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Article

Intergroup Threat and Heterosexual Cisgender Women's Support for Policies Regarding the Admittance of Trans Women at a Women's College

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Received: 2 October 2020; Accepted: 9 November 2020; Published: 16 November 2020



Abstract: Although spaces once reserved for cisgender women are becoming increasingly accessible to trans women, few studies have examined cisgender women's responses to such changes. Informed by social identity perspectives, we examined if heterosexual cisgender women's reactions to two types of women's college admissions policies pertaining to trans women depended on their appraisals of intergroup threat—or the degree to which they perceived trans women as a threat to cisgender women. Four-hundred-and-forty heterosexual cisgender women completed a measure of intergroup threat and then read 1 of 2 articles about a women's college's admissions policy (accept trans women vs. reject trans women). Following the article, they indicated their support for the policy they read about. Overall, participants were significantly more supportive of the admissions policy when it was framed as being inclusive of trans women. The effect of policy type on policy support was moderated by intergroup threat. Specifically, women who were not particularly threatened by trans women expressed significantly more policy support when the policy was described as being inclusive of trans women, rather than as exclusionary. Alternatively, highly threatened women were significantly more likely to show support when the policy was described in terms of excluding trans women.

Keywords: women's college; trans women; heterosexual cisgender women; admissions policy; intergroup threat

1. Introduction

Transgender individuals are people whose gender identity is not consistent with their sex at birth. It is believed that trans women—or individuals who were assigned the male sex at birth but who currently identify as women—makeup the largest share of transgender persons in the United States. It has been estimated that there are currently anywhere between 1 to 1.5 million transgender persons living in the U.S.; of which approximately two-thirds are trans women (Flores et al. 2016; Horton 2008; Meerwijk and Sevelius 2017). Over the past decade within the U.S., there has been considerable public debate over whether trans women should have access to women-only spaces (Weber 2016). Through recent legislative and institutional policy changes, places that were once solely reserved for cisgender women (i.e., women assigned the female sex at birth who identify as women), like women's public bathrooms and women's sports teams, are increasingly welcoming trans women as well (Outten et al. 2019; Smith 2018). Such changes are not viewed favorably by all women. In fact, there has been vocal opposition to such changes from notable cisgender women. Some of the biggest critics of these changes have been heterosexual cisgender women, who tend to be less comfortable with trans women compared to their sexual minority counterparts (Cragun and Sumerau 2015; Curto 2020; Kelly 2016).

One notable type of women-only space that trans women have gained access to in recent years are women's colleges. For example, renowned women's colleges like Mount Holyoke College and Smith

Colleges now allow trans women to attend their institutions (North 2017). Despite these profound institutional changes, there has been very little social science research examining cisgender women's feelings about the idea of sharing women-only spaces with trans women (for some exceptions see Outten et al. 2019; Nanney 2017). The purpose of the present study was to take an experimental social psychological approach to examine heterosexual cisgender women's reactions to policies regarding the admittance of trans women at a women's college. Specifically, we tested whether heterosexual cisgender women's support for a women's college's admissions policy that either explicitly excluded or included trans women, varied as a function of the degree to which cisgender women perceived trans women as a threat to women as a whole.

1.1. *The History of Women's Colleges in the U.S.*

Prior to the U.S. Civil War, American women had little access to higher education. Spurred on by the lack of opportunity for women to attend college, the first women's colleges were established between the late 1830s and the start of the Civil War. In 1837, Mount Holyoke College became the first such institution to open their doors. Initially women-only institutions struggled to have a broad array of programs like major institutions that served men. These new institutions primarily provided students with training in female-gendered professions like teaching and nursing. However, with the opening of Vassar College in 1865—a women's college known for having academic rigor comparable to top male schools—it became clearer to people that women's colleges could provide women with a sound education (Salomone 2007).

During the first half of the 20th century, both coeducational institutions and women's institutions grew rapidly. In fact, the number of women's colleges in America reached a peak of 281 in the 1960s. Today, only about 40 women's colleges remain. A contributing factor to the decline in the number of women's colleges has to do with the political and social upheaval of the 1960s. By the apex of the civil rights movement, segregation on the basis of group identities increasingly became viewed in a negative light. Furthermore, there was the passing of Title IX of the Education Amendments in 1972—a federal mandate against sex discrimination in education. Title IX made allowances for the admissions policies of public undergraduate programs if they were single-sex at the time of their establishment, it called into question the exclusion of women from high status institutions. As such, many all-male colleges became coeducational, which in turn provided women with a wider array of educational options. However, having formerly all-male institutions accept women made it harder for women's colleges to justify excluding men, even though Title IX expressly exempts women's colleges from refusing admission on the basis of sex. Succumbing to both real and perceived pressure, between 1960 and 1972 half of all women's colleges either closed or became coeducational institutions (Salomone 2007).

