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Measuring Contact with Transgender Individuals: An Evaluation of Factors Associated with Anti- Transgender Prejudice

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University of Montana

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MEASURING CONTACT WITH TRANSGENDER INDIVIDUALS: AN EVALUATION OF
FACTORS ASSOCIATED WITH ANTI-TRANSGENDER PREJUDICE

By

OAKLEIGH MARSHALL REED

Bachelor of Science in Psychology and Sociology, Central Michigan University, Mount Pleasant,
MI, 2015

Thesis

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Approved by:

Scott Whittenburg, Dean of The Graduate School
Graduate School

Bryan N. Cochran, PhD, Thesis Chair
Department of Psychology

Duncan G. Campbell, PhD
Department of Psychology

Annie Sondag, PhD
Department of Health and Human Performance

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Measuring Contact with Transgender Individuals: An Evaluation of Factors Associated with Anti-Transgender Prejudice

Chairperson: Bryan Cochran, PhD

Co-Chairperson: Duncan Campbell, PhD

Co-Chairperson: Annie Sondag, PhD

Objectives: Research has suggested that transgender individuals experience high degrees of prejudice and discrimination (e.g., Grant et al., 2010; James et al., 2016). These attitudes affect transgender individuals in multiple domains, such as employment, education, healthcare, housing, public accommodations, and personal relationships (James et al., 2016). Importantly, contact as an intervention strategy has been shown to reduce anti-transgender prejudice quickly and effectively, especially when compared to other prejudice reduction methods (Walch et al., 2012; Case & Stewart, 2013; Tompkins, Sheilds, Hillman, & White, 2015). The aim of the current study was to explore how different types of contact (e.g., personal, educational, and general media) may relate to anti-transgender prejudice.

Methods: Undergraduates at a Rocky Mountain West public university ($N = 347$; $Mage = 21.8$, $SD = 6.8$) were recruited for participation in the study through their psychology courses. Participants responded to a general demographic questionnaire, a measure of different types of contact with transgender individuals, and the Genderism and Transphobia Scale (Hill & Willoughby, 2005).

Results: Analyses revealed significant differences for all three types of contact (personal, educational, and general media) regarding their relationship with anti-transgender prejudice. Independent-sample t-tests found that individuals with no personal contact, when compared to participants with personal contact, exhibited a significantly lower average rating (i.e., low average rating indicates more prejudice) on the Genderism and Transphobia Scale (GTS; $t(345) = -7.675$, $p < .001$). This result was consistent with contact with educational materials ($t(345) = -3.248$, $p = .001$) and general media outlets ($t(345) = -3.359$, $p = .001$). Furthermore, regression analyses yielded significant equations that highlight the relationship between increased contact across all categories and a measurable decrease in anti-transgender prejudices.

Conclusion: This is the first study of which we are aware that indicates an association between contact measured in multiple ways with transgender individuals and varying levels of anti-transgender prejudice. Such differences in the relationship between contact method and anti-transgender prejudice might inform interventions across multiple contexts, including educational and clinical settings.

Dedication

This manuscript is dedicated to those who have supported me through my journey to complete this project. I would like to especially dedicate this to my loving and encouraging family, my fabulous and inspiring mentor, and plentiful, amazing friends in and out of the psychology program that I have had the privilege to befriend. Of course, I cannot forget my beautiful wife. Thank you for your unconditional love, your patience throughout the late nights and early mornings, and your never-ending encouragement to become a better instructor, clinician, researcher, and all-round person. I love you with all my heart.

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Measuring Contact with Transgender Individuals: An Evaluation of Factors Associated with Anti-Transgender Prejudice

Introduction

In societies around the world, transgender individuals experience pervasive stigmatization and discrimination. Previous research suggests that transgender individuals, compared to other highly stigmatized minority groups, including lesbian, gay, and bisexual individuals, experience some of the highest levels of prejudice (Dispenza, Warson, Chung, Brack, 2012; Grant et al., 2010; Hughto, Reisner, & Pachankis, 2015; James et al., 2016; Stotzer, 2009; Walch, Ngamake, Francisco, Stitt, & Shingler, 2013). Yet, despite evidence of such a high level of prejudice, research regarding transgender issues is still in a fairly nascent stage. Very little is known, for example, regarding factors associated with the motivation behind anti-transgender prejudice. Accordingly, the current study aims to explore factors that have an important relationship with anti-transgender prejudice, with specific focus on different types of contact (e.g., personal, educational, and general media) as potential prejudice-reduction interventions. This aim would serve subsequent development of specific intervention strategies to minimize stigma, prejudice, and discrimination toward transgender individuals.

Defining Transgender Identities

Sex is defined as the biological and physiological characteristics that define men, women and intersex individuals, whereas gender is defined as the socially constructed roles, behaviors, activities, and attributes that a society considers appropriate for men and women (Belluardo-Crosby & Lillis, 2012). A frequently cited definition by Stryker (1994) considers *transgender* to be, “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” (p. 251). In other

words, transgender individuals are recognized as those who do not adhere to traditional gender norms by having a gender identity or expression that differs from their sexes assigned at birth (Hughto et al., 2015; King, Winter, & Webster, 2009; Norton & Herek, 2013; Tebbe, Moradi, & Ege, 2014). Given the multiplicity of gender identities and expressions subsumed by the transgender umbrella, it is important for a study to be sensitive and inclusive of the many manifestations when defining the term “transgender.” Accordingly, the survey constructed for the current study encompassed Stryker’s (1994) broad definition as to not marginalize anyone underneath the umbrella.

The manifestation of different gender identities often intersects with one’s racial/ethnic background, socio-economic status, current place of residence, religion, age, mental and/or physical disability, among many others (Crenshaw, 1989; Hughto et al., 2015). This intersectionality of multiple identities often contributes to the systemic injustices and social inequalities an already marginalized individual, such as a transgender person, may face (Crenshaw, 1989). As a result, a transgender individual’s decision to pursue a transition to align their sex assigned at birth with their gender identity may be dependent on, or limited, due to one or more of these identities. For example, a transgender individual of low socio-economic status may delay their transition because of financial restrictions. Alternatively, a transgender-identified person who comes from the South Pacific may choose to not pursue a physical transition because of different cultural values.

Notably, many transgender individuals choose to socially transition (e.g., name change, pronoun change), some may choose to physically transition (e.g., hormone replacement therapy, gender confirmation surgery), while others may choose neither. Most conventionally, those who pursue hormonal and/or surgical intervention to align their biological anatomy with their gender

identity (within the gender binary of man or woman) are defined as “transsexuals” (although this term is arguably outdated), and those who choose to have a gender expression outside of the typical gender binary are defined as “gender non-conforming” (King, Winter, & Webster, 2009; Stryker, 1994). Some transgender individuals embrace certain terms in accordance with their gender identity or expression, such as transwoman (male-to-female), transman (female-to-male), genderqueer, nonbinary, and gender variant, among many others (King et al., 2009; Tebbe et al., 2014). Cisgender is the term often used in the context of transgender studies to distinguish these persons as individuals whose gender identity and expression correspond with their sex assigned at birth (Tebbe et al., 2014). An important factor to consider is that a person’s exposure to the broad range of identities at different stages of the transition may have an impact on that person’s level of prejudice. Furthermore, certain identities are more represented in educational and general media contexts than others (e.g., transmen and transwomen often have greater representation than gender-nonconforming individuals), which may contribute to the amount of exposure an individual has to transgender individuals. The lack of exposure to certain identities underneath the umbrella may be related to elevated levels of anti-transgender prejudice an individual holds, and the subsequent perceived sense of danger a transgender individual may hold in association with being “out.” One explanation of this could be based in the “fear of the unknown” phenomenon as described by Riezler (1944). This stance presumes that there is an interrelation between “fear” and “knowledge,” whereas new experiences (e.g., contact) may lead one to revise something in their “system of permanences” (Riezler, 1944, p. 493).

Anti-Transgender Prejudice

Those who have a gender identity or expression that differs from their sex assigned at birth have historically been considered “deviant;” as a result, these persons have experienced

widespread stigma, prejudice, and discrimination (Dispenza et al., 2012; Hughto et al., 2015; Stotzer, 2009; Walch et al., 2013). This specific type of prejudice is referred to as “transphobia” or “anti-transgender prejudice” and encompasses the pathologization, stigmatization, and delegitimization of transgender individuals (King et al., 2009; Tebbe & Moradi, 2012). Critically, these attitudes affect transgender individuals in domains of life, including, but not limited to, employment (Reed, Franks, Scherr, 2015; Schilt, 2010), healthcare, housing (Grant et al., 2010; James et al., 2016), personal relationships, and access to resources (Hughto et al., 2015). Unfortunately, estimates of the size of the transgender population are highly variable, leading to limited information about how many transgender individuals are affected by anti-transgender prejudice (Stotzer, 2009). Most of the data on the transgender population rely on reports from medical, psychiatric, and psychological care providers. These data may be skewed since not all transgender individuals seek services from these providers, and not all transgender individuals seeking services are out to their providers (Tebbe & Moradi, 2012). Thus, it is likely that estimates of the size of the transgender population are conservative, such that many statistics fail to encompass the breadth of the transgender umbrella (Stotzer, 2009; Tebbe & Moradi, 2012). To illustrate this discrepancy, while some studies estimate that 0.03% to 0.05% of the population identify as transgender (Gates, 2011; Hughto et al., 2015), others assert that conservative estimates are along the lines of 3% to 5% but could be as much as 8% to 10% (Grant et al., 2011; James et al., 2016; Tebbe & Moradi, 2012). Furthermore, because many transgender individuals prefer to identify in ways that may not reflect their transgender identities (e.g., someone may identify as a woman, rather than a transwoman), it can be difficult to estimate the percentage of the population under the transgender umbrella. Consequently, much of our understanding of transgender individuals is based on assumptions grounded in sexual

minority research, which may not be directly applicable because sexual orientation and gender identity are, of course, different constructs (Norton & Herek, 2013).

Anti-LGB Prejudice

“LGB” is the acronym commonly used to represent lesbian, gay, and bisexual identified individuals. Research on sexual minorities is more plentiful than on transgender identities; thus, parallels between the experiences and attitudes toward each population have been explored. Nonetheless, several studies have found that attitudes toward sexual and gender minorities are highly correlated, especially in regards to attitudes held by cisgender heterosexual individuals toward each group (e.g., Hill & Willoughby 2005; Nagoshi et al. 2008; Norton & Herek, 2013; Tee & Hegarty 2006). Both non-heterosexual and transgender individuals face unique life stressors simply because of their minority status. These distal and proximal stressors arise from discriminatory and prejudicial environments that, in turn, contribute to the prevalence of mental health problems within sexual and gender minority communities (Meyer, 2003). This concept, referred to as Minority Stress Theory, posits that sexual and gender minorities routinely experience prejudice, face rejection, feel the need to hide and/or conceal their identity, internalize the homophobic and/or transphobic statements made toward them, and need to exhibit coping mechanisms or resilience in response to these stressors (Meyer, 2003). These common experiences have led many scholars to further explore the relationship between experiences of sexual and gender minorities.

