BEYOND THE BINARY: UNDERSTANDING THE "ESSENCE" OF ATTITUDES

TOWARD PEOPLE WHO ARE NON-BINARY

by

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ABSTRACT

Psychological essentialism is the belief that some entities have deep, unchangeable properties that determine its goals, personality, and function (Prentice & Miller, 2007). Unfortunately, in some cases, the belief that something has an unchangeable "essence" is also tied to prejudice. The current study examined how essentialism relates to attitudes towards non-binary people, who are not easily categorized by their gender. To do this, we collected survey data from 305 undergraduate students and Mechanical Turk participants. The study validated modified measures of attitudes and behavioral intentions toward people who are gender non-binary. Next, we examined the relationships between essentialism and the different forms of expression of non-binary gender prejudice and support. Results showed greater levels of essentialism were associated with greater levels of negative intentions and attitudes toward gender non-binary people and lower levels of positive intentions and attitudes. We also conducted a latent profile analysis, identifying and organizing people into profile groups based on their attitudes and behavioral intentions toward gender non-binary people. Results demonstrated 3 meaningful profile groups; participants clustered as advocates (positive attitudes and positive intentions), ambivalent (both positive and negative attitudes and intentions), or antagonists (negative attitudes and negative intentions). The participant's political ideology, gender, and data collection forum were significant predictors of profile group membership; and group membership was a significant predictor of level of essentialism. These findings help to lay the ground work for theory building and application research on gender non-binary prejudice.

INTRODUCTION

 "The binary gender designations of female and male fail to adequately represent the diversity of human experience. Nonbinary is an umbrella term for people with gender identities that fall somewhere outside of the traditional conceptions of strictly either female or male. People with nonbinary gender identities may or may not identify as transgender, may or may not have been born with intersex traits, may or may not use gender-neutral pronouns, and may or may not use more specific terms to describe their genders, such as agender, genderqueer, gender fluid, Two Spirit, bigender, pangender, gender nonconforming, or gender variant. Nonbinary gender identities have been recognized by cultures throughout history and around the world, as well as by legal systems in the United States and other countries, medical authorities, and researchers. Studies show that nonbinary people face frequent discrimination, harassment, and violence in areas of life including education, employment, health care, and law enforcement."
- California SB 179, Section 2D, of the Gender Recognition Act. Approved by the Governor of California, October, 2017

Why might "falling outside traditional conceptions of strictly either male or female" be related to prejudice and discrimination? Psychological essentialism may be a contributing factor. Psychological essentialism is the belief that some entities have deep, unchangeable properties that determine their goals, personality, and function (Prentice & Miller, 2007). Perhaps essentialism of gender is part of the process leading to "frequent discrimination, harassment, and violence in areas of life including education, employment, health care, and law enforcement." As US politicians, educators, and the public begin to grapple with what it means to be inclusive for people who are gender non-binary it is necessary to acknowledge the spectrum of possible attitudes ranging from overt bias, to passive silence, to support and activism. As such, this thesis served four goals: 1) to validate modified measures of attitudes and behavioral intentions toward people who are non-binary, 2) to test whether and how essentialism relates to attitudes

toward non-binary people, 3) identify and organize people into profile groups based on their attitudes and behaviors toward non-binary people, and 4) to set the foundation for future research on pronoun introductions as a method for disrupting the essentialism of gender.

Gender is functionally significant (Bem, 1981) and cognitively useful, such as children using gender categorization to help them sort behaviors, information, and attributes (Hupp, Smith, Coleman, & Brunell, 2010). Knowing that someone is in the category of "female" for example is more informative than the male category (Haslam, Rothschild, & Ernst, 2000). Yet, people do not always fall into these two dimensions (Richards et al., 2016) with some estimates suggesting that 25% of the transgender community identify as non-binary (Barr, Budge, & Andelson, 2016). Non-binary identities are part of the lesbian, gay, bisexual, transgender, queer, and multiple other identities (LGBTQ+) community. Being non-binary is different from just being transgender. Transgender is a term that refers to anyone that does not identify with the sex they were assigned at birth (Davidson, 2007). Non-binary identities are a subsection of transgender identities but they also mean an identity outside of the gender binary of simply man and woman. Non-binary is an umbrella term that encompasses identities such as genderfluid, agender, genderqueer, two-spirit, and many other gender identities (Richards et al., 2016). People who identify as non-binary can have a gender expression that aligns with their biological sex, completely opposite of it, or any combination. Non-binary people can use any pronouns (e.g., she, he, they) and present in any way they wish (Richards et al., 2016). It is an ambiguous identity that does not have a schema connected

to it, unlike the binary categories of male and female (Bem, 1981). This may be why non-binary individuals are more likely to report being physical assaulted, sexually assaulted, harassed by the police, and refused medical treatment due to bias, when compared to transgender people who identify within the binary (Harrison, Grant, & Herman, 2012). Research on essentialist beliefs has helped scholars to understand perceptions of both gender (Smiler & Gelman, 2008; Prentice & Miller, 2006) and sexuality (Haslam & Levy, 2006), with an emerging complicated picture of when such beliefs do and do not predict prejudicial attitudes and behavior. To my knowledge, there is no research that has examined the specific typology of prejudicial attitudes and behaviors toward non-binary people nor the predictive utility of essentialism in understanding those attitudes.

<p align="center">Essentialism</p>

Psychological essentialism is a person's belief that a category or object has an "essence" that cannot be removed or undone (Haslam et al., 2000). For example, consider the classic saying about "a wolf in sheep's clothing." People who essentialize animal categories, will still believe the animal is a wolf "even if a doctor performs an operation that makes it look like a sheep" (Prentice & Miller, 2006). This example highlights that human beings are lay essentializers, meaning that they view categories as having essences that determine deep, nonobvious properties that make a category member what they are (Prentice & Miller, 2006). Essences not only determine what someone is currently, but also a person's potential for what they can become (Prentice & Miller, 2006). Essentialism is made up of nine elements: discreteness, uniformity,

informativeness, naturalness, immutability, stability, inherence, necessity, and exclusivity (Haslam et al., 2000). Discreteness is how clear-cut and definite group membership is, requiring a lack of ambiguity. Uniformity is when group members are similar to each other and have many characteristics in common. Informativeness is when group membership reveals other information about the members. Naturalness is when a category does not seem artificial. Immutability is when group membership is difficult to change, a member can not easily become a non-member of the group. Stability is when the characteristics of the group are consistent and have not changed throughout history. Inherence is when group members possess the same underlying characteristics. Necessity is the requirement of certain features or characteristics to belong to the group. Exclusivity is when group membership does not allow for membership in other categories or groups (Haslam et al., 2000). While these nine elements make up essentialism, it has been found that these nine characteristics load on to two main constructs: naturalness and entitativity. Naturalness presents the construct of a group being stable and clearly defined, it is made up of discreteness, naturalness, immutability, stability, and necessity. Entitativity measures how informative group membership is for perceivers and is made up of exclusivity, inherence, informativeness, and uniformity (Haslam et al., 2000). When comparing how people perceive different group's entitativity and naturalness we get an image of how people can use the membership information to view the individual members. Homosexuality is perceived as less natural and higher on entitativity than heterosexuality. While liberal and republican groups are similar in both entitativity and naturalness scores (Haslam et al., 2000).

Psychological essentialism is a type of heuristic that allows for faster processing (Prentice & Miller, 2006) which may be one reason why essentialism is related to stereotype endorsement (Bastian & Haslam, 2006). Stereotypes are cognitive beliefs that function like a categorical heuristic to make sense of the world in an often unintentional method to preserve processing capacity (Macrae, Milne, & Bodenhausen, 1994). Similar to the complicated and not one-to-one relationship among stereotypes, prejudice, and discrimination (Brown, Smith, & Huntoon, 2014), so too is the relationship among essentialism and sexism, racism, and homophobia (Haslam, Rothschild, and Ernst, 2002). For example, in one study, a sample of college students rated multiple groups on 8 of the 9 elements of essentialist beliefs. The groups examined were women, gay men, and black people but there were multiple filler groups including liberals, introverts, middle-class people, and Catholics. They also measured participant's sexism, racism, and homophobia through a variety of measures. Although essentialist beliefs predicted more homophobia, these beliefs were not consistently associated with sexism and racism (Haslam et al., 2002). When examining the relationship between essentialism and anti-gay attitudes even further, the study found that this relationship was independent of the participant's ambiguity tolerance and right-wing authoritarianism (Haslam, et al., 2002).

It is also the case that some nonessentialist beliefs are associated with homophobia, for example if someone believes that sexuality is a choice and thus under the individual's control then gayness is not seen as "natural" (Haslam, et al., 2002). This is known as determinism, which is the belief that something is due to choice and is under volitional control (Aguero, Bloch, & Byrne, 1984; Diamond, 2009; Hegarty & Pratto,

2001). Such deterministic beliefs may also account for the backlash against women who "choose" to behave in a masculine manner (Rudman & Glick, 2001) and toward men who "choose" to behave in a feminine manner (Brescoll, Uhlmann, Moss-Racusin, & Sarnell, 2012). Determinism is often tied to gay and transgender prejudice (Aguero et al., 1984; Hegarty & Pratto, 2001). In cases where sexuality and gender identity are seen as "natural" and inborn there is less perceived controllability which results in less negative attitudes. This can be found in the "born this way" or "not a choice" narrative of gay and transgender identities, which have been found to foster more acceptance (Hegarty, 2002). Given these mixed findings, some could argue that to reduce prejudice we should be promoting that gender (and sexuality) is a natural category, and not a choice. Such beliefs though could also lead to avoidance, distrust, and many other negative outcomes (Haslam et al., 2002) and may only apply to attitudes toward non-normative men (and not women who are more fluid, Diamond, 2009). The relationship among essentialism and different types of attitudes toward non-normative people is complex and more research is needed to understand the association.

Why might some people believe in essentialism more than others? One possibility is that essentialism serves a defensive function, such that those who are privileged use essentialism to justify their social status (Haslam & Levy, 2006). This is an example of "system justification" which is the process where individuals try to legitimize the status quo and justify the exploitation of certain groups by making the exploitation or differences between the groups seem legitimate and natural (Jost & Banaji, 1994). System justification and essentialism go hand in hand. For example, in one study

participants who were high in social class rank were more likely to believe that social

class is a fixed innate category, and that the explanation for this relationship was due to

the endorsement of a just and fair world (the just world hypothesis). Thus, if someone

was high in social class and viewed the world as fair, then essentialism was needed to

justify why the low class and high class groups have different lives and opportunities

(Kraus & Keltner, 2013). Manipulating essentialist beliefs about social class by providing

some participants with "evidence" that social class was an essentialist category and not a

socially constructed one, resulted in people being more likely to reject restorative justice

policies such as affirmative action. Moreover, a manipulation to make participants

believe that they were part of the upper- class led to greater endorsement of essentialist

beliefs and also to opposition of restorative justice punishments (Kraus & Keltner, 2013).

