factor indicate greater acceptance of female gender roles, and lower scores on the male factor indicate greater acceptance of male gender roles.

Evidence of construct validity has been...
established by correlating the GRSS with other popular measures, and test-retest reliability indicators of the scale have been reported at .80 and Cronbach’s α for the male and female stereotype subscales at .64 and .72, respectively (Mills et al., 2012). In the present study, the Cronbach’s α of the male gender role subscale was .80; and for the female gender role subscale was .71, thus indicating acceptable internal consistency. The mean score on the GRSS male gender role factor was 2.28, and the mean score on the female factor was 3.31. Both of these are fairly close to scores indicating belief in equal responsibility but with slightly more traditional attitudes on the male stereotype scale.

Genderism and Transphobia Scale-Revised (GTS-R-SF). The GTS-R-SF (Tebbe et al., 2014) is a revision of the original Genderism and Transphobia Scale (Hill & Willoughby, 2005). The GTS-R-SF contains two subscales (a) Genderism/Transphobia, an overall negative evaluation and negative emotions associated with gender nonconformity; and (b) Gender Bashing, which refers to the propensity for explicit harassment and/or assault toward trans individuals (Tebbe et al., 2014). Because the present study focused on more subtle and nonviolent forms of antitrans attitudes, the 5-item Gender-Bashing subscale was not included in the questionnaire. The Genderism/Transphobia subscale consists of 17 items. Participants rate their agreement with the items using a 7-point scale ranging from 1 (strongly agree) to 7 (strongly disagree). Total scores are calculated by summing the item responses and can range from 17–119. Items include “If I found my lover was the other sex, I would get violent,” “If a friend wanted to have his penis removed in order to become a woman, I would openly support him” (reverse scored). Higher scores on the GTS-R-SF Genderism/Transphobia scale indicate higher levels of antitrans attitudes. Tebbe et al., (2014) reported a .93 Cronbach’s α for the Genderism/Transphobia subscale items, as well as evidence for convergent and discriminant validity. In the present study, Cronbach’s α was .97 for the Genderism/Transphobia subscale, demonstrating strong internal consistency. Participants reported a wide range of antitrans attitudes as measured by the GTS-R-SF (range = 102, M = 60.2; SD = 38.93). Scores on the GTS-R-SF scale ranged from 17 (indicating the lowest levels of genderism/transphobia) to 119 (indicating the highest levels of Genderism/Transphobia).

Marlowe-Crowne Social Desirability Scale (M-C SDS). To control for any social desirability bias, participants completed the widely used M-C SDS (Crowne & Marlowe, 1960). Participants who score high on this scale may be seen as trying to cast themselves in a favorable light by trying to endorse culturally acceptable viewpoints. This bias is especially important in research surrounding social attitudes where some participants may select responses that would appeal to the attitudes of the researchers rather than their own personal beliefs.

The M-C SDS contains 33 items to which respondents respond either “true” or “false” as it pertains to them personally. The items refer to behaviors that are seen as culturally acceptable and/or desirable, but that are also relatively unlikely to occur. Examples include “I sometimes feel resentful when I don’t get my way” and “I’m always willing to admit when I make a mistake.” All items are coded such that higher scores indicate a greater level of socially desirable responses. Scores are calculated by summing responses to the items and can range from 0 (low social desirability) to 33 (high social desirability). Internal consistency has been reported at .88 and test-retest reliability at .89 (Crowne & Marlowe, 1960). In the present study, Cronbach’s α indicated internal consistency of .73. The mean social desirability score for participants was approximately the midpoint of possible scores (M = 16.21, SD = 4.99; Median = 16.5). Scores ranged from 4 to 25.