Despite the decline in the number of women's colleges in America, many of those that still exist are top tier academic institutions. In fact, in recent years application numbers and enrollments have risen significantly at top women's colleges (Jashick 2018). Survey data suggests that women who attend women's colleges are, on average, more satisfied with their educational experience than women who attend co-educational institutions (Day 2012). Furthermore, women who attend women's colleges are more likely to graduate in four years or less and pursue a graduate degree (Free 2015; Salomone 2007). It is not entirely clear why women who go to women's colleges tend to have better outcomes. Perhaps, it is due in part to the fact that students at women's colleges participate in extracurricular activities, internships, community service, and campus leadership positions at higher rates than women at coeducational institutions. It could also be due to the fact that those who attend women's colleges feel a stronger sense of community and report feeling significantly safer on campus (Day 2012).

1.2. *The Growing Acceptance of Trans Women at Women's Colleges and Beyond*

While women's colleges have long afforded cisgender women a safe environment where women are placed at the center of academic pursuits, only recently have women's colleges started to have official policies regarding the admission of trans women. That meant that trans women might be

denied admission, discouraged from applying, or they might have to attend while feeling forced to hide their gender identity (North 2017). Much like their cisgender counterparts, some trans women prefer attending a women's college over a coeducational institution because it is a safer space where female empowerment takes precedence (Heilman 2017).

In 2014, Mills College became the first women's college in the U.S. to change their admissions policy to explicitly state that they would allow anyone who self-identifies as female to apply. Today, most women's colleges have admittance policies in place that are inclusive of trans women. Only a few women's colleges remain that do not admit trans women or do not have a published policy about admitting trans women (North 2017). This drastic shift over a rather short period of time should be credited to generations of transgender activists who have long called into question policies that erase or exclude transgender people from traditionally sex-segregated spaces. However, it is also important to acknowledge that within the last decade many cisgender women have joined the push for the inclusion of trans women at women's colleges (Drew 2018; Weber 2016). These efforts have coincided with a pronounced positive shift in attitudes toward transgender people and issues over the last decade, especially among cisgender women. While there has not been polling on the specific issue of whether cisgender women support trans women attending women's colleges, polls in recent years suggest that the majority of cisgender women are supportive of various transgender protections and trans-inclusive policies. This includes supporting school and workplace protections, the ability to serve openly in the military, expanding the number of gender-neutral bathrooms in public spaces and allowing trans women to use women-only bathrooms (Trotta 2016; University of Delaware Center for Political Communication 2015; also see Batha 2018).

While support among cisgender women for including trans women in traditionally sex-segregated spaces appears to be on the rise, a sizeable proportion of cisgender women are very much opposed to such changes. For instance, Nanney (2017) recently conducted a qualitative study examining women's college alumnae reactions to transgender admittance policies at women's colleges. This was done by examining discussion threads on an alumnae Facebook page. She found that women varied considerably in terms of the degree to which they supported trans women attending women's colleges. Cisgender women who were not particularly supportive of such policies tended to post comments that were consistent with the idea that trans women are not "real" women. In other words, in the eyes of some alumnae trans women were viewed as a threat to womanhood because they violate traditional norms for what a woman should be. Conversely, cisgender women who posted comments that were supportive of trans women's inclusion at women's colleges, seemed to be more likely to recognize the discrimination that trans women faced because of their gender identity and were more inclined to perceive trans women as belonging to the broader community of women.

Nanney's (2017) pioneering research suggests that cisgender women's feelings about trans women are related to whether or not they either support admissions policies at women's colleges that include trans women or support admissions policies that exclude trans women. However, the qualitative nature of the study makes it difficult to ascertain whether psychological differences in the degree to which women perceive trans women as a threat to women account for cisgender women supporting either inclusionary vs. exclusionary admittance policies at women's colleges. The current study builds on Nanney's (2017) research, by experimentally manipulating the admissions policy of a women's college (includes trans women vs. excludes trans women) to examine whether beliefs that heterosexual cisgender women in America have about trans women influence the degree to which they support the respective types of admissions policies. Specifically, using concepts from social identity perspectives (Brown 1984; Brown and Abrams 1986; Tajfel and Turner 1986), we posited that support for a women's college's admissions policy that includes trans women versus a policy that excludes trans women, will depend on the degree to which they view trans women as a threat to women more broadly. It is worth noting that similar to recent work by Outten et al. (2019), we focused specifically on heterosexual cisgender women due to the fact that sexual minorities are considerably more comfortable with transgender people (e.g., Cragun and Sumerau 2015; Warriner et al. 2013). Thus, our investigation

focused on heterosexual cisgender women to reduce the possibility that group differences in comfort with trans women influenced any potential effect on policy support.

1.3. Intergroup Threat and Support for Admittance Policies Regarding Trans Women

According to social identity theory (Tajfel and Turner 1986) people are generally motivated to maintain a unique and positive group identity. Since evaluations of one's group are typically achieved by comparing one's ingroup with relevant outgroups, people tend to positively differentiate their ingroup from relevant outgroups. This need to make favorable comparisons with other groups in order to feel positively about one's ingroup can foster intergroup discrimination. However, the likelihood that group members engage in intergroup discrimination is dependent on both contextual and dispositional factors. Two factors relevant to the current study are perceived similarity and perceived intergroup threat (Outten et al. 2019).