What this research makes clear, is that essentialism can serve a defensive function,

especially for those who want to maintain their privilege. Essentialist beliefs can thus

serve different purposes for dominate versus subordinate groups (Yalcinkaya, Estrada-

Villalta, & Adams, 2017).

Subordinated identity groups that have cultural essentialism (i.e., the idea that

people are passive carriers of their culture, and their attitudes, beliefs and achievements

often follow typical cultural patterns, Verkuyten, 2003) is positively related to supporting

a social justice policy (Yalcinkaya et al., 2017). Not all types of essentialism lead to

prejudice and discrimination. Thus the relationship between essentialism and

discrimination and prejudice seems to depend on the definition and measurement. To

date, the conceptualization and measurement of essentialism most often focuses on

biological essentialism (Yalcinkaya et al., 2017). Biological essentialism is the belief that differences between groups are due to genetic or biological basis (Yalcinkaya et al., 2017). Indeed, there is not a consensus on how to define or measure essentialism; from biological and cultural measures (Yalcinkaya et al., 2017) to operationalizations that measure specific elements of essentialism, such as discreteness and informativeness (Bastian & Haslam, 2006), just how to define essentialism is unclear. Part of the issue is that theories of essentialism take many forms including need for closure (Webster & Kruglanski, 1994) and implicit lay theory (Dweck, Chiu, & Hong, 1995).

Another reason some people endorse essentialism is that doing so can provide a coherent and predictable organizing cognitive framework. People who have a high "need for closure" for example, prefer predictability, like order and detest chaos, prefer firm knowledge and have discomfort with ambiguity (Roets & Van Hiel, 2011a). Research shows that the relationship between sexual prejudice and religious fundamentalism is often due to people's high need for closure (Brandt & Reyna, 2010). Whether a high need for closure is a cause, consequence, or just an association with essentialism and prejudicial attitudes is unclear. One study did find that the need for closure has a causal effect on the entitativity element of essentialism such that individuals high in need for closure find essence based beliefs appealing (Roets & Van Hiel, 2011b). In this study, participants were given descriptions of the customs of two fictional racial groups from a fictitious country and then answered questions about the groups. The study manipulated need for closure by either having a time constraint when having participants answer the questions with no feedback given on their accuracy or having no time constraints and

they would receive feedback on their answers. They found that those in the high need for closure condition, the hurried participants, adhered more to entitativity beliefs about the groups. Entitativity essentialism also mediated the relationship of need for closure and racial prejudice (Roets & Van Hiel, 2011b). Thus, need for closure might be an individual difference that makes essentialism beliefs more or less likely, and may have a relationship with essentialism that is linked with more prejudical attitudes.

People might also endorse essentialism beliefs because it is part of their lay view of human behavior. Implicit Lay Theory (Levy, Stroessner, & Dweck, 1998) posits two distinct views of human behavior 1) Entity theorists view behavior as immutable, similar to an essentialist belief and 2) Incremental theorists view behavior as dynamic and malleable (Levy, et al., 1998). Entity theorists have an increased level of both producing and perpetuating group stereotype judgments (Levy, et al., 1998). Like the research on a high need for closure, it is unclear if entity beliefs cause, are a consequence of, or are just part of an association with essentialism and prejudicial attitudes. For example, although entity theories are more likely to endorse essentialism, essentialist beliefs uniquely predicted stereotype endorsement broadly (i.e. gender stereotypes, sexual orientation stereotypes, race stereotypes, occupation stereotypes) (Bastian & Haslam, 2006).

Political ideology is another factor found to be correlated with some elements of essentialism. Political conservatism positively correlated with viewing homosexuality as discrete, but negatively correlated with viewing it as immutability (Haslam & Levy, 2006). No relationship was found between conservatism and viewing homosexuality as universal (Haslam & Levy, 2006). This may be why republicans score higher on

homophobia scores than democrats and those with other party affiliations Gender can also play a role in prejudice and also endorsement of essentialist beliefs. Men have been found to essentialize gender concepts more than women. While this effect was significant, the effect size was small (Smiler & Gelman, 2008). Heterosexual men are also more homophobic than women, with the effect mainly being driven by their homophobia towards gay men rather than their attitudes toward lesbians. (Herek, 2002). Men also endorse more old-fashioned sexism and modern sexism than women do (Swim, Aikin, Hakk, & Hunter, 1995). Compared to men, women do also reject hostile sexism more but no difference is found in endorsement of benevolent sexism (Glick & Fiske, 2001).

<u>Typology of Prejudicial Attitudes and Behaviors</u>

Prejudice is not a unidimensional construct. The valence of prejudice can range from positive to negative attitudes and the motivation to express prejudice can be active or passive, resulting in a "quadrant" of possibilities (see Figure 1). This study investigates the utility of assessing prejudice toward people who are non-binary within four quadrants to determine whether they are distinct or are better understood in combination.

As seen in Figure 1, someone who has positive attitudes, but is low in motivation to act, could be considered an "ally". An ally is someone who is not a member of the target group but works to develop an understanding of the perspective of the individuals in the group and chooses to align with the political causes of the group (Jones, Brewster, & Jones, 2014). Someone who has positive attitudes and is highly motivated to act, could

be considered an "activist". An individual's activism orientation is a developed orientation to engage in collective, social- political, problem-solving behaviors that range from low-risk to high-risk in nature (Corning & Myers, 2002). Someone who has negative attitudes and low motivation to take action, could be considered "tolerating" non-binary people. The current project defines tolerating as a negative construct that is characterized by inactivity surrounding these negative beliefs. An example of this is believing that non-binary identities are not legitimate but doing nothing to indicate these beliefs. Lastly, someone who has negative attitudes and is high in motivation to act, could be considered a "discriminator". Discrimination is a biased action toward a group (Brown, Smith, & Huntoon, 2014). The resulting four concepts are discrimination, tolerate, allyship, activism (ie., DTAA).

We know almost nothing about prejudice towards non-binary people, due to the lack of research. An aim of the current project was to use these four constructs to identify profile group clusters. Using a person-centered analytic approach to examine prejudice allowed us to test whether there are clear groups that form due to their attitudes towards non-binary people. This analysis lets us view the data in ways that can present nonlinear patterns and answers whether participants are using multiple elements of prejudice simultaneously (DTAA variables). We predicted that with these four constructs, four groups would emerge: those who have an attitude of discrimination towards non-binary people, individuals who tolerate non-binary people, individuals who are allies for non-binary people, and those that are activists for non-binary people.

<u>Overview</u>

In the current study we aimed to thoroughly explore the relationship between essentialism and attitudes towards non-binary people. This was done through many forms of analysis utilizing both variable-centered approaches as well as person-centered analysis. We aimed to establish modified measures of attitudes and behavioral intentions toward people who are non-binary as well as explore person-centered analysis of attitudes towards non-binary people. Due to the multiple operationalizations of all of our constructs, we collected multiple measures of essentialism and measures of attitudes and behavior intentions towards non-binary people. We explored the psychometric properties of these variables to work to inform future research. We then aimed to examine the relationship between essentialism and attitudes toward non-binary people. We also analyzed if a participant's gender and political ideology was related to their attitudes towards non-binary people. Utilizing person-centered analysis, the current projected aimed to articulate the new "DTAA Profiles" measure composed of attitudes of discrimination, tolerating, allyship, and activism. This was to examine whether participants could be grouped together based on their attitudes and behaviors toward non-binary people. 1) We hypothesized that higher levels of essentialism would be associated with higher levels of the negative DTAA constructs (discrimination and tolerating) and lower levels of the positive DTAA constructs (allyship and activism). 2) We predicted that there would be individual differences such that men would be higher than women and republicans would be higher than democrats on the negative DTAA constructs (and the opposite direction for the positive DTAA constructs). 3) We also hypothesized that

people's prejudice toward non-binary people would fall into one of the four quadrants

(see Figure 1) such people's responses would classify them as individuals high on

discrimination, individuals high on tolerating, individuals high on allyship, and

individuals high on activism.

METHODS

<u>Participants</u>

We collected data from 345 participants based on a power analysis using

G*Power that determined a sample of 330 was necessary to detect a small to moderate

effect size of .35. We excluded any participants who missed two or more attention checks

from our sample. This excluded 40 participants, 12% of our total sample, leaving us with

305 participants. Our sample was comprised of 127 undergraduates (Mage = 19.40 years,

SD = 1.80) in an introductory psychology course earning course credit and 178

Mechanical Turk participants (Mage = 27.99 years, SD = 7.72) earning course credit and

178 Mechanical Turk participants earning 1 dollar (U.S.) for 30 minutes of their time. For

the MTurk sample we only collected data from participants who were 18 and older, fluent

in English, were residing in the US, and were enrolled in a secondary education

institution. These requirements were used to try to achieve a sample of MTurk

participants that closely matched the Introductory Psychology subject pool. MTurk

workers are generally competent internet users who are honest in their survey responses

(Paolacci & Chandler, 2014). They are often more diverse and educated, but less

extroverted than typical college samples (Paolacci & Chandler, 2014).

Of our two samples combined we 48.9% men, 47.5% women, 1.3% outside of the

binary, and 2.3% unreported. Of this 1.3%, some were legitimately non-binary and other

participants used this question as a way to show their resistance to the researchers

through entering their gender as "attack helicopter" or "omni king". The racial

composition of our sample was a majority white (77.6% White; 9.7% Black; 4.3% Asian;
3.3% Latinx; 0.7% Native America; 4.3% more than one ethnicity; 4.3% unreported).
The self-identified political ideology composition of our sample was 41.6% democrat,
26.9% republican, and 28.9% independent.

<u>Procedure</u>

All participation took place via an online platform, Qualtrics. Participants first
completed informed consent and then were presented with the instructions and cover
story for the study. To reduce the effect of social desirability, we devised a cover story
that we are collecting opinions and attitudes towards various current events for a
"political psychology study". Participants were told they were randomly assigned to a
current event, but, in reality, they all were assigned to the current event of "California
recognizing non-binary as a valid third gender option" (Caron, 2017). To ensure
participants understood the terminology, a definition of non-binary was provided in the
instructions on relevant questionnaires as follows: "Non- binary: A category that
encompasses many gender identities that are all outside the gender binary of male or
female." Measures were counterbalanced and included 10 attention check items (ie., mark
definitely true if you are reading this). A break was built in approximately half way
through the survey asking participants to take a minute break to do something that would
make them "feel refreshed" in an effort to reduce survey fatigue. After completing the
30-minute study, all participants were debriefed.

Measures

Table 1 lists all measures that were collected in the study. Table 1 contains the name of the measure, number of times cited in the literature as of Fall 2017, number of items, example items, the citation for the measure, and the Cronbach's alpha as determined with this sample. All measures except Motivation to Take Action for Beliefs were previously used in the literature. Three surveys measured essentialism, one survey measured social desirability, one survey measured need for closure, one survey measured implicit lay theory, one survey measured belief in free will, two surveys measured discrimination, one survey measured general attitudes towards people who identify as non-binary, one survey measured tolerating, two surveys measured allyship, two surveys measured activism, three surveys measured motivation to take action, and one demographic survey was included.