Rohrbaugh and Jessor Religiosity Scale. The Rohrbaugh and Jessor Religiosity Scale (Rohrbaugh & Jessor, 1975) assesses the amount of influence religion has in an individual’s life. It also measures the extent to which individuals participate in religion-related practices. The 8-item measure contains seven multiple-choice items and one fill-in-the-blank. Using a multiple-choice format, participants choose responses that fit closest to their ideas and behaviors that are thought to reflect religiosity. The fill-in-the-blank question inquires about how many religious services the participant has attended in the past year, and responses were divided into five equal groups for analysis such that the response groups were coded 0 to 4, with higher scores indicating more religious attendance. The measure has four subscales including (a) Ritual Religiosity (Items 1 and 2): the extent to which a person engages in behaviors associated with the rituals of religion (e.g., attending services, praying, meditation); (b) Consequential Religiosity (Items 3 and 4): the extent to which a person relies on religion when having a personal problem or allows religion to influence how to spend time or
behave; (c) Ideological Religiosity (Items 5 and 6): beliefs about God, death, and immortality; and (d) Experiential Religiosity (Items 7 and 8): the extent which a person experiences comfort, security, reverence, and devotion associated with religion. Items for each subscale are summed, and subscale scores can range from 0–8 and overall religiosity scores can range from 0–32. Sample items include, “Which of the following best describes your practice of prayer or religious meditation?” with response options being “I never pray,” “I pray only during formal ceremonies,” “I usually pray in times of stress or need but rarely at any other time,” and “Prayer is a regular part of my daily life.” Rohrbaugh and Jessor (1975) reported Cronbach’s α concerning reliability of the subscales over .90, indicating high internal consistency. Both Rohrbaugh and Jessor (1975) and Nicholas and Durrheim (1996) reported evidence of instrument construct validity. Cronbach’s α in the present study indicated strong internal consistency of the overall religiosity scale at .94, with acceptable levels for all subscales as well (Ritual = .76, Consequential = .88, Ideological = .84, and Experiential = .88).

The present sample overall scored as moderately religious (M = 16.9; SD = 5.70; Median = 17.0), with scores ranging from 8 to 28. This overall mean is slightly above the midpoint and also higher than the college mean (M = 12.5) reported by Rohrbaugh and Jessor (1975). The mean number of times that participants reported attending a religious service over the past year was 22.62 (SD = 26.01), ranging from 0 to 150 times per year. The highest mean on the subscales was for Ideological Religion (M = 5.92; SD = 2.29), followed by Experiential (M = 4.64; SD = 2.26), Ritual (M = 4.04; SD = 2.17), and Consequential (M = 3.78; SD = 2.40).

Transgender identity attribution and interpersonal contact. Using both original questions and those adapted from the methodology of Claman (2008), the final section of the questionnaire contained questions regarding attribution of transgender identity and level of interpersonal contact with transgender individuals. To begin the section, participants read the following definition of transgender from the American Psychological Association (2014):

Transgender is an umbrella term for persons whose gender identity, gender expression, or behavior does not conform to that typically associated with the sex to which they were assigned at birth. Gender identity refers to a person’s internal sense of being male, female, or something else; gender expression refers to the way a person communicates gender identity to others through behavior, clothing, hairstyles, voice, or body characteristics. (para.1)

Participants then read the following statement borrowed directly from Claman (2008):

A lot of human behavior probably will never be fully understood. Scientists as well as people in general disagree how much influence that individuals’ genetic inheritance has on transgender orientation. Please indicate how well the following statements reflect your view on the causes of transgender orientation (Claman, 2008; p. 75).

Participants responded to questions used by Claman (2008), originally adapted from Tygart (2000), to reflect the degree to which they believed transgender identity is a result of biological factors, environmental factors, or a combination of both using a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

In the next part of this section, participants indicated the level of interpersonal contact they have had with transgender and transsexual individuals. Another description was borrowed directly from Claman (2008):

By definition, transsexuals are individuals who identify with a gender different from that which they were born. For instance, a person who was born as a male, but on the inside identifies as a female, is transsexual. Transsexuals may have surgery or hormone treatments to make their appearance more congruent with their internal feelings, but this is not always the case. (p. 77)

Participants then indicated their level of interpersonal contact with transgender or transsexual individuals by responding to a series of questions taken directly from Claman (2008). Interpersonal contact was divided into questions to assess different components of contact. Participants responded to these questions with “yes” or “no.” To indicate direct interpersonal contact, participants responded to “To your knowledge, have you ever personally met a trans individual?” To report indirect contact, “Have you ever had any knowledge of someone who was transgender (e.g., through word of mouth
Participants then indicated the level of exposure through direct interpersonal contact (i.e., face-to-face) and indirect contact (e.g., news, TV, social media). Participants ranked their level of exposure on a scale of 1 (no exposure) to 3 (a great deal of exposure).

Finally, participants responded to questions to indicate their level of understanding about transgender individuals by using a scale ranging from 1 (no understanding) to 3 (a great deal of understanding). Additionally, they judged the importance of the general population understanding transgender individuals on a scale from 1 (not at all important) to 3 (very important).

