The Effect of Diversity Courses on Women's Identity Salience and Sense of Belonging

Mykaela Hagen

Radford University

Nicole Iannone
Dr. Nicole Iannone
Committee Chairperson

Thomas Pierce
Dr. Thomas Pierce
Committee Member

Ann Elliott
Dr. Ann Elliott
Committee Member

Abstract

The current study examined the effect that women-centered diversity courses (e.g., Women in the World) have on the sense of belonging, identity salience, and sexism of students compared to non-diversity courses (e.g., Psychopharmacology). Specifically, the current study tested whether women felt higher belonging and identity salience after taking a women-centered diversity course and whether or not taking a women-centered diversity course can lower students' prejudice against women. A survey including measures of belonging, identity salience, and sexism levels was given to students in women-centered diversity courses and non-diversity courses at the beginning and end of the semester. Results showed that women actually decreased in belonging over the span of the semester, instead of increasing as hypothesized. Women and men did not differ in belonging and identity salience from the beginning of the semester to the end; however, women had overall higher levels of identity salience compared to men. Additionally, no support was found to say that women-centered diversity courses cause a decrease in prejudicial attitudes toward women. During the semester that data was collected, courses were held in a variety of formats, including online and switching to online, which could have led to the belonging effect.

The Effect of Diversity Courses on Women's Identity Salience and Sense of Belonging

With the rising rates of minority students at universities, from only 16% in 1976 to 43% in 2016, there also appears to be more diversity-centered courses offered at universities for students (U.S. Department of Education, 2017). Additionally, the enrollment rate of women in higher education has increased 10% from 2006 to 2016 (U.S. Department of Education, 2017). Many universities across the country make taking a certain amount of diversity courses a requirement to graduate with a bachelor's degree, including all of the schools in the California State University system, the University of Colorado Boulder, and North Carolina State University. At these universities there are specific courses that qualify as a diversity course, such as Native American Literature, Introduction to African American Music, and African American Literature (North Carolina State University, n.d.). Typically, university courses specific to women qualify to cover the diversity course requirement as well. These courses include Black Feminist Theory, Women and Gender in Science and Technology, Women in Music, and History of American Women to 1900 (North Carolina State University, n.d.). Past research on diversity course offerings have shown that students benefit from these courses, in that the courses have a positive effect on reducing prejudice among the majority students (Case & Stewart, 2010; Hogan & Mallott, 2005; Hussey et al., 2010; Pettijohn & Walzer, 2008). Despite the findings from this research, there is a gap that does not address whether or not the minority students in these classes may feel more included and recognized on campus after taking these classes. The goal of the current research is to fill in that gap and examine whether specifically women-centered diversity courses could increase belonging and identity salience amongst female-minority students.

At a university there could be hundreds of classes offered each semester, a large selection for students to choose from. From the courses being offered, there are only so many focused on

gender, minorities (racial, sexual, religious, etc.), discrimination, and the oppression of minority groups. These courses that have a strictly diversity or minority-based curriculum are only one type of diversity course that universities can offer. According to Hussey and colleagues (2010), diversity courses can vary along a continuum of how in depth they go with the diversity curriculum and the minority-centered information they teach. For example, a race and ethnicity course is considered a diversity-focused course, whereas a diversity-infused, or low in-depth course, may be an introductory psychology course that covers diverse topics as a second agenda item throughout the semester. As diversity education increased in the classroom, these diversity courses from across the continuum became more popular as course offerings at universities.

With the popularity of these course offerings increasing, researchers began examining whether these classes had an effect on student attitudes and prejudice. The research found that these types of courses increased prejudicial awareness for students, possibly allowing them to become more open to diverse populations and become an ally to students in minority groups. This research largely focused on how taking a diversity course could reduce prejudice and change students' attitudes from the beginning of the class to the end. For example, Hussey et al. (2010) examined students from two social psychology courses, one with a diverse curriculum and the other without, to determine if student attitudes had changed from the beginning of the class to the end. The experimental class was infused with certain diversity activities such as writing assignments, extra readings, and guest speakers, while the control course did not have these additional diversity activities (Hussey et al., 2010). The students in each class completed a survey at the beginning of the semester and then again at the end of the semester on their attitudes toward different social statuses, races, genders, and sexual orientations. They compared the pre-class survey scores to the post-class survey scores in the control class and in the diversity

class (Hussey et al., 2010). The researchers found that scores from the beginning of the class and the end of the class were not significantly different from one another in the control class. However, students in the diversity class reported significantly lower levels of prejudice, specifically for racism and classism (Hussey et al., 2010). The other topics such as sexual orientation or different gender prejudice showed trends of prejudice reduction but were not significantly changed. This suggests that taking a diversity course could reduce prejudice, at least toward some social minority groups.

Pettijohn and Walzer (2008) also examined this idea, specifically comparing the effects of a psychology of prejudice course versus an introduction to psychology course on students' prejudicial attitudes. Specifically, they were investigating whether the psychology of prejudice course would have a more significant, positive effect on students' prejudicial attitudes than an introduction to psychology course, which does not go in depth on diversity topics. Students completed questionnaires that measured prejudicial attitudes at the beginning of the course and again at the end of the course. The questionnaire measured modern and old-fashioned racism and modern and old-fashioned sexism as well as views on homosexual relationships. The modern prejudice questions were more subtle, implicit measures of racism and sexism, while the old-fashioned prejudicial measures were direct and traditional. The researchers found that students in the psychology of prejudice course showed a significant reduction in all measures except old-fashioned sexism. Additionally, the researchers found that there was no significant decrease in prejudicial attitudes in the introduction to psychology class. These findings show that the psychology of prejudice diversity course changed students' attitudes toward certain minority groups, more than an introductory psychology course (Pettijohn & Walzer, 2008).