RESULTS

<u>Analysis Overview</u>

We first examined the reliability of each scale by inspecting Cronbach's alpha. Next, we conducted a confirmatory factor analysis on the scales that were modified from their original form to confirm the factor structure did not change with our "non-binary" or gender modifications. The confirmatory factor analysis was conducted using MPlus (version 8; Muthén & Muthén, 2017) to test how the individual items load onto the predetermined factors. To determine that us had reliable measures for the rest of our analyses we used the reliability scores as well as the confirmatory factor analysis to choose measures for each of our DTAA constructs. These chosen measures were then used in the rest of our analyses to represent each DTAA variable. To examine the relationships among the variables we then analyzed the correlations of all the assessed variables, particularly examining whether and how DTAA constructs related to essentialism. To test for demographic differences, we performed one-way ANOVAs to examine if political orientation predicted responses to essentialism, prejudice, and the other measures. To test if the participant's gender or sample (MTurk or lab) also predicted responses, we performed independent sample t-tests. Because of the number of tests performed, Bonferroni corrected p-values were used as appropriate and are noted below.

Structural equation modeling within MPlus was used to examine the model of essentialism and the DTAA constructs. We examined if essentialism loaded onto the DTAA constructs or whether the variables are operating in the opposite direction with

DTAA loading onto essentialism. We wanted to examine whether participants were simultaneously adopting multiple of the DTAA constructs. A person-centered analysis allows examination of common patterns of responses among the four attitude/behavior measures that can classify people into groups using all of the observations of the continuous measures (Pastor, Barron, Mille, & Davis, 2007). A latent profile analysis was used as the person-centered analysis (Pastor et al., 2007) using MPlus. The number of latent profiles are determined by likelihood ratio tests (VLRT), fit indices (AIC, BIC, SSA-BIC), and cohesion indices (entropy). Group membership also was examined to test if gender and political ideology significantly predicted a person's group membership across the DTAA measures. This was done by adding gender and political ideology as covariates individually to the DTAA latent profile analysis. After interpretation of the profiles, we conducted a MANOVA to examine the association of a person's profile group membership with essentialism, need for closure, and implicit lay theory.

<u>Scale Reliability</u>

<u>Essentialism</u>

Essentialism: discreteness, informativeness, and biological basis (Bastian & Haslam, 2006), cultural essentialism, and biological essentialism (Yalcinkaya et al., 2017) all had a Cronbach's alpha above .70. The measures of cultural essentialism and biological essentialism were modified to be relevant for the topic of gender instead of race. We examined the items and selected the component measure of essentialism by Bastian and Haslam (2006) due to the content of the items but also because of the lack of

modification needed to the items.

Individual Differences

 We did not alter any of the individual difference measures and the majority had
strong Cronbach's alpha scores ranging from 0.62 to 0.87. The only exception was the
Social Desirability short form (Crowne & Marlowe, 1960), which had a low Cronbach's
alpha of 0.07. Due to the low Cronbach's alpha, we did not include Social Desirability in
any of our analyses.

Discriminate, Tolerate, Allyship, and Activism

 The modified Homophobia Scale (Wright, Adams, & Bernat, 1999) and the
altered Activism Orientation Scale (Corning & Myers, 2002) that was revised to assess
discrimination actions towards non-binary people both had high Cronbach's alpha scores.
The Allophilia Scale with affection, comfort, and engagement subscales altered for non-
binary targets (Pittinsky, Rosenthal, & Montoya, 2011) and the Ally Identification
Measure's openness and support subscale (Jones et al., 2014) altered for non- binary
targets both had high Cronbach's alpha scores.

Motivation

 The drive subscale of the BIS BAS (Carver & White, 1994) had the highest
Cronbach's alpha of .80, whereas the newly developed measure we wrote for the study
had a Cronbach's alpha of 0.52.

Confirmatory Factor Analysis

Discrimination

We used all three of the subscales of the Homophobia Scale modified for non-binary people (Wright et al., 1999). Due to this, we performed a confirmatory factor analysis with a 3-factor model specified all items to load on to three discrimination factors: Behavioral/Negative Affect, Cognitive Negativism, and Affect/Behavioral Aggression. The global fit indices indicated a fit that was not satisfactory, X^2 (186, N = 300) = 3582.945, $p < 0.001$, CFI = 0.472, TLI = 0.404, SRMR = 0.118, RMSEA Estimate = 0.247. We also conducted an analysis of a 1-factor model and found that the global fit indices for the 3-factor model were better. We retained 21 of the 25 items of the Homophobia Scale. The items that were not used in our study were items that were not relevant to non-binary people such as: "Marriage between homosexual individuals is acceptable" and "I make derogatory remarks like 'faggot' or 'queer' to people who I suspect are gay."

The second measure of discrimination, the modified Activism Orientation Scale (Corning & Myers, 2002) with 2 factors, conventional activism and high risk activism resulted in a good fit, X^2 (53, N = 300) = 136.414, $p < 0.001$, CFI = 0.972, TLI = 0.965, SRMR = 0.031, RMSEA Estimate = 0.072. We retained both subscales but due to the length of the measure we only used items that had a factor loading of over .75 in the original paper (Corning & Myers, 2002). The unstandardized factor loadings for the items that we collected are as follows.

We next performed a confirmatory factor analysis on The Attitudes Towards Lesbians and Gay Men Scale (Herek, 1994) with a 1-factor model specified all items to

load on a single "general discrimination" factor. The model indicated a moderately good

fit, X^2 (5, N = 302) = 75.522, $p < 0.001$, CFI = 0.906, TLI = 0.811, SRMR = 0.079,

RMSEA Estimate = 0.216. For this measure, the higher the score indicated a more

negative view of non-binary individuals. Due to this being a measure of negative views

and the measure having a better fit than the homophobia measure we thus selected it for

use as the "discrimination" measure in our modeling.

Tolerate

　　　　We only used one tolerating measure, which was the Gay

Condemnation/Tolerance subscale of the Component Measure of Attitudes Towards

Homosexuality scale modified for non-binary people (LaMar & Kite, 1998). This was

one subscale of a larger measure that included six subscales in total:

Condemnation/Tolerance, Gay Male/Lesbian Social Norms/Morality, Neutral Morality,

Gay Male/Lesbian Contact, Neutral Contact, and Gay Male/Lesbian Stereotypes. Only

one subscale was used in our study due to the subscale seeming the easiest to modify for

non-binary targets and the closest to the tolerating construct. The only item not kept in the

scale for our study was the item "Lesbians (gay men) dislike members of the opposite sex"

due to its lack of relevancy for non-binary prejudice. This 1-factor specified model

indicated a poor fit, X^2 (35, N = 301) = 212.625, $p < 0.001$, CFI = 0.876, TLI = 0.840,

SRMR = 0.069, RMSEA Estimate = 0.130. Due to collecting only one tolerate

measure, we retained this measure regardless of its poor fit.

Allyship

　　　　We modified one subscale from the Ally Identification Measure (Jones et al.,

2014) to apply to non-binary people, the Openness and Support subscale. We did not retain the other two subscales (the Knowledge and Skills subscale and the Oppression Awareness subscale) due to wanting items to focus on actions instead of awareness or knowledge. Due to using only one subscale we performed a confirmatory factor analysis with a 1-factor model specified all items to load on a single allyship factor. The global fit indices indicated a moderately good fit, X^2 (14, N = 301) = 109.020, $p <$ 0.001, CFI = 0.925, TLI = 0.887, SRMR = 0.042, RMSEA Estimate = 0.150.

Our second allyship measure, Allophilia (Pittinsky et al., 2011), used 3 subscales so we performed a confirmatory factor analysis with a 3-factor model specified all items to load onto the subscales of: Affection, Comfort, and Engagement. We excluded the subscales of Kinship and Enthusiasm due the survey length as well as viewing the Affection, Comfort, and Engagement subscales as more applicable to how we were viewing allyship for non-binary people. The model was a good fit, X^2 (41, N = 301) = 161.326, $p <$ 0.001, CFI = 0.954, TLI = 0.938, SRMR = 0.034, RMSEA Estimate = 0.099. Due to the better fit, we used the Allophilia measure in our model to represent "allyship".

Activism

Activism was measured with 2 scales, the Involvement in Feminist Activities Scale (IFAS) (Szymanski, 2004) and the Activism Orientation Scale (Corning & Myers, 2002) both modified for relevance toward non-binary people. The IFAS has been found to have two factors so we conducted a 2-factor model confirmatory factor analysis which indicated a good fit, X^2 (8, N = 301) = 22.038, $p = 0.048$, CFI = 0.991, TLI = 0.983, SRMR = 0.015, RMSEA Estimate = 0.076. The measure was difficult to

modify for non-binary targets so we only retained six of the 17 items. We excluded items such as "I read feminist literature" and "I am a member of one or more feminist listservs" due to a lack of relevancy to non-binary people.

For the Activism Orientation Scale, we used both subscales of the scale and measured conventional activism and high-risk activism so we tested a 2-factor model factor analysis. The global fit indices indicated a good fit as well, X^2 (53, N = 300) = 117.880, $p < 0.001$, CFI = 0.978, TLI = 0.973, SRMR = 0.028, RMSEA Estimate = 0.064. Again, due to the length we only retained items that had a factor loading score over 0.75 in the original paper (Corning & Myers, 2002). Due to both scales having a good fit, we examined the items and selected the conventional activism subscale of the AOS to assess the "activism" measure in our models. We chose this subscale specifically because the items seem more aligned with what activism would like like for our sample as well as trying to choose a measure that was more easily modified.

To summarize, the measures that we chose as reliable indicators of our four constructs were: for the discrimination construct we chose the non-binary modified Attitudes Towards Lesbians and Gay Men Scale, for the tolerate measure we chose the non-binary modified Condemnation/Tolerance subscale of the Component Measure of Attitudes Towards Homosexuality scale, for the allyship measure we used the non-binary modified Allophilia Scale, for activism we chose the non-binary modified Conventional Activism subscale of the Activism Orientation Scale.

Relationship Among the Variables

Essentialism

As illustrated in Table 2, essentialism responses were right around the midpoint with cultural essentialism slightly higher with a mean of 3.54 (on a 5-point scale). The composite measure and biological essentialism were both positively correlated with all of the negative measures towards non-binary people (discrimination and tolerating). The composite measure was significantly negatively correlated with the positive measures of allyship and activism but neither of the other essentialism measures were. Cultural essentialism was positively correlated with multiple motivation measures, implicit lay theory, and need for closure.