Over 80% (n = 72, 13 missing) of participants responded that they had met a transgender person. An even larger number, 87.6% (n = 78, 13 missing), indicated that they had knowledge of transgender individuals through a friend or word of mouth. When it came to reporting levels of knowledge of transgender individuals, most participants (67.4%, n = 60, 13 missing) indicated that they had “some understanding” of transgender individuals, 10.1% (n = 9) reported that they had a “great deal of understanding,” and 22.5% (n = 20) had “no understanding.” When participants responded to the question of how important they believed it is for the general population to have an understanding of transgender individuals, 79.5% (n = 70) indicated they thought it was “somewhat important,” and 20.5% (n = 18) indicated it was “not important.” No participants responded with “very important.”

Procedure

All participation in the study was online using SurveyMonkey. After institutional review board approval was given (Protocol #0003_15), participants used a link to the survey that was provided in an e-mail message. Only the primary researcher had access to the list of e-mails, and after all e-mails were sent out, the lists were destroyed. All data remained anonymous and could not be connected to the participants’ e-mails or responses in any way. After agreeing to the informed consent statement, participants responded to the online questionnaire that followed. Participation in the study took approximately 15–20 minutes.

Results

Primary Analyses

Results from a one-way Analysis of Variance (ANOVA) indicated that those who had met a transgender individual (M = 57.21, SD = 28.19) reported less genderism/transphobia than those who had never met a transgender individual (M = 75.47, SD = 27.85), F = 5.76, p = .019, η² = .06. These results supported Hypothesis 1.

In the next analysis, we used the Benjamini-Hochberg procedure to control the false discovery rate (Benjamini & Hochberg, 1995). Based on the 11 variables used in the correlational analysis, the
new p value was .032. Pearson product-moment correlations indicated significant correlations at this level between genderism/transphobia scores and (a) level of interpersonal contact, (b) stereotype acceptance, (c) traditional male and female gender role acceptance, (d) attribution of being transgender to biological factors, (e) attribution of being transgender to environmental factors, and (f) ritual, consequential, ideological, and experiential religiosity. See Table 1 for these results.

Based on the significant correlations, Multiple Linear Regression analyses using genderism/transphobia as the dependent variable and eight of the above variables as predictors tested Hypotheses 2, 3, 4, and 5. Because collinearity appeared to be an issue with consequential and experiential religiosity (i.e., tolerance < .20; VIF = 5.21, 5.94, respectively), these two variables were removed for the regression analysis, $r(76) = .85$, $p < .001$. The regression analysis indicated four significant predictors in that greater acceptance of stereotypes, more endorsement of traditional male gender roles, and greater ideological religiosity predicted higher scores on genderism/transphobia, whereas attributing being transgender to biological factors predicted lower scores on genderism/transphobia, $r(83) = .10$, $p = .382$. However, there was a significant correlation between social desirability and ideological religiosity, $r(83) = .27$, $p = .016$.

**Secondary Analyses**

Secondary analyses examined correlations between genderism/transphobia and participants’ self-reported level of understanding about trans individuals, which demonstrated a moderate significant correlation, $r(86) = -.24$, $p = .025$. There was also a moderate to strong significant correlation between genderism/transphobia and belief in the importance of understanding transgender individuals, $r(85) = -.62$, $p < .001$. As levels of understanding and the belief in the importance of understanding individuals who identify as transgender increased, antitrans attitudes decreased. Also notable is that as levels of reported interpersonal contact increased, so did participants’ reported understanding about trans individuals, $r(85) = .35$, $p = .001$. Furthermore,

**Social Desirability**

To control for false discovery, we again used the Benjamini-Hochberg (1995) procedure to determine an adjusted p value of .016 for a series of Pearson product-moment correlations to examine the relationship between social desirability scores and the main variables. There was no significant correlation between the measure of social desirability and genderism/transphobia, which suggested that the results for antitrans attitudes were not confounded by a social desirability bias,
the more indirect exposure to transgender people (e.g., media, news, TV, social media), the more understanding they indicated they had of trans individuals, $r(87) = .41, p < .001$. However, indirect exposure was not correlated with genderism/transphobia scores, $r(86) = -.12, p = .255$.

One-way ANOVAs indicated that male participants reported greater stereotype acceptance and more endorsement of traditional male and female gender roles when compared to female participants. However, women were more likely than men to attribute being transgender to biological origins. These results can be seen in Table 4.