Several factors correlate with both anti-LGB and anti-transgender motivations. These include education level (King et al., 2009; Norton & Herek, 2013; Tee & Hegarty, 2006), age (Claman, 2009; Norton & Herek, 2013), religiosity (Claman, 2009; Norton & Herek, 2013; Tee & Hegarty 2006), authoritarianism (Nagoshi et al. 2008; Norton & Herek, 2013; Tee & Hegarty

2006; Willoughby et al., 2011), and contact (Case & Stewart, 2013; Claman, 2009; King et al., 2009; Tompkins, Shields, Hillman & White, 2015; Walch et al., 2012; Willoughby et al., 2011). Notably, research suggests that attitudes toward transgender individuals are significantly more negative than attitudes toward sexual minorities (Hughto et al., 2015; Norton & Herek, 2013). Furthermore, previous research demonstrates that heterosexual men uphold greater amounts of prejudice toward sexual and gender minorities than heterosexual women (Case & Stewart, 2013; Claman, 2009; Hill & Willoughby 2005; Nagoshi et al., 2008; Norton & Herek, 2013; Reed et al., 2015; Tee & Hegarty 2006; Tompkins et al., 2015; Willoughby et al., 2011). Explanations of this difference suggest that men are more invested in upholding the notion of the binary (e.g., perceiving gender as only men and women) and are concerned with asserting their own masculinity and heteronormative values (Hill & Willoughby 2005; Norton & Herek, 2013; Tee & Hegarty 2006). Many societies favor masculinity over femininity, leading to increased prejudice toward transgender individuals who may be perceived as challenging the notion of masculinity (Carroll, Guss, Hutchinson, & Gauler, 2012; Case & Stewart, 2013). Transgender women often experience greater amounts of discrimination relative to transgender men (Case & Stewart, 2013; Claman, 2009; Hill & Willoughby 2005; Nagoshi et al., 2008; Norton & Herek, 2013; Reed et al., 2015; Tee & Hegarty 2006; Tompkins et al., 2015; Willoughby et al., 2011), which is even more heightened when one's transgender identity intersects with other minority statuses, such as low socio-economic status or minority ethnicity (e.g., low socio-economic, transwoman of color; Hughto et al., 2015).

Implications of Prejudice, Stigma, and Discrimination

Prejudice, stigma, and discrimination impact transgender individuals negatively. Much like the effects of anti-transgender prejudice, stigma also has a deleterious effect on the lives of

transgender individuals (e.g., adverse health, restricted access to resources, substance misuse, suicidal ideation; Grant et al., 2011; Hughto et al., 2015; James et al., 2016). Stigma is the process of labeling, stereotyping, and marginalizing non-conforming individuals as a form of social control (Allport, 1979; Crocker & Major, 1989; Hughto et al., 2015; Norton & Herek, 2013). Stigma research, over many decades, has consistently shown that many individuals in our society are often stigmatized, such as racial minorities (Karlins, Coffman, & Walters, 1969; Samuels, 1973), individuals with physical (Centers & Centers, 1963; Farina, Sherman, & Allen, 1968) and mental disabilities (Cohen & Streuning, 1962; Ellsworth, 1965; Farina, 1982; Nunnally, 1961; Foley, 1979), gender (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972; Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968) and sexual minorities (DeCecco, 1984; Herek, 1984; Levitt & Klassen, 1974), and individuals of lower socioeconomic statuses (Crocker & Major, 1989).

Not surprisingly, exposure to stigma in its various forms is often correlated with substance abuse, suicidal ideation, suicide attempts, and increased psychological distress (Bockting et al., 2013; Clements-Nolle, Marx, & Katz, 2006; Stotzer, 2009; Testa et al., 2012). To further extrapolate on the nuances of stigma, many studies divide experiences of stigma into categories. This provides a framework to understand how different manifestations of stigma may uniquely affect those whom the attitudes are directed toward (Hughto et al., 2015).

Structural stigma. This particular type of stigma refers to the societal norms and institutional policies that influence one's access to certain resources (Hughto et al., 2015). Institutions hold power over minority populations due to their position in society of establishing norms and implementing policies. Many transgender individuals encounter structural stigma due to the pathologization of their identities (Reed et al., 2015; Schilt, 2010; Testa et al., 2012).

Although gender confirmation surgery, hormone replacement therapy, and other modes of intervention have been deemed successful for many transgender individuals (e.g., patient satisfaction, improved quality of life), institutions (e.g., individual health care providers, private insurances) still stigmatize transgender individuals by labeling their medical interventions as “cosmetic” or “medically unnecessary” (Schilt, 2010). The lack of accessibility to medical interventions is due, in part, to stigmatization held by insurance companies and health care institutions, and further compounded due to transgender individuals’ lack of insurance due to high rates of employment discrimination (Bockting et al., 2013, Schilt, 2010).

Interpersonal stigma. Verbal abuse, physical violence, and sexual assault due to one’s gender identity or expression can be labeled as interpersonal stigma (Hughto et al., 2015). Often, transgender individuals who suffer the most from interpersonal stigma are those who are easily “outed” or identified as transgender (Testa et al., 2012). These individuals either have limited access to medical interventions (e.g., due to lack of insurance, lack of support; Hughto et al., 2015), are gender non-conforming and do not intend on conforming to the gender binary, or have transitioned but have had unsuccessful medical intervention (e.g., “botched” surgeries, hormone complications; Hughto et al., 2015). As a result, transgender individuals often experience extensive verbal, physical, and sexual assault (Bockting et al., 2013; Testa et al., 2012). Studies have shown that the prevalence of lifetime physical assault due to one’s transgender identity ranges from 33% to 53% (Hughto et al., 2015; James et al., 2016; Stotzer, 2009; Testa et al., 2012). Transwomen are the most frequently targeted victims of violence, and heterosexual males are the most common perpetrators (Claman, 2009; Hill & Willoughby 2005; James et al., 2016; Nagoshi et al., 2008; Norton & Herek, 2013; Reed et al., 2015; Stotzer, 2009; Tee & Hegarty 2006; Willoughby et al., 2011).

Individual stigma. This stigma encompasses the thoughts people hold about themselves or the beliefs they perceive others to hold about them, often leading to anticipation and avoidance of discrimination (Meyer, 2003; Hughto et al., 2015). Internalization of negative beliefs can impact one’s functioning, leading to anxiety and an anticipation of social rejection, avoidance behavior, lowered self-esteem, and negative coping strategies (e.g., substance abuse, self-harm, suicide attempts; Meyer, 2003; Bockting et al., 2013). When transgender individuals internalize stigma upon exposure to negative portrayals, especially in entertainment (e.g., *Psycho*, *The Silence of the Lambs*, *The Rocky Horror Picture Show*), they may internalize the concept of perceived “mental instability,” diminishing their ability to remain resilient in the face of negative situations (Hughto et al., 2015). Thus, many transgender individuals will seek help from mental health professionals, yet encounters with mental health professionals may not be absent of stigma (Willoughby et al., 2011).

Mental Health Encounters

Prior to the removal of homosexuality from the DSM-III in 1983, activists strongly urged that it was wrong to label certain identity expressions (e.g., sexual orientation, gender identities) as symptoms of a mental disorder (American Psychiatric Association, 1980; Belluardo-Crosby & Lillis, 2012). A similar argument can be made regarding the current status of transgender identities and the DSM-5. Although the present edition lessens the pathology of transgender identities by no longer considering one’s identity a “mental disorder” (i.e., it is now listed as ‘Gender Dysphoria’; APA, 2013), it still insinuates a degree of pathology due to simply being in the DSM (Belluardo-Crosby & Lillis, 2012). However, changes in descriptive language such as replacing “disorder” with “incongruence” (i.e., “A marked incongruence between one’s experienced/expressed gender and assigned gender.” p. 452) reveals the acknowledgement and

sensitivity to the perpetual stigma behind the term “disorder” (APA, 2013). This change in language exemplifies the idea that incongruence between one’s gender assigned at birth and gender identity may not necessarily be pathological if it does not cause the individual distress (APA, 2013). Although controversy surrounds the diagnosis of a condition associated with transgender identities, a formal diagnosis is still required in many states by a mental health professional for insurance reimbursement for medical and surgical intervention (Belluardo-Crosby & Lillis, 2012; Drescher, 2010). Importantly, there is an argument for the retention of Gender Dysphoria, despite its problems, under the presumption that pursuing surgical and/or hormonal intervention is, in fact, a major life decision and may necessitate professional support and guidance.

Since a diagnosis of Gender Dysphoria is often a pre-requisite for receiving surgical and/or hormonal interventions (as recommended by the WPATH standards of care and legally mandated in many states), it is likely that many transgender individuals will seek help from a mental health professional. Grant and colleagues (2010) found that 75% of transgender individuals had sought psychotherapy either currently or in the past, and that an additional 14% indicated that they intend to seek services in the future. Furthermore, Cochran, Reed and Gleason (2017) found that 84% of 77 transgender participants in their study were either currently in therapy or had been in the past. Of those participants, over half had met with a mental health provider as a prerequisite to transition-related services. Unfortunately, there is a dearth of competent providers who are proficient on transgender issues, as many medical schools and other healthcare institutions fail to provide courses on transgender-specific care (Belluardo-Crosby & Lillis, 2012; Coleman et al., 2011). This is highly problematic, as mental health providers, in particular, often hold the role of a “gatekeeper” regarding transgender individuals’

ability to progress with their transition. As a result of many health professionals' lack of awareness, many transgender individuals report instances of mistreatment and stigma in healthcare settings, leading them to possibly postpone or even forgo necessary care (Belluardo-Crosby & Lillis, 2012; Cochran et al., 2017). This experience was reinforced by the results of the 2015 U.S. Transgender Survey, which reported that one-third of participants had at least one negative experience (e.g., verbal harassment, refusal of treatment) in a health care setting, and one-quarter of participants avoided treatment due to fear of experiencing mistreatment as a result of identifying as transgender (James et al., 2016). For now, standards have been developed to mitigate these problems and provide guidance for well-intentioned, but under-informed health care providers. The World Professional Association of Transgender Health's Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7, state:

“The overall goal of the SOC is to provide clinical guidance for health professionals to assist transsexual, transgender, and gender nonconforming people with safe and effective pathways to achieving lasting personal comfort with their gendered selves, in order to maximize their overall health, psychological well-being, and self-fulfillment” (Coleman et al., 2011, p. 1).

Although there has been a noticeable effort to decrease the amount of stigmatization held toward transgender individuals in mental health settings, improving the lives of transgender clients is a goal that is not achievable by following the WPATH standards of care alone. This is especially true given that serious psychological distress within the transgender community is nearly eight times the national average, which only elevates with increased experiences of stigma, prejudice, and discrimination (e.g., loss of employment, physical harassment, sexual assault; James et al.,

2016). Furthermore, the rate of suicide attempts within the transgender community is nearly nine times the attempted suicide rate in the U.S. population (4.6%; James et al., 2016). Critically, it is necessary for mental health professionals, along with society members in general, to seek additional means of exposure to transgender individuals in order to *truly* understand their current and previous history of stigmatization, stereotyping, prejudice, and discrimination. This exposure can largely be accomplished by experiencing contact with transgender individuals or contact with materials that depict or describe transgender identities and/or experiences.

Social Contact Hypothesis

One of the more recent considerations as a factor underlying anti-transgender prejudice is the degree of social contact one has with transgender individuals. Allport (1954) was one of the first to suggest that interactions between differing groups could, under certain conditions, lead to improved attitudes of one another (i.e., decreased prejudices). He asserted that:

“Prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional supports (i.e., by law, custom, or local atmosphere), and if it is the sort that leads to the perception of common interest and common humanity between members of the two groups” (Allport, 1954, p. 281).

This theory has been tested in the context of LGB research, illustrating that prior contact or increased contact with LGB identified individuals is often associated with fewer negative attitudes, stereotypes, and prejudices, under certain conditions (Claman, 2009; Norton & Herek, 2013; Tee & Hegarty 2006; Tompkins et al., 2015). Allport’s social contact hypothesis (1954) suggests a straightforward intervention that may reduce prejudicial beliefs – one that people

potentially engage in daily. If we find evidence that contact with transgender individuals is, in fact, associated with lower levels of prejudice, then utilizing contact as an intervention strategy could, perhaps, mitigate the impact of stigma, stereotyping, prejudices, and discriminatory behaviors in a naturalistic and manner.

Several studies have applied Allport's (1954) social contact hypothesis when researching a wide range of minority groups. This hypothesis was most notably utilized in the context of reducing racial prejudices. For example, Frazier (1949) investigated contact with racial minorities in the context of social relations, particularly those between White and African American individuals. Although the social world in 1949 differed from that of today, Frazier (1949) explored several factors that create barriers for contact to occur (e.g., class, education, culture, socio-economic status) that must be considered if contact can be used as an intervention to reduce prejudice. More recently, West, Hewstone, and Lolliot (2014) investigated if intergroup contact with individuals diagnosed with schizophrenia was associated with a decrease in stigmatization. They found that prior contact was associated with less avoidance, less fear, and less anxiety related to contact with individuals with schizophrenia (West et al., 2014). Given that individuals with schizophrenia are among the most stigmatized persons with psychiatric disorders (West et al., 2014), these findings inevitably give hope that the mental health prejudice toward transgender individuals may also be alleviated through contact. Most like the current study, Yuker and Hurley (1987) investigated how contact with individuals with disabilities may affect attitudes, yet they faced a similar challenge of lacking a psychometrically adequate measurement of contact. Yuker and Hurley (1987) mention that previous studies were limited in their scope of what defined contact (e.g., using single measures, attempting to measure "quality," failing to measure prior contact), which is a unique challenge presented in the current study, as

well. To overcome this obstacle, Yuker and Hurley (1987) created a unidimensional measure called “Contact with Disabled Persons Scale,” and correlated those responses with a previously established “Attitudes Toward Disabled Persons Scale.” Yuker and Hurley (1987) found their results to be quite revealing regarding the effect of contact on stigma; yet, they proposed that a multidimensional measure of contact would be best suited for future research. This proposition prompted the current researchers to investigate the current status of research regarding contact with transgender individuals, and to expand upon it by developing a multidimensional measure of contact.

By extrapolating on previous research with other minority outgroups, several researchers have noted the overlap between research on LGB identities and transgender identities, and thus have tested the social contact hypothesis in the context of contact with transgender individuals. Indeed, increased contact with transgender individuals has been associated with higher levels of awareness of transgender issues and more favorable attitudes, as well as lower likelihoods of social distancing, stigmatization, and discrimination (Case & Stewart, 2013; Claman, 2009; King et al., 2009; Willoughby et al., 2011).

Using Social Contact as an Intervention. The majority of the aforementioned studies utilized experimental paradigms to measure the effect of social contact on anti-transgender prejudice. Case and Stewart (2013) aimed to address the gap in literature regarding interventions that may reduce anti-transgender prejudice by developing a study that assessed “prejudice, myth endorsement, and predicted behaviors toward transsexuals” (p. 144). In doing so, they utilized three conditions: presenting participants with a letter from a transgender individual to his parents, a list of facts about transgender individuals, or a documentary of a college-aged transgender individual, to measure how differential degrees of “contact” may reduce prejudice. Case and

Stewart (2013) predicted that the media intervention would lead to the greatest reduction in anti-transgender prejudices, based on previous research indicating the effectiveness of documentaries depicting sexual minority identities decreasing anti-LGB sentiments. They measured anti-transgender prejudices by adapting Hill and Willoughby's (2005) Genderism and Transphobia Scale into four, shorter, more specific scales particular to their study (e.g., *Transsexual Prejudice Scale*, *Negative Attitudes Toward Transsexuals Scale*, *Beliefs in Myths About Transsexuals Scale*, and *Predicted Discriminatory Behaviors Against Transsexuals Scale*; Case & Stewart, 2013). Although no intervention was more effective than another at decreasing anti-transgender prejudices, negative attitudes and beliefs in transgender myths significantly decreased from pretest to posttest within each intervention condition (Case & Stewart, 2013).

Similarly, Tompkins and colleagues (2015) utilized a "humanizing condition" and an "education-only condition" to extrapolate on the differences between "contact" and the absence of it in regards to measurement of anti-transgender prejudice. The novel component to their study is that they utilized a perspective-taking task as one of their dependent measures (e.g., writing a fictional coming out letter) in order for participants to assume the views and feelings of transgender individuals, which was intended to increase empathy and decrease prejudice (Tompkins et al., 2015). Participants in the "humanizing condition" evidenced less anti-transgender prejudice at posttest and exhibited an increased desire for social contact with transgender individuals compared to the "education-only condition" (Tompkins et al., 2015). Although these studies can lead to development of interventions that can reduce stigma, stereotyping, prejudice, and discrimination toward transgender individuals, they do not include "equal status contact between majority and minority groups in the pursuit of a common goal" (Allport, 1954, p. 281), a foundational requirement of the social contact hypothesis. Studies by

Tompkins and colleagues (2015) and Case and Stewart (2013) shed important light on the influence of contact on decreasing anti-transgender prejudice, both regarding personal contact (e.g., “humanizing condition,” “letter writing condition”) and contact with educational material (e.g., “education-only condition,” “list of facts,” or “documentary”). Yet, it is critical to consider how current and historical *real-world contact* with transgender individuals can influence anti-transgender prejudices, especially when considering the aforementioned condition that needs to be met regarding the social contact hypothesis.

Walch and colleagues (2012) found results to uphold the conditions of the social contact hypothesis by measuring prejudice reduction after participants heard a transgender individual speak as a part of a panel presentation. They found significant reductions in anti-transgender prejudices following a panel of transgender presenters compared to a traditional lecture on transphobia (Walch et al., 2012). This is important, as it specifically highlights the influence personal contact can have on anti-transgender prejudice. Although these studies have consistent findings and contribute to the body of literature relative to transgender experiences, they do not identify the extent to which contact must be experienced to reduce anti-transgender prejudice, nor do they dig deeper into the nature of the contact needed in order for it to predictably mitigate anti-transgender prejudice. Furthermore, the study conducted by Walch and colleagues (2012) arguably did completely fulfill the “equal status contact” criteria of the social contact hypothesis (Allport, 1954, p. 281) given that it was an experimental design. The gap in the literature is a specific consideration of how contact in individuals’ daily lives, as opposed to experimental settings, influence anti-transgender prejudice. Gaining a lens into a more “realistic” measure of contact may have profound implications on developing real-world intervention strategies to reduce the amount of prejudice toward transgender individuals.

Present Study and Hypotheses

In the present study, an online survey developed in Qualtrics was used to measure the different degrees of contact with transgender individuals an individual may have experienced over time, and individual levels of anti-transgender prejudice. Based on previous findings, several hypotheses were tested. First, in accordance with Allport's (1954) social contact hypothesis, it was hypothesized that previous social (i.e., personal) contact with transgender-identified individuals would be associated with the lowest levels of anti-transgender prejudices. Second, it was hypothesized that differences in reports of contact across all categories would be associated with differences in anti-transgender prejudices. Third, it was hypothesized that heterosexual, cisgender men would have higher levels of anti-transgender prejudice when compared to heterosexual, cisgender women.

Methods

Participants

Undergraduates at a Rocky Mountain West public university participated for extra credit in their psychology courses. The study was approved through the sponsoring university's Institutional Review Board. Participants were ineligible for the study if they were under the age of 18. Participants were asked to provide general demographic information, including: age, sex, gender identity, sexual orientation, relationship status, race/ethnicity, education level, parental status, religiosity, political affiliation, and the size of city in which they were born (Appendix B).

Sample Size Estimates

Since this area of research is relatively new, there are few estimates of effect sizes to compare. Thus, we anticipated a small effect size for each hypothesis in utilizing a two-tailed fixed-model with a linear multiple regression. The majority of this research was exploratory,

given that an established measure of contact does not exist in this context. Therefore, the amount of predictors that comprised each category was an approximation (e.g., the measure of personal contact has over 20 questions that were “collapsed” into only a summation score to use as a predictor). For utilizing the factor of personal contact as a predictor of anti-transgender prejudice, we estimated a small effect size of 0.15 with the alpha level of 0.05, a power estimate of 0.8, which required an $n = 92$. For utilizing the predictor of contact in general, which was comprised of three different factors (e.g., personal contact, educational contact, and general media contact; each of which, too, “collapsed” into more precise predictors), we maintained the estimate of an effect size of 0.15 with a conservative alpha level of 0.05, and a power estimation of 0.8, which required an $n = 139$. For utilizing the factor of different genders (men versus women) as a predictor of anti-transgender prejudice, we estimated the same conservative effect size of 0.15 with the same conservative alpha level of 0.05, and the same power estimation of 0.8, which required an $n = 68$. Overall, to support all hypotheses, it was a conservative estimate to need a sample size of at least $n = 139$. Based on these projections, a sufficient sample size was obtained for each tested hypothesis.

Procedure

Participants were primarily recruited via a Rocky Mountain West psychology department’s SONA participant pool, along with those who were recruited via a link that was disseminated to additional instructors. Participants received one course credit for their participation. Upon opening the link to the Qualtrics survey, participants were prompted to provide their consent to participate in the study (Appendix A). After completing a demographic questionnaire (Appendix B), consenting participants read general instructions (Appendix C) and began the survey. Prior to beginning measures and as a part of the general instructions,

participants read a definition of what it means to be transgender: “Transgender is often described as an umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with the sex they were assigned at birth. In other words, transgender individuals are recognized as those who were born one way, but identify in a different way. Please respond to each of the following questions with this definition of transgender identities in mind.” This was intended to maintain consistency in the respondents’ knowledge of/exposure to what it means to be transgender as they approached the measures.

The survey was composed of different blocks of questions that represented different conceptualizations of contact. The first block queried about instances of personal contact (Appendix D), which was defined as including relationships, direct conversations, and interactions with a transgender identified individual. This block was intended to gain insight into the degree of personal, meaningful contact related to transgender identity types and ways personal contact can occur, in general. The second block queried about instances of contact with educational material (Appendix E). This was defined as including textbooks, panels, lectures/presentations, documentaries, and research articles that describe transgender identities and/or experiences. This block was intended to gain insight into the degree of contact through educational media. The third block queried about instances of contact with general media (Appendix F). This was defined as including television shows, movies, magazines, social media, and internet content that describe transgender identities and/or experiences. This block was intended to gain insight into the degree of contact through general media or other related outlets.

Following the blocks measuring degrees of contact, participants completed the Genderism and Transphobia Scale (Hill & Willoughby, 2005; Appendix G). After completing all measures, respondents read a debriefing statement (Appendix H) and the survey closed.

Measures

Established Scale of Anti-Transgender Prejudice. Hill and Willoughby (2005) were among the first to describe anti-transgender prejudice as comprising of three distinct constructs: transphobia, genderism, and gender-bashing. They defined transphobia as an emotional disgust toward individuals who do not conform to society's expectations regarding gender. Genderism was defined as an ideology that expects conformity to societal gender expectations and pathologizes those persons who do not conform. Lastly, Hill and Willoughby (2005) conceptualized gender-bashing as the physical and verbal assault and harassment of those who do not conform to societal gender expectations.

The Genderism and Transphobia Scale (GTS; Hill & Willoughby, 2005) was used to measure attitudes toward transgender individuals. This scale includes 32 items that compose two factors. The transphobia/genderism factor consists of 25 items, and the gender-bashing factor consists of seven items. Items are rated on a 7-point Likert scale, with responses ranging from "strongly agree" to "strongly disagree." An example of an item measuring the transphobia/genderism factor is, "If I found out that my best friend was changing their sex, I would freak out." An example of an item measuring the gender-bashing factor is, "I have teased a man because of his feminine appearance or behavior." Scores were computed by calculating participants' average response across all 32 items on the Likert scale (1 = "strongly agree," 7 = "strongly disagree"), with consideration of four reverse coded items (e.g., numbers 5, 8, 23, and 26). Lower average ratings on the GTS indicate higher levels of transphobia (anti-transgender prejudice), genderism, and gender-bashing. Investigations of the reliability of the GTS have revealed a high internal consistency reliability estimates, with an overall coefficient alpha ranging from 0.88 to 0.96, and high alphas for each of the subscales (ranging from 0.79 to 0.95

for the transphobia/genderism subscale, and 0.77 to 0.87 for the gender-bashing subscale; Gerhardstein & Anderson, 2010; Hill & Willoughby, 2005; Walch, et al., 2012). For the current study, the overall coefficient alpha for this measure was 0.96, the transphobia/genderism subscale was 0.96, and the gender-bashing subscale was 0.75.

Degree of Contact. As mentioned above, the goal of this study was to consider a multidimensional approach when measuring previous and current contact with transgender individuals. Due to the increasing media coverage related to transgender issues, it was important to measure the various ways in which people are exposed to these identities, which, of course, includes both direct (e.g., personal contact) and indirect contact (e.g., educational and general media contact). Therefore, contact in the context of this study was considered to be personal contact with transgender individuals and contact with educational and general media that depict or describe transgender identities and/or experiences. The items that compose the current survey were developed after extensively reviewing existing literature (e.g., contact with individuals with disabilities and racial, sexual, or gender minorities), and discussing the definition of contact with various other researchers. This process sought to exhaust all possible iterations of contact that are plausible with regards to participants' contact with transgender individuals or information regarding their identities and/or experiences. Each block contained an overall "screener" question (i.e., "Have you had personal contact with a transgender identified individual?" "Have you had contact with educational materials that describe transgender identities and/or experiences?" or "Have you had contact with general media outlets that describe transgender identities and/or experiences?"). Participants who indicated that they have had contact were further invited to elaborate upon their degree of contact. Participants who responded "no" to any block of contact were directed to the next portion of the survey.

Quantitative measures of personal contact were initially computed by re-coding this variable from three categories (e.g., “yes,” “no,” and “not to my knowledge”) to two categories (e.g., “yes” versus “no” or “not to my knowledge”). The “not to my knowledge” response was unique for the personal contact block, and was added for future analyses to investigate participants’ awareness that personal contact with transgender individuals may not always be evident; that is, it is possible that people who endorsed a “not to my knowledge” response may have an understanding that one’s gender identity is not always evident at the surface level. As a result, “yes” responses were dummy coded as ‘1,’ and “no” or “not to my knowledge” responses were dummy coded as ‘0.’

Participants who endorsed personal contact were given one point per question, and these were added to create the overall value for personal contact. Two different measures of personal contact emerged from this process, with one value quantifying participants’ overall contact with different transgender identities (e.g., transgender male, genderqueer), and another value quantifying participants’ overall contact with different types of personal contact (e.g., immediate family member, close friend). Analyses for this study focused on the variable measuring contact with different transgender identities. Similarly, quantitative measures of educational and general media contact were computed by giving one point per question for participants who endorsed educational or general media contact, each respectively (also dummy coded for “yes” responses equaling ‘1’ and “no” responses equaling ‘0’).

Results

Descriptive Data for Study Measures

For this sample, participants ($N = 347$) ranged in age from 18 to 72 years old ($M = 21.8$, $SD = 6.8$). Participants primarily identified within a binary version of sex assigned at birth (247 females [71.2%] and 100 males [28.8%]), but varied across different gender identities (244 females [70.3%], 95 males [27.4%], 3 transgender females [0.9%], 2 genderqueer individuals [0.6%], 1 Two-Spirit individual [0.3%], 1 other identified individual [0.3%], and 1 no response [0.3%]). The majority of participants identified as straight ($N = 311$ [89.6%]), but other sexual orientations were endorsed (24 identifying as bisexual [6.9%], 4 identifying as pansexual [1.2%], 3 identifying as gay [0.9%], 3 identifying as lesbian [0.9%], and 2 identifying as asexual [0.6%]).

Additionally, a majority of participants identified their race/ethnicity as White ($N = 281$ [81%]), with other identifications endorsed as well (20 identifying as Hispanic/Latino(a) [5.8%], 10 identifying as American Indian or Alaska Native [2.9%], 8 identifying as Asian [2.3%], 3 identifying as Black or African American [0.9%], 24 identifying as “other” [6.9%], and 1 with no response [0.3%]).

Participants ranged in their endorsement of considering themselves to be a religious person (89 said yes [25.6%], 134 said no [38.6%], and 124 said somewhat [35.7%]), with a variety of religious affiliations endorsed among those who considered themselves to be religious or somewhat religious (144 practicing Christianity [67.6%], 44 practicing Catholicism [20.7%], 5 practicing Buddhism [2.3%], 2 identifying as Agnostic [0.9%], 1 practicing Islam [0.5%], 17 practicing “other” [8.0%]). Furthermore, participants identified with varying political affiliations (60 Republicans [17.3%], 55 Democrats [15.9%], 30 Independents [8.6%], 14 Libertarians

[4.0%], 46 with no party affiliation [13.3%], 6 identifying with “other” [1.7%], and 136 with no response [39.2%]).

Lastly, participants reported various levels of schooling experience (192 with some college [55.3%], 130 with a high school diploma or equivalent [37.5%], 14 with an Associate’s degree or certificate [4.0%], 10 with a Bachelor’s degree [2.9%], and 1 with a Master’s degree [0.3%]). See Table 1 for a further breakdown of the demographic characteristics of the sample.

Measures of Contact

Results revealed that participants most frequently endorsed contact with general media outlets that describe transgender identities and/or experiences (n = 313 [90.2%]), followed by personal contact with transgender identified individuals (n = 210 [60.5%]), and educational materials that describe transgender identities and/or experiences (n = 174 [50.1%]).

Personal Contact. Participants were asked to respond to personal contact inquiries with a three-category response option (e.g., “yes,” “no,” or “not to my knowledge”). Indication of contact versus no contact was recoded to a binary response of “yes” versus “no” or “not to my knowledge” for the analyses run in this study. For those who responded with “yes” within the personal contact block (n = 210 [60.5%]), amount of contact was measured by contact with “identity types,” including: transwoman or male-to-female individual (n = 155 [52.9%]), transman or female-to-male individual (n = 130 [44.4%]), drag king and/or queen (n = 127 [43.3%]), gender non-conforming individual (n = 115 [39.2%]), genderqueer individual (n = 93 [31.7%]), and Two-Spirit individual (n = 21 [7.2%]), as well as “relationship types,” including: classmate (n = 121 [41.3%]), co-worker (n = 67 [22.9%]), close friend (n = 59 [20.1%]), professor (n = 25 [8.5%]), extended family member (n = 22 [7.5%]), teammate (n = 18 [6.1%]), roommate/housemate (n = 9 [3.1%]), and immediate family member (n = 6 [2.0%]).

Scores for those who endorsed personal contact with different identities ranged from 0 to 6 points ($M = 2.19$; $SD = 1.56$), and scores for contact with different types of personal contact ranged from 0 to 6 points ($M = 1.12$; $SD = 1.22$). See Table 2.1 for a further breakdown of the frequencies of personal contact. Furthermore, see Table 3.1 and 3.2 for further details regarding the means, ranges, and standard deviations of the measures of contact and prejudice used in this study.

Educational Contact. Participants were asked to respond to contact with educational materials that describe transgender identities and/or experiences with a two-category response option (e.g., “yes” or “no”). For those who responded “yes” within the educational contact block ($n = 174$ [50.1%]), amount of contact was measured by contact with different educational-based materials, including: news story or news article ($n = 137$ [78.7%]), class lecture ($n = 95$ [54.6%]), documentary ($n = 92$ [52.9%]), research article ($n = 83$ [47.7%]), textbook ($n = 82$ [47.1%]), presentations ($n = 80$ [46.0%]), non-fiction book ($n = 47$ [27.0%]), and panel ($n = 20$ [11.5%]). Scores for contact with educational material ranged from 0 to 9 points ($M = 4.66$; $SD = 1.48$). See Table 2.2 for a further breakdown of the frequencies of educational contact.

General Media Contact. Participants were asked to respond to contact with general media materials that describe transgender identities and/or experiences with a two-category response option (e.g., “yes” or “no”). For those who responded to “yes” within the general media contact block ($n = 313$ [90.2%]), amount of contact was measured by contact with different general media-based materials, including: television show ($n = 243$ [77.6%]), movie ($n = 200$ [63.9%]), magazine ($n = 149$ [47.8%]), song or music video ($n = 126$ [40.3%]), advertisement ($n = 102$ [32.7%]), fictional book ($n = 50$ [16.0%]), play and/or performance ($n = 45$ [14.4%]), comic ($n = 19$ [6.1%]), and video game ($n = 15$ [4.8%]). Scores for contact with

general media outlets ranged from 0 to 8 points ($M = 3.03$; $SD = 1.68$). See Table 2.3 for a further breakdown of the frequencies of general media contact.

Correlations Between Measures of Contact. Overall, there were several significant correlations found between items within each measure of contact. All items measuring personal contact with different transgender identities (e.g., transgender male, genderqueer) were significantly correlated with one another (*Pearson's r* range: 0.259 - 0.469, $p < .001$). Additionally, all items measuring contact with different types of personal contact (e.g., immediate family member, close friend) were significantly correlated with one another (*Pearson's r* range: 0.205 - 0.447, $p < .001$), with the exception of contact with an immediate family member and contact with a classmate. Several items measuring contact with educational materials (*Pearson's r* range: -0.169 - 0.309, $p < .05 - .001$) or general media outlets (*Pearson's r* range: 0.120 - 0.381, $p < .05 - .001$) that depict or describe transgender identities and/or experiences were significantly correlated.

Additionally, there were several significant correlations found between the different measures of contact. The strongest correlation was found between personal contact with different transgender identities and different types of personal contact, where *Pearson's r* = 0.402, $p < .001$. Furthermore, there was a significant correlation between contact with educational materials that depict or describe transgender identities and/or experiences and general media outlets that depict or describe transgender identities and/or experiences, where *Pearson's r* = 0.253, $p < .001$, as well as a significant correlation with personal contact with different transgender identities, where *Pearson's r* = 0.176, $p < .05$. Given that these measures of contact are novel in their development and are intimately related, it was anticipated that there may be several significant correlations among them.

Measure of Prejudice

Genderism and Transphobia Scale. Participant's average rating ($N = 347$) on the total 32-item GTS ranged from 2.41 to 7.0, with lower average ratings indicating more negative attitudes toward transgender persons. The average rating overall was 5.84, and the standard deviation was 0.97. The average rating for those who have had personal contact was 6.14, and the standard deviation was 0.82. The average rating for those who have had contact with educational materials was 6.01, and the standard deviation was 0.92. Lastly, the average rating for those who have had contact with general media outlets was 5.90, and the standard deviation was 0.96.

Test of Hypotheses

Hypothesis 1. It was first hypothesized, in accordance with Allport's (1954) social contact hypothesis, that personal contact with transgender-identified individuals would be associated with the lowest levels of anti-transgender prejudices. Independent-sample t-tests comparing means for the dependent variable of anti-transgender prejudice by personal contact revealed significant differences. The participants with no personal contact, when compared to participants with personal contact, exhibited a significantly lower average rating (i.e., low average ratings indicate more prejudice) on the Genderism and Transphobia Scale (GTS), $t(345) = -7.675, p < .001$. Calculations of effect size revealed a large effect, $d = 0.82$. This result was more statistically significant and exhibited a stronger effect size compared to other modes of contact, which fully supports the first hypothesis.

To provide more specific evidence in support of the first hypothesis, a simple linear regression was calculated to predict levels of anti-transgender prejudice (measured by GTS) based upon amount of personal contact with different transgender identity types. A significant

regression equation was found, $F(1, 345) = 89.092, p < .001$, with an R^2 of 0.205. Overall, participants' level of anti-transgender prejudice was significantly associated with each additional report of personal contact. In other words, each time a participant reported an additional personal contact with a transgender identity type (e.g., transman, Two-Spirit), their ratings on the GTS increased (i.e., higher ratings indicate more favorable attitudes), on average, 0.267 points (see Table 4). This specific measure of decrease in levels of anti-transgender prejudice was the strongest compared to the impact of other modes of contact, which, indeed, provided further support for the first hypothesis.

Hypothesis 2. It was secondly hypothesized that differences in reports of contact across all categories would be associated with differences in anti-transgender prejudices. Initially, independent-sample t-tests comparing means for the dependent variable of anti-transgender prejudice by contact type revealed significant differences for contact with educational and general media outlets, in addition to personal contact. Participants with no contact with educational materials, when compared to participants with contact with educational materials, also revealed a significantly lower average rating on the GTS, $t(345) = -3.248, p = .001$. Calculations of effect size revealed a small-medium effect, $d = 0.35$. Additionally, the participants with no contact with general media outlets, when compared to participants with such contact, also evidenced a significantly lower average rating on the GTS, $t(345) = -3.359, p = .001$. Calculations of effect size revealed a medium-large effect, $d = 0.63$.

Subsequent simple linear regressions were calculated to predict levels of anti-transgender prejudice based upon amount of contact with educational materials and general media outlets that depict or describe transgender identities and/or experiences. A significant regression equation was found for contact with educational materials, $F(1, 345) = 19.574, p < .001$, with an

R^2 of 0.054. Overall, participants' level of anti-transgender prejudice was significantly associated with each additional report of educational contact. In other words, with each additional contact with educational materials that depict or describe transgender identities and/or experiences, their ratings on the GTS increased, on average, 0.088 points.

Lastly, an additional significant regression equation was found for contact with general media outlets, $F(1, 345) = 16.798, p < .001$, with an R^2 of 0.046. Overall, participants' level of anti-transgender prejudice was significantly associated with each additional report of general media contact. In other words, each time a participant reported an additional contact with general media outlets that depict or describe transgender identities and/or experiences, their ratings on the GTS increased, on average, 0.114 points.

To further assess the degree to which the independent variables of personal contact, contact with educational materials, and contact with general media outlets differentially predicted levels of prejudice toward transgender individuals, three separate hierarchical multiple regression analyses were performed. These analyses were conducted using the total contact scores (i.e., the summation score for each measure of contact) for each of the predictor variables.

For each analysis, demographic variables (i.e., sex assigned at birth, gender identity, and sexual orientation) were entered at Step 1 of the hierarchical multiple regression. These demographic variables were chosen, in part, to isolate the influence of the contact on anti-transgender prejudice, but to also consider the assumptions of the third hypothesis that certain demographic variables may concurrently predict levels of anti-transgender prejudice.

Altogether, this order of entry was chosen in order to determine the predictive value of each contact variable beyond that of the demographic variables. Moreover, it was assumed that the predictor variables (i.e., contact) would account for the largest proportion of variance in

prejudice toward transgender individuals. The different types of contact were entered at Step 2 in three separate analyses. To control for experiment-wise error, a Bonferroni correction was employed afterward, and an alpha of $p < .017$ ($.05/3$) was used to detect a statistically significant regression result.

Personal contact. It was found that Step 1 of the hierarchical multiple regression equation for prejudice toward transgender individuals was significant, $F(3, 342) = 34.941$, $p < .001$, with an R^2 of 0.235 for select demographic variables. These findings indicated that together these variables accounted for 23.5% of the variance in prejudice toward transgender individuals, meaning that a significant amount of the variability in participants' prejudice toward transgender individuals is related to their sex assigned at birth, gender identity, and sexual orientation.

When the personal contact score was entered at Step 2 of the hierarchical multiple regression equation, the result was significant, $F(4, 341) = 48.264$, $p < .001$ with an R^2 of 0.361 for the addition of personal contact. Therefore, personal contact was a significant predictor of prejudice toward transgender individuals, accounting for an additional 12.7% of the variance in prejudice beyond the variance accounted for by select demographic variables (ΔR^2 of $Step\ 2_{Personal\ Contact} = 0.127$; see Table 5.1). In other words, increasing levels of personal contact predicted higher average ratings on the GTS. This finding additionally supports the first hypothesis that personal contact has the most profound effect on levels of anti-transgender prejudice. After applying a Bonferroni correction ($p < .017$, accounting for tests across three dependent variables), results remained significant at $p < .001$.

Educational contact. Next, it was found that Step 1 of the hierarchical multiple regression equation for prejudice toward transgender individuals was the same as the equation in

Step 1 of personal contact, as each hierarchical multiple regression was run including the total sample ($N = 347$). When the educational contact score was entered at Step 2 of the hierarchical multiple regression equation, the result was significant, $F(4, 341) = 31.951, p = .001$, with an R^2 of 0.273 for the addition of educational contact. Therefore, educational contact was a significant predictor of prejudice toward transgender individuals, accounting for an additional 3.8% of the variance in prejudice beyond the variance accounted for by select demographic variables (ΔR^2 of $Step\ 2_{Educational\ Contact} = 0.038$; see Table 5.2). In other words, increasing levels of educational contact predicted higher average ratings on the GTS. After applying a Bonferroni correction ($p < .017$), results remained significant at $p < .001$.

General media contact. Lastly, as mentioned above, Step 1 of the third hierarchical multiple regression equation remained the same for the previous analyses. When the general media contact score was entered at Step 2 of the hierarchical multiple regression equation, the result was significant, $F(4, 341) = 29.715, p = .001$, with an R^2 of 0.258 for the addition of general media contact. Therefore, general media contact was a significant predictor of prejudice toward transgender individuals, accounting for an additional 2.4% of the variance in prejudice beyond the variance accounted for by select demographic variables (ΔR^2 of $Step\ 2_{General\ Media\ Contact} = 0.024$; see Table 5.3). In other words, increasing levels of general media contact predicted higher average ratings on the GTS. After applying a Bonferroni correction ($p < .017$), results remained significant at $p = .004$. Altogether, these analyses provide substantial support for the second hypothesis, that as reports of contact increase, generally, anti-transgender prejudice is likely to decrease.

Hypothesis 3. It was lastly hypothesized that heterosexual, cisgender men would have higher levels of anti-transgender prejudice when compared to heterosexual, cisgender women.

The individual variables measuring sex assigned at birth, gender identity, and sexual orientation were collapsed into a single variable and re-coded as “heterosexual cisgender men” to be ‘1’ and “heterosexual cisgender women” to be ‘2.’ Heterosexual, cisgender men (N = 88) exhibited an average rating of 5.09, and heterosexual, cisgender female (N = 217) exhibited an average rating of 6.04 on the Genderism and Transphobia Scale. Independent sample t-tests comparing means for the dependent variable of anti-transgender prejudice by participant identification (i.e., heterosexual, cisgender men versus women) revealed significant differences. The participants who identified as heterosexual, cisgender males, when compared to participants who identified as heterosexual, cisgender females, revealed significantly lower average ratings (i.e., low average ratings indicate more prejudice) on the GTS, $t(303) = 8.613, p < .001$. This result supports the third hypothesis.

Discussion

General Discussion

The purpose of this study was to investigate how different types of contact are associated with varying levels of anti-transgender prejudice. Research demonstrates that anti-transgender prejudices are highly detrimental to the social, emotional, and occupational aspects of transgender individuals’ lives. To this end, the study tested and supported three hypotheses that examined the relationship between contact with transgender-identified individuals or materials that depict or describe transgender identities and/or experiences, and levels of anti-transgender prejudice. Indeed, results found that contact with transgender individuals has an important association with anti-transgender prejudices.

Hypothesis 1. The first hypothesis proposed that previous personal contact with transgender-identified individuals would be associated with the lowest levels of anti-transgender

prejudices, as suggested by the Social Contact Hypothesis (Allport, 1954). In support of this hypothesis, it was found that personal contact had a relationship with changes in anti-transgender prejudice that was significant beyond that of any other type of contact measured in the current study.

Importantly, results from the regression analysis provided insight into the specific impact *one* personal contact generally has on anti-transgender prejudice. In other words, for each additional report of experiencing personal contact with a transgender-identified individual, the participants' average rating on the GTS improved significantly, indicating a decrease in anti-transgender prejudice. Importantly, personal contact was found to be the most impactful mode of contact regarding its relationship with anti-transgender prejudice. This result falls in line with previous research (e.g., Frazier, 1949; West et al., 2014; Yuker & Hurley, 1987), but extends the findings by considering “real-world” contact, as opposed to other studies that used experimental paradigms to create “contact” scenarios (Case & Stewart, 2013; Tompkins et al., 2015; Walch et al., 2012). As a result, it is possible that the current study more adequately considers the conditions of Allport's (1954) social contact hypothesis, especially that of equal-status interaction between minority and majority group individuals. Although the current study may not be able to fully assert that all personal interactions reported by participants were of “equal-status,” it is argued that interactions in a more naturalistic setting are often egalitarian when they are independently pursued, especially when comparing this to contact created in experimental studies.

Second Hypothesis. The second hypothesis proposed that differences in reports of contact across all categories would be associated with differences in anti-transgender prejudices. In support of this hypothesis, it was found that as reports of contact across all categories, on

average, increased, measures of anti-transgender prejudice, on average, decreased. In other words, for each additional report of experiencing personal contact with an individual who identifies as transgender, or contact with educational or general media materials that depict or describe transgender identities and/or experiences, the participants' average rating on the GTS significantly increased, indicating an overall decrease in anti-transgender prejudice. This finding supports previous research by highlighting the nuances in which "contact," in a broad sense, can impact the amount of prejudice an individual holds (Case & Stewart, 2013; Frazier, 1949; Tompkins et al., 2015; Walch et al., 2012; West et al., 2014; Yunker & Hurley, 1987).

This finding also extends the support of a critical component of the social contact hypothesis, which states, "The effect is greatly enhanced if this contact is sanctioned by institutional supports" (Allport, 1954, p. 281). The results of the current study support this key condition, as the participants' levels of anti-transgender prejudice were shown to be related to their contact with materials often supported by large institutions (e.g., textbooks, news stories, documentaries, television networks). Transgender-inclusive materials have been increasingly making their way into educational curriculum, ranging from children's books representing gender variability (e.g., *Stacey's Not a Girl*; Keo-Meier, 2017) to texts specifically educating clinicians on working with transgender individuals (e.g., *Adult Transgender Care: An Interdisciplinary Approach to Training Mental Health Professionals*; Shipherd & Kauth, 2017). Additionally, similar materials have made their way into general media outlets, including "Transgender 101" documentaries (e.g., National Geographic's *Gender Revolution*, 2017), and television shows representing the lives of transgender individuals (e.g., *Transparent*; Soloway, 2014). Given that results reported in previous literature and results from the current study reveal the impact contact with such materials could have on anti-transgender prejudice, it is important

for institutions to continue supporting the development and dissemination of materials that positively represent transgender individuals. The contact experienced through these mediums, along with personal contact, has the potential to facilitate improved levels of awareness of transgender issues and more favorable attitudes, as well as lower likelihoods of social distancing, stigmatization, and discrimination (Case & Stewart, 2013; Claman, 2009; King, Winter, & Webster, 2009; Willoughby et al., 2011).

Third Hypothesis. It was last hypothesized that heterosexual, cisgender men would have higher levels of anti-transgender prejudice when compared to heterosexual, cisgender women. In support of the third hypothesis, it was found that heterosexual, cisgender men did, indeed, manifest higher degrees of anti-transgender prejudice compared to heterosexual, cisgender women. This result falls in line with previous research on prejudices toward gender and sexual minority individuals, at large. Historically, research has suggested that attitudes toward transgender individuals are significantly more negative than attitudes toward sexual minorities (Hughto, Reisner, & Pachankis, 2015; Norton & Herek, 2013). As a result, the current results are not surprising, as research has reported that heterosexual men uphold greater amounts of prejudice toward sexual and gender minorities than heterosexual women (Case & Stewart, 2013; Claman, 2009; Hill and Willoughby 2005; Nagoshi et al., 2008; Norton & Herek, 2013; Reed, Franks, Scherr, 2015; Tee and Hegarty 2006; Tompkins, Shields, Hillman, & White, 2015; Willoughby et al., 2011). These heightened levels of prejudice have been hypothesized to be a result of investment in the gender binary, an assertion of their own masculinity and heteronormative values (Hill & Willoughby 2005; Norton & Herek, 2013; Tee and Hegarty 2006), or perhaps less exposure to transgender individuals across different domains of contact (Case & Stewart, 2013; Tompkins et al., 2015; Walch et al., 2012). The results of this study

reinforce the notion that not only is contact important for decreasing prejudices, but that specific attention should be given to educating society members on the continuum of gender identities, the diversity of gender expression, the difference between gender identity and sexual orientation, and other concepts that would help improve the overall acceptance of transgender individuals. In addition to the results of different attitudes across participant gender identity, sex assigned at birth, and sexual orientation, hierarchical multiple regression analyses revealed that, when controlling for these demographic variables, contact across all categories still accounted for a significant amount of variability in levels of anti-transgender prejudices. This finding suggests that increasing the opportunities for contact across any and all realms may provide a profound overarching impact on levels of prejudice above and beyond that of demographic differences. Promoting awareness of transgender identities may challenge long-held cultural notions of gender identity, and may broaden the horizon of individuals who have historically been invested in upholding the binary.

Implications

As noted above, previous studies employed experimental paradigms to measure the degree to which social contact may mitigate the effects of anti-transgender prejudice (Case & Stewart, 2013; Claman, 2009; King, Winter, & Webster, 2009; Willoughby et al., 2011). Although these studies have contributed to the knowledge base, they have been limited because they did not explore the nature of contact outside of hypothetical scenarios (see Walch and colleagues, 2012, for an exception). In order to advance the literature, the current study examined the effects of different types and degrees of contact, including personal contact (e.g., acquaintance, friend, family member, etc.), educational contact (e.g., textbooks, panels, documentaries, etc.), and general media contact (e.g., movies, television shows, social media,

etc.) to draw parallels between levels of anti-transgender prejudice as they relate to different types and degrees of previous and current “real-world” contact. Since this study undertook a new perspective by expanding the understanding of contact beyond experimental paradigms, it provides the potential to guide researchers’ attention toward specific instances of contact that may be overlooked in experimental paradigms. Thus, this study has the unique potential to help develop and guide specific intervention strategies aimed toward reducing anti-transgender prejudice in day-to-day contexts, such as creating safe environments for transgender individuals to disclose and discuss their identities, as well as pushing for an increase in representation of transgender identities and/or experiences in educational and general media materials.

For example, contact via independently reading *Adult Transgender Care: An Interdisciplinary Approach to Training Mental Health Professionals* (Shipherd & Kauth, 2017) has the ability to educate a clinician on checking their biases and authority as a “gatekeeper,” and aid them in facilitating a healthy transition process for their transgender client. Additionally, contact via reading *Stacey’s Not a Girl* (Keo-Meier, 2017) to a classroom has the ability to broaden a child’s perception of gender at an early age, which may foster a greater degree of acceptance and sensitivity of gender diversity. Furthermore, holding a viewing of National Geographic’s *Gender Revolution* (2017) to an audience of community members or health care providers holds the potential to facilitate a healthy and engaging conversation of current issues transgender individuals may be facing locally. Lastly, tuning in to shows such as *Transparent* (Soloway, 2014) may be an accessible way to for individuals to gain contact in the comfort of their own homes. Each of these specific intervention examples has the potential to significantly impact anti-transgender prejudices, and they may have the additional effect of creating a safe

culture that could invite transgender-identified individuals to be increasingly visible by sharing their story and inevitably providing more opportunities for personal contact.

Limitations and Future Directions

The present study has some notable limitations. The demographic composition of the present sample consisted of undergraduate students who primarily exhibited majority identities. Future research should consider including individuals from a diverse range of backgrounds, ethnicities, races, and genders to extrapolate on the differential experiences of contact relative to each unique demographic. Additionally, future research should simultaneously examine other minority characteristics (e.g., race) that may intersect with transgender identity to see how such intersecting identities influence contact experiences.

The survey intended to measure a dynamic range of contact in multiple different domains of life. Although results yielded significant differences across all types of contact, there were several limitations found within this measure. First, it is important to note that all measures of contact relied on self-report, and may not represent accurate realities. This is especially true in the measure of personal contact, whereas several participants responded “not to my knowledge,” which was added for future analyses. Although the intention of this option was to measure participants’ sensitivities to the nuances of transgender identities and the potential lack of awareness of times one may interact with a transgender individual, it may have been interpreted differently by each participant. Regardless, results revealed a significant impact for those who solely responded “yes” to the personal contact block, but future studies should consider if they want to include this response option, and if so, how they handle it in analyses. Furthermore, when computing the overarching “contact score” used as a predictor variable for anti-transgender prejudice, there was no differentiation between contacts that may be more emotionally salient

than others. Future research should consider replicating this measure of contact to establish its validity and reliability, while further analyzing the emotional content of different types of contact. This could be achieved by monitoring the correlations within the measures and collapsing certain measures of contact that overlap in content. Although, it is noteworthy that the overall contact score was calculated by adding each single report of contact (e.g., questions across all contact were recoded to discrete responses of “yes” versus “no,” as opposed to continuous measures within each question, such as “estimate the amount of contact you have had”), thus resulting in an arguably conservative measure of the amount of contact each participant had experienced.

Since the contact measure was being piloted, they naturally lack established validity and reliability. Researchers following this line of research should consider improving this measure by collaborating with additional professionals on the operationalization of “contact,” and consider further development prior to subsequent administration of them. Lastly, this study is cross-sectional by nature, and generalizability of the results is limited. Subsequent research should consider a longitudinal approach to measure the direct impact contact may have on anti-transgender prejudices over time.

Despite these limitations, the current researchers maintain that this research will further the understanding of anti-transgender prejudice and demonstrate the importance of contact for prejudice reduction. Such a study, alongside experimental studies of contact and exposure, may afford more insight into direct interventions that could reduce anti-transgender prejudices in a straightforward, naturalistic manner. By observing how different types of contact predict levels of anti-transgender prejudice, we may find evidence to advocate for an increase of transgender topics in school curricula, a push for more transgender identities represented in media outlets,

and support for transgender individuals to feel increasingly safe to disclose of their identity to others on a personal level.

Conclusion

It is undeniable that anti-transgender prejudice causes a great deal of distress within the transgender community, and immediate actions need to be taken to target it. The current study establishes the need for continued education on transgender issues as well advocating for an increase in personal, educational, and general media contact as it relates to transgender individuals and/or their unique experiences. Decreasing perceptions that transgender individuals are pathological, dangerous, and unstable is an important step in reducing stigma, stereotyping, prejudice, and discriminatory behaviors toward transgender individuals. This can be achieved by promoting positive depictions of transgender individuals in all areas of exposure. Establishing safeguards such as increased visibility of transgender individuals in communities, comprehensive and inclusive educational materials, increased discussions of public nondiscrimination laws, improved public education about transgender issues, among others, could create a safer and more inviting environment for transgender individuals.

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Appendix A

Consent Form

Project Directors:
Oakleigh Reed, B.S.
Bryan Cochran, Ph.D.

The University of Montana
Department of Psychology
Skaggs Building Room 143
Missoula, MT 59812
(406)-243-2391

Thank you for your interest in our study. The purpose of this study is to measure participants' contact with transgender identified individuals. You must be at least 18 years old to participate in this study, and your participation is entirely voluntary.

If you agree to take part in this study, you will complete an online survey. You will receive 1 SONA credit for participating in this study, and it will take approximately 30 minutes to complete the survey. As part of the survey, you will answer basic questions about yourself, and questions regarding the nature of your contact with transgender individuals. Remember, you are volunteering to participate in this study, so you can choose to stop participating at any time, and you can choose to skip questions, especially those that might make you uncomfortable. All of the information that you provide will be kept confidential. More information about the study and a list of resources will be provided to you at the end of the survey.

Although we believe that the risk of taking part in this survey is minimal, the following liability statement is required of all University of Montana consent forms: In the event you are injured as a result of this assessment you should immediately seek appropriate medical treatment. If the injury is caused by negligence of the University or any of its employees, you may be entitled to reimbursement or compensation pursuant to the Comprehensive State Insurance Plan established under the authority of M.C.A. Title 2, Chapter 9. In the event of a claim for such injury, further information may be obtained from the University's Claims representative or University Legal Counsel.

If you have any questions about this study, please call Bryan Cochran at (406) 243-2391 or Oakleigh Reed at (231) 343-0076, or you can email us at bryan.cochran@umontana.edu or oakleigh.reed@umontana.edu. Please remember that we cannot guarantee the confidentiality of any information sent by email. If you have any questions regarding your rights as a research subject, you may contact The University of Montana's Research Office at (406) 243-6670 and ask to speak with the IRB Chair.

By clicking the "I Agree" button below, I give my consent to take part in this study. Clicking this button also means that I am at least 18 years old and have read the description of this research

study. I have been told about the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I understand that if I have questions in the future, I can contact the researchers to have my question answered. Finally, I voluntarily agree to take part in this study.

Appendix B

Demographic Questionnaire

What is your age?

What was the sex listed on your original birth certificate?

- Male
- Female
- Intersex
- Other, please specify _____

With what gender(s) do you most closely identify?

- Male
- Female
- Transgender Male
- Transgender Female
- Genderqueer
- Gender Non-Binary
- Two-Spirit
- Other, please specify _____

With what sexual orientation do you most closely identify?

- Straight
- Gay
- Lesbian
- Bisexual
- Asexual
- Pansexual
- Queer
- Other, please specify _____

Are you currently in a romantic relationship?

- Yes
- No
- Other _____

Do you consider yourself to be Hispanic/Latino(a)?

- Yes
- No

With what race/ethnicity do you most closely identify? (Choose all that apply)

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other, please specify _____

What is the highest level of education you have completed?

- High school diploma or equivalent
- Some college
- Associated degree or certificate
- Bachelor's degree
- Master's degree
- Doctoral degree
- Other, please specify _____

What are you majoring in?

Do you have any children?

- Yes
- No

How many children do you have?

Do you consider yourself to be a religious person?

- Yes
- No

With what religion are you most closely affiliated?

- Christianity
- Catholicism
- Judaism
- Islam
- Buddhism
- Hinduism
- Atheism
- Agnosticism
- Other, please specify _____

Do you actively practice this religion?

- Yes
- No

How often do you participate in religious affiliated events?

- Daily
- Weekly
- Monthly
- Once a year or less

How important to your identity is religion?

- Very important
- Important
- Neutral
- Not important
- Not at all important

With what political party do you affiliate yourself?

- Democratic
- Republican
- Independent
- Libertarian
- None
- Other _____

What state were you born in?

- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi

- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina
- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming

What is the population of the city/town in which you were born? (Use your best estimation)

- 1 - 500 people
- 501 - 2,000 people
- 2,001 - 10,000 people
- 10,001 - 50,000 people
- 50,001 – 150,000
- 150,001 – 300,000
- 300,001 – 500,000
- 500,001 – 1,000,000
- 1,000,001+
- Unsure

Appendix C

General Instructions

Definition of Transgender

Transgender is often described as an umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with the sex they were assigned at birth.

In other words, transgender individuals are recognized as those who were born one way, but identify in a different way.

Please respond to each of the following questions with this definition of transgender identities in mind.

Appendix D

Personal Contact Block

This part of the survey is intended to gather information regarding personal contact with transgender identified individuals. Personal contact may include (but is not limited to) relationships, direct conversations, and interactions.

Have you had personal contact with a transgender identified individual?

Remember: Contact in this context refers to having had relationships, direct conversations, and/or interactions with a transgender identified individual.

- Yes
- No
- Not to my knowledge

Have you had personal contact with a transman or female-to-male (A person who transitions from "female-to-male," meaning a person who was assigned female at birth, but identifies and lives as a male. Also known as a "transgender man") identified individual?

Note: Hover over underlined words for definitions.

- Yes
- No
- Not to my knowledge

Have you had personal contact with a transwoman or male-to-female (A person who transitions from "male-to-female," meaning a person who was assigned male at birth, but identifies and lives as a female. Also known as a "transgender woman") identified individual?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a genderqueer (A term used by some individuals who identify as neither entirely male nor entirely female) identified individual?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a drag king and/or queen (Used to refer to male/female performers who dress as women/men for the purposes of entertaining others at bars, clubs, or other events)?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **gender non-conforming (A term for individuals whose gender expression is different from societal expectations related to gender)** identified individual?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **Two-Spirit (A contemporary term that refers to the historical and current First Nations people whose individuals spirits were a blend of male and female spirits. This term has been reclaimed by some in Native American LGBT communities in order to honor their heritage and provide an alternative to the Western labels of gay, lesbian, bisexual, or transgender)** identified individual?

- Yes
- No
- Not to my knowledge

Have you had personal contact with **any other transgender identities not previously mentioned?** If so, please explain below:

Have you had personal contact with a **close friend** who identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with an **immediate family member** (Example: Parent, sibling, grandparent) who identifies as transgender?

- Yes
- No
- Unsure

Have you had personal contact with an **extended family member** (Example: Aunt, uncle, cousin) who identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **classmate** who identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **roommate/housemate** who identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **co-worker** who identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **teammate** that identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with a **professor and/or teacher** that identifies as transgender?

- Yes
- No
- Not to my knowledge

Have you had personal contact with **any other not previously mentioned** individual that identifies as transgender? If so, please describe below:

With how many transgender identified individuals have you had personal contact? (Use your best estimation)

Of the transgender identified individuals that you have had **personal contact** with, are you aware if any of these individuals have faced discrimination or victimization on the basis on their transgender identity?

- Yes, they have
- No, they have not
- Not to my knowledge

Please explain what you know about the discrimination or victimization these individuals have experienced:

Have you had personal contact with a person who has **transitioned** (Transition may include: changing one's name, dressing and grooming differently, taking hormones, having surgery, or changing identity documents)?

- Yes
- No
- Not to my knowledge

How many transgender individuals do you know that have **transitioned**? (Use your best estimation)

You cannot be sure if someone is transgender unless that person discloses of their transgender identity.

- True
- False

Please explain the history of your personal contact with transgender identified individuals:

Previous questions asked about contact with transgender identified individuals. We now would like to know if you have had personal contact with a **lesbian, gay, or bisexual** identified individual?

- Yes
- No

Overall, how would you describe your **personal contact** experience(s) with **lesbian, gay, or bisexual** identified individuals?

- Very few
- Some
- Moderate
- Many
- A lot

Please check "yes" to confirm that you are reading the questions and responding to this survey openly and honestly.

- Yes
- No
- Maybe

Appendix E

Contact with Educational Material Block

This part of the survey is intended to gather information regarding contact with educational materials that describe transgender identities and/or experiences. Educational materials may include (but are not limited to) textbooks, panels, lectures/presentations, documentaries, and research articles.

Have you had contact with educational materials that describe transgender identities and/or experiences?

Remember: Contact in this context refers to having had contact with things such as textbooks, panels, lectures/presentations, documentaries, and research articles that describe transgender identities and/or experiences.

- Yes
- No

Have you ever read something from a **textbook** that described transgender identities and/or experiences?

- Yes
- No

Have you ever read a **non-fiction book** (Example: autobiography) that described transgender identities and/or experiences?

- Yes
- No

Have you ever attended a **class lecture** that educated on transgender identities and/or experiences?

- Yes
- No

Have you ever attended a **presentation** (Examples: guest lecture, colloquium) that educated on transgender identities and/or experiences?

- Yes
- No

Have you ever attended a **panel** (A small group of people brought together to discuss a particular topic and/or share personal experiences) that educated on transgender identities and/or experiences?

- Yes
- No

Have you ever watched a **documentary** that educated on transgender identities and/or experiences?

- Yes
- No

Have you ever read a **research article** that educated on transgender identities and/or experiences?

- Yes
- No

Have you ever watched a **news story** or read a **news article** that educated on transgender identities and/or experiences?

- Yes
- No

Have you had contact with **any other not previously mentioned** educational material that described transgender identities and/or experiences? If so, please describe below:

How many times have you had contact with educational materials that describe transgender identities and/or experiences? (Use your best estimation)

With regards to contact with **educational materials**, are you aware of any materials that have negatively portrayed transgender identities and/or experiences? Choose all that apply:

- Textbook
- Non-fiction book
- Class lecture
- Presentation
- Panel
- Documentary
- Research article
- News story
- None
- Unsure

Please describe how these educational materials may have negatively portrayed transgender identities and/or experiences:

When you had sex education, were transgender identities and/or experiences discussed?

- Yes
- No
- Not to my knowledge

How were you first exposed to transgender identities and/or experiences?

- Personal contact
- Contact with educational materials
- Contact with general media outlets
- Other _____

What was the first thing you remember learning about regarding transgender identities and/or experiences?

How old were you when you first remember learning about transgender identities and/or experiences? (Use your best estimation)

Previous questions asked about your contact with educational materials that described transgender identities and/or experiences. We now would like to know if you have had contact with **educational materials** that describe **lesbian, gay, or bisexual** identities and/or experiences?

- Yes
- No

Overall, how would you describe your experience(s) with educational materials that describe lesbian, gay, or bisexual identities and/or experiences?

- Very few
- Some
- Moderate
- Many
- A lot

Please check "maybe" to confirm that you are reading the questions and responding to this survey openly and honestly.

- Yes
- No
- Maybe

Appendix F

Contact with General Media Block

This part of the survey is intended in gathering information regarding contact with general media outlets that describe transgender identities and/or experiences. General media outlets may include (but are not limited to) television shows, movies, magazines, social media, and the internet.

Have you had contact with general media outlets that describe transgender identities and/or experiences?

Remember: Contact in this context refers to having had contact with things such as television shows, movies, magazines, social media, and the internet that describe transgender identities and/or experiences.

- Yes
- No

Have you ever watched a **television show** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you ever read a **fictional book** that described transgender identities and/or experiences?

- Yes
- No

Have you ever watched a **movie** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you ever read a **magazine** that described transgender identities and/or experiences?

- Yes
- No

Have you ever watched a **play and/or performance** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you ever watched an **advertisement** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you ever played a **video game** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you ever read a **comic** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you ever listened to a **song** or watched a **music video** that described transgender identities and/or experiences or had a transgender character?

- Yes
- No

Have you had contact with **any other not previously mentioned** general media outlets that described transgender identities and/or experiences? If so, please describe below:

How many times have you had contact with general media outlets that describe transgender identities and/or experiences? (Use your best estimation)

With regards to contact with general media outlets, are you aware of any materials that have negatively portrayed transgender identities and/or experiences? Choose all that apply:

- Television show
- Fictional book
- Movie
- Magazine
- Social media
- Website
- Play and/or performance
- Advertisement
- Video game
- Comic
- Song or music video
- None
- Unsure

Please describe how these general media outlets may have negatively portrayed transgender identities and/or experiences:

Previous questions asked about your contact with general media outlets that described transgender identities and/or experiences. We now would like to know if you have had contact with **general media outlets** that describe **lesbian, gay, or bisexual** identities and/or experiences?

- Yes
- No

Overall, how would you describe your experience(s) with general media outlets that describe lesbian, gay, or bisexual identities and/or experiences?

- Very few
- Some
- Moderate
- Many
- A lot

Please check "no" to confirm that you are reading the questions and responding to this survey openly and honestly.

- Yes
- No
- Maybe

Appendix G

Genderism and Transphobia Scale

Please carefully read and respond to the following 32 questions.

1. I have beat up men who act like sissies.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

2. I have behaved violently toward a woman because she was too masculine.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

If I found out that my best friend was changing their sex, I would freak out.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

4. God made two sexes and two sexes only.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

5. If a friend wanted to have his penis removed in order to become a woman, I would openly support him.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

6. I have teased a man because of his feminine appearance or behavior.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

7. Men who cross-dress for sexual pleasure disgust me.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

8. Children should be encouraged to explore their masculinity and femininity.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

9. If I saw a man on the street that I thought was really a woman, I would ask him if he was a man or a woman.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

10. Men who act like women should be ashamed of themselves.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

11. Men who shave their legs are weird.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

12. I can not understand why a woman would act masculine.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

13. I have teased a woman because of her masculine appearance or behavior.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

14. Children should play with toys appropriate to their own sex.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

15. Women who see themselves as men are abnormal.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

16. I would avoid talking to a woman if I knew she had a surgically created penis and testicles.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

17. A man who dresses as a woman is a pervert.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

18. If I found out that my lover was the other sex, I would get violent.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

19. Feminine boys should be cured of their problem.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

20. I have behaved violently toward a man because he was too feminine.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

21. Passive men are weak.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

22. If a man wearing makeup and a dress, who also spoke in a high voice, approached my child, I would use physical force to stop him.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

23. Individuals should be allowed to express their gender freely.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

24. Sex change operations are morally wrong.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

25. Feminine men make me feel uncomfortable.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

26. I would go to a bar that was frequented by females who used to be males.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

27. People are either men or women.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

28. My friends and I have often joked about men who dress like women.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

29. Masculine women make me feel uncomfortable.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

30. It is morally wrong for a woman to present herself as a man in public.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

31. It is all right to make fun of people who cross-dress.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

32. If I encountered a male who wore high-heeled shoes, stockings, and makeup, I would consider beating him up.

- Strongly agree
- Agree
- Somewhat agree
- Neutral
- Somewhat disagree
- Disagree
- Strongly disagree

The Genderism and Transphobia Scale scores can range from 1.0 – 7.0, with lower average ratings indicating more negative attitudes toward transgender persons. Scores are computed by calculating participants’ average response across all 32 items on the Likert scale (1 = “strongly agree,” 7 = “strongly disagree”), with consideration of four reverse coded items (e.g., numbers 5, 8, 23, and 26).

Appendix H

Debriefing Statement

First, thank you for participating in this experiment. The data you have given us will be of great value in our research. The survey you have just completed focuses on understanding the relationship between contact with transgender individuals and the degree of prejudice that individuals may hold toward these individuals. Should you wish to learn more about this research, please contact the experimenter at oakleigh.reed@umontana.edu, whom can provide you with more details and perhaps point you to some published research available on the internet. Thank you again.

Tables

Table 1
Demographic Characteristics of Sample

	<i>M</i>	<i>SD</i>	<i>N</i>	<i>%</i>
<i>Age</i>	21.81	6.81	328*	94.5
<i>Sex Assigned at Birth</i>				
Female			247	71.2
Male			100	28.8
<i>Gender Identity</i>				
Female			244	70.3
Male			95	27.4
Transgender Female			3	0.9
Genderqueer			2	0.6
Two-Spirit			1	0.3
Other			1	0.3
No Response			1	0.3
<i>Sexual Orientation</i>				
Straight			311	89.6
Bisexual			24	6.9
Pansexual			4	1.2
Gay			3	0.9
Lesbian			3	0.9
Asexual			2	0.6
<i>Race / Ethnicity</i>				
White			281	81.0
Hispanic Latino(a)			20	5.8
American Indian or Alaska Native			10	2.9
Black or African American			3	0.9
Other			24	0.9
No Response			21	6.1
<i>Religiosity</i>				
Christianity			144	41.5
No Affiliation			134	38.6
Catholicism			44	12.7
Buddhism			5	1.4
Agnostic			2	0.6
Islam			1	0.3
Other			17	4.9
<i>Political Affiliation</i>				
Republican			60	17.3
Democratic			55	15.9
Independent			30	8.6
Libertarian			14	4.0
No Affiliation			46	13.3
Other			6	1.7

No Response	136	39.2
<i>Education Level</i>		
Some College	192	55.3
High School Diploma or equivalent	130	37.5
Associate's Degree	14	4.0
Bachelor's Degree	10	2.9
Master's Degree	1	0.3

Note: N = 347

**There were 19 participants who did not identify their age.*

Table 2.1*Descriptive Statistics of Personal Contact*

	<i>N</i>	<i>%</i>
<i>Personal Contact</i>		
Yes	210	60.5
No	54	15.6
Not to my knowledge	83	23.9
<i>Identity Type</i>		
Transwoman or male-to-female	155	52.9
Transman or female-to-male	130	44.4
Drag king and/or queen	127	43.3
Gender non-conforming	115	39.2
Genderqueer	93	31.7
Two-Spirit	21	7.2
<i>Relationship Type</i>		
Classmate	121	41.3
Co-worker	67	22.9
Close friend	59	20.1
Professor	25	8.5
Extended family member	22	7.5
Teammate	18	6.1
Roommate/housemate	9	3.1
Immediate family member	6	2.0

Note: Descriptive statistics of the Identity Type and Relationship Type are based upon those who answered “yes” (N = 210) to “Have you had personal contact with a transgender identified individual?”

Table 2.2
Descriptive Statistics of Educational Contact

	<i>N</i>	<i>%</i>
<i>Educational Contact</i>		
Yes	174	50.1
No	173	49.9
<i>Type of Contact</i>		
News story or news article	137	78.7
Class lecture	95	54.6
Documentary	92	52.9
Research article	83	47.7
Textbook	82	47.1
Presentations	80	46.0
Non-fiction book	47	27.0
Panel	20	11.5

Note: Descriptive statistics of the type of educational contact are based upon those who answered “yes” (N = 174) to “Have you had contact with educational materials that describe transgender identities and/or experiences?”

Table 2.3
Descriptive Statistics of General Media Contact

	<i>N</i>	<i>%</i>
<i>General Media Contact</i>		
Yes	313	90.2
No	34	9.8
<i>Type of Contact</i>		
Television show	243	77.6
Movie	200	63.9
Magazine	149	47.8
Song or music video	126	40.3
Advertisement	102	32.7
Fictional book	50	16.0
Play and/or performance	45	14.4
Comic	19	6.1
Video game	15	4.8

Note: Descriptive statistics of the type of general media contact are based upon those who answered “yes” (N = 174) to “Have you had contact with general media outlets that describe transgender identities and/or experiences?”

Table 3.1*Average Scores, Ranges, and Standard Deviations for Measures of Contact*

	<i>N</i>	<i>Range</i>	<i>M</i>	<i>SD</i>
<i>Personal Contact</i>	210			
Identity Type		0 – 6	2.18	1.56
Relationship Type		0 – 6	1.12	1.22
<i>Educational Contact</i>	174	0 – 9	4.66	1.48
<i>General Media Contact</i>	313	0 – 8	3.03	1.68

Note: Quantitative measures of personal contact (i.e., Identity Type = transman, genderqueer; Relationship Type = immediate family member, classmate), educational contact, and general media contact were computed by giving one point per question for participants who endorsed a “yes” response across questions in those blocks. The range represents the varying amount of contact participants indicated for each measure of contact, and the mean and standard deviation represent the average amount of contact and the associated standard deviation any given participant had in each block.

Table 3.2*Average Scores, Ranges, and Standard Deviations for Measures of Prejudice*

	<i>N</i>	<i>Range</i>	<i>M</i>	<i>SD</i>
<i>Genderism and Transphobia Scale</i>	347	2.41 – 7.00		
Personal Contact***				
Yes			6.14	0.82
No or not to my knowledge			5.39	1.00
Educational Contact***				
Yes			6.01	0.92
No			5.68	0.99
General Media Contact***				
Yes			5.90	0.96
No			5.32	0.89

Note: Quantitative scores were computed by calculating participants' average response across all 32 items on the Likert scale (1 = "strongly agree," 7 = "strongly disagree"), with consideration of four reverse coded items (e.g., numbers 5, 8, 23, and 26). Lower average ratings on the GTS indicate higher levels of transphobia (anti-transgender prejudice), genderism, and gender-bashing. The range represents the varying amount of prejudice participants indicated for each measure, and the mean and standard deviation represent the average amount of prejudice and the associated standard deviation any given participant had in each block. Significant mean differences for each type of contact are noted.

p < .05. **p < .01. *p < .001.*

Table 4*Summary of Simple Linear Regressions of Anti-Transgender Prejudice by Contact Type*

Variables	<i>B</i>	<i>SE(B)</i>	β	<i>t</i>
Personal Contact	0.267	0.028	0.453***	9.439***
Educational Contact	0.088	0.020	0.232***	4.424***
General Media Contact	0.114	0.028	0.215**	4.099**

Note: Personal contact is based on contact with different identity types (e.g., transman, genderqueer).

p < .05. **p < .01. *p < .001.*

Table 5.1

Results of Hierarchical Regressions of Anti-Transgender Prejudice by Sex, Gender, and Sexuality and by Personal Contact

Variable	<i>B</i>	<i>SE(B)</i>	β	<i>R</i> ²	ΔR^2
Step 1				0.235	0.235***
Sex	0.797	0.118	0.376***		
Gender	0.106	0.077	0.078		
Sexuality	0.194	0.047	0.198***		
Step 2				0.361	0.127***
Personal Contact	0.221	0.027	0.377***		

Note: N = 347. Personal contact is based on contact with different identity types (e.g., transman, genderqueer). After applying a Bonferroni correction (set at $p < .017$), results remained significant at $p < .001$.

** $p < .05$. ** $p < .01$. *** $p < .001$.*

Table 5.2

Results of Hierarchical Regressions of Anti-Transgender Prejudice by Sex, Gender, and Sexuality and by Educational Contact

Variable	<i>B</i>	<i>SE(B)</i>	β	<i>R</i> ²	ΔR^2
Step 1				0.235	0.235***
Sex	0.797	0.118	0.376***		
Gender	0.106	0.077	0.078		
Sexuality	0.194	0.047	0.198***		
Step 2				0.273	0.038***
Educational Contact	0.074	0.017	0.196**		

Note: N = 347. After applying a Bonferroni correction (set at $p < .017$), results remained significant at $p < .001$.

** $p < .05$. ** $p < .01$. *** $p < .001$*

Table 5.3

Results of Hierarchical Regressions of Anti-Transgender Prejudice by Sex, Gender, and Sexuality and by General Media Contact

Variable	<i>B</i>	<i>SE(B)</i>	β	<i>R</i> ²	ΔR^2
Step 1				0.235	.235***
Sex	0.797	0.118	0.376***		
Gender	0.106	0.077	0.078		
Sexuality	0.194	0.047	0.198***		
Step 2				0.258	.024**
General Media Contact	0.082	0.025	0.156**		

Note: N = 347. After applying a Bonferroni correction (set at $p < .017$), results remained significant at $p = .004$.

** $p < .05$. ** $p < .01$. *** $p < .001$.*