Individual Differences

Responses to the Need for Closure short form (Roets & Van Hiel, 2011a) had an overall mean around the midpoint and was not significantly correlated with anything except for implicit lay theory and cultural essentialism. Belief in free will (Viney, Waldman, & Barchilon, 1982) was also on average around the midpoint and negatively correlated with implicit lay theory, tolerating, and both measures of activism. Belief in free will was positively correlated with the Drive motivation measure. Responses to the Implicit Lay Theory (using the intelligence and world subscales, Dweck et al., 1995) were just below the midpoint and positively correlated with all measures of essentialism. Higher Implicit lay theory scores indicate higher endorsement that things are "fixed" and unchangeable. These beliefs were positively correlated with all negative measures we collected and negatively correlated with both

allyship measures.

Discriminate, Tolerate, Allyship, and Activism

As shown in Table 2, overall means for both discrimination measures were low. Both measures were positively correlated with the tolerating measure and the general discrimination measure as assessed by the Attitudes Towards Lesbians and Gay Men scale (Herek, 1994). Both discrimination measures were also negatively correlated with the Allophilia measure but only the Homophobia scale was negatively correlated with both. We only collected one tolerating measure, the condemnation/tolerance subscale from the Component Measure of Attitudes Towards Homosexuality scale (LaMar & Kite, 1998) and the overall mean was low. The scale was negatively correlated with both allyship measures and positively correlated with the general discrimination measure which has negative attitudes as a higher score.

As shown in Table 2, the means for both allyship measures were around the midpoint. Both allyship measures were positively correlated with both activism scales and the novel motivation measure we created for the study. Both allyship measures were also negatively correlated with the general discrimination measure. Our activism measures, the Involvement in Feminist Activities Scales (Szymanski, 2004) and our Activism Orientation Scale (Corning & Myers, 2002) altered for activism for working for non-binary rights both had low overall means but IFAS had a higher mean that was closer, but slightly below, the midpoint with a mean of 2.64 while AOS had a mean of 1.99 (on a 5-point scale). As shown in Table 2, both activism measures were positively correlated with the newly developed motivation measure as well as the Activism Orientation Scale that was modified for discrimination actions. Both activism scales

were negatively correlated with the other discrimination measure, the Homophobia scale, as well as belief in free will and cultural essentialism.

Motivation

Our newly developed measure was positively correlated with all allyship and activism measures as well as cultural essentialism. The drive subscale was only positively correlated with cultural essentialism and belief in free will.

Testing for Demographic Differences

Political Affiliation

Participant's political party was significantly associated with their scores on trait measures, essentialism, and prejudice measures. See Table 3 for all difference scores and post hoc analyses, note that the appropriate p-value due to a Bonferroni correction is $p = 0.0031$. Republicans were significantly higher than both democrats and independents on endorsement of the composite essentialism belief scale. Moreover, republicans were significantly higher than democrats on endorsement of cultural essentialism and implicit lay theory beliefs. No differences in ideology emerged in Need for Closure. Discrimination towards non-binary people was greater in republicans as evidenced by both the modified homophobia measure and the modified measure of tolerating. Republicans were also significantly higher than independents, but equal to democrats, on willingness to engage in activities that work to limit non-binary rights. Democrats, republicans, and independents all significantly differed from each other on measures of allyship, as assessed by the Allophilia measure, as well as the AIM, and the general

discrimination measure. Lastly, democrats were significantly higher than republicans and independents on activism for non-binary rights when measured by the modified AOS as well as the IFAS. For all three of these measures, the pattern was the same such that people who identified as democrats endorsed more positive views towards non-binary people, republicans endorsed less positive views, and people who identified as independents were in the middle.

Gender Differences

We also tested for participant gender differences in responses. A Bonferroni corrected t-test with a p value = .0031 was used to determine if gender of participant influenced any of the survey responses. Results showed men were significantly higher (M = 2.88, SD = 0.62) on biological essentialism compared to women (M = 2.67, SD = 0.62), ($t(291)$ = 2.963, p = 0.003, d = 0.34) and men were higher (M = 3.07, SD = 0.46) in endorsing the composite scale of informativeness, discreteness, and biological basis compared to women (M = 2.88, SD = 0.43) ($t(290)$ = 3.62, p < 0.001, d = 0.43). Women were significantly higher (M = 3.46, SD = 0.65) than men (M = 3.17, SD = 0.64) in endorsement of Need for Closure ($t(290)$ = - 3.85, p < 0.001, d = 0.45). Men were significantly higher (M = 2.52, SD = 0.68) on our homophobia scale than women (M = 2.11, SD = 0.68), ($t(290)$ = 5.07, p < 0.001, d = 0.60) but were equal on the AOS discrimination scale. Men were significantly higher (M = 2.22, SD = 0.89) than women (M = 1.88, SD = 0.81) on the Tolerate measure ($t(291)$ = 3.47, p = 0.001, d = 0.40) and men had more negative discriminatory attitudes (M = 2.56, SD = 1.04) than women (M = 2.20, SD = 0.95) as assessed by the general discrimination measure ($t(291)$ = 3.06, p =

0.002, $d = 0.36$). Women were significantly higher ($M = 3.84$, $SD = 0.90$) than men ($M =$ 3.36, $SD = 0.94$) on the Allophilia Scale ($t(291) = -4.45$, $p < 0.001$, $d = 0.52$) and women ($M = 3.49$, $SD = 1.01$) were also higher than men ($M = 3.11$, $SD = 0.98$) on the Ally Identification Measure ($t(291) = -3.25$, $p = 0.001$, $d = 0.38$). Women were significantly higher ($M = 2.79$, $SD = 1.21$) on the IFAS measure of activism compared to men ($M =$ 2.49, $SD = 1.14$) ($t(291) = -2.17$, $p = .03$, $d = 0.26$), but no gender differences emerged for the AOS measures of activism.

Sample Differences

The sample differences that emerged were mainly for the taking actions variables, the measures for negative attitudes and actions towards non-binary people. Again, a Bonferroni correction with a p value of .0031 was used to determine if any sample effects were present. For the discrimination measure of homophobia, the MTurk sample ($M =$ 2.39, $SD = .73$) and the introductory psychology sample ($M = 2.20$, $SD = .68$) were not significantly different, $t(298) = 2.25$, $p = 0.03$, $d = 0.27$. For the tolerate measure, which higher scores translates to more negative views, the MTurk sample ($M = 2.18$, $SD = .90$) also was significantly higher than the introductory psychology students ($M = 1.87$, $SD =$ .80), $t(280.66) = 3.09$, $p = .002$, $d = 0.36$. For the measures of taking action in the future such as both the discrimination AOS and the AOS directed towards positive events for non-binary people as well as the IFAS, the MTurk sample was significantly higher. For the negative AOS, MTurk participants ($M = 1.89$, $SD = 0.84$) were significantly higher than the introductory psychology sample ($M = 1.59$, $SD = 0.58$), $t(297.99) = 3.711$, $p <$ .001, $d = 0.42$. For the positive actions AOS, MTurk participants ($M = 2.11$, $SD = 0.81$)

also scored higher on average than introductory psychology students ($M = 1.81$, $SD =$ 0.62), $t(295.35) = 3.60$, $p < 0.001$, $d = 0.41$. The other activism measure, the IFAS, MTurk participants ($M = 2.82$, $SD = 1.23$) also were significantly higher than the introductory psychology sample ($M = 2.39$, $SD = 1.09$), $t(299) = 3.11$, $p = 0.002$, $d =$ 0.37. These sample differences indicate that the MTurk sample is more likely to take action for their beliefs than the introductory psychology sample, independent of whether the beliefs are negative or positive towards non-binary people. Lastly, MTurk participants ($M = 2.98$, $SD = 1.10$) were significantly higher on endorsement of a fixed mindset for intelligence than the introductory psychology sample ($M = 2.42$, $SD = 1.01$) but not for the other subscale of implicit lay theory $t(299) = 4.45$, $p < .001$, $d = 0.53$.

Modeling the Relationship Among the Variables

We next used structural equation modeling to test the direction of the relationship between essentialism and the four non-binary DTAA constructs (discrimination, tolerate, allyship, and activism). Missing values were dealt with using fill information maximum likelihood estimation (Enders & Bandalos, 2001). See Figure 2 for our predicted model of essentialism leading to DTAA. This model was a moderately good fit, X^2 (340, N = 303) = 894.37, CFI = 0.90, TLI = 0.89, RMSEA = 0.07, SRMR = 0.09. The model testing the opposite direction of DTAA leading to essentialism beliefs (Figure 3) was an equivalent model to the predicted model and thus had the exact same fit statistics. See Figure 2 and 3 for the loadings of all of the variables. The predicted model had significant pathways for essentialism beliefs leading to each of the DTAA measures ($p <$

.001). The model examining the opposite direction only had significant pathways for two DTAA variables; tolerate ($p = 0.003$) and activism ($p = 0.005$). Due to this, the best model is the hypothesized model of essentialism predicting DTAA.

<div align="center">Exploring DTAA Profile Group Membership</div>

We conducted a latent profile analysis (LPA) to identify and organize groups of participants based on their responses to the DTAA indicators. The goal of LPA is to identify patterns or clusters of observations; it is a model-based technique. The term latent is used in LPA due to the cluster membership being a latent categorical variable. Due to our latent variable mixture modeling using only continuous variables as indicators we will refer to the analysis as latent profile analysis instead of latent class analysis. The person-centered analysis allows for the examination of whether participants are adopting multiple elements of prejudice simultaneously.

To avoid any problems due to local maxima, we increased the random starts on all analyses to 100, the number of iterations to 25, and the number of final-stage optimizations to 20. To determine the number of groups, we examined the model with 2 to 5 groups. Due to the fit indices, we concluded that there were 3 groups, the AIC, BIC, SSA-BIC, and entropy scores all supported this decision. See Table 4 for the latent profile analysis indices for each of the various group analyses. Table 5 presents the group's estimated means and standard errors as well as the percentage of the sample in each group, see Figure 4 for a graphic illustration of these means. The three profile groups are interpreted as advocates (those high on allyship, mid on activism and low on

tolerate and discrimination), antagonists (those high on discrimination, at the midpoint of allyship and tolerate, and low on activism), and ambivalent (those positive on all four constructs). The choice of an "ambivalent" label is importance, as compared to "indifference" for example, due to the group average being above the midpoint for all four constructs. An indifference would require a low endorsement on all four constructs, whereas similar to Glick and Fiske's research on ambivalent sexism (1996), the identification of an "ambivalent" cluster denotes a group of people who are simultaneously endorsing opposing feelings or beliefs. Without the ambivalent group emerging the dimensions could be interpreted simply along the negative (antagonist) and positive (advocate) valence dimension. The ambivalent cluster is an especially interesting profile group that is useful for future theory development on gender non-binary attitudes and intentions.

Profile Group Demographic Characteristics

When examining whether the gender of the participant was related to what profile group (advocate, antagonist, or ambivalent) they were in, results showed that men were more likely than women to be in the antagonist group rather than the advocates group ($p = 0.001$). Men are also more likely than women to be in the ambivalent group than in the advocates group ($p = 0.004$). The advocate group was composed of 37.5% men and 58.6% women; the ambivalent group was composed of 54.1% men and 43.4% women; and t was a majority of men making up the antagonist group with 66.1% men and 33.9% women.

We also examined whether the recruitment sample population predicted profile group membership and found that the MTurk sample was more likely than the introductory psychology students to be in the ambivalent group than in the antagonist group ($p = 0.034$). The MTurk sample was also more likely than the introductory psychology students to be in the ambivalent group than the advocates group ($p = 0.006$). This runs contrary to the sample differences we found previously where the MTurk sample was significantly higher on both activism measures as well as the discrimination measure version of the AOS.

Lastly, we tested if political party identification was related to DTAA profile group membership. Democrats were more likely than republicans to be in the ambivalent group ($p < 0.001$) and the advocates group ($p < 0.001$) rather than the antagonist group. Democrats were also more likely than republicans to be in the advocate group than the ambivalent group ($p < 0.001$). Democrats were more likely than independents to be in the ambivalent ($p < 0.001$) and the advocate group ($p < 0.001$) rather than the antagonist group. Independents were more likely than republicans to be in the advocate group rather than both the antagonist group ($p < 0.001$) and the ambivalent group ($p = 0.001$). The self-identified political ideology composition of the advocate group was 59.4% democrat, 7.8% republican, and 30.5% independent; the ambivalent group was comprised of 39.8% democrat, 32.7% republican, and 24.8% independent; the composition of the antagonist group was 9.7% democrat, 56.5% republican, and 33.9% independent.

Associations Among Psychological Variables and Profile Group Membership

We conducted a MANOVA to examine whether group membership was associated with the subscales of essentialism, need for closure, and the subscales of implicit lay theory. We found that the homogeneity of variance assumption was violated which was indicated by Box's test significance level, $p < .001$ and Levene's test reporting significance for all DVs (range of p values from $p < .001$ to $p = .029$). In response to this we then ran a non-parametric Kruskal-Wallis test and found the same pattern of results for all DVs as the MANOVA indicated. Due to the same results from the two tests we will report the results for the MANOVA. We found that group membership was significantly related to scores on these various scales $F(14, 580) = 10.13$, $p < 0.001$, $\eta_p^2 = 0.20$. To examine further the effect, one-way ANOVAs were conducted for all of the scales. All the essentialism belief subscales were significant: discreteness $F(2, 295) = 5.87$, $p = 0.003$, $\eta_p^2 = .038$, biological basis $F(2, 295) = 11.612$, $p < .001$, $\eta_p^2 = .073$, and informativeness $F(2, 295) = 7.950$, $p = .001$, $\eta_p^2 = .051$. Both subscales of implicit lay theory were also significant: world view $F(2, 295) = 19.97$, $p < .001$, $\eta_p^2 = .12$ and theory of intelligence $F(2, 295) = 29.96$, $p < .001$, $\eta_p^2 = .17$. Need for closure was not significant $F(2, 295) = .048$, $p = .953$, $\eta_p^2 = .000$. See Table 6 for all post hoc analyses and the means for all scales broken down by groups.[1]

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[1] A MANOVA, one-way ANOVAs, and Tukey's post hoc were also all conducted using 4 groups instead of 3 and we found that the additional fourth group was not significantly different than the closest comparable group for any of the variables. This supported our decision to proceed with 3 groups instead of 4 for the LPA.

DISCUSSION

By definition, essentialism reduces constructs down to one element with clear

boundaries that does not allow for fluidity to move between groups. People who have

non-binary gender identities defy gender categorization as male and female. Due to this,

we wanted to examine the association between essentialism and prejudice towards non-

binary individuals. To understand how essentialism relates to attitudes toward non-binary

people, it was first necessary to modify and validate measures of attitudes and behavioral

intentions toward people who are non-binary. To do this, we focused on four constructs

of prejudice that differ in valence (positive to negative) and motivation (passive and

active); 1) discrimination towards the target group, 2) tolerated the group, 3) is an ally for

that group, or 4) is an activist for the target group. Reliable and sound measures were

identified for each of the four constructs: for the discrimination construct we chose the

non-binary modified Attitudes Towards Lesbians and Gay Men Scale, for the tolerate

measure we chose the non-binary modified Condemnation/Tolerance subscale of the

Component Measure of Attitudes Towards Homosexuality scale, for the allyship measure

we used the non- binary modified Allophilia Scale, for activism we chose the non-binary

modified Conventional Activism subscale of the Activism Orientation Scale. We

hypothesized that higher levels of essentialism would be associated with higher levels of

the negative DTAA constructs (discrimination and tolerating) and lower levels of the

positive DTAA constructs (allyship and activism). These measures correlated with each

other and with essentialism and related constructs in predicted ways. When examining the

relationship of essentialism and the DTAA constructs using SEM the results indicated

that essentialism loaded onto the DTAA constructs rather than the other way around.

We found support for our prediction that there would be individual differences such that men would be higher than women and republicans would be higher than democrats on the negative constructs (discrimination and tolerating) and the opposite direction for the positive constructs (allyship and activism). Using profile analyses, we were able to identify and organize people into groups based on their responses to these measures of attitudes and behaviors toward non-binary people. Although we anticipated four profile groups (as shown in Figure 1), results instead determined three meaningful groups: 1) advocated, 2) ambivalent, and 3) antagonists. Political ideology, gender, and sample were all significant predictors of a participant's profile group.

Results from this study provide the tools for scholars to assess prejudice toward people who are gender non-binary, and illustrate the importance of essentialism to understanding this prejudice. Different measures of prejudice are useful for understanding different experiences. Indeed, people's response to non-binary people fell into three important profile groups (advocates, ambivalent, and antagonists) that can help inform interventions and research. For example, research that aims to improve the views of the most extreme groups (the antagonist group in the study) will necessarily be different from research focused on the ambivalent group. For scholars and activists interested in eliminating bias toward non-binary people, understanding the nuances in profile groups suggests multiple interventions are needed.

Future Directions

One example of an intervention is the inclusion of pronouns in introductions. Pronouns in particular are one place that signify someone identities as male (he/his/him) or female (she/her/hers). It is thus likely taken for granted that, when speaking or writing, gender is implicated and assumed. The frequency with which people use pronouns in language means that many people might not realize that, for some, the pronoun does not match the outward gender expression. For example, many in the trans community ask allies to introduce their pronouns as a way to make a more inclusive space. An example of this is when a Huffington Post article lists out "10 Tips About Using & Understanding Non-Binary or Genderqueer Pronouns" and they include the tip of including personal gender pronouns "in your ice breakers/go-arounds when you start a meeting. Are you involved with organizing a conference? Include a place for pronouns on your name tags/badges" (Lowrey, 2017). By introducing pronouns, it is thought that the ally is acknowledging that pronouns are not a given and that there may be nontraditional pronoun gender matchings in the group. Pronouns also need not include male/female information. The pronouns they/them/theirs or ze/hir are meant to be gender-neutral. This is why the singular "they" was named the 2015 word of the year by the American Dialect Society (Bennet, 2016). Given that pronoun introduction is an easy step to take, and thus if a study finds that they do contribute to allyship or reduce discrimination, then introducing pronouns can be an easy, small, and simple intervention to administer for all. If, however, pronoun use primes a nonessentialist understanding of gender by reminding people that gender is fluid, then it could reduce prejudice and discrimination toward non-

binary people. Given that identity safety cues for one minority group (e.g., women) have been found to increase identity safety for people in a different minority group (e.g., Black men), a new gender category inclusion that is specifically for LGBTQ+ individuals could also have a positive impact on other minority groups as well (Chaney, Sanchez, & Remedios, 2016).

The impact of introducing pronouns likely depends on who is saying it. For example, when an observer steps in to stop an act of sexism and they are not the target of the discrimination (thus a white male) their claim of an action being sexist is viewed as being more legitimate and leads to more feelings of guilt and self criticism (Czopp & Monteith, 2003). This was also found to be the case for racism with a white observer stepping in (Czopp & Monteith, 2003), such that a white person saying an action is racist is viewed as being more legitimate than when a black person is the one making the claim. When the communicator is not expected they are viewed as being more unbiased and thus more persuasive (Eagly, Wood, & Chaiken, 1978). As such, men and white people are often viewed as more legitimate with their claims of racism and sexism on behalf of others.

The gay and lesbian community has been a historically racist community (Barnard, 2004). This is likely because historically, the LGBTQ+ community members who were assimilating the heteronormative and capitalist ideals were the ones who were praised (or at least not harmed) and the ones who were chosen as representatives of the community (Barnard, 2004). The white gay men were often the ones fitting these roles since they were the LGBTQ+ members who had access to the most privilege. They were

the LGBTQ+ members who were most likely to fit what seemed to be "success" and become the leaders of the movement (Barnard, 2004). Due to this, "queer" can often be perceived as simply gay white middle-class men (Barnard, 2004). Thus, people of color are not expected to be part of the LGBTQ+ community. People of color also have a lower perceived credibility (Hendrix, 1998) overall.

This project tested non-binary prejudice generally, but it is important to note that people are not a single identity and next steps include examining how the intersections of identities, for example race and gender, can influence prejudice towards non-binary people. Non-binary people often have other marginalized identities outside of being non-binary and these identities influence and change their experiences. Take the example of Alok Vaid-Menon, who is a non- binary person who is also Indian. When they recounted a time when a white man sees them on a train, they noted: "he screamed Osama! … and then he looked down and saw that I was wearing stiletto heels." "I had a beard but then I had heels and then he cut himself short … and it was this really weird moment where I no longer fit his stereotype of a 'man of color, … a terrorist.' When people see me as a brown person they automatically masculinize me too" (Goodkind & Mandelbaum, 2015). As a person of color and someone who identifies as non-binary, Alok Vaid Menon is often confronted by multiple types of prejudice that are not simply additive but instead interact with each other in complicated ways.

There has been a demand by feminist psychology researchers to strive for a more intersectional epistemology within psychological science not only for inclusion but also because understanding access and privilege space has impacts on the results of studies

(Else-Quest & Hyde, 2016). Intersectionality is especially important when considering culturally determined phenomena such as prejudice and discrimination, as illustrated by Steinbugler, Press, & Dias (2006). In their study examining the effects of prejudice on attitudes towards affirmative action, they found that prejudice toward black women specifically was the best predictor of white people's attitudes of opposition to affirmative action. It had a larger effect than prejudice towards black men and blacks in general. As a field we cannot ignore the intersections of these various identities in navigating oppressive – and inclusive – situations. Thus, the multiply determined identities of who attempts to confront prejudice (or in our case disrupt binary notions of gender) matters (Czopp & Monteith, 2003). The critical next step for research on prejudice towards non-binary individuals requires using an intersectional lens.