Similarly, Case and Stewart (2010) studied whether diversity courses were able to increase the awareness of heterosexual privilege for the students taking diversity classes. Participants were taken from different diversity courses at a Texas university. The control group consisted of students who were in psychology courses unrelated to diversity (e.g., behavioral statistics). Students in both groups took a survey at the beginning of the class and then again after the class was over. The survey had measures on heterosexual privilege awareness, prejudice against lesbian women, prejudice against gay men, and support for same sex marriage. Case and Stewart (2010) found that students enrolled in the diversity courses showed a significant increase in heterosexual privilege awareness and support for same-sex marriage. Additionally, there were trends of prejudice reduction among students toward lesbians and gay men; however, these findings were not significant. For the students in the comparison courses, there were no significant differences found on any of the measures from the beginning of the courses to the end of the courses (Case & Stewart, 2010). Although this study did not show a significant reduction in prejudice, it did show a significant reduction in discrimination towards same-sex couples.

Hogan and Mallott (2005) used a different method to assess whether diversity courses could lower prejudicial attitudes. For this study, three groups were given the Modern Racism Scale and then compared. The first group consisted of students who had already completed a diversity course prior to the research semester, the second group included students who were currently in a diversity course during the research semester, and the last group consisted of students who have not yet taken or completed a diversity course as of this research semester. The researchers randomly selected half of the students in each of the groups to do a survey at the beginning and end of the semester in order to test students' individual changes in prejudicial attitudes. Hogan and Mallott (2005) found that students in the *course in progress* group had

significantly lower levels of prejudice in comparison to the other groups. When comparing the

pre- and post-semester scores from the students in each of these groups, results showed that

having the course in progress does reduce prejudice over the semester; however, the effect starts

to deteriorate over time. This was demonstrated with the students who had already taken a

diversity course. The students' scores in this group started to decrease over the course of the

semester, therefore showing that the reduction in prejudice following participation in diversity

courses may be temporary (Hogan & Mallott, 2005).

Although a variety of research has found a reduction in prejudice towards different social

groups after taking a diversity course, there has been minimal research examining other positive

outcomes these courses may achieve. Bunce and King (2019) looked at how traditional course

material and more diversity driven course material affects Black and minority students'

autonomy. They found that students who reported more restrictive course material (i.e., non-

diverse course material) had lower autonomy because the material had little to no relevance for

them (Bunce & King, 2019). Additionally, Opie et al. (2019) found that diversity in course

material as well as class demographics can have an effect on students' attitudes and behavior in

class. The researchers examined women's participation in classrooms with different

student/professor gender demographics and found that women were more likely to participate

when the professor was a woman as well (Opie et al., 2019). This finding parallels the idea that

students in the demographic minority may feel as though their ideas are not going to be accepted

or will be responded to negatively, thus reinforcing the students' sense that they are seen as a

minority (Bunce & King, 2019). Bunce and King (2019) stated that minority students will have

lower autonomy with traditional classes, but how might a diversity course affect feelings of

inclusion or a sense of belonging on campus after taking it?

A sense of belonging is critical for students on college campuses because belonging is one of the psychological needs in Maslow's (1943) hierarchy of needs, and the fulfillment of this need is important (Baumeister & Leary, 1995). This sense of belonging is a student's sense of connection to the campus (Hurtado & Caeter, 1997). Hurtado and Caeter (1997) looked at the relationship between campus environment and the sense of belonging among Latino students. It was found that more hostile campus climates were negatively associated with Latino students' sense of belonging on their college campus. Additionally, Johnson et al. (2007) surveyed students from predominantly White institutions and found that White students had a higher sense of belonging on campus than students in the minority groups. To add to this research, Museus and Maramba (2011) found that Filipino students, specifically, at a predominantly White university felt pressured to assimilate into the majority culture at the university, had lower adjustment to college, and therefore, had a lower sense of belonging at the university.

In response to this research, Museus and colleagues (2017) examined how more culturally engaging campus environments influence a sense of belonging to white students and minority students. There were several independent variables measured including cultural familiarity, culturally relevant knowledge, cultural community service, cross-cultural engagement, cultural validation, collectivist cultural orientation, and holistic support at the university. They found that cultural validation, or the extent to which students feel like they are valued by the campus community, is important to minority students' sense of belonging on campuses. Thus, minority students' belonging is related to how much they see their community being valued by their campus, and one way to show a value to minority communities could be through diversity courses.

In addition to sense of belonging, identity salience is also important to university students' campus experiences. The idea of identity salience is derived from social identity theory (Tajfel, 1981), which states that people have many different identities (i.e., a woman, a catholic, White, Black, LGBTQ+, etc.) to which they prescribe. According to Hurtado and colleagues (2015), salience of one's social identity refers to the frequency that individuals think about their group membership and the level of importance this social identity holds in the individual's self-concept. As an example, if one's most salient identity was that he or she is Black, the individual would think about being Black more often than thinking about other identities like being a woman, being in the upper class, or being a Muslim. Identity salience in an individual can have a positive or negative effect depending on the context.

One negative effect of high identity salience of certain identities is stereotype threat. Stereotype threat refers to a phenomenon where those of a minority identity may underperform on certain tasks simply because their stereotyped minority identity was primed (Gibson et al., 2014). Shih and colleagues (1999) studied stereotype threat with Asian American women and mathematics. Women are often stereotyped as having low math ability and Asians are often stereotyped as having high math ability. This study aimed to examine what would happen when Asian American women were primed with their female identity, their Asian identity, or no prime, and then took a mathematics test. The results showed that when primed with their Asian identity, the women do better on the mathematics test than the women who were primed with their female identity (Shih et al., 1999). This study was replicated with a larger sample size by Gibson et al. (2014) and yielded the same results.

According to McIntyre and colleagues (2003), the stereotype threat that affects women's performance on mathematics tests can be negated when they are reminded of other women's

achievements who, in this particular situation, had succeeded in law, medicine, architecture, and invention. They found that women under stereotype threat who had read short biographies of successful women scored better on a GRE mathematics test than women in the control condition. Therefore, the increase in identity salience when taking a diversity course dedicated to women's successes, history, and rights may not increase stereotype threat and could instead negate stereotype threat. If stereotype threat is lowered due to the information taught in diversity courses about women, then more positive identity salience can be gained by the female students in these classes.

The Current Study

Past research showed that diversity courses can reduce prejudicial attitudes of the minority group that is taught about, but there has not been an effort to look at how these same diversity courses affect the minority students and their sense of belonging or positive identity salience. Thus, in the current study, women's identity salience and sense of belonging after taking a women-centered diversity course is examined, in addition to whether the course reduces prejudice towards women. After taking a women-centered diversity course, a woman's identity salience should increase because she will have more knowledge about her own group membership and therefore, the importance of that identity may increase. Additionally, based on the findings from Museus et al. (2017), women-centered diversity courses may increase belonging in women because by the university offering the class, they may feel more valued by the campus community. Therefore, I made the following hypotheses:

Hypothesis 1: Taking a women-centered diversity course (e.g., Women in Psychology, Feminist Literature) will increase women's identity salience and sense of belonging on the campus when the class ends compared to when the class begins.

Hypothesis 2: Female students in the women-centered diversity courses will experience increased identity salience and sense of belonging from the beginning to the end of the class, but male students' identity salience and sense of belonging will not change.

Hypothesis 3: Women in a women-centered diversity course will have a greater change from the beginning to the end of the class in identity salience and sense of belonging than women in non-diversity courses.

Hypothesis 4: Students in the women-centered diversity courses will report lower prejudice towards women at the end of the course compared to the beginning of the course.

Hypothesis 5: Students in the women-centered diversity courses will have a larger decrease in prejudice towards women from the beginning to the end of the course than students in the non-diversity courses.

Method

Design

The study design is a 2 (class group: women-centered diversity course vs. non-diversity course) x 2 (timing: beginning of the course vs. the end of the course) x 2 (gender: male vs. female) mixed design with timing as the within-subjects variable and class and gender as between-subjects variables. This study was a nonequivalent control group pretest/posttest design. Participants responded to questionnaires at the beginning of the course and at the end of the course to assess their prejudicial attitudes, sense of belonging, and identity salience.

Participants

The current study had 107 participants that completed both the Time 1 and Time 2 surveys. There were 41 students (men and women) taking an undergraduate diversity course specifically about women (i.e., Psychology of Women, Women in the World, etc.). Additionally,

there were 63 students taking courses not specifically about women (i.e., Cognitive psychology, Psychopharmacology) in the control condition. Three students did not provide information about the classes they were taking. There were 43 students (40 Women; 3 Men) who only completed the Time 1 survey but not the Time 2 survey; thus their first survey was not included in the study. Participants of all gender identities participated in the study even though women were the main focus of the study. There were 84 total women, 20 total men, one non-binary individual, and two missing gender identities who participated. Additionally, participants varied in race with 77.6% identifying as White, 13.1% identifying as Black, 1.9% identifying as Latino/a, 1.9% identifying as Asian, 3.7% identifying as Other, and .9% were missing. Lastly, participants ranged in age from 18-43 years old ($M = 20.69$, $SD = 2.94$).

Procedure

Participants were recruited, with instructor consent, from women-centered diversity courses (e.g., Women in the World) and non-diversity courses (e.g., Psychopharmacology) during the fall semester at Radford University. The participants were told that randomly selected classes were being surveyed about student attitudes and personality characteristics at Radford University. With informed consent, participants took the questionnaire about prejudicial attitudes, identity salience, and sense of belonging at the beginning and end of the semester. The questionnaire was completed via Qualtrics on their own time within 2 weeks of the beginning of the semester and within 2 weeks of the end of the semester. The questionnaire took less than 30 minutes to complete each time. After the first questionnaire was taken, they were stored securely until the end of the semester. The scores were coded with the participants' last five digits of their student IDs. For the second questionnaire at the end of the semester, the participants' scores were coded again and connected to their first score. Once the scores were connected, any identifying

information was erased and only the answers on the two surveys were used. All professors

offered extra credit for participation in the study.

Materials

        The questionnaire included basic demographic questions such as age, gender, class they

were taking, and race. Additionally, questions from reliable measures of identity salience,

belonging on campus, and prejudice were used. In the second questionnaire, students were asked

their anticipated grade in the class, if they have taken any other diversity courses, and if so, what

diversity courses they have taken. See Appendix A for the full surveys.

Identity salience

        An existing questionnaire was used to assess participants' identity salience. The

questionnaire for identity salience included four 5-point Likert-type scale questions. Questions

were adapted from Brenner and colleagues' (2014) measure of identity salience of women in

STEM to reflect a gender identity salience. For example, "being a scientist is an important

reflection of who I am" was adapted to "being a woman/man is an important reflection of who I

am." These questions were rated from 1 (Strongly Disagree) to 5 (Strongly Agree). Items were

reverse coded as necessary and combined to create one composite scale that was reliable (Pre:

Women: $\alpha = .81$; Men: $\alpha = .82$; Post: Women: $\alpha = .86$; Men: $\alpha = .89$). See Appendix A for all

items.

Belonging on campus

        Sense of belonging on campus was measured using a 7-point Likert-type scale that was

adapted from Walton and Cohen (2007). This scale included statements such as "People at

Radford (e.g., students, teachers) like me" and "I belong at Radford." There were six questions

and they were rated from 1 (Strongly Disagree) to 7 (Strongly Agree). Items were combined to

create one composite scale that was reliable (Pre: $\alpha = .88$; Post: $\alpha = .90$). See Appendix A for all items.

Prejudice

Prejudice against women was measured using the Ambivalent Sexism Inventory (ASI) by Glick and Fiske (1996). This questionnaire allows the measure of two types of sexism. The first is hostile sexism or the belief in negative stereotypes and evaluations of women. The second is benevolent sexism or the belief in stereotypes and evaluations, which appear positive or neutral but ultimately still show inequality. An example of benevolent sexism would be that women should be protected by men. This is subjectively neutral but also has underlying negative points, such as women are weak (Glick & Fiske, 1996). This measure had 22 questions total with 11 questions about benevolent sexism and 11 questions about hostile sexism. The ASI uses a 6-point Likert-type scale ranging from 0 (Strongly Disagree) to 5 (Strongly Agree). This scale includes questions such as "Women have a quality of purity that few men possess," which depicts benevolent sexism, and "Most women fail to appreciate fully what men do for them," which depicts hostile sexism. Items were reverse coded as necessary and combined to create composite scales for hostile sexism, benevolent sexism, and a total scale, which were reliable (Hostile Pre: $\alpha = .88$; Hostile Post: $\alpha = .91$; Benevolent Pre: $\alpha = .76$; Benevolent Post: $\alpha = .78$; ASI-total Pre: $\alpha = .87$; ASI-total Post: $\alpha = .90$).

In addition to the ASI, the Modern Sexism scale from Swim et al. (1995) was also used to measure prejudice against women. This measure had eight questions and used a 5-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale included questions such as "Discrimination against women is no longer a problem in the United States."

Items were reverse coded as necessary and combined to create one composite scale that was reliable (Pre: α = .78; Post: α = .82). See Appendix A for all items.

Results

Hypothesis 1

Hypothesis 1 stated that taking a women-centered diversity course (e.g., Women in Psychology, Feminist Literature) would increase women's identity salience and sense of belonging on campus when the class ends compared to when the class begins. To test this hypothesis, two paired samples t-tests were run with only women in diversity courses on belonging and identity salience. Measures of belonging in women from pre-course (M = 5.46, SD = 1.06) to post-course (M = 5.26, SD = 1.14) demonstrated that women did not feel significantly more belonging after the course was over, $t(35)$ = 1.44, p = .158. Measures of identity salience in women from pre-course (M = 4.64, SD = 0.56) to post-course (M = 4.60, SD = 0.68) showed that women did not feel significantly more identity salience after the course was over, $t(32)$ = 0.36, p = .723. Neither of these findings support Hypothesis 1.

Hypothesis 2

Hypothesis 2 stated that female students in the women-centered diversity courses will experience increased identity salience and sense of belonging from the beginning to the end of the class, but male students' identity salience and sense of belonging will not change. In order to test this hypothesis, two repeated-measures ANOVAs with gender as a between-subjects variable and time as a within-subjects variable were conducted with belonging and identity salience, using only students from the diversity courses. Looking at belonging, there was no significant interaction between time and gender, $F(1,39)$ = 0.27, p = .605, partial-η^2=.01. Both men and women decreased in belonging from pre-course (Men: M = 5.23, SD = 1.42; Women: M = 5.46,

$SD = 1.06$) to post-course (Men: $M = 4.83$, $SD = 1.35$; Women: $M = 5.26$, $SD = 1.15$), although there was no significant difference in the amount men and women changed. There were no significant main effects of time or gender, ps > .12.

In terms of identity salience, there was also no interaction between time and gender, $F(1,36) = 0.22$, $p = .646$, partial-$\eta^2 = .006$. There was no significant difference in men's and women's pre-course score (Men: $M = 3.55$, $SD = 1.79$; Women: $M = 4.64$, $SD = 0.56$) and post-course score (Men: $M = 3.35$, $SD = 1.82$; Women: $M = 4.60$, $SD = 0.68$). There was no significant main effect of time on identity salience, $p = .466$; however, there was a significant main effect of gender, $F(1,36) = 10.26$, $p = .003$, partial-$\eta^2 = .22$. This main effect suggests that women had overall higher identity salience ($M = 4.62$, $SD = 0.47$) than men ($M = 3.45$, $SD = 0.97$). None of these findings support Hypothesis 2; however, a main effect of higher identity salience in women than men was found.

Hypothesis 3

Hypothesis 3 stated that women in women-centered diversity courses will have a greater change from the beginning to the end of the class in identity salience and sense of belonging than women in non-diversity courses. Two repeated measures ANOVAs with class as the between-subjects variable and time as the within-subjects variable on belonging and identity salience, with only the women in the sample, were conducted. There was not a significant interaction between class and time, $F(1,75) = 0.13$, $p = .718$, partial-$\eta^2 = .002$. There was no difference in the change in belonging between women in the women-centered diversity courses pre-course ($M = 5.46$, $SD = 1.06$) to post-course ($M = 5.26$, $SD = 1.15$) and women in the non-diversity courses pre-course ($M = 5.56$, $SD = 0.72$) to post-course ($M = 5.49$, $SD = 0.85$). There was also no significant main effect of class, $p = .395$. However, there was a marginally significant main

effect of time, $F(1,81) = 2.92$, $p = .091$, partial-$\eta^2 = .035$. Belonging decreased from the beginning of the semester ($M = 5.52$, $SD = 0.87$) to the end of semester ($M = 5.38$, $SD = 0.98$).

In regards to identity salience, there was no significant interaction between time and class. Women in the women-centered diversity courses pre-course ($M = 4.64$, $SD = 0.56$) to post-course ($M = 4.60$, $SD = 0.68$) and women in the non-diversity courses pre-course ($M = 4.51$, $SD = 0.54$) to post-course ($M = 4.52$, $SD = 0.52$) reported similar identity salience levels. There were also no significant main effects of time or class, ps $> .33$. None of these findings support Hypothesis 3; however, there was a marginally significant main effect of lower belonging at the end of the semester compared to the beginning.

Hypothesis 4

Hypothesis 4 stated that students in women-centered diversity courses will report lower prejudice towards women at the end of the course compared to the beginning of the course. Paired samples t-tests were run with only students in women-centered diversity courses on measures of modern sexism, benevolent sexism, hostile sexism, and the ASI total from the beginning of the course to the end. In examining the modern sexism scale, students in the women-centered diversity courses did not change in prejudicial attitudes towards women from the beginning of the course ($M = 1.79$, $SD = 0.48$) to the end of the course ($M = 1.79$, $SD = 0.48$), $t(40) = 0.07$, $p = .943$. Looking at the total ASI, students in the women-centered diversity courses did not differ in prejudice at the beginning of the course ($M = 2.36$, $SD = 0.57$) and the end of the course ($M = 2.32$, $SD = 0.70$), $t(40) = 0.55$, $p = .583$.

When breaking down the ASI into benevolent and hostile sexism, there were also no significant differences from the beginning of the course to the end of the course. Students in the women-centered diversity courses did not differ in benevolent sexism at the beginning of the

course ($M = 2.57$, $SD = 0.59$) and the end of the course ($M = 2.58$, $SD = 0.64$), $t(40) = -0.13$, $p = .895$. Additionally, students in women-centered diversity courses did not differ in hostile sexism at the beginning of the course ($M = 2.14$, $SD = 0.77$) and the end of the course ($M = 2.07$, $SD = 0.87$), $t(40) = 0.55$, $p = .296$. None of these findings support Hypothesis 4.

Hypothesis 5

Hypothesis 5 stated that students in women-centered diversity courses will have a larger decrease in prejudice towards women from the beginning to the end of the course than students in the non-diversity courses. Four repeated-measures ANOVAs were run with class as the between-subjects variable and time as the within-subjects variable for modern sexism, benevolent sexism, hostile sexism, and the ASI total. In regards to modern sexism, there was no significant interaction between time and class, $F(1,102) = 0.09$, $p = .767$, partial-$\eta^2 = .001$. Students in women-centered diversity courses did not differ on their modern sexism ratings from the beginning of the semester ($M = 1.79$, $SD = 0.48$) to the end of the semester ($M = 1.79$, $SD = 0.48$), and students in the non-diversity courses did not differ from the beginning of the course ($M = 2.19$, $SD = 0.69$) to the end of the course ($M = 2.16$, $SD = 0.71$). There was also not a significant main effect of time, $p = .689$. However, there was a significant main effect of class, $F(1,102) = 10.57$, $p = .002$, partial-$\eta^2 = .09$. Overall, students in non-diversity courses had higher levels of modern sexism ($M = 2.17$, $SD = 0.66$) than students in women-centered diversity courses ($M = 1.79$, $SD = 0.44$).

There was also no significant interaction between time and class on the total ASI scores, $F(1,102) = .289$, $p = .592$, partial-$\eta^2 = .003$. Students in the women-centered diversity courses did not differ in ASI scores at the beginning of the course ($M = 2.36$, $SD = 0.57$) and at the end of the course ($M = 2.32$, $SD = 0.69$), and there was no difference in students in non-diversity

courses from the beginning of the course ($M = 2.62$, $SD = 0.63$) to the end of the course ($M =$ 2.55, $SD = 0.67$). There was not a significant main effect of time, $p = .144$. However, there was a marginally significant main effect of class, $F(1,102) = 3.78$, $p = .055$, partial-$\eta^2 = .036$. Overall, students in non-diversity courses had higher scores on the ASI ($M = 2.58$, $SD = 0.63$) than students in diversity courses ($M = 2.34$, $SD = 0.61$).

In breaking down the ASI into benevolent sexism and hostile sexism, there was no significant interaction between time and class on benevolent sexism, $F(1,102) = 1.32$, $p = .253$, partial-$\eta^2 = .013$. Students in women-centered diversity courses did not significantly differ in benevolent sexism ratings at the beginning of the course ($M = 2.57$, $SD = 0.59$) and at the end of the course ($M = 2.58$, $SD = 0.64$), and neither did students in non-diversity courses from the beginning ($M = 2.78$, $SD = 0.67$) to the end of the course ($M = 2.69$, $SD = 0.68$). There were no significant main effects of time or class on benevolent sexism scores, ps > .21.

With hostile sexism, there was also no significant interaction between time and class, $F(1,102) = 0.04$, $p = .83$, partial-$\eta^2 = .00$. Students in women-centered diversity courses did not significantly differ in hostile sexism ratings at the beginning of the course ($M = 2.14$, $SD = 0.78$) and at the end of the course ($M = 2.07$, $SD = 0.87$), and neither did students in non-diversity courses from the beginning ($M = 2.46$, $SD = 0.79$) to the end of the course ($M = 2.41$, $SD = 0.85$). There was also no significant main effect of time, $p = .187$. However, there was a significant main effect of class, $F(1,102) = 4.38$, $p = .039$, partial-$\eta^2 = .041$. Overall, students in non-diversity courses had higher levels of hostile sexism ($M = 2.43$, $SD = 0.78$) than students in diversity courses ($M = 2.11$, $SD = 0.79$). None of these findings support Hypothesis 5; however, findings did show that students in non-diversity courses had higher levels of modern sexism,

hostile sexism, and total ASI sexism scores compared to students in women-centered diversity courses.

<p style="text-align:center">Discussion</p>

The current study examined belonging, identity salience, and prejudice against women in students taking women-centered diversity courses compared to students taking courses not related to women (non-diversity courses). This study specifically was testing whether women felt higher belonging and identity salience after taking a women-centered diversity course and whether or not taking a women-centered diversity course can lower students' prejudice against women.

It was hypothesized that women in women-centered diversity courses would show increases in identity salience and belonging because the course focused on women. However, the findings did not support this hypothesis (*Hypothesis 1*). In fact, there was a non-significant trend ($p = .158$) that suggests the opposite of what was predicted: Women's belonging decreased from the beginning of the semester to the end of the semester. There was a similar marginally significant effect in the analyses for *Hypothesis 3* with all of the women in the sample that showed belonging decreasing from the beginning of the semester to the end of the semester. One possible reason for this overall decrease across classes could have been due to the effect Covid-19 had on the semester at Radford. Many classes may have begun as in-person courses, but by the end of the semester, many courses were online (or fluctuated throughout the semester) due to Covid-19 cases. This may have influenced the decrease in belonging shown in the data.

Similar to *Hypothesis 1*, *Hypothesis 2* examined changes in belonging and identity salience over time in diversity courses, but also compared changes in women and men. The hypothesis was not supported as both groups decreased in belonging and identity across the semester, although not to a statistically significant degree. However, women decreased less in

belonging and identity salience than men. This could suggest a potential buffering effect for women in diversity courses compared to the men, although this interaction was not statistically significant. Additionally, women had overall higher identity salience than men. This could be due to the fact that all of the courses had female professors. Having the course taught by the same gender as you would likely increase identity salience across the course of the semester.

Hypothesis 3 examined changes in belonging and identity salience between women in women-centered diversity courses and non-diversity courses over time. The hypothesis was not supported as women in the women-centered diversity courses and women in the non-diversity courses did not differ in the amount of change on belonging and identity salience from the beginning of the semester to the end. However, there was a marginally significant decrease in belonging overall from the beginning of the semester to the end of the semester. This marginally significant decrease in belonging could be due to the unusual structure of the Fall 2020 semester mentioned previously.

At Radford University, the fall semester occurred somewhat on campus and somewhat online depending on the course. Many courses that started in person had to move to an online format in the middle of the semester. According to an exploratory study about belonging and online learning by Peacock and colleagues (2020), students believe that a sense of belonging in an online learning environment can be influenced by engagement (discussions), the culture of learning (materials provided and tutor behavior), and support (availability of the professor). With online learning being fairly new to many professors at Radford, it may have been difficult to provide all three of these concepts within online courses, which could have affected students' belonging negatively. Specifically, engagement is difficult due to the lack of face-to-face communication and support when many professors were not on campus and held office hours

virtually. Thus, the change in the format of the semester could have led to lowered levels of belonging among students at the end of the semester compared to at the beginning of the semester.

Hypothesis 4 examined whether or not students in women-centered diversity courses would report lower prejudice toward women at the end of the course than the beginning of the course. No differences in prejudicial attitudes from the beginning of the semester to the end of the semester were shown; therefore, Hypothesis 4 was not supported. Measures of modern sexism, ASI total, and benevolent sexism showed no trends, but hostile sexism did show a decreasing, although non-significant, trend from the beginning of the semester to the end of the semester.

Hypothesis 5 examined whether students in women-centered diversity courses would have a larger decrease in prejudice than students in non-diversity courses. The hypothesis was not supported as students in women-centered diversity courses did not differ on their prejudice scores of modern sexism, ASI total, benevolent sexism, and hostile sexism, and students in non-diversity courses did not differ in these measures as well. However, some significant differences in prejudice were seen between students in non-diversity courses and students in women-centered diversity courses. Specifically, for modern sexism, ASI total, and hostile sexism, students in women-centered diversity courses had lower sexism ratings than students in non-diversity courses. However, t-tests were conducted on pre-semester levels of modern sexism, ASI total, hostile sexism, and benevolent sexism, and there were significant differences between the students in women-centered diversity courses compared to students in non-diversity courses, ps < .05, on all but benevolent sexism (matching the post-semester data). The data from the beginning of the semester demonstrates that students in women-centered diversity courses

already had significantly lower levels of prejudice than students in non-diversity courses at the beginning of the semester. This suggests that students may have self-selected into each of these types of courses, meaning that students already lower in sexism levels likely chose to take a women-centered diversity course.

Additionally, there was a trend of students in non-diversity courses slightly decreasing in prejudicial attitudes (more than in women-centered diversity courses) on benevolent sexism, although it was not significant. A possible explanation for this trending decrease could be because each of the non-diversity courses had female professors. Simply having a female professor who teaches a course and provides expertise related to a traditionally masculine, scientific subject such as Psychopharmacology or Analysis of Psychological Data could have positively influenced the prejudicial attitudes of the students in non-diversity courses.

Although the hypotheses were largely unsupported, this study had strengths. One was the longitudinal design of the study. Examining the same people from the beginning to the end of the semester to assess attitude change is a time and resource-intensive process; however, this provides better data. Another strength of the study was that all of the instructors were female, thus eliminating a potential confound. This also leads to an interesting question of whether having female professors (especially for non-gender-related topics) may increase belonging and identity salience as well. Bailey and colleagues (2020) found that female students are more likely to participate and get better scores in the course when the course demographics include a majority of female peers or a female professor. Therefore, female students may also increase in belonging and identity salience despite the topic of the course, simply because there is a female professor.

Although the study was well-designed, there were some limitations in data collection largely out of the researcher's control. Considering that data collection was in the Fall of 2020, the first semester that Radford University reopened after the pandemic, there were many restrictions in place with classes and extracurricular activities. These restrictions, as well as changes to course formats throughout the semester due to Covid-19, may have caused some of the unexpected findings in the data—particularly related to belonging decreasing over the course of the semester. Additionally, on Radford's campus, women are the physical majority, despite the fact that women are a social minority in general. Thus, because Radford is 60% women, this could have served as a limitation as well because women may feel a different sense of belonging and identity salience at Radford specifically compared to other schools, potentially influencing the findings of the current study. Lastly, the final sample of people who completed the pre- and post-semester surveys was smaller than desired, as well as unbalanced. Women were a large majority of the sample. This was helpful for some hypotheses; however, when comparing women and men (particularly in diversity courses only), there were very few male responses. Additionally, there were fewer students in diversity courses than non-diversity courses who completed both surveys, leading to a particularly small sample for any analyses involving only students in diversity courses. This leaves us unable to gauge whether non-significant findings are due to a true lack of differences or whether the non-significant findings are due to a small sample, particularly for more subtle effects, which these may be.

In the future, research should aim to collect a larger sample in general from women-centered diversity courses, but specifically a larger, equal sample of men compared to women in order to dive deeper into gender differences. Additionally, COVID restrictions on campus were an extraneous variable for this study. Therefore, conducting this study when these restrictions are

removed and college campuses are back to in-person courses is an important future direction.

Another possible direction for this research would be to look at other minority groups and other

diversity courses, such as minority races. For example, Black students taking an African

American Literature course or Black Feminist Theory could be measured in their identity

salience and belonging on campus. Racial minorities are physical and social minorities on many

college campuses; therefore, seeing results with this population could be different from the

female population. This is an important future direction, especially considering women are no

longer a physical minority on many campuses, meaning that there are more women than men that

are students on campus.

In conclusion, women-centered diversity courses did not significantly influence women's

belonging and identity salience; however, there were still interesting findings such as decreases

in belonging across the course of this unique semester. It is important to continue examining how

diversity courses may influence students' belonging and identity on campus as these factors may

influence student achievement (Cohen & Garcia, 2008) and potentially retention.

References

Bailey, E. G., Greenall, R. F., Baek, D. M., Morris, C., Nelson, N. Quirante, T. M., Rice, N.S., Rose, S., & Williams, K. R. (2020). Female in-class participation and performance increase with more female peers and/or a female instructor in life sciences courses. *CBE- Life Sciences Education, 19.* doi:10.1187/cbe.19-12-0266

Baumeister, R., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497-529. doi:10.1037/0033-2909.117.3.497.

Brenner, P. S., Serpe, R. T., & Stryker, S. (2014). The causal ordering of prominence and salience in identity theory: An empirical examination. *Social Psychology Quarterly*, *77*, 231-252. doi:10.1177/0190272513518337

Bunce, L., & King, N. (2019). Experiences of autonomy support in learning and teaching among black and minority ethnic students at university. *Psychology of Education Review*, *43*, 2-8.

California State University. (n.d.). *Diversity Requirements*. Retrieved from http://catalog.csuchico.edu/viewer/20/GENED/DIVRNONEUN.html#USDiversity

Case, K., & Stewart, B. (2010). Heterosexual privilege awareness, prejudice, and support of gay marriage among diversity course students. *College Teaching*, *58*, 3-7. doi: 10.1080/87567550903252843

Cohen, G. L., & Garcia, J. (2008). Identity, belonging, and achievement. *Current Directions in Psychological Science, 17*, 365-369. doi:10.1111/j.1467-8721.2008.00607.x

Department of Education, National Center for Education Statistics. (2019). *Digest of Education Statistics, 2017* (NCES 2018-070).

Gibson, C., Losee, J., & Vitiello, C. (2014). A replication attempt of stereotype susceptibility. *Social Psychology*, *45*, 194. doi:10.1027/1864-9335/a000184

Glick, P., & Fiske, S. T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology, 70*(3), 491-512. doi:10.1037/0022-3514.70.3.491

Harris, T. M. (2003). Impacting student perceptions of and attitudes toward race in the interracial communication course. *Communication Education, 52,* 311-317. doi: 10.1080/0363452032000156271

Hogan, D., & Mallott, M. (2005). Changing racial prejudice through diversity education. *Journal of College Student Development, 46,* 115-125.

Hurtado, S., & Caeter, D. (1997). Effects of college transition and perceptions of the campus racial climate on Latina/o college students' sense of belonging. *Sociology of Education, 70,* 324-345. doi:10.2307/2673270

Hurtado, S., Alvarado, A.R., & Guillermo-Wann, C. (2015). Thinking about race: The salience of racial identity at two- and four-year colleges and the climate for diversity. *The Journal of Higher Education, 86*, 127-155. doi:10.1353/jhe.2015.0000

Hussey, H., Fleck, B. B., & Warner, R. (2010). Reducing student prejudice in diversity-infused core psychology classes. *College Teaching*, *58*, 85. doi: 10.1080/87567550903418560

Johnson, D. R., Soldner, M., Leonard, J. B., Alvarez, P., Inkelas, K. K., Rowan-Kenyon, H., & Longerbeam, S. (2007). Examining sense of belonging among first-year undergraduates from different racial/ethnic groups. *Journal of College Student Development*, *48*, 525-542. doi:10.1353/csd.2007.0054

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396. https://doi.org/10.1037/h0054346

McIntyre, R. B., Paulson, R. M., & Lord, C. G. (2003) Alleviating women's mathematics stereotype threat through salient of group achievements. *Journal of Experimental Social Psychology, 39,* 83-90. doi:10.1016/S0022-1031(02)00513-9

Museus, S. D., & Maramba, D. C. (2011). The impact of culture on Filipino American Students' sense of belonging. *Review of Higher Education, 34*, 231-258. doi:10.1353/rhe.2010.0022

North Carolina State University. (n.d.). *Courses, curricula, and academic standards*. Retrieved from https://oucc.dasa.ncsu.edu/u-s-diversity/

Opie, T. R., Livingston, B., Greenberg, D. N., & Murphy, W. M. (2019). Building gender inclusivity: Disentangling the influence of classroom demography on classroom participation. *Higher Education (00181560), 77*, 37-58. doi:10.1007/s10734-018-0245-2

Peacock, S., Cowan, J., Irvine, L., & Williams, J. (2020). An exploration into the importance of a sense of belonging for online learners. *International Review of Research in Open and Distributed Learning*, *21*, 18-35.

Pettijohn, T. F., & Walzer, A. S. (2008). Reducing racism, sexism, and homophobia in college students by completing a psychology of prejudice course. *College Student Journal, 42*, 459-468.

Shih, M., Pittinsky, T. L., & Ambady, N. (1999). Stereotype susceptibility: Identity salience and shifts in quantitative performance. *Psychological Science, 10*, 80-83. doi:10.1111/1467-9280.00111

Stryker, S., & Serpe, R. (1994). Identity salience and psychological centrality:

Equivalent, overlapping, or complementary concepts? *Social Psychology*

Quarterly, 57, 16-35. Retrieved from http://www.jstor.org/stable/2786972

Swim, J., Aikin, K., Hall, W., & Hunter, B. (1995). Sexism and racism: Old-fashioned

and modern prejudices. *Journal of Personality and Social Psychology, 68*, 199-214.

doi:10.1037/0022-3514.68.2.199.

University of Colorado Boulder. (2019, September 3). *Diversity requirement*. Retrieved from

https://www.colorado.edu/artsandsciences/academics/degree-requirements/general-

education-requirements/diversity-requirement

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: Race, social fit, and

achievement. *Journal of Personality and Social Psychology, 92*, 82-96.

doi:10.1037/0022-3514.92.1.82

Appendix A

Demographic Questions

Beginning of the Semester Demographic Questions

What is your gender? Male, Female, Non-Binary

What is your age? _____

What is your race? White, Black, Latino/a, Asian, Other _____

What is your sexual orientation? Heterosexual, Homosexual, Bisexual, Other _____

End of the Semester Demographic Questions: in addition to the above demographic questions

Have you taken a diversity course (e.g. Black Literature, Feminist Theory, LGBTQ Rights, etc.) before? Yes, No

If yes, please list the diversity courses you have taken before. _____

What is your anticipated grade in this course?

Belonging and Belonging Uncertainty at Radford (adapted from Walton & Cohen, 2007)

Instructions: Now you will answer a set of questions that have to do with how much you feel you belong at Radford. Please use the scale below to indicate how much you agree or disagree with each statement.

Response Scale: 1 (Strongly Disagree) to 7 (Strongly Agree)

Belonging Subscale

1. People at Radford (e.g., teachers, students) like me.
2. People at Radford are a lot like me.
3. I belong at Radford.
4. Compared to other students, I fit well at Radford University.
5. I feel comfortable at Radford.
6. I enjoy being a Radford University student.

Identity Salience (Adapted from Brenner, Serpe, and Stryker, 2014)

Instructions: Please indicate the degree to which you agree or disagree with each

statement as it relates to you.

Response Scale: 1 (Strongly Disagree) to 5 (Strongly Agree)

1. Being a woman/man is an important part of my self-image.

2. Being a woman/man is an important reflection of who I am.

3. I have come to think of myself as a "woman" or as a "man"

4. I have a strong sense of belonging to the female/male community

Ambivalent Sexism Inventory (ASI)

Instructions:
There are a series of statements concerning men and women and their relationships in contemporary society. Please indicate the degree to which you agree or disagree with each statement.

Response Scale: 0 (Strongly Disagree) to 5 (Strongly Agree)

1. No matter how accomplished he is, a man is not truly complete as a person unless he has the love of a woman. b
2. Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality". a
3. In a disaster, women ought not necessarily to be rