

Beyond Acceptance: Serving the Needs of Transgender Students at Women's Colleges

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The inclusion of transgender students in women's colleges has been widely debated on campuses and in the media. Despite some opposition, transgender students at women's colleges are growing in number and visibility. This study examines the ways that transgender students' experiences differ from the experiences of cisgender students in both single-sex and co-educational environments. Conclusions are based on assessments of support, reported attitudes towards transgender students, and reported knowledge about transgender history and social issues using responses to a survey completed by 184 students at a variety of colleges and universities. The study found significant differences between women's colleges and co-educational universities such that women's colleges were rated as more supportive for all students and students at women's colleges reported significantly more positive attitudes towards transgender students. Additionally, transgender students at women's colleges reported more positive overall experiences of college, as compared to transgender students at co-educational colleges. Given that the sample was majority white, cisgender, women's college students, the measures used should be replicated in order to determine the generalizability of these results.

Keywords: Transgender, women's colleges, higher education

Transgender student issues are growing in visibility in a variety of collegiate environments. Within these environments, many factors including, but not limited to, student resources, administrative policies, academic course offerings, and cisgender students' perceptions of their transgender peers affect the way that transgender students experience college. Due to their broad academic and social structures, college campuses have the opportunity to provide supportive and contained environments that work towards a comprehensive model of support and inclusion for transgender students.

College campuses provide students with both academic and residential services, containing both the private and public sphere. Within the residential and private sphere, it is important that colleges' counseling, medical, and residential resources are responsive to trans students'

various experiences in order to provide adequate and informed support. Within classrooms, discussions about transgender issues should raise awareness and foster support for more compassionate and informed perspectives of transgender experiences that negate possible previous misconceptions leading to an increased awareness of trans culture and issues both historically and in the current political atmosphere. Currently, these debates are occurring to an extent, but remain mostly contained within the subjects of psychology and gender studies (Beemyn 2005) and are often more theoretical than tangible in terms of actual policies that could improve experiences (Catalano 2015).

This issue has been particularly visible within recent debates around the presence of transgender students at women's colleges. As spaces that were founded on binarized concepts of sex and gender, women's colleges provide

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unique challenges for students who identify outside of normative cisgender female experience. Hart and Lester (2011) suggest that transgender students at women's colleges are simultaneously invisible and hyper-visible, which leads to oppression and negative outcomes. While certainly compelling, this assessment was based on a sample of one college and out of the 339 participants interviewed, only one student and one faculty member identified as transgender. Considering these limitations, the researcher was interested in increasing the depth of knowledge of transgender students' lived experiences in women's colleges and coeducational environments.

To this end, the purpose of the current study is to examine the factors that affect transgender students' experiences in college in order to explore possible differences in experience for transgender students in coeducational versus women's colleges. Specifically the research questions are:

1. Do the experiences of transgender students differ significantly from their cisgender peers across and within institution types?
2. Do the experiences of transgender college students differ by the type of institution that they attend (coeducational or women's colleges)?
3. If so, what influences the difference in experience? Specifically, is there a difference in faculty/peer support, attitudes towards transgender students, or knowledge of transgender issues in coeducational versus women's colleges?

Through investigating these questions, this study aims to explore not only students' individual experiences, but also possible institutional characteristics that could vary between women's and co-ed colleges that may contribute to more positive or negative campus cultures and attitudes toward transgender students. By understanding which factors lead to positive experiences and identifying elements

that present issues or challenges, the researcher hopes to be able to suggest institutional changes that will lead to more positive college environments that welcome and support transgender students while facilitating cisgender students' increased understanding and acceptance of their peers.

Literature Review

Terminology

The most basic term and the one used widely in this paper is "transgender." In this context, "transgender" is used as an umbrella term that encompasses a wide variety of gender identities (Beemyn 2003). Assigned Female at Birth (AFAB) is used to refer to a person who is medically assigned to the biological sex category "female" and may or may not identify with this assignment. Similarly, Assigned Male at Birth (AMAB) is used to refer to someone who is medically assigned to the biological sex category "male" and again may or may not identify with this assignment. Some people identify with the terms "trans man" or "trans woman" in which case "trans" is used as an adjective to describe the identity of man or woman (Stryker 2008). Others may identify as "trans," "gender-nonconforming," "gender fluid," "gender queer," or "gender transgressive," which may indicate that individuals identify with neither or both binarized gender identities or view gender on a spectrum with many possibilities (Marine 2011b). For the purpose of this study the terms "transgender," "trans," and "trans people" (most often "trans men" and "trans women") are used to capture a variety of identities and experiences. This study also uses the term "cisgender," which refers to a person whose gender identity is consistent with the sex assigned at birth. All of these terms are dependent on an individual's identity, as well as the social and cultural context, which may result in future evolutions of terminology to reflect current attitudes and lived experiences.

Transgender Student Experience

Many transgender students report college as a time when they begin to transition more openly or question their gender identity (Lees 1998). For many students, college is the first time they are away from family and childhood friends, which facilitates exploration without fear of rejection by disapproving loved ones (Chickering 1969). Despite their seemingly open environments, colleges are also spaces often very segregated by gender. For example, access to facilities, dormitories, Greek life, etc. are often determined by gender identity and limited to the categories of male or female. Transgender people face many challenges in navigating college environments that are almost exclusively founded on principles of gender segregation and perceived differences and assumptions on the basis of both sex and gender.

Outside of difficulties navigating gendered resources and environments, trans students also may experience a lack of support from professors



or student affairs professionals. Many faculty and staff members have a fundamental misunderstanding or lack of experience with trans students and therefore (un)intentionally exhibit transphobia or trans-exclusive practices, leading to feelings of marginalization and isolation for transgender students. To date, only a handful of scholars have written about terminology and strategies to support transgender students. Notably, Beemyn has produced several helpful resources for educators and

administrators to improve school policies and culture (2003; 2005a; 2005b; 2005c; 2006; 2015; 2016). Given that there is a distinct lack of empirical research on trans students' experiences and trans issues within higher education, there arises a challenge for accessing essential knowledge on the subject (Carter 2000).

However, over the past 20 years, a small but growing body of research has emerged that documents transgender students' experiences of higher education in a variety of settings. A highly visible example is *TransGeneration*, a 2006 documentary mini-series that follows the stories of four transgender college students from schools across the country as they navigate their lives and campuses while exploring their identities as transgender students (Haworth 2005). Additionally, several qualitative studies have used in-depth interviews to explore transgender students' experiences in a variety of settings. Pusch (2005) explores challenges expressed by transgender college students in maintaining relationships with their family and gaining affirmative support from faculty and peers. McKinney (2005) explores trends across issues expressed by undergraduate and graduate transgender students. Bilodeau (2005) and Pryor (2015) explore the experiences of transgender students at large, public, research universities in the Midwest. Catalano (2015) examines the experiences of trans men (AFAB) in colleges in New England in order to advocate for the development of more liberatory policies and practices to improve students' experiences.

Outside of personal accounts and case studies, there have been a few very notable quantitative studies exploring larger trends of trans students' experience. Rankin and Beemyn (2011) conducted the first large scale study of transgender students' experiences of college, primarily focusing on the variation of experiences between transgender students (AFAB or AMAB), cross dressers, and genderqueer youth in order to determine shared experiences and make recommendations for colleges to increase support for a variety of

gender-nonconforming students. Dugan et al. (2012) explored transgender student experience across 91 dimensions of college experience to determine within-group differences (AFAB, AMAB, and genderqueer/ gender-nonconforming) and between-group differences (transgender vs. lesbian, gay, or bisexual vs. heterosexual/ cisgender). Garvey and Rankin (2015) used data from Rankin et al.'s (2010) "The State of Higher Education for LGBT People" to explore trans and queer students' experiences in college. Consistent with prior research, this study found that compared to queer students, trans students reported more negative classroom and campus experiences.

The majority of these articles address the same or a similar list of concerns and challenges faced by transgender college students including, but not limited to: campus housing policies, access to bathrooms and locker rooms, gendered sports teams and social clubs, access to health services and counseling, gendered official documents and records, preferred pronoun use, standardized forms that ask for gender identity or biological sex, violence and discrimination, and trans-exclusive practices on the parts of faculty, staff, and students (Beemyn 2003; 2005c; Catalano 2015; Pryor 2015). As a result of these factors, many transgender students report an overall negative college experience (Beemyn 2005b).

In 2010, few more than 300 out of 4,000 colleges and universities in the US had added gender identity to their nondiscrimination clauses (Chen 2010). In a survey conducted by Campus Pride (2010), "The 2010 State of Higher Education for LGBT People," transgender students reported significantly higher rates of harassment on campus (40 percent) as compared to lesbian and gay students (20 percent). Excluding gender identity from nondiscrimination clauses leaves transgender students with little recourse when they experience harassment or discrimination on campus. The lack of attention to this issue can potentially lead transgender students to feel as

though they need to hide their identity or face discrimination and a lack of support from college administrators. There are also reasons why schools are hesitant to openly support transgender students including a fear of backlash from alumni or benefactors who do not understand or agree with the need to be trans-inclusive (Marine 2011a). This issue has been particularly salient in single-sex institutions.

Challenges for Transgender Students at Women's Colleges

Attending a single-sex school is associated with an assumed gender identity. For example, regardless of how an individual expresses their gender, if someone is aware that they attended a women's college, it may be assumed that they identify as a woman. This assumption may not be consistent with an individual's identity and an inconsistency may lead to future issues when trans people apply for jobs or need to reference their education (Minsun-Brymer 2011). This issue can be exacerbated if schools refuse to change students' names and gender identity on official transcripts and diplomas.

Female pronouns are also often used in campus handbooks and brochures. Some colleges have started to make moves towards becoming gender neutral or all-gender. Smith College, for instance, voted to remove gendered pronouns from their Student Government Association constitution in 2003 and Mt. Holyoke adopted a similar policy in 2005 (Perifimos 2008). In 2011, the Scripps College Student Government also replaced female pronouns with gender-neutral pronouns, often using the phrase "the student" instead of woman. This change has proven to be an essential and relatively simple first step towards openly supporting transgender students.

Transgender students at single-sex schools often face increased difficulty with housing and restroom use. Because residences are all single-sex, there are not co-ed options at single-sex schools and often these residences only provide

restrooms for students of the dominant gender identity (Hart and Lester 2008). Additionally, some cisgender students report feeling uncomfortable with trans people inhabiting “female” residences and restrooms, due to a lack of understanding or transphobia, which can manifest in uncomfortable or dangerous situations for trans students (Marine 2011a; 2011b). Many women’s colleges report openness in accommodating transgender students’ needs on an individual basis, but have failed to change existing policies or institute new policies that openly support transgender students (Marine 2011a; Hart and Lester 2011; Perifimos 2008).

In order to understand the hesitation of women’s colleges to move towards institutional change, it is important to understand the factors at play at the administrative level. Susan Marine (2011a) provides this perspective through exploration of transgender experiences at women’s colleges from interviews with administrators working in student affairs. Many administrators admitted a lack of larger and more visible institutional support for transgender students and associated this with fear of backlash from individuals in positions of power who do not hold accepting views. Specifically, the Board of Trustees, alumni, benefactors, and prospective students and families were targeted as areas of possible contention. Some individuals in these populations believe that the presence of transgender students on campus may threaten the institution’s role as a women’s college.

Marine (2011a) provides an interesting examination of institutional factors present at women’s colleges that both support and impede the full inclusion of transgender students into these communities. While it is essential to understand what the obstacles for inclusion are from an administrative perspective, it is also important to acknowledge student perspectives and needs. As discussed, many studies have provided overviews of general issues facing transgender students, often including qualitative interviews conducted to illuminate these issues (Pryor 2015; Beemyn 2003; 2005a; 2005b; 2006;

Beemyn et. al. 2005; Schneider 2015; Pusch 2005). Individual interviews are an essential tool for discovering trends affecting student experience. However, few studies have attempted to develop a quantitative analysis of transgender student experience in order to produce data to examine the differences between cisgender and transgender student experiences of college. This data may provide support for the suggestions provided in previous research and lead to a deeper understanding of issues known to affect transgender students, while bringing to light less obvious issues and concerns. The current study aimed to more clearly understand and quantify the experience of transgender students within college environments at a time when transgender rights are gaining increasing attention on college campuses throughout America.

The Current Study

Based on previous research, this study hoped to gain further insights into the relationship between gender identity and student experience in order to determine what ways, if any, transgender students’ experiences differ from their cisgender peers. This study explored three variables of student experience that have been previously found to influence overall college experience: institutional support, reported attitudes towards transgender people, and reported knowledge about transgender issues and concerns.

Institutional support was defined as the degree to which students report encouragement, comfort, and positive experiences with the general student body, students in their classes, friends, faculty members both within and outside of the student’s major, and professional staff members.

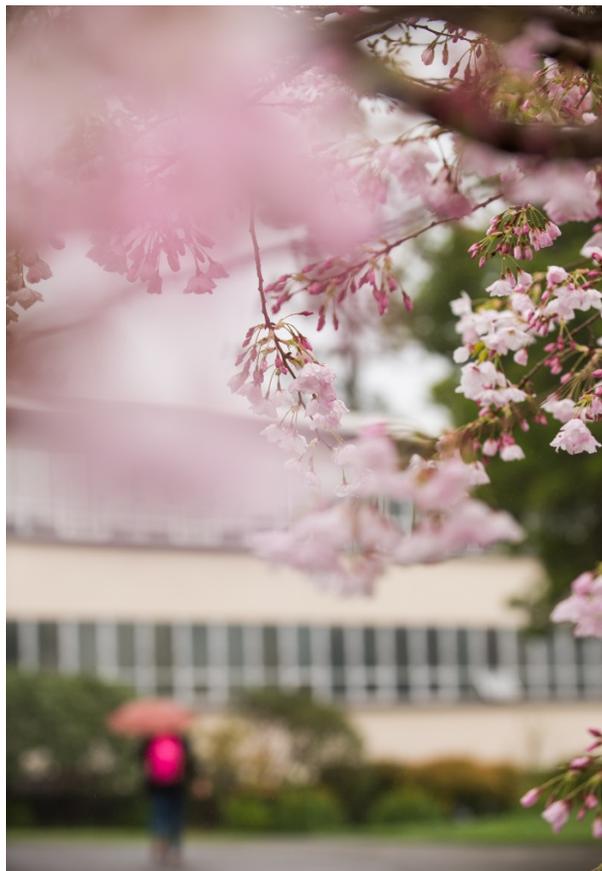
Another aspect of college experience is cisgender students’ attitudes towards transgender students and the ways that transgender students perceive these attitudes. Cisgender students’ attitudes towards their transgender peers greatly

influences transgender students' overall experiences of college (Beemyn 2005b). If trans students are living in environments that are hostile and not accepting, either in reality or in their perception, they may feel a higher degree of isolation and anxiety. These students will be less likely to openly and publicly explore their gender identity for fear of judgment and negative responses from their peers (Beemyn 2003). For this study, attitudes were measured by a series of questions that tested both implicit and explicit attitudes towards transgender students on campus and transgender issues in society. Given the methods employed it is important to note that this study can only measure reported attitudes and is not comprehensive enough to measure actual attitudes.

The third variable examined was students' reported knowledge of transgender issues and concerns and their reported level of interest in obtaining more knowledge about the subject. A larger number of knowledgeable students on a campus could suggest that institutional attention and emphasis is being placed on the subject matter whether it be academically or within the campus community. This attention may be the result of self-selection, i.e. more progressive students attend schools with more progressive political representation, or it may be a result of the knowledge obtained through attendance of the school itself. Regardless of the source, increases in reported knowledge could suggest more institutional focus on transgender students.

As discussed in the literature review, transgender experience can differ depending on both individual and institutional variables. In order to examine this difference, within the basic framework of examining transgender students' experiences as compared to their cisgender peers, several institutional factors were considered. It was hypothesized that cisgender students would report higher levels of institutional support and overall school satisfaction than transgender students due to the multitude of issues faced by transgender students on college campuses.

A secondary focus in the study was the experiences of transgender students at single-sex versus co-educational colleges and universities. Based on the literature, it was hypothesized that students at women's colleges would report higher levels of knowledge about transgender students and more positive attitudes towards



trans students than students at co-educational schools as a possible result of the increased visibility and activism of transgender students at single-sex schools. To support hypothesis two, the third hypothesis is that students at women's colleges will likely report higher levels of support, more positive attitudes towards transgender people and increased knowledge of transgender issues as compared to coeducational colleges. Increased visibility coupled with understanding and positive attitudes on the part of cisgender students and administrators has been proven to improve the quality of transgender students' college experiences (Beemyn 2006).

By examining these variables and hypotheses, the researcher hopes to increase knowledge of the ways in which transgender students feel supported or isolated in comparison with their cisgender peers in a variety of institutions, so that schools can work towards policies that ensure more positive experiences for all students.

Methods

Sampling Procedure

The sample consisted of 184 participants recruited through a Facebook event and emails sent out in October of 2010 by the Queer Resource Center at a consortium of five colleges (four co-educational and one women's college). Several emails were sent through the Facebook group that asked people to participate in a study about college experience. Individuals were also urged to invite other students to the group. Three hundred forty-four participants started the survey and 184 (53.49 percent) participants completed the survey. No systematic trends in participant attrition were discovered to suggest that the missing data resulted in selection bias. Due to the small size of the target population of transgender college students, this study used respondent driven sampling to maximize the amount of transgender students who were recruited for the study.

The first section on the survey was an informed consent document that briefly introduced the experiment and risks and benefits for the participant. The participants were then asked to click "agree" to signify that they consented to participate and wished to continue to the next page of the survey. Following the



survey, participants were then debriefed and informed of the purpose of the study.

Participants

All participants were currently enrolled in a college or university. Students attended a variety of colleges, with the largest percent of participants coming from Scripps College (56.5 percent), Smith College (11.3 percent), and Pomona College (6.2 percent). The remainder of the participants attended 31 other colleges and universities in the United States. One hundred and thirty-two students indicated that they attended a single-sex institution (71.7 percent) and 52 students indicated that they attended a co-ed institution (28.3 percent). The sample consisted of 174 people who indicated that they were assigned a female sex at birth (94.6 percent) and 10 people who were assigned a male sex at birth (5.4 percent). Eighteen participants identified as transgender, genderqueer, or genderfuck (9.8 percent), and 166 participants identified as cisgender (90.2 percent). Of the 18 transgender participants, six attended co-educational colleges and 12 attended a single-sex institution. Additionally, 132 students identified as Caucasian (72.5 percent) and 50 students identified as non-white (27.5 percent) including Latina/o, Asian/Pacific Islander, African American, or Other/Mixed Race. All participants were between the ages of 18 and 24 with a mean age of 20.3 years ($SD= 1.3$). See Table 1.

It should be noted that the participants were a majority white (72.5 percent), cisgender (90.2 percent), assigned female at birth (94.6 percent), and women's college students (71.7 percent), with Scripps being over-represented (56.5 percent). Additionally, given the use of

respondent driven sampling, the following results may not be generalizable to the population or across contexts.

Materials

The researcher created a survey using www.surveymonkey.com. The survey included an informed consent section and a series of questions followed by a debriefing. First, students were asked to rate their overall college experience on a 4 point scale (1=Very Negative, 2=Negative, 3=Positive, 4=Very Positive) and then participants were provided an open-ended response format and asked to list the factors that

Students were then given space to explain each of their answers. The questions were developed to create a support scale with 9 items. See Appendix A.

The following questions asked students to respond to statements that explored attitudes toward transgender college students. Participants responded by indicating the degree to which they agreed with the statement on a 4-point scale (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree). Items were taken from a study by Brown et al. (2004) about the experiences of gay, lesbian, bisexual, and transgender (GLBT) college students. Some items were adjusted from GLBT to transgender

Table 1. Descriptive Statistics for Sample (n=184)

Variable	%(n)/ Mean	Standard Deviation	Range	Alpha
Gender Identity			0 to 1	
Transgender	9.8% (18)		0	
Cisgender	90.2%(166)		1	
Type of School			0 to 1	
Coeducational College	28.3% (52)			
Women's College	71.7% (132)			
Biological Sex Assigned at Birth			0 to 1	
Male	5.4% (10)		0	
Female	94.6% (174)		1	
Race			0 to 1	
White	71.7% (132)		0	
Non-White	28.3% (52)		1	
Age	20.34	1.33	18 to 24	
Years of College	3.16	1.19	1 to 5	
Rating of Overall College Experience	3.38	0.59	1 to 4	
Support Scale	2.89	0.52	1 to 4	0.75
Knowledge Scale	2.51	0.64	1 to 4	0.69
Attitudes Scale	3.41	0.35	1 to 4	0.75

they think contributed to their rating.

On the next page, students were asked to respond to a series of questions on a 4-point scale (1=Not at all, 2= Somewhat, 3=Mostly, 4=Very Much) about the degree to which they feel supported by faculty, peers, and friends and comfortable talking about their gender identity.

students specifically. On the next page, participants were given a series of statements relating to issues for transgender people outside of the college environment and were asked to rate the degree to which they agreed or disagreed with each statement on a 4 point scale (1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly

Agree). Items were adapted from Malaney et al. (1997) and adapted from LGBT to transgender when applicable. These statements were combined with the above-mentioned items from Brown et al. (2004). The researcher added 3 additional items. A total of 11 items were combined to create an Attitudes Towards Transgender Students Scale. See Appendix B.

The following questions asked students about their level of knowledge and interest in transgender history and issues on a 4-point scale (1=Not Knowledgeable/ Interested, 2=Somewhat Knowledgeable/ Interested, 3=Moderately Knowledgeable/ Interested). Items were taken from a study by Brown et al. (2004). Some items were adjusted from GLBT to transgender students specifically. A total of four items were combined to create the Knowledge of Transgender Issues Scale. See Appendix C.

Students were then asked to provide demographic information including school they were attending, age, year in college, major, racial identity, gender identity, and the biological sex assigned at birth.

Participants were then provided a debriefing that included the objectives of the survey as well as contact information for the researchers and resources for students who may experience psychological discomfort due to the survey.

Data Analysis Strategy

For the purpose of statistical analysis, participants were grouped by gender identity (transgender or cisgender) and the type of school that they attend (women's college or co-ed institution). The variables analyzed were the participants' mean scores on three scales, measuring students' reported levels of support, attitudes towards transgender people, and knowledge about transgender issues, as well as their ratings of their overall college experience. Each scale was analyzed for reliability, and then confirmatory factor analysis was conducted on the items in each scale to confirm the one-factor solutions previously found, as some items were

altered. All three scales were confirmed to have corresponding items: support scale ($\alpha = 0.75$), attitudes towards transgender people scale ($\alpha = 0.75$), and knowledge about transgender people scale ($\alpha = 0.69$).

Two tailed independent sample t tests were conducted to compare means on each scaled score by gender identity and type of school. Additionally, a multiple linear regression was conducted to analyze the relationships between gender identity and type of college on overall ratings of college experience. The regression was constructed from three nested models. Model 1 contained only the control variables of age, years in college, race, and biological sex assigned at birth. Model 2 contained the control variables, gender identity, and type of school. Model 3 contained the control variables, gender identity, type of school, and the interaction between school type and gender identity. The dependent variable for all three models was overall rating of college experience.

Results

Independent sample t-tests were conducted to compare means on each scaled score by gender identity and type of school. There was a significant difference in the scores of cisgender students ($M=2.43$, $SD=0.59$) and transgender students ($M=3.25$, $SD=0.66$) on the knowledge scale, such that transgender students reported higher levels of knowledge about transgender issues than cisgender students; $t(182) = 5.60$, $p < 0.001$, two-tailed. For type of school, there was a significant difference in the scores of students at women's colleges ($M=2.94$, $SD=0.48$) and students at coeducational colleges ($M=2.76$, $SD=0.62$) on the support scale, such that students at women's colleges reported higher levels of support than students at coeducational colleges: $t(182) = -2.08$, $p < 0.05$, two-tailed.

There was also a significant difference in the scores of students at women's colleges ($M=3.45$, $SD=0.32$) and students at coeducational colleges ($M=3.30$, $SD=0.39$) on the attitudes scale, such

that students at women's colleges reported more positive attitudes towards transgender students as compared to students at coeducational colleges: $t(182) = -2.69, p < 0.01$, two-tailed. A follow up independent samples t test was conducted to compare levels of discrimination based on gender identity to determine if there were significant differences in discrimination based on gender identity or type of school. There was a significant difference in ratings of discrimination

$p < 0.05$, two-tailed). Students at women's colleges ($M = 2.95, SD = 0.83$) also reported significantly higher ratings of support received from students outside of their major as compared to students at coeducational colleges ($M = 2.60, SD = 0.86$); $t(182) = -2.53, p < 0.05$, two-tailed.

Within the attitudes towards transgender students scale there was a significant difference between students at women's colleges ($M = 3.36, SD = 0.68$) and students at coed colleges ($M = 2.98,$

Table 2. Bivariate Analysis of Gender Identity and Type of School on Scale Scores

Variable	Overall College Experience	Support Scale	Attitudes Scale	Knowledge Scale	Discrimination Based on Gender Identity
Gender Identity					
Transgender	3.22	2.74	3.53	3.25***	1.94***
Cisgender	3.40	2.91	3.39	2.43	1.32
Type of School					
Coeducational College	3.37	2.76	3.30	2.42	1.30
Women's College	3.39	2.94*	3.45**	2.54	1.40

Note: Independent Samples t tests (two-tailed) used to compare mean differences: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

based on gender identity reported by transgender students ($M = 1.94, SD = 0.64$) and cisgender students ($M = 1.32, SD = 0.60$), such that transgender students reported significantly higher rates of discrimination as compared to cisgender students: $t(182) = 4.19, p < 0.001$, two-tailed. See Table 2.

The findings of the bivariate analysis were further explored through item analysis of the support, attitudes, and knowledge scale by type of school in order to understand possible differences between coeducational colleges and women's colleges. For the purposes of this study only statistically significant items will be reported and explored further in the discussion section. Independent samples t tests were used to compare the means on all items of each scale by type of school.

Within the support scale, students at women's colleges ($M = 3.16, SD = 0.86$) reported significantly higher ratings of support from faculty members than students at coeducational colleges ($M = 2.87, SD = 0.98$); $t(182) = -1.98,$

$SD = 0.96$) in support for gender-neutral bathrooms, such that students at women's colleges were likely to be more supportive of gender-neutral restrooms on campus: $t(182) = -2.97, p < 0.01$, two-tailed. There was also a significant difference between students at women's colleges ($M = 3.60, SD = 0.64$) and students at coed colleges ($M = 2.85, SD = 0.94$) in response to the item "I know transgender students on my campus," such that students at women's colleges were more likely to know a transgender student at their college: $t(182) = -6.46, p < 0.001$, two-tailed. There was also a significant difference between students at women's colleges ($M = 2.71, SD = 0.47$) and students at coed colleges ($M = 2.44, SD = 0.50$) on the item: "Since coming to this college, has your attitude toward transgender persons become less favorable, remained the same, or become more favorable?" such that students at women's colleges reported more favorable attitudes on average, as compared to students at coed colleges: $t(182) = -3.44, p < 0.01$, two-tailed.

On the knowledge scale, there was a significant difference between students at women's colleges ($M=3.12$, $SD=0.85$) and students at coed colleges ($M=2.67$, $SD=1.13$) on the item, "How much have you learned about transgender persons since coming to this college?" such that students at women's colleges

of Table 3, the independent variables of gender identity and type of school were added into the regression equation. Model 2 had an $R^2=0.09$, $F(6,177)=2.78$, $p<0.05$. Again age ($\beta = -0.22$, $p<0.01$) and years in college ($\beta = 0.20$, $p<0.01$) were found to significantly predict overall college experience. Neither gender identity nor

Table 3: Regression Analysis of Gender Identity and Type of School on Overall Student Experience

Variable	Model 1	Model 2	Model 3
Intercept	7.45*** (1.09)	7.18*** (1.10)	6.39*** (1.10)
Age	-0.21** (0.06)	-0.22** (0.06)	-0.21** (0.06)
Years of College	0.19** (0.07)	0.20** (0.07)	0.29** (0.07)
Race	-0.11 (0.10)	-0.13 (0.10)	0.11 (0.10)
Assigned Biological Sex	-0.21 (0.19)	-0.23 (0.21)	0.27 (0.20)
Type of School		-0.004 (0.11)	0.56 (0.29)
Gender Identity		0.24 (0.14)	0.65** (0.25)
School Type* Gender Identity			-0.62* (0.30)
F-Test	3.49**	2.78*	3.02**
Degrees of Freedom	(179, 4)	(177, 6)	(176, 7)
R^2	0.07	0.09	0.11

Note: Reference categories are Co-ed, Transgender, White and Male: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

reported learning more about trans people on average, as compared to students at coed colleges: $t(182) = -2.93$, $p<0.01$, two-tailed.

A multiple linear regression was calculated to predict overall ratings of college experience based on gender identity and type of school. In Model 1 of Table 3, control variables were entered into the regression equation. Model 1 had an $R^2=0.07$, $F(4, 179)=3.49$, $p<0.01$. It was found that age significantly predicted overall college experience ($\beta = -0.21$, $p<0.01$), as did years of college ($\beta = 0.19$, $p<0.01$). In Model 2

types of school were found to significantly predict experience.

In Model 3 of Table 3, an interaction between school type and gender identity was added to the regression equation.

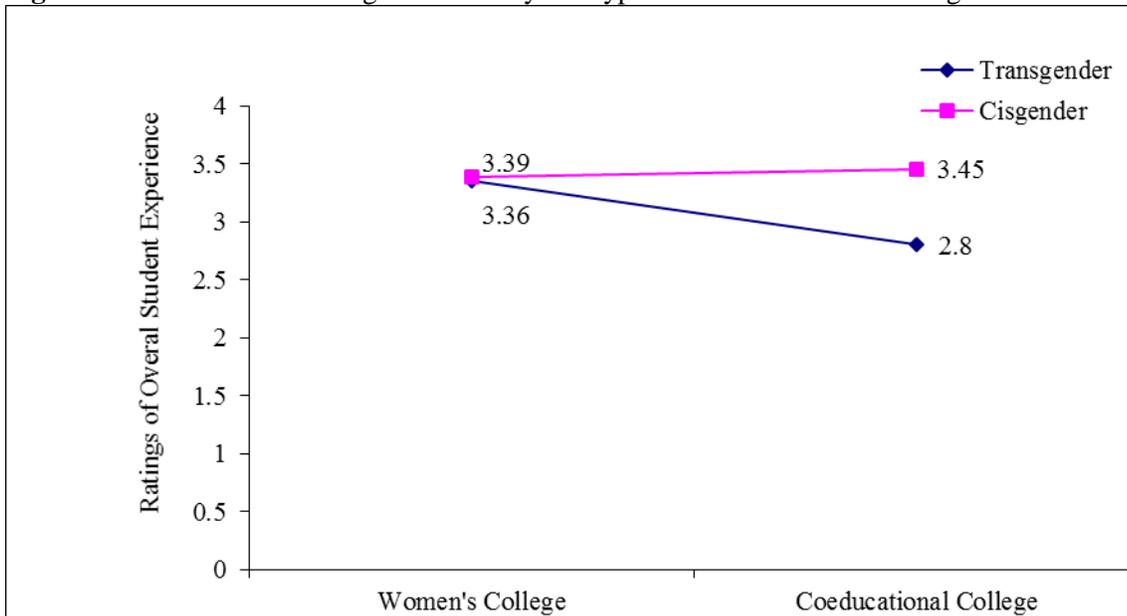
Model 3 had an $R^2=0.11$, $F(7,176)=3.02$, $p<0.01$. Again age ($\beta = -0.21$, $p<0.01$) and years in college ($\beta = 0.29$, $p<0.01$) were found to significantly predict overall college experience. In this model, gender identity was found to significantly predict overall college experience, such that cisgender students reported more

positive overall experiences of college, as compared to transgender students ($\beta = 0.65$, $p < 0.01$). Students at women's colleges reported more positive ratings of overall college experience, however this difference was not statistically significant ($\beta = 0.56$, $p = 0.059$). There was a significant interaction effect of gender identity and type of school, such that transgender students at women's colleges reported more positive experiences than transgender students at co-ed colleges ($\beta = -0.62$, $p < 0.05$). See Figure 1.

attitudes of a sample that is majority white, cisgender, assigned female at birth, and attending a women's college.

Given limitations, results are consistent with prior research on transgender student experience, such that there was a significant main effect of gender identity, such that cisgender students reported more positive overall experiences, compared to transgender students (Dugan et. al. 2012; Garvey and Rankin 2015). This difference could be a result of discrimination that transgender students face based on their gender

Figure 1. Interaction between gender identity and type of school on overall ratings of student experience



Discussion

This study began with three major hypotheses: cisgender students would report more positive overall experiences of college, transgender students would have more positive experiences in women's colleges than coeducational colleges, and students at women's colleges would report more positive attitudes and more knowledge of transgender students. All three hypotheses were supported. However, given limitations in the sample size and diversity, as previously discussed, our conclusions are limited and should be read to reflect the reported

identity. While not statistically significant, it is also worth noting that transgender students on average reported lower levels of support from faculty and students.

However, women's colleges were found to be a significantly more supportive environment for students of all gender identities. Additionally, transgender students at women's colleges reported significantly more positive experiences than transgender students at co-ed institutions. Part of the benefits gained by transgender students may be due to the increased level of positive attitudes towards transgender students reported at women's colleges. Students at

women's colleges were also significantly more likely to personally know a transgender student at their college. This finding is consistent with Hart and Lester's (2011) finding that trans students at women's colleges are "hyper-visible." However, contrary to Hart and Lester's assessment that visibility leads to negative outcomes, personally knowing transgender students on campus may lead to an increase in positive attitudes towards transgender students. This finding is consistent with previous research that supports the intergroup contact theory originally proposed by Allport (1954).

Several studies have examined the intergroup contact theory hypothesis to predict college students' attitudes towards lesbian, gay, and bisexual people (Basow and Johnson 2000; Hinrichs and Rosenberg 2002; Liang and Alimo 2005). Very few studies have examined the contact hypothesis in relation to attitudes toward transgender people (Walch et al. 2012; King et al. 2009). Woodford et al. (2012) found that heterosexual college students with transgender friends or acquaintances have more positive attitudes towards transgender people. Attitudes have been found to lead to behavior; therefore transgender students at women's colleges may experience more positive and supportive behaviors from their cisgender peers.

The increase in reported positive attitudes towards transgender students at women's colleges may also be related to the finding that students from women's colleges reported learning more about transgender experiences in school. As cisgender individuals learn more about the experience of their transgender peers they may develop positive attitudes that could account for the increase in support provided by these institutions. This support could work to counteract the finding that transgender students report increased experiences of discrimination on the basis of gender identity. However, due to the finding that transgender students in both women's colleges and co-educational institutions report increased levels of discrimination, it is

clear that more must be done to reduce discrimination.

Considering that women's colleges were found to be more positive spaces for transgender students, the following section will discuss possible frameworks to expand the support of transgender students at women's colleges.

Considerations for Women's Colleges on Transgender Inclusion

Women's colleges, in particular, have a lot to gain from openly supporting transgender students. It is first important to explain why including transgender students at women's colleges do not make schools co-educational. In order to examine this relationship, we must first expand and challenge the definition of "womanhood" to include qualities and experiences outside of a normative framework.

Women's colleges should open their doors to individuals who identify as female, regardless of the biological sex they were assigned at birth, or who were assigned a female biological sex and have a gender identity that is not female, including those that do not identify as women or men. Invalidating or excluding transgender experiences from the category of "womanhood" privileges cisgender identities and works to confine and restrict female experiences to only those recognized within traditional gender norms. This limited definition works against the historical mission of women's education, which calls for a deconstruction of oppressive gender norms and empowerment to overcome societal restrictions that dictate appropriate definitions of femininity. Additionally, individuals who do not identify as female and challenge binarized gender may be seen to further the missions of many women's colleges, which have a history of challenging normativity.

Given institutional support, women's colleges are ideal spaces to explore the complexities of gender and celebrate transgender experience. Transgender people offer colleges a wealth of experience and knowledge about

gender. In a world that remains binarized and holds mostly inadequate understandings of the topic of gender, trans people can present knowledge about experiences outside of normative social constructions, which simultaneously disproves any over-simplistic and limited understandings of the subject. Through this contribution, transgender experience can be seen to further the mission of women's education by deconstructing arbitrary divisions of gender and increasing understanding of gender fluidity.

A change towards openly accepting transgender students will no doubt be met with resistance by individuals who fear that this acceptance will somehow invalidate women's colleges. However, it has been shown historically that the reason why women's colleges have been able to survive and move forward is their ability to adapt and develop to meet the needs of their students (Marine 2011a). The presence of transgender students calls for a re-evaluation of the mission and purpose of single-sex institutions that takes into account the shifting perspectives of gender as distinct from biological sex. This movement towards inclusion will require thoughtful consideration of women's education's commitment to solidarity, social justice, and positive transformation (Marine 2011a). As spaces built to provide opportunity, empowerment, and access to infinite possibilities, it makes perfect sense that women's colleges expand this empowerment to include non-normative experiences of gender, thereby liberating students from an outdated and inadequate binary which has been proven to no longer represent the complexities of identity and expression.

Historically, some women's colleges have been reluctant to take a stance about the inclusion and acceptance of transgender students. Administrators have avoided the issue by stating that the school's admissions policy is to only accept women, suggesting that there is a requirement that students must identify as women at the time of admission. However, in the

past few years several women's colleges have developed explicit admissions policies that openly accept transgender students (Misner 2014). While these policies are very positive, they are only one step towards creating spaces that support trans students. Once accepted, administrators are willing to work with students on an individual level, but individual support is only the beginning of what is an important and necessary new direction for women's colleges. It is not enough to accept students and disengage from their holistic development once attending the school. Institutions must reach beyond acceptance and provide open support and solidarity for transgender students in order to acknowledge and validate the growing population of transgender students that already attend and will no doubt continue to benefit from and enrich women's education.

Limitations

As previously discussed, the largest limitation in this study was the sample size and diversity. This limitation may be a reflection of the relatively small size of this community. Though transgender students are visible and present on college campuses, the number of openly transgender students remains relatively small. Because gender identity, like many other aspects of identity, can be concealed, it is possible that this population is larger than the number of students surveyed suggesting that students who are not open about their gender identity were not comfortable identifying themselves by this label in the survey. Other sample size limitations include the number of students of color, participants from public schools, and the number of participants who were assigned a male sex at birth. Scripps College was also over represented in the study in relation to the other 32 colleges included. Therefore, Scripps' institutional characteristics and regional location may have influenced the results of the study.

Directions for Future Research

Future studies should look into the effect of private versus public schools on transgender experience and focus on individual qualities of institutions including size, diversity, teacher-student ratios, access to support services, presence and representativeness of transgender issues in curriculum, and geographic location. By examining these variables, researchers will gain deeper understanding of transgender student experiences in a wider variety of contexts.

An analysis of effective training methods and development of transgender support trainings specific to college staff, faculty, and students would also lead to a concrete method to increase awareness of the challenges that transgender students face. These trainings may also relieve some of the pressure from transgender students to educate campuses about trans issues, so that they can focus more on academic responsibilities. Trainings have been created and are being implemented in several institutions, but their effects have not been tested and therefore it is not possible to determine the best methods to construct trainings or educate college populations.

It is also important to recognize the variety within transgender experience and look at the ways that this identity intersects with race, class, sexual orientation, religion, and political affiliations. By studying a variety of transgender experiences researchers could gain an understanding of how experience differs in relation to aspects of identity, which may lead to a more complete picture of the needs of all transgender students.

Future research on this topic is imperative to the development and implementation of trans-inclusive practices to improve overall student experience for individuals of all gender identities.

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Appendix A

Support Scale

Instructions: Please read the following questions and respond by choosing the answer on the scale from 1 (Not at all) to 4 (Very Much) that most accurately describes your experience. You may then choose to explain your answer in the answer box below each question.

1. Do you feel that your experience is represented in the academic curriculum?
2. To what extent do you feel supported by faculty members in your major?
3. To what extent do you feel supported by students in your major?
4. To what extent do you feel supported by students outside of your major?
5. Do you feel comfortable talking to your professors about gender identity?
6. Do you feel comfortable talking to students in your classes about gender identity?
7. Do you feel comfortable talking to your friends about gender identity?
8. Do you feel comfortable talking to students you do not know about gender identity?
9. Have you experienced affirmation as a result of your gender identity?

Appendix B

Attitudes Toward Transgender People Scale

Instructions: Please answer the following questions to the best of your ability. Some of the answers may seem obvious or not applicable based on your gender identity, but remember that this is a survey of a variety of students on campus.

1. I feel that colleges should have gender-neutral bathrooms in residence halls and class buildings.
2. I feel that gender neutral language should be used in the student handbook, even in historically women's colleges.
3. I know transgender students on my campus. (Students that do not identify with the biological sex that they were assigned at birth or transcend traditional gender norms)
4. I feel comfortable talking to transgender people.
5. I feel comfortable talking about transgender issues with my friends.
6. I feel comfortable talking about transgender issues in class.
7. I feel that transgender people have a mental illness and need therapy. (Reverse coded)
8. I would feel comfortable sharing a dorm room with a transgender student.

Items 1, 2, and 8 added by researcher, Items 3, 4, 5, 6, and 7 from Brown, Clarke, Gortmaker, & Robinson-Kellig (2004) about the experiences of gay, lesbian, bisexual, and transgender (GLBT) college students. Some items were adjusted from GLBT to transgender students specifically.

Instructions: The following are statements that may or may not express some of your own views towards transgender persons. People have differing views on these issues. Please indicate the extent to which you agree or disagree with each statement.

9. Transgender persons should be allowed to serve openly in the U.S. military.
10. Transgender persons should have the right to adopt children.
11. Since coming to this college has your attitude toward transgender persons become less favorable, remained the same, or more favorable? (1= Less favorable, 2= Remained the same, 3= More favorable)

Items 1, 2, and 3 from Malaney, Williams, & Geller (1997) and adapted from LGBT to transgender specifically.

Appendix C

Knowledge Scale

Instructions: (Same as Attitude Scale)

1. How knowledgeable are you about transgender concerns, history, and cultures?
2. How interested are you in learning more about transgender concerns, history, and cultures?
3. How often did you visit the Queer Resource Center last year? (1=Never, 2= One or Two Times, 3= A few times, 4= More than 4 times)
4. How much have you learned about transgender persons since coming to this college? (1= Nothing, 2= A little, 3=A moderate amount, 4= A lot)

Items from Brown, Clarke, Gortmaker, and Robinson-Kellig (2004). Some items were adjusted from GLBT to transgender students specifically.