**Discussion**

Overall, findings indicated that having interpersonal contact with transgender individuals and making biological attributions for being transgender were associated with positive attitudes toward transgender individuals, whereas greater stereotype acceptance, more endorsement of traditional male gender roles, and greater ideological religiosity were significant predictors of antitrans attitudes. Furthermore, men reported greater levels of antitrans attitudes than did women. These results provided support for all but one hypothesis. Although participants who reported having met a transgender person also indicated less negative attitudes toward transgender people than those who had not, the level of exposure was not a significant predictor of antitrans attitudes. Therefore, the contact on its own was important rather than the extent of exposure. The finding that direct exposure (i.e., having met a person) indicated lower scores on genderism/transphobia is consistent with previous research (e.g., Claman, 2008; Tee & Hegarty, 2006). Notably, in the present study, direct social contact (i.e., face-to-face interaction) was particularly important in predicting lower genderism/transphobia attitudes when compared to nondirect forms of social interaction such as news, TV, and social media. Although indirect exposure was not significantly correlated with levels of genderism/transphobia, it was predictive of the level of understanding that participants reported regarding trans individuals, in that more indirect exposure was associated with greater understanding. Moreover, our results indicated that greater understanding of transgender individuals was moderately associated with lower levels of genderism/transphobia. Therefore, it is possible that outlets such as media could have an indirect effect on attitudes toward transgender individuals. Because television and media sources have increasingly included trans individuals in show storylines (e.g., *Orange Is the New Black, Transparent, Transamerica*), indirect exposure could be a potentially interesting variable to explore in future studies assessing antitrans prejudice. However, the present study suggests that direct interpersonal contact experiences should be considered the most effective form of social interaction when trying to reduce prejudice toward the transgender community.

Two of the three variables associated with stereotyping were significant predictors of antitrans attitudes. Separately, acceptance of stereotypes accounted for 24% of variance in genderism/transphobia scores, and the endorsement of traditional male gender roles accounted for 15%. The relationship between general stereotyping behaviors and antitrans attitudes suggests that those who are more accepting of stereotypes might minimize the distinct characteristics of transgender people and view them as a homogenous group rather than as individuals. This finding is in line with Carter et al. (2006), who found that individuals with the propensity to use stereotyping when interacting with people from a different social group tended to have rigid gender role beliefs and relied on social categories such as gender to understand others. It is possible that those who scored higher on the stereotype acceptance scale consider transgender identity as a breach of the social norms associated with gender, and as a result, demonstrated higher levels of antitrans attitudes.

Furthermore, greater endorsement of male gender roles was a significant predictor of genderism/transphobia levels, although this predictor on its own accounted for the least amount of variance in genderism/transphobia scores. These findings suggest that those who hold more traditional beliefs of what constitutes male-typical behaviors are more likely to react negatively to the crossing of traditional gender boundaries. This supports previous studies finding that male gender roles play a role in more negative attitudes toward gay men and lesbian women (e.g., Kite & Whitley, 1996). This is particularly true for heterosexual men (Oliver & Hyde, 1993). Further, research has suggested that, from a young age, violation of male gender norms is viewed more negatively than violation of female gender norms (Schmalz & Kerstetter, 2006). In general, girls are allowed more flexibility within stereotypical gender roles than boys. Our results suggest that this belief may be pervasive through adulthood in that the belief in male gender norms
The finding that cisgender male participants indicated higher scores on genderism/transphobia than did their female counterparts is consistent with previous studies on prejudice against gay, lesbian, and transgender individuals (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Worthen, 2012; Wright et al., 1999). It is possible that heterosexual male participants view gender nonconforming behaviors such as being transgender as a violation of masculine expectations and as a threat to heterosexual men, which supports previous research (e.g., Herek, 1986; Kimmel, 1997). This difference between men and women might also be explained by male participants being more likely to accept stereotypes and endorse male gender roles, both of which were found to be predictors of antigender attitudes. Women, on the other hand, were more likely than men to attribute being transgender to biological origins, which helps to explain their lower scores on genderism/transphobia because making a biological attribution for being transgender was found to be a strong predictor of more positive attitudes toward trans individuals. Future research could examine how stereotyping acceptance and endorsement of traditional gender roles may possibly account for any gender differences found in attitudes toward those who identify as transgender. It must be noted that, in the present study, participants responded to a measure that assessed antigender attitudes in general, not taking into account that participants might respond differently to transgender men as compared to transgender women. Worthen (2013) and Billard (2018) have suggested that future studies should reconsider measuring transgender individuals as one group because the transgender community encompasses a variety of identities. Therefore, we recommend that additional research could explore why cisgender persons might judge being transgender differently depending upon the perceived gender identity of the transgender person.

Although the present study provided new insight into the factors that play a role in attitudes toward transgender individuals, there were some limitations. First, the sample size was relatively small and contained more women than men. To address this issue and to limit false discovery (Type I error) in the correlational analysis, we employed the Benjamini-Hochberg (1995) procedure. We also examined the squared semi-partial correlations to determine the individual contribution of the predictor variables in the regression analysis. The
sample of college students was also predominantly White and offered little racial, ethnic, or socioeconomic diversity. Further, the age distribution was limited in that participants’ ages ranged from 18 to 22, with a mean age of 19.7 years. Findings must be considered in light of generational differences in that previous studies have shown that younger participants report greater acceptance of gender nonconformity than older individuals (e.g., Flores, 2015). Therefore, caution must be used in the generalization of results with special attention paid to these sample size and demographic limitations. Including additional options for gender identity within the demographic section would also have provided the study with a mechanism to examine the number of transgender individuals who participated, although due to the limited number of “other” responses, the number most likely would not have been large enough for a meaningful analysis with this sample.

Another limitation of the present study is the reliance upon self-report methods and the risk of common method bias. However, we argue that this bias is of limited concern for our study because we chose measures that have demonstrated evidence of construct validity, which Conway and Lance (2010) have suggested is a way to mitigate common method bias. Although we primarily used instruments that have demonstrated evidence of validity and internal consistency, the questions borrowed from Claman (2008) do not have established validity and reliability as a measure of interpersonal contact and attribution for being transgender. Further, the Claman (2008) measure used both the terms transsexual and transgender. Because many individuals who identify as transgender prefer the use of trans or transgender to transsexual, the questions should be adapted to account for this preference.

Because attitudes toward trans individuals can be considered a topic that might elicit socially desirable responses, we assessed the correlation between a measure of social desirability and genderism/transphobia and the predictor variables. Results suggest that participants were not responding in a socially desirable way on attitudes toward transgender individuals, providing confidence in the primary findings of the present study. Caution should be used, however, when conducting analyses with the measure of religiosity because significant correlations surfaced between social desirability and the subscale of ideological religiosity, which also was a significant predictor of antitrans attitudes. This suggests that participants in the current study might have reported higher scores on ideological religiosity than they actually express in their everyday lives.

Despite its limitations, the present study had important strengths. It provided valuable information about a subject that has become of increased interest in behavioral and social science. Attitudes cannot be changed unless their source is discovered, and this study has begun to uncover these foundations. Although not all of the variables tested can be realistically and ethically altered (e.g., religiosity), others such as interpersonal contact can be implemented in educational resources that aim to reduce prejudice against transgender individuals.

The findings of the present study also offers many promising questions for future research. First, it may be useful to further examine the components of stereotyping as it relates to ideas about transgender individuals. For example, are there any specific stereotypes, anxieties, or misconceptions that are common among individuals who are unfamiliar with the concept of transgender orientation? Or, what other components of stereotyping other than gender roles are associated with transphobic attitudes? As suggested by other researchers, studying the variety of transgender identities may be an important step in better understanding conceptualizations of this community. Finally, given the importance of gender roles and conceptualizations of masculinity and femininity to transphobic attitudes, future studies should further explore attitudes toward trans-men and trans-women, as well as differences in attitudes among cisgender men and women.

Overall, the present study provided insight into how attitudes toward transgender individuals may be conceptualized and shaped by social and cognitive processes. Findings suggested that direct interpersonal contact, causal attribution, acceptance of stereotyping, gender role beliefs, and religiosity are important predictors of antitrans attitudes. However, further research is needed to enhance understanding of the prejudice and discrimination faced by transgender individuals. Understanding these mechanisms is an important step in reducing prejudice and minimizing its adverse effects.

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Author Note. Jordan Greenburg, Department of Psychology, Emory & Henry College; A. Celeste Gaia, Department of Psychology, Emory & Henry College.

Jordan Greenburg is now a doctoral candidate at the Department of Psychology at George Mason University, Fairfax, VA.

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Correspondence concerning this article should be addressed to A. Celeste Gaia, Department of Psychology, Emory & Henry College, Emory, VA 24327.

E-mail: cgaia@ehc.edu
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