Within the intergroup relations literature perceived similarity is often framed in terms of shared attitudes or values, but similarity can also be made salient by social policies that de-emphasize intergroup differences (Outten et al. 2019). For example, an admissions policy that includes trans women constitutes a policy that emphasizes intergroup similarity, whereas an admissions policy that explicitly excludes trans women emphasizes intergroup differences. This is because the former type of policy conveys the idea that cisgender women and trans women should be treated equally and are both part of larger superordinate group "women". The latter type of policy communicates that trans women are not women and not welcome.

Intergroup threat is experienced when individuals perceive that outgroup members are appropriating characteristics or resources typically associated with one's ingroup. Thus, appraisals of intergroup threat involve seeing an outgroup in adversarial rather than congenial terms (Riek et al. 2006). There are definitely some cisgender women who are highly threatened by trans women. This heightened sense of threat can stem from feeling that outgroup members (i.e., people categorized as men at birth, who now self-identify as women) are redefining what it means to be a woman. Some heterosexual cisgender women may view trans women as imposters, who are pretending to be women by altering their appearance and mannerisms (Worthen 2013). Furthermore, the growing acceptance of trans women in society coupled with the growing inclusion of them in women-only spaces might communicate to some heterosexual cisgender women that boundaries that have existed between women and men are no longer meaningful. Alternatively, there are heterosexual cisgender women who do not perceive trans women in an adversarial light. These women can recognize that being a woman is not reducible to one's physical characteristics or the spaces they inhabit. As such, they should feel more comfortable treating trans women in a manner similar to how they would treat cisgender women (Nanney 2017).

Building on social identity theory, Brown (1984) postulated that perceived similarity and perceived threat might have an interactive effect on intergroup discrimination. Specifically, he argued that intergroup discrimination and prejudice are common responses to situations where intergroup similarity is emphasized among people who perceive an outgroup as a threat. This is because highly threatened individuals should be motivated to challenge relevant outgroups who are believed to threaten their unique ingroup identity. This motivation should also make highly threatened individuals more likely to respond favorably to situations where existing group boundaries are maintained or reinforced. The reverse should be true for group members who are not particularly threatened by a relevant outgroup. Those who are not threatened should respond favorably to situations where similarities are emphasized because they are more motivated by intergroup fairness. As such people who do not see outgroups in an adversarial light should respond negatively to situations where group distinctions are maintained or reinforced (Outten et al. 2019). In studies with school children from different schools, Brown (1984) and Brown and Abrams (1986) found that greater intergroup similarity was associated with greater dislike for an outgroup among ingroup members high in subjective competitiveness, whereas children low in competitiveness reported a greater liking of similar outgroups. Since then, other researchers have found that whether people respond negatively to social contexts where intergroup

differences are de-emphasized is dependent on whether ingroup members perceive a relevant outgroup in adversarial or congenial terms (e.g., Falomir-Pichastor et al. 2004; Outten et al. 2019; also see Sanchez-Mazas et al. 1994).

Thus, if we apply social identity perspectives (Brown 1984; Brown and Abrams 1986) to the phenomenon of policies regarding the admittance of trans women at women's colleges, it is reasonable to postulate that highly threatened heterosexual cisgender women should react more negatively toward a policy that is inclusive of trans women, compared to a policy framed as excluding trans women. By contrast, heterosexual cisgender women who are less threatened by trans women should react favorably to the prospect of trans women attending women's colleges alongside cisgender women, but respond quite negatively to a policy that explicitly bans trans women from attending a women's college.

Only recently have social scientists begun experimentally testing how perceived threat affects people's support for trans-inclusive policies (Harrison and Michelson 2019; Outten et al. 2019). Most pertinent to the present study is recent research conducted by Outten et al. (2019). In the study, heterosexual cisgender women (see Appendix A) who varied in terms of the degree to which they perceived trans women as a threat to women read one of two articles about a trans-inclusive bathroom bill. In one version of the article, the bill was described as legislation aimed at expanding the number of gender-neutral bathrooms in public or, in the second version, the bill was described as legislation that would allow trans women to use public women-only bathrooms. The latter policy is typically viewed as being more progressive than the former, as it explicitly treats trans women like any other woman. Compared to heterosexual cisgender women who were not particularly threatened by trans women, those who were highly threatened by trans women were significantly less likely to support a bill that would allow trans women to use public women-only bathrooms. The reverse was true for individuals who read about trans women potentially being allowed to use gender-neutral bathrooms. Heterosexual cisgender women who were highly threatened by trans women were significantly more supportive of proposed legislation that would allow trans women to use gender-neutral bathrooms, than their less threatened counterparts.

Taken together, Outten et al.'s (2019) findings suggest that perceived intergroup threat contributes to heterosexual cisgender women's support for trans-inclusive bathroom policies. However, it is still unclear whether intergroup threat influences heterosexual cisgender women's support for other trans-inclusive policies, like allowing trans women to attend women's colleges. Given this, in the current study, we examined whether heterosexual cisgender women's support for a women's college's admissions policy that either included trans women or excluded trans women, depended on the extent to which they appraised trans women as threat.

1.4. Overview of the Current Study

To review, we examined if intergroup threat moderated the effect of being exposed to a women's college's admissions policy that allowed trans women to attend (vs. a policy that barred trans women) on support for the college's admissions policy. Participants were randomly assigned to read an article about a fictitious women's college with one of two types of admissions policies: one that allowed trans women to attend or one that barred trans women. Participants also completed measures of intergroup threat and support for the college's admissions policy. We had the following predictions:

1. Because polls have shown that a majority of women are supportive of a variety of trans-inclusive policies (Batha 2018; Trotta 2016; University of Delaware Center for Political Communication 2015), we expected heterosexual cisgender women who read about a women's college admitting trans women to express significantly greater support for the admissions policy, compared to those who read about a women's college barring trans women.

2. Consistent with social identity perspectives (e.g., Brown 1984; Brown and Abrams 1986; Outten et al. 2019) we predicted a significant crossover interaction effect between perceived intergroup threat and admissions policy type (includes trans women vs. excludes trans women) on support for the admissions policy. In other words, we anticipated that highly threatened cisgender women

and cisgender women not particularly threatened by trans women would react to the two types of admissions policies in divergent ways. Namely, highly threatened individuals would be significantly more supportive of the admissions policy when the policy was described as excluding trans women, instead of including trans women. Highly threatened heterosexual cisgender women exposed to a policy including trans women would express very little support for the admissions policy. The exact opposite would be true of those low in intergroup threat. Specifically, heterosexual cisgender women not particularly threatened by trans women would be significantly more supportive of an admissions policy including trans women, instead of excluding trans women. Heterosexual cisgender women low in intergroup threat that are exposed to an exclusionary policy would express strong disapproval for such a policy.

2. Method

2.1. Procedure and Participants

A total of 503 women were recruited through Amazon Mechanical Turk (Mturk; [Buhrmester et al. 2011](#)) to complete a “social attitudes and beliefs survey”. This survey was created using [SurveyGizmo \(2019\)](#). Each participant was paid US\$1.75 for completing the study. Consistent with the Declaration of Helsinki all participants provided informed consent electronically before beginning the study. The experiment was approved by the Trinity College Institutional Review Board (#1367). After providing consent they completed demographic questions as well as a measure of intergroup threat. Then participants were randomly assigned to read one of two articles about the admissions policy of a fictitious women’s college named Elmore College. One article was about the college formally deciding to accept applications from trans women. The other version of the article was about the college formally deciding not to accept applications from trans women. Next participants completed a measure of support for the admissions policy and a manipulation check question to examine whether people paid attention to the article they were assigned to. Finally, everybody was fully debriefed.

In order for participants to be included in the focal analysis they had to satisfy four inclusion criteria. The first criterion was that they had to be a cisgender woman. To ensure participants were cisgender women we asked two questions about gender (see [Tate et al. 2013](#)). The first being “what gender were you assigned at birth?” Response options included female, male and intersex. The second question was “what is your current gender identity?” Response options were man, woman, trans woman (male-to-female transgender person), trans man (female-to-male transgender person), genderqueer, intersex and there is no option that applies to me. All 503 participants selected female as their birth gender and woman as their current gender identity. The second criterion for inclusion was that participants were heterosexual. Past studies have found that on average sexual minorities are considerably more comfortable with transgender people compared to heterosexual persons (e.g., [Cragun and Sumerau 2015](#)). To minimize the possibility that comfort magnified the interaction between threat and type of admissions policy on policy support, we removed 55 non-heterosexual participants (44 bisexual, 9 lesbian, 1 asexual and 1 pansexual). In this regard, confining our sample to heterosexual cisgender women was a more exacting test of our predictions. The third criterion was that participants had to reside in one the fifty U.S. states or Washington, D.C. Four participants were removed for completing the study outside of the 50 U.S. states and D.C. Finally, participants who failed an attentional manipulation check question were removed. Specifically, after participants were presented with the respective article they were assigned to read they were asked, “According to the article that you read, what decision did Elmore College recently make?” The two response options were: Elmore College decided to accept applications from trans women and Elmore College decided to deny applications from trans women for the foreseeable future. Participants should have selected the response that corresponded with the article they read. Four additional participants were removed for selecting an incorrect response. Thus, our final sample consisted of 440 heterosexual cisgender

women residing in the United States ($Mage = 42.03$ years, $SD = 11.56$). Overall participants were fairly homogenous in terms of demographic characteristics. Especially, in terms of legal status in the U.S., place of birth, and race (see Table 1).

Table 1. Demographic characteristics.

Characteristic	%
Age	
<20	<1%
20–29	13%
30–39	37%
40–49	24%
50–59	17%
60–69	8%
>70	1%
Legal status	
U.S. citizen	98%
Permanent resident	2%
Place of birth	
U.S.	95%
Abroad	5%
Race	
White	86%
Black	6%
Asian	5%
Multiracial	3%
Other	<1%
Household income	
<\$23,999	11%
\$24,000–44,999	21%
\$45,000–69,999	31%
\$70,000–99,999	20%
\$100,000+	17%
Education level	
Some high school education	13%
Some postsecondary education	71%
Some graduate education	17%
Religious denomination	
Protestant	35%
Agnostic	17%
Catholic	17%
Other	15%
Atheist	11%
Jewish	2%
Muslim	1%
Buddhist	1%
Hindu	1%

Note: Due to rounding, some category totals do not add up to 100%.

2.2. Manipulation of the Admissions Policy

Participants were randomly assigned to read one of two articles. Both articles described an admissions policy regarding trans women at a fictitious women’s college called Elmore College. In the condition where the policy included trans women, participants read:

Elmore College, a women’s college in Vermont, has decided to open its doors to trans women. Trans women—also sometimes referred to as male-to-female transgender persons—identify

as women, even though they were born anatomically male. The school's Board of Trustees met for several hours on January 25 to debate whether to change their admissions policy to accommodate trans women. Elmore College announced today that they will start accepting applications from trans women effective immediately. This change in policy would mean that trans women would share all facilities with the rest of the female student body, including traditional student housing.

The Board of Trustees and the administration stand by their decision to allow applications from trans women. When interviewed regarding her stance on changing the policy, the Dean of Admissions, Dr. Susan Deschain, explained that "Elmore College welcomes all women, and that includes trans women". She also encouraged other women's institutions to consider taking a similar stance with regard to their admissions policies.

In the other condition, where trans women were excluded, participants read:

Elmore College, a women's college in Vermont, has decided not to open their doors to trans women. Trans women—also sometimes referred to as male-to-female transgender persons—identify as women, even though they were born anatomically male. The school's Board of Trustees met for several hours on January 25 to debate whether to change their admissions policy to accommodate trans women. Elmore College announced today that they have absolutely no intention of allowing trans women to apply to the school for the foreseeable future.

The Board of Trustees and the administration stand by their decision not to allow applications from trans women. When interviewed regarding her stance on not changing the policy, the Dean of Admissions, Dr. Susan Deschain, explained that, "Elmore College is a women's college. We are committed to honoring the original intentions of the college, rather than changing them". She also encouraged other women's institutions to consider taking a similar stance with regard to their admissions policies.

Finally, both versions of the article concluded with the following paragraph:

Elmore College is not alone in trying to address this issue. Some women's colleges have changed their admissions policies to include trans women, while others continue to prohibit trans women from attending their institution. In recent years, the subject of transgender rights has become a prominent issue in the United States. Many women's colleges are currently grappling with whether or not to allow trans women to attend their respective institutions. Elmore College has now made their position publicly known.

2.3. Measures

Demographic variables. We collected information on people's age, gender at birth, gender at the time of completing the study, race, ethnicity, sexual orientation, place of birth, citizenship, household income, education level, specific religious denomination/affiliation and religiosity (ratings on a 7-point scale ranging from not religious to very religious).

Intergroup threat. Intergroup threat was measured using eight items adapted from [Outten et al. \(2019\)](#). The items assessed the degree to which women perceive trans women as a threat to women and womanhood (e.g., "Women have a right to be concerned that trans women are redefining what it means to be a woman" and "Women should feel apprehensive about accommodating trans women into their group"; $\alpha = 0.95$). The response scales for the items ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores reflected greater perceived intergroup threat.

Support for the admissions policy. Two items adapted from [Outten et al. \(2019\)](#) assessed the degree to which people supported the admissions policy ($r = 0.96$). The two items were "I support

Elmore College’s admissions policy” and “I would encourage other women’s colleges to implement an admissions policy similar to that of Elmore College”. The response scales ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores represented greater support for the admissions policy.

3. Results

Means, standard deviations and intercorrelations are reported in Table 2. Admissions policy condition was coded: 0 = ban trans women and 1 = accept trans women. We also controlled for age, household income, education level and religiosity in the moderation analysis. One reason for opting to control for these variables was that there was heterogeneity in people’s responses to these particular demographic variables. More importantly though, past studies have found evidence that these demographic characteristics are related to people’s attitudes toward transgender people and their support for trans-inclusive policies; and we assessed these variables in ways that were comparable to previous investigations (e.g., [Morgan et al. 2020](#); [Norton and Herek 2013](#); [Outten et al. 2019](#)). Given these circumstances, we felt it was appropriate to control for these four demographic variables.

Table 2. Intercorrelations, means, and standard deviations for heterosexual cisgender women ($N = 440$).

Variable	1	2	3	4	5	6	7
1. Policy type (condition)	–						
2. Intergroup threat	0.08	–					
3. Policy support	0.33 **	0.04	–				
4. Age	0.03	0.08	0.02	–			
5. Household income	0.11 *	–0.03	0.03	–0.02	–		
6. Education level	0.03	–0.09	–0.07	–0.01	0.13 **	–	
7. Religiosity	0.07	0.42 **	0.04	0.11 *	–0.01	–0.04	–
Mean	0.50	2.94	4.05	42.03	3.10	2.04	3.28
SD	0.50	1.74	2.42	11.56	1.24	0.54	2.15

Note: * $p < 0.05$. ** $p < 0.01$. Admissions policy type coded 0 = ban trans women and 1 = admit trans women. Household income coded 1 = $< \$23,999$, 2 = $\$24,000$ – $44,999$, 3 = $\$45,000$ – $69,999$, 4 = $\$70,000$ – $99,999$, 5 = $> \$100,000$. Education level coded 1 = at least some high school, 2 = at least some post-secondary education, 3 = at least some graduate school.

Finally, before presenting the tests of our hypotheses, it is worth highlighting that the majority of our sample was not particularly threatened by trans women. This is evidenced by a sample mean score of 2.94 on the measure of intergroup threat. Furthermore, sixty-one percent of participants had a personal mean score of 3 or less, 16% had a personal mean score of 5 or more, and the remainder had a personal mean score situated above 3 and below 5.

3.1. Effect of Admissions Policy Type on Policy Support

To test our first hypothesis that admissions policy type would have a significant effect on admissions policy support we ran a one-way ANOVA. Consistent with polling data suggesting that the majority of women support many trans-inclusive policies ([Trotta 2016](#); [University of Delaware Center for Political Communication 2015](#); also see [Batha 2018](#)), we found that participants who read about Elmore College accepting trans women expressed significantly more support for the admissions policy ($M = 4.83$, $SD = 2.25$) compared to women who read about Elmore College rejecting trans women ($M = 3.26$, $SD = 2.32$), $F(1, 438) = 51.87$, $p < 0.001$.

3.2. Intergroup Threat as a Moderator

To examine our second hypothesis that perceived intergroup threat would moderate the effect of admissions policy condition on admissions policy support, we first conducted multiple regression analysis to determine whether there was a significant interaction. Support for the admissions policy was the dependent variable. The independent variables were intergroup threat (centered), admissions

policy type, and the interaction between threat and admissions policy type. Age, household income, education level and religiosity were included in the model as covariates.

The results of the regression analysis are shown in Table 3. Intergroup threat was positively associated with admissions policy support ($\beta = 0.80, p < 0.001$). Admissions policy type was found to be positively associated with policy support ($\beta = 0.37, p < 0.001$). None of the covariates were significant predictors of admissions policy support. Crucially, there was a significant interaction between intergroup threat and the type of admissions policy ($\beta = -1.124, p < 0.001$). Also, examination of the collinearity statistics for the model indicated that multicollinearity was not an issue (see O'Brien 2007). The lowest tolerance value was 0.436, the highest variance inflation factor value was 2.292.

Table 3. Regression analysis predicting admissions policy support.

	Standardized Regression Coefficients (β)	<i>t</i> -Values	95% Confidence Intervals	Explained Variance (R^2)	Effect Size (f^2)
Overall Model				0.72 **	2.56
Intergroup threat	0.80 **	20.79	[1.010, 1.221]		
Policy type (condition)	0.37 **	14.42	[1.553, 2.043]		
Intergroup threat \times Policy type	-1.12 **	-30.54	[-2.317, -2.037]		
Age	0.04	1.49	[-0.076, 0.122]		
Household income	0.01	0.46	[-0.161, 0.176]		
Education level	-0.04	-1.61	[-0.413, 0.41]		
Religiosity	0.01	0.24	[-0.055, 0.70]		

** $p < 0.01$.

To make sense of the interaction we ran a simple moderation model using the PROCESS macro for SPSS (Hayes 2013, Model 1). This enabled us to test whether the effect of admissions policy type on policy support varied as a function of intergroup threat and supplied us with effects at different levels of threat (i.e., conditional effects: ± 1 *SD* from the mean). The conditional effects are statistically significant if the 95% confidence intervals generated do not contain zero. We also controlled for age, household income, education level and religiosity in this model. Mean centering and heteroscedasticity consistent standard error options were selected.

The interaction is displayed in Figure 1. Supporting our second hypothesis, we found that highly threatened heterosexual cisgender women expressed significantly less policy support when it was described as being inclusive of trans women, rather than when it was framed as excluding trans women. In fact, highly threatened women expressed considerable support for the admissions policy when it was described as denying applications from trans women ($+1$ *SD*; $B = -2.23, SE = 0.17, t = -12.82, 95\% CI, [-2.57, -1.89]$). The opposite was true for women low in intergroup threat, they were significantly less supportive of the admissions policy when it excluded trans women, compared to when it was framed as being inclusive of trans women. Those not particularly threatened by trans women were highly supportive of the policy when it was inclusive of trans women (-1 *SD*; $B = 5.34, SE = 0.16, t = 33.75, 95\% CI, [5.03, 5.65]$). Taken together, the test of conditional effects suggests that the degree to which cisgender women perceive trans women as a threat is a determinant of their reactions to a women's college's admissions policy regarding trans women.

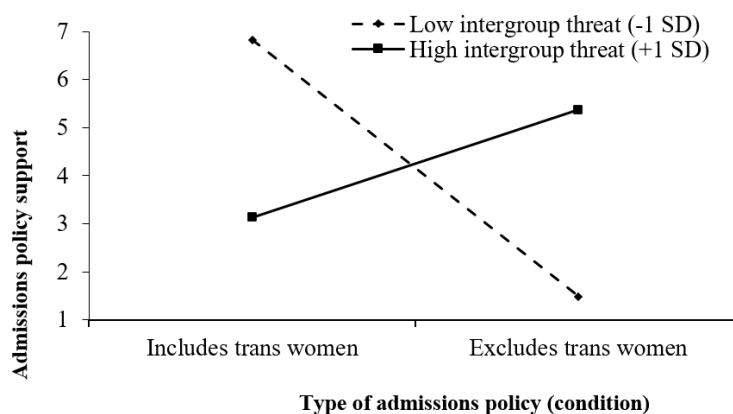


Figure 1. The effect of admissions policy type and intergroup threat on support for the admissions policy (controlling for participant age, household income, education level and religiosity).

4. Discussion

In the last decade, several women’s colleges in the U.S. have changed their admissions policies to allow trans women to attend their respective institutions (North 2017). These changes in policy are to some extent reflective of greater acceptance of trans women in society (Batha 2018; Trotta 2016). However, there are cisgender women who are uncomfortable with the idea of trans women being included in women-only spaces (Nanney 2017; Weber 2016). Informed by recent research that suggests that heterosexual cisgender women’s support for sharing public women-only bathrooms with trans women depends on the extent to which they feel threatened by trans women (Outten et al. 2019), we manipulated the admissions policy of a women’s college (includes trans women vs. excludes trans women) to examine whether perceiving trans women as a threat was a determinant of heterosexual cisgender women’s support for the respective types of admissions policies. The results of the study supported our two hypotheses. First, consistent with polls showing that many women are supportive of various trans-inclusive policies (e.g., Batha 2018), we found that participants expressed significantly more policy support after reading about an inclusionary admissions policy at a women’s college, compared to when they read about an exclusionary policy. Secondly, we found that for heterosexual cisgender women high intergroup threat was associated with significantly less policy support when the admissions policy was described as including trans women rather than excluding trans women. Conversely, among heterosexual cisgender women who were not all that threatened by trans women, policy support was significantly higher when it was described as admitting trans women, rather than barring trans women. These findings are consistent with social identity-based perspectives on group processes. Namely, Brown’s (Brown 1984; Brown and Abrams 1986) assertion that intergroup discrimination is a likely response to situations where intergroup similarity is emphasized among those who perceive an outgroup in competitive terms—or as a threat to their group. This is because highly threatened individuals tend to be compelled to oppose relevant outgroups that threaten their unique identity. Thus, highly threatened individuals should be supportive of situations where existing group boundaries are preserved. The opposite should be true for those who are not really threatened by a relevant outgroup. Individuals who are not particularly threatened should be quite comfortable with situations where similarities between groups are emphasized seeing as they tend to be motivated by intergroup fairness. Consequently, those low in threat should respond negatively to situations where group boundaries are reinforced.

In addition to being the first experimental study to examine heterosexual cisgender women’s support for a women’s college’s admissions policy regarding trans women, our findings make meaningful contributions to our understanding of cisgender women’s attitudes toward trans women and their support for allowing trans women to access spaces traditionally reserved for cisgender women. First, as evidenced by the mean score below the mid-point ($M = 2.94$), on average, most of our

sample was not particularly threatened by trans women. This is an encouraging finding given the mistreatment trans women are subjected to. Even in recent years there have been notable instances where a high profile heterosexual cisgender woman has publicly expressed that they believe that trans women are not women and should not have access to women-only spaces (e.g., [Curto 2020](#); [Kelly 2016](#); [Sirois 2017](#)). However, it is worth acknowledging the possibility that the relatively low levels of intergroup threat reported by our sample could be reflective of our sampling method. There is evidence that the average American Mturk worker is a bit more liberal than the average American ([Levay et al. 2016](#)). A related noteworthy finding is that the interaction between policy type and threat on policy support was driven more by heterosexual cisgender women who were not particularly threatened by trans women, rather than those that were highly threatened. What we mean is that in both the inclusionary policy condition ($M = 6.82$ vs. $M = 3.13$) and the exclusionary policy condition, ($M = 1.49$ vs. $M = 5.37$) it was heterosexual cisgender women low in intergroup threat whose levels of support were most extreme (i.e., deviated more from the midpoint). This suggests that when it comes to policies regarding whether to include or exclude trans women from women-only spaces, people not especially threatened by trans women might be more motivated to challenge the policies they disagree with (i.e., those that are exclusionary). At the very least, the nature of the interaction suggests that relative to highly threatened heterosexual cisgender women, those low in threat are perhaps more invested in seeing a world that is congruent with their beliefs about trans women.

5. Limitations and Future Directions

While our findings show that intergroup threat is a determinant of how heterosexual cisgender women respond to a women's college's policy regarding the admittance of trans women, it is worth acknowledging that there are limitations to our research that could be addressed in future studies. First, the manipulations that we created did not capture every specific type of transgender admittance policy that women's colleges currently utilize. For instance, among women's colleges with policies focused on admitting trans women, some require that potential students undergo gender confirmation surgery, others require students change their legal sex to female, while some only require that the applicant self-identifies as female—irrespective of their legal status or biological characteristics ([Nanney and Brunnsma 2017](#)). In the current study, the article stating that Elmore College would now admit trans women lacked specifics surrounding the type of policy they planned to adopt. Even though the language used in the article might lead most people to infer that the policy was broadly inclusive, in that the policy used self-identification as the criterion for admittance, it is possible that some interpreted it as narrower in scope (i.e., using biological criteria). In future studies it makes sense to test heterosexual cisgender women's feelings of threat as a moderator of support for biological, legal and identity-based admissions policies. Similar to [Outten et al. \(2019\)](#) one might expect that highly threatened heterosexual cisgender women would be the least supportive of identity-based admissions policies precisely because they are more inclusive.

Second, it is important to recognize that there are likely other psychological variables beyond intergroup threat that contribute to heterosexual cisgender women's responses to policies regarding the admittance of trans women at women's colleges. Some variables might only be applicable to women, like identification as a woman, and others might be applicable to all people, like critical consciousness. Identification as a woman might affect heterosexual cisgender women's willingness to support trans women attending a women's college. Past research in the area of intergroup relations has found that individuals who have a deep attachment to their ingroup tend to be more inclined to exclude non-prototypical members from being included as members of their ingroup (e.g., [Castano et al. 2002](#)). Critical consciousness—or one's awareness of the experiences of marginalized groups might be an important predictor of people's support for trans women attending women's colleges. Recent research by [Parent and Silva \(2018\)](#) found that individuals high in critical consciousness toward transgender individuals were significantly less likely to vote for a bathroom bill that would force individuals to use bathrooms corresponding to the gender on their birth certificate. Future investigations into how

people view women's colleges policies surrounding trans women should consider measuring other relevant psychological variables.

Third, it is worth acknowledging that because we did not specifically sample women who currently attend or have previously attended a women's college, it is not possible to extrapolate our findings to heterosexual cisgender women who have attended women's colleges. Considering that most heterosexual cisgender women do not attend women's colleges, the experience of attending a women's college is probably not as cognitively accessible as other sex-segregated spaces. It is not possible to know if that impacted our findings in any way. One could argue that because many heterosexual cisgender women are not entirely familiar with the history and traditions of women's colleges, they might not have as strong an opinion about the issue, compared to women who have attended such institutions. Whereas those who have attended should not only feel a stronger psychological connection to these schools but should be invested in their future success and viability. Presumably, the opinions of those who have attended women's colleges could also be influenced by the norms and/or current policies of their respective alma maters. For example, heterosexual cisgender women associated with institutions that either bar trans women altogether, or who lack trans-inclusive policies, might oppose instituting a policy where trans women would be allowed to attend. It would be interesting for future studies to examine similar processes among cisgender women who are currently attending or who have previously attended women's colleges, for whom the issue of trans inclusion at women's colleges would presumably be more cognitively accessible.

Finally, another potential area of inquiry would be to assess trans women's attitudes toward trans-inclusion at women's colleges. There is a dearth of research examining how trans people feel about being able to access women's colleges (for an exception see [Farmer et al. 2020](#)). Conventional wisdom would suggest that trans women should prefer to attend women's colleges over many co-ed institutions of higher learning, because women's colleges are safer for members of marginalized groups and they might be a place where individuals are more likely to have their gender identity affirmed. However, it is possible that some trans women might be hesitant due to perceived hostility or prejudice stemming from violating traditional conceptualizations of womanhood. It would certainly be worthwhile for future studies to gauge trans women's sentiments toward women's colleges and their specific policies regarding the admittance of transgender students.

Author Contributions: Conceptualization, H.R.O. and M.E.L.; Formal analysis, H.R.O.; Methodology, H.R.O. and M.E.L.; Writing—original draft, H.R.O. and M.E.L.; Writing—review & editing, H.R.O. and M.E.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflicts of Interest: The authors declare that there is no conflict of interest.

Appendix A

In our prior study ([Outten et al. 2019](#)) we did not measure gender at birth, only the gender participants identified with at the time of the study. It is plausible that all participants in our prior study were cisgender women, however we cannot be entirely certain of that. Thus, in [Outten et al. \(2019\)](#) we referred to participants as self-identified heterosexual women. In this paper, for the sake of simplicity, we refer to participants from [Outten et al. \(2019\)](#) as heterosexual cisgender women.

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