Due to the lack of non-binary prejudice research, we see a need for replication of these results. A future direction is to replicate these findings with only the four DTAA constructs we chose using a new sample of participants. The current study's sample was composed of heterosexual cisgender people; thus the results cannot speak for how the LGBTQ+ community feels about gender non-binary people. Drawing from research on biphobia (prejudice towards people who are perceived as or do identify as bisexual) it is possible that the LGBTQ+ community's attitudes towards gender non-binary people would be similarly negative. Biphobia includes stereotypes that people who are bisexual are more promiscuous, less monogamous, more untrustworthy, immature, confused, and that bisexuality is just a phase (Hayfield, Clarke, & Halliwell, 2014). These are beliefs that the LGBTQ+ community holds as well as heterosexual people (Hayfield, Clarke, &

Halliwell, 2014). Given this, we would anticipate that gender non-binary identities may be viewed with a similar lack of acceptance by the LGBTQ+ community. Moreover, endorsement of the discreteness of bisexuality predicts greater biphobia, Indeed, people who are not bisexual (lesbians, gay men, and heterosexuals) are more likely to view bisexuality as discrete (Hubbard & De Visser, 2015), and this may be one reason why bisexuality is often marginalized, unaccepted, and viewed with suspicion even among those within the lesbian and gay community (Mulick & Wright, 2011). It remains to be seen if people who are bisexual may be more accepting and positive toward gender non-binary people because of their similar nonconforming identity which they view as stable (Hubbard & DeVisser, 2015). To address questions of how the LGB community view gender non-binary people, seeking a sample of sexual minority individuals would help to expand the current results.

<u>Limitations</u>

A main limitation of the current project is the lack of experimental data. In the current study all analyses are based on correlations and do not allow for any causal claims surrounding the relationship of essentialism and attitudes towards non-binary individuals. Another limitation is, due to the number of participants that failed our attention checks, we had to eliminate more participants than we previously anticipated. Due to this, our number of participants was below our planned sample size that was predetermined from a power analysis. The good news is that post hoc power analyses illustrated strong power for all of the general linear model test, ranging from .98 to .99, suggesting that the study

was not underpowered after all.

The current study uses only survey measures and there are large limitations associated with using survey measures rather than open-ended interviews that would allow for a more complex and thorough understanding of the topic. We also based many of our modified measures on scales that were originally created for sexual minority targets. Non-binary prejudice is unique and this is a limited technique to start the collection of research on non-binary prejudice. In the future, performing a full measure development process for non-binary prejudice scales would be helpful. Having qualitative interviews with non-binary people to better understand their unique experiences and how prejudice operates for this identity specifically before writing the measure items.

Along with that, the survey measures are not behavioral measures. Some items do measure the intention of behavior such as asking "I would donate money to groups or causes that support non-binary individuals", this is not a true behavioral measure. In the future, we would like to see if essentialism is tied to positive behaviors such as attending a rally for non-binary rights or negative behaviors such as voting for a discriminatory bill for non-binary rights. We acknowledge that survey measures are limiting and the call for the inclusion of more behavioral measures in psychology (Baumeister, Vohs, & Funder, 2007).

Due to all of these measures only being collected at one point and all at the same time, this limits the claims we can make about the data. We do not know anything about the longitudinal relationship between essentialism and prejudice towards non-binary people. The story for how this prejudice develops and progresses could be different and

likely more complex. The question of at what ages does this prejudice develop and whether the relationship between essentialism and prejudice evolves through development needs to be addressed in the future. Longitudinal data would also examine more about how the DTAA profiles groups unfold and change, which would lead to an even richer understanding of the groups and how interventions would influence them each individually.

A limitation of the latent profile analysis is that the clusters that participants were grouped into are not likely homogenous as there is variance within the groups as well. A LPA by definition does not examine variation within the groups and instead simply forms the groups based on the differences amongst the groups (Pastor et al., 2007). While we do generally assume homogenous groups and an LPA allows for parsimony, a mixed model factor analysis would be able to examine variance between the groups as well as within the group. A future direction is to study the current topic but with a mixed model factor analysis to assess the groups with variance instead of only homogenously.

<u>Implications</u>

There is new attention and consideration being given to non-binary people. Whether that is through the call for pronoun introductions (Lowrey, 2017) or states recognizing non-binary genders as legally legitimate (Caron, 2017). Due to this newly recognized identity there is an overwhelming lack of research surrounding non-binary gender identities and we hope the current study can contribute to future research through the examination of measures tailored to attitudes and beliefs about non-binary targets.

We also hope that through our examination of multiple measures of prejudicial attitudes simultaneously we can start to consider prejudice in a new way. The examination of our DTAA profiles can lead to interesting new questions and an examination of person-centered questions for the field of prejudice.

The analysis of essentialism and non-binary prejudice is a new manifestation of an old idea dating back to Gordon Allport proposing that a group's essence contributes to prejudice (1954). While this is a concept that scholars have been discussing for over sixty years the application to non-binary people is new. To be proactive in the fight against oppression we as researchers must be willing to rethink measurement and test questions that are still untested. Only through revision of our methodology can we examine these important topics in the most meaningful and nuanced ways. The people that we study are living nuanced, complex lives, with identities that are fluid and not easily categorized. Our methodology and questions need to adapt and change along with the communities that we study.

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APPENDICES

APPENDIX A

TABLES

Table 1. Measures used.

Original Survey	Times Cited	# of Items	Example Item	Alpha	Reference
			Essentialism Indicators		
Discreteness, Informativeness, & Biological Basis	**340**	**23**	**"Everyone is either a certain type of person or they are not."**	**0.83**	**Bastian & Haslam, 2006**
(Gender Modified) Biological Essentialism	---	4	"I believe that many differences between genders can be attributed to differences in genetic predispositions."	0.82	Yalcinkaya, Estrada-Villalta, & Adams, 2017
(Gender Modified) Cultural Essentialism	---	11	"Being raised as a certain gender does not determine a person's lifestyle and interests."	0.72	Yalcinkaya, Estrada-Villalta, & Adams, 2017
Implicit Lay Theory - Intelligence and World Subscales	1542	6	"Your intelligence is something about you that you can't change very much."	0.83	Dweck, Chiu, & Hong, 1995
Need for Closure (Short form)	223	15	"I don't like situations that are uncertain."	0.87	Roets & Van Hiel, 2011a
Free Will-Determinism Scale	67	7	"Indicate where you stand with respect to the free will determinism issue." Poles are "I believe strongly in free will." to "I believe strongly in determinism."	0.62	Viney, Waldman, & Barchilon, 1982
Social Desirability (Short form)	1677	10	"I never resent being asked to return a favor."	0.07	Crowne & Marlowe, 1960

			Discrimination Indicators		
(Non-Binary Modified) Homophobia Scale	247	21*	"I would tease and make jokes about non-binary people."	0.91	Wright, Adams, & Bernat, 1999
(Non-Binary Modified) Activism Orientation Scale	145	12**	"How likely is it that you will engage in this activity in the future? Attend a talk on upholding traditional gender definitions?"	0.95	Corning & Myers, 2002
(Non-Binary Modified) Attitudes Towards Lesbians and Gay Men	**1350**	**5**	**"I think non-binary people are disgusting."**	**0.82**	**Herek, 1994**
			Tolerate Indicators		
(Non-Binary Modified) Component Measure of Attitudes Towards Homosexuality – Condemnation/ Tolerance Subscale	**363**	**10*****	**"Non-binary people should not be allowed to work with children."**	**0.89**	**LaMar & Kite, 1998**
			Allyship Indicators		
(Non-Binary Modified) Allophilia - Affection, Comfort, and Engagement Subscales	**68**	**11**	**"I would be at ease around non-binary people."**	**0.95**	**Pittinsky, Rosenthal, & Montoya, 2011**

(Non-Binary Modified) Ally Identification Measure - Openness and Support Subscale	18	7	"I would try to increase my knowledge about non-binary people."	0.91	Jones, Brewster, & Jones, 2014
			Activism Indicators		
(Non-Binary Modified) Involvement in Feminist Activities	73	17	"I would donate money to groups or causes that support non-binary individuals."	0.94	Szymanski, 2004
(Non-Binary Modified) **Activism Orientation Scale**	**145**	**12****	**"How likely is it that you will engage in this activity in the future? Attend a talk on non-binary identities and rights?"**	**0.95**	**Corning & Myers, 2002**
			Motivation Indicators		
Social Modification of Achievement Goals Questionnaire	1	24	"When I am with others, it is important to me or I try to ensure: that I do better than them"		Quilty, 2006
BIS/BAS - Drive Subscale	5127	4	"I go out of my way to get things I want."	0.8	Carver & White, 1994
Motivation to Take Action for Beliefs	---	4	"When I see something I don't agree with, I do something about it."	0.52	

* full scale is 25 items, reduced by 4 items since they did not modify well for non-binary targets

** full scale is 38 items, reduced by only using items with factor loading over .75

*** full scale is 11 items, reduced by 1 items since it did not modify well for non-binary targets

Table 2. The unstandardized factor loadings for the confirmatory factor analysis and the Cronbach's Alpha.

Item	Factor Loading	SE	Alpha
Discrimination Measures			
(Non-Binary Modified) Homophobia Scale			0.91
Behavioral/Negative Affect Subscale			
Non-binary people would make me nervous.	1	< .001	
Non-binary people deserve what they get.	0.89	0.09	
If I discovered a friend was non-binary I would end the friendship.	1.16	0.10	
I think non-binary people should not work with children.	1.21	0.10	
I would make derogatory remarks about non-binary people.	0.95	0.09	
I would enjoy the company of non-binary people. (R)	0.76	0.09	
It would not matter to me whether my friends are non-binary. (R)	0.88	0.10	
It would upset me if I learned that a close friend was non-binary.	1.26	0.10	
It would not bother me to see non-binary people in public. (R)	0.77	0.10	
Cognitive Negativism Subscale			
Being non-binary is acceptable to me. (R)	1	< .001	
Organizations that promote non-binary rights are necessary. (R)	-0.74	0.06	
I would feel comfortable with a non-binary roommate. (R)	0.89	0.07	
Being non-binary should not be against the law.	0.54	0.07	
Affect/Behavioral Aggression Subscale			
Being non-binary is immoral.	1	< .001	
I would tease and make jokes about non-binary people.	0.73	0.06	
I feel that you cannot trust a person who is non-binary.	0.45	0.07	
I would damage property of non-binary people, such as "keying" their cars.	0.59	0.06	
I would avoid non-binary individuals.	1.01	0.06	
When I see a non-binary person, I would think, "What a waste."	0.91	0.05	
When I meet someone I would try to find out if they are non-binary.	0.45	0.06	

I would have rocky relationships with people that I suspect are non-binary.	1.00	0.06
(Non-Binary Modified) Activism Orientation Scale - Discrimination		0.95

Conventional Activism Subscale

Invite a friend to attend a meeting of an organization that supports traditional gender identities?	1	< .001
Donate money to a political candidate that fights against people who are non-binary acquiring rights?	1.04	0.06
Send a letter or e-mail about not supporting non-binary people's fight for rights to a public official?	0.97	0.06
Attend a talk on upholding traditional gender definitions?	0.98	0.07
Attend an organization's regular planning meeting that works for the preservation of male and female only identities?	1.06	0.06
Encourage a friend to join an organization that works to keep traditional gender definitions?	1.04	0.06
Donate money to an organization that works to uphold traditional male and female gender identities?	1.03	0.06

High-Risk Activism Subscale

Engage in a political activity in opposition to rights of non-binary people in which you knew you would be arrested?	1	< .001
Engage in an illegal act as part of a political protest for upholding traditional male and female only identities?	0.98	0.05
Engage in a political activity in support of keeping traditional gender definitions in which you suspect there would be a confrontation with the police or possible arrest?	1.04	0.06
Block access to a building or public area with your body in protest to people who are non-binary acquiring rights?	0.89	0.06
Engage in a political activity in opposition to people who are non-binary acquiring rights in which you feared for you personal safety?	1.05	0.05
(Non-Binary Modified) Attitudes Towards Lesbians and Gay Men		0.82
I think non-binary people are disgusting.	1	< .001

Identifying as non-binary is a perversion.	1.11	0.06
Identifying as a gender outside of the binary of male and female is a natural expression of gender. (R)	1.13	0.06
Identifying as non-binary is just plain wrong.	0.61	0.08
Identifying outside of the binary is merely a different kind of lifestyle that should not be condemned. (R)	0.49	0.08

Tolerance Measures

(Non-Binary Modified) Component Measure of Attitudes Towards Homosexuality - Condemnation/Tolerance Subscale			0.89
Apartment complexes should not accept non-binary people as renters.	1	< .001	
Non-binary people should be required to register with police department where they live.	0.97	0.09	
Non-binary people should not be allowed to hold high-level positions.	1.11	0.09	
Non-binary are a danger to young people.	1.12	0.08	
Non-binary people are more likely to commit deviant acts such as child molestation, rape, voyeurism (peeping Toms) than are binary people.	1.05	0.08	
Non-binary people should not be allowed to work with children.	1.20	0.09	
Job discrimination against non-binary people is wrong. (R)	0.75	0.07	
Finding out an artist is non-binary would have no effect on my appreciation of their work. (R)	0.64	0.09	
Non-binary people should be allowed to serve in the military. (R)	0.85	0.09	
Non-binary people should not be discriminated against because of their gender identity. (R)	0.64	0.09	

Allyship Measures

(Non-Binary Modified) Allophilia Scale			0.95
Affection Subscale			
In general, I would have positive attitudes about non-binary people.	1	<.001	

I would respect non-binary people.	0.68	0.05
I would like non-binary people.	0.88	0.04
I would feel positively toward non-binary people.	0.90	0.04
Comfort Subscale		
I would be at ease around non-binary people.	1	<.001
I would be comfortable when I hang out with people who identify as non-binary.	1.13	0.07
I would feel like I can be myself about non-binary people.	1.00	0.07
Engagement Subscale		
I would be motivated to get to know non-binary people better.	1	<.001
To enrich my life, I would try and make more friends who are non-binary.	0.86	0.06
I would be interested in hearing about the experiences of non-binary people.	0.94	0.05
I would be truly interested in understanding the points of view of non-binary people.	0.95	0.05
(Non-Binary Modified) Allyship Identification Measure - Opennes and Support Subscale	0.94	
I would engage in efforts to promote more widespread acceptance of non-binary people.	1	<.001
I would take a public stand on important issues facing non-binary people.	1.05	0.06
I would try to increase my knowledge about non-binary groups.	0.87	0.06
I would be comfortable with knowing that, in being an ally to non-binary individuals, people may assume I am a non-binary person.	0.95	0.07
If I saw discrimination against a non-binary person or group occur, I would actively work to confront it.	0.82	0.06
I would regularly engage in conversations with non-binary people.	0.94	0.06
I would be open to learning about the experiences of non-binary people from someone who identifies as non-binary.	0.87	0.06

Activism Measures

(Non-Binary Modified) Activism Orientation Scale   0.95

Conventional Activism Subscale

Invite a friend to attend a meeting of an organization that supports non-binary people's fight for rights?	1	< .001
Donate money to a political candidate that supports people who are non-binary?	0.99	0.06
Send a letter or e-mail about supporting non-binary people's fight for rights to a public official?	1.05	0.06
Attend a talk on non-binary identities and rights?	1.04	0.06
Attend a regular planning meeting for an organization that works for rights for non-binary people?	1.07	0.06
Encourage a friend to join an organization that helps to support people who are non-binary?	1.06	0.05
Donate money to an organization that fights for rights of people who are non-binary?	1.04	0.06

High-Risk Activism Subscale

Engage in a political activity for the rights of people who are non-binary in which you knew you would be arrested?	1	< .001
Engage in an illegal act as part of a political protest for acquiring more rights for people who are non-binary?	0.96	0.06
Engage in a political activity for people who are non-binary in which you suspect there would be a confrontation with the police or possible arrest?	1.06	0.06
Block access to a building or public area with your body for the rights of people who are non-binary?	1.00	0.06
Engage in a political activity in support of rights for non-binary people in which you feared for your personal safety?	1.00	0.06

(Non-Binary Modified) Involvement in Feminist Activities   0.94

Factor 1

I would be involved in research, writing, and/or speaking about non-binary issues.	1	< .001

I would actively participate in organizational, political, social, community, and/or a academic activities and events that support non-binary individuals.	1.05	0.05
I would attend conferences/lectures/classes/trainings that concern supporting non-binary individuals.	1.06	0.05
Factor 2		
I would vote for political candidates that support non-binary inclusion issues.	1	< .001
I would donate money to groups or causes that support non-binary individuals.	1.18	0.08
I would write to politicians and elected officials concerning support non-binary individuals.	1.20	0.08

Table 3. Correlations between measures collected with means and standard deviations on the bottom line.

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Essentialism Belief Scale	---															
2. Biological Essentialism (GM)	.13*	---														
3. Cultural Essentialism (GM)	.13*	.05	---													
4. Implicit Lay Theory	.29**	.22**	.20**	---												
5. Need for Closure	.06	.10	.23**	.20**	---											
6. Free Will-Determinism	.01	-.04	.11	-.14*	-.04	---										
7. Homophobia Scale - Discrimination (NBM)	.41**	.38**	.09	.46**	.04	-.08	---									
8. Activism Orientation Scale - Discrimination (NBM)	.16**	.35**	.02	.39**	.07	-.11	.51**	---								
9. Attitudes Towards Lesbians and Gay Men - Discrimination (NBM)	**.38****	**.17****	**.08**	**.39****	**.01**	**.03**	**.81****	**.36****	---							
10. Component Meausre of Attitudes Towards Homosexuality - Tolerating (NBM)	**.36****	**.25****	**.01**	**.46****	**-.03**	**-.12***	**.83****	**.57****	**.71****	---						
11. Allophilia - Allyship (NBM)	**-.36****	**-.06**	**.01**	**-.30****	**.10**	**.01**	**-.69****	**-.11***	**-.70****	**-.58****	---					
12. Ally Identification Measure - Allyship (NBM)	-.34**	-.02	-.04	-.21**	.08	-.04	-.61**	.02	-.63**	-.46**	.83**	---				
13. Involvement in Feminist Activities - Activism (NBM)	-.28**	.08	-.14*	-.05	.01	-.21**	-.27**	.33**	-.40**	-.11*	.58**	.74**	---			
14. Activism Orientation Scale - Activism (NBM)	**-.23****	**.16****	**-.13***	**.06**	**.08**	**-.28****	**-.15****	**.47****	**-.31****	**.01**	**.54****	**.66****	**.85****	---		
15. Drive (BAS)	.07	.05	.35**	.05	.10	.11*	.03	-.02	.08	-.01	.01	.03	-.05	-.08	---	
16. Motivation to Take Action for Beliefs	-.04	.05	.20**	.01	.01	.02	-.05	.11	.02	-.05	.17**	.22**	.16**	.15*	.264**	---
	2.97 (.46)	2.78 (.63)	3.54 (.53)	2.89 (.85)	3.3 (.66)	3.16 (.67)	2.31 (.72)	2.37 (1.01)	1.99 (.75)	2.05 (.87)	3.60 (.95)	3.31 (1.01)	2.64 (1.19)	1.99 (.75)	2.90 (.61)	3.37 (.63)

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
NBM = non-binary modified survey
GM = modified survey to be specific to the topic of gender

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Table 4. One-way ANOVA for all measures and political party with Tukey's post hoc analysis.

Measure	Political Party	Mean(SD)	df (b,w)	F	p
Essentialism Belief Scale	Republican	3.15(.43)+	2, 292	9.42	< .001
	Independent	2.92(.47)*			
	Democrat	2.88(.44)*			
Biological Essentialism (GM)	Republican	2.88(.67)	2, 293	1.51	0.22
	Independent	2.75(.60)			
	Democrat	2.73(.56)			
Cultural Essentialism (GM)	Republican	3.66(.53)**	2, 293	4.87	0.01
	Independent	3.57(.48)			
	Democrat	3.44(.54)*			
Implicit Lay Theory	Republican	3.14(.83)**	2, 293	6.29	0.002
	Independent	2.90(.98)			
	Democrat	2.72(.87)*			
Need for Closure	Republican	3.34(.63)	2, 292	0.27	0.76
	Independent	3.27(.69)			
	Democrat	3.32(.66)			
Free Will-Determinism	Republican	3.23(.63)	2, 294	2.17	0.12
	Independent	3.22(.64)			
	Democrat	3.06(.66)			
Homophobia Scale - Discrimination (NBM)	Republican	2.78(.59)**	2, 292	34.86	< .001
	Independent	2.28(.66)			
	Democrat	2.02(.66)*			
Activism Orientation Scale - Discrimination (NBM)	Republican	2.00(.81)	2, 292	7.11	0.001
	Independent	1.57(.67)*			
	Democrat	1.73(.73)			
Attitudes Towards Lesbians and Gay Men - Discrimination (NBM)	Republican	3.08(.85)+	2, 293	40.85	< .001
	Independent	2.35(.98)+			
	Democrat	1.93(.86)+			
Component Measure of Attitudes Towards Homosexuality - Tolerating (NBM)	Republican	2.54(.76)**	2, 293	22.9	< .001
	Independent	1.96(.83)			
	Democrat	1.78(.82)*			
Allophilia - Allyship(NBM)	Republican	3.04(.91)+	2, 293	30.09	< .001
	Independent	3.55(.96)+			
	Democrat	3.99(.78)+			

Ally Identification Measure - Allyship(NBM)	Republican	2.74(.94)+	2, 293	27.24	< .001
	Independent	3.22(.96)+			
	Democrat	3.72(.92)+			
Involvement in Feminist Activities Scale - Activism(NBM)	Republican	2.08(1.16)**	2, 293	23.5	< .001
	Independent	2.44(1.15)**			
	Democrat	3.12(1.06)			
Activism Orientation Scale - Activism (NBM)	Republican	1.70(.79)**	2, 292	25.7	< .001
	Independent	1.75(.67)**			
	Democrat	2.31(.63)			
Drive (BAS)	Republican	2.91(.64)	2, 292	1.26	0.28
	Independent	2.98(.62)			
	Democrat	2.84(.59)			
Motivation to Take Action for Beliefs	Republican	3.43(.62)	2, 294	0.57	0.56
	Independent	3.33(.67)			
	Democrat	3.35(.63)			

+ = significantly different than both other parties

* = significantly different than republicans

** = significantly different than democrats

NBM = Non-binary modified survey

GM = modified survey to be specific to the topic of gender

Table 5. Summary of the model fit indices for LPA models specified with 2-5 groups

Number of groups	Number of parameters	AIC	BIC	SSA-BIC	VLRT	ENTROPY	LT1%	LT5%
2	17	2682.29	2745.42	2691.51	0.00	0.92	0	0
3	26	2423.01	2519.57	2437.11	0.00	0.93	0	0
4	35	2314.70	2444.68	2333.68	0.26	0.92	0	0
5	44	2358.51	2521.92	2382.37	0.65	0.88	0	1

Table 6. Estimated means and standard error for discrimination, tolerate, allyship, and activism towards non-binary people by profile group.

Profile group	Group size (% of sample)	Discrimination mean (SE)	Tolerate mean (SE)	Allyship mean (SE)	Activism mean (SE)
Advocates	42%	1.51(0.06)	1.22(0.04)	4.34(0.06)	2.42(0.07)
Antagonists	37%	3.40(0.13)	2.55(0.11)	2.38(0.11)	1.03(0.01)
Ambivalent	20%	2.81(0.08)	2.70(0.10)	3.41(0.07)	2.37(0.07)

Table 7. One-way ANOVA Tukey's post hoc results for the 3 prejudice groups.

Dependent Variable	Prejudice Group	Mean (SE)
Essentialism Belief Scale - Biological Basis Subscale	Advocates**	2.96(0.05)
	Ambivalent*	3.17(0.06)
	Antagonists*	3.38(0.07)
Essentialism Belief Scale – Discreteness Subscale	Advocates**	2.47(0.05)
	Ambivalent*	2.96(0.05)
	Antagonists*	3.05(0.07)
Essentialism Belief Scale- Informativeness Subscale	Advocates**	2.86(0.05)
	Ambivalent*	3.08(0.05)
	Antagonists*	3.16(0.07)
Implicit Lay Theory– World Subscale	Advocates*	2.66(0.08)
	Ambivalent*	3.29(0.08)
	Antagonists	3.32(0.11)
Implicit Lay Theory– Theory of Intelligence	Advocates**	2.31(0.09)
	Ambivalent**	3.31(0.10)
	Antagonists**	2.63(0.13)
Need for Closure	Advocates	3.32(0.06)
	Ambivalent	3.34(0.06)
	Antagonists	3.30(0.08)
Free Will-Determinism	Advocates+	3.28(0.06)
	Ambivalent*	2.99(0.06)
	Antagonists**	3.22(0.09)

* = significantly different than advocates at p < .05
+ = significantly different than ambivalent at p < .05
~ = significantly different than antagonists at p < .05
** = significantly different than all others at p < .05
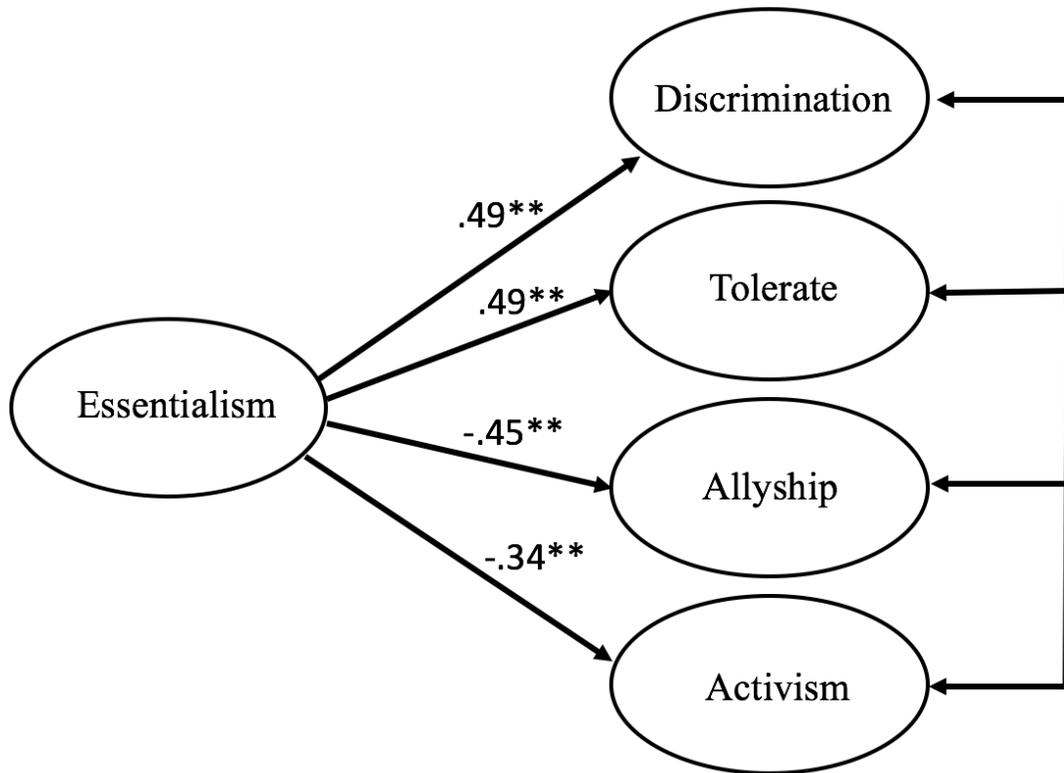
APPENDIX B

FIGURES

Figure 1. Predicted DTAA quadrants.

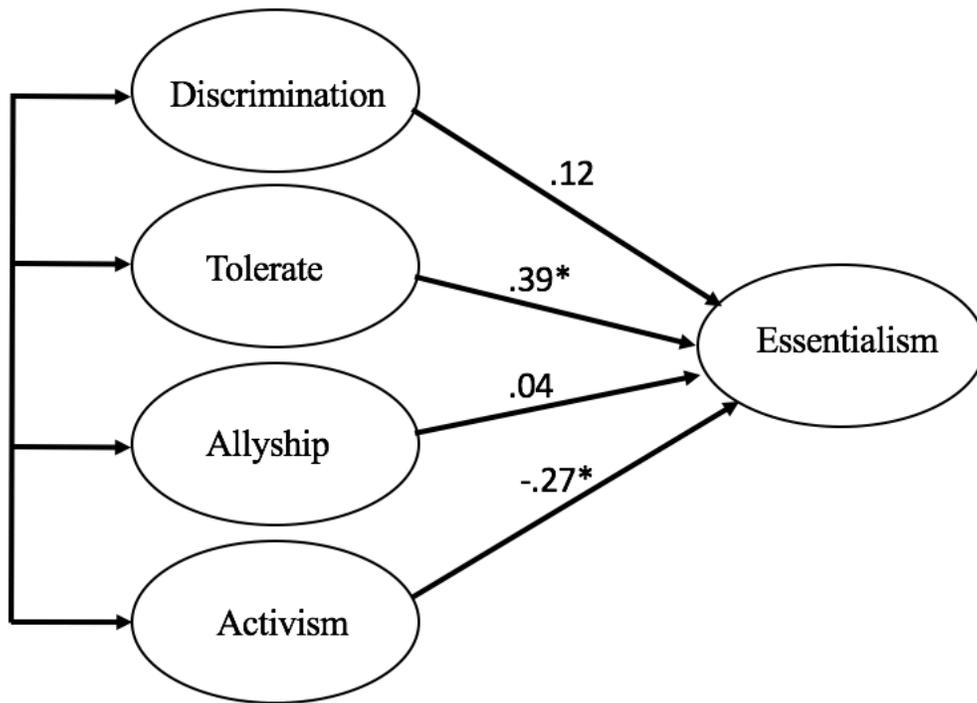Figure 2. SEM standardized pathways for the predicted model. ** = significance of p < .001.

Figure 3. The SEM standardized pathways for the opposite direction of the predicted model. * = significance of p =.05.
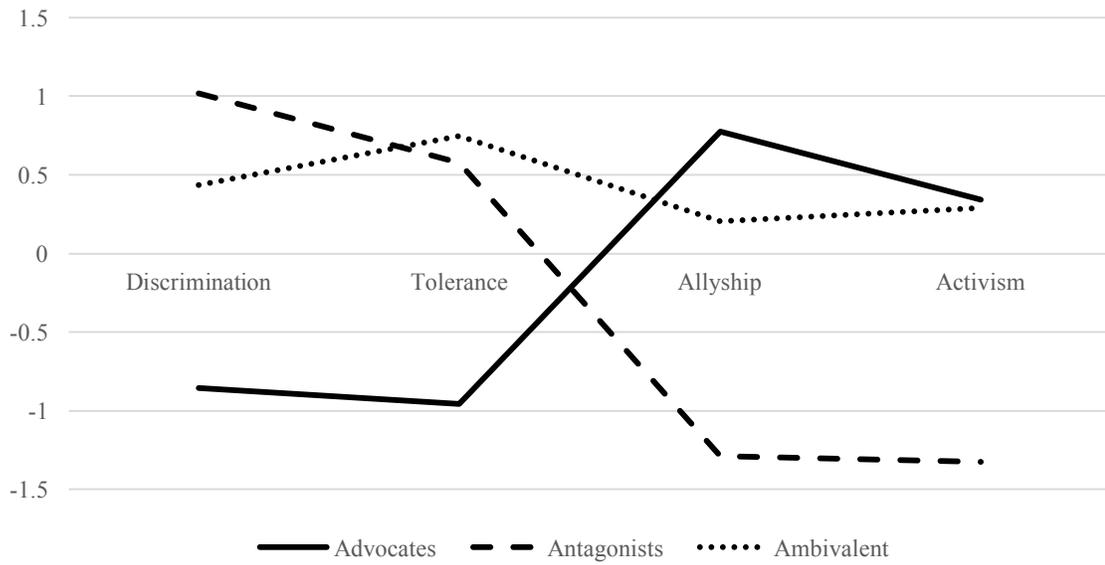
Figure 4. Z-score means for discrimination, tolerate, allyship, and activism responses towards non-binary people by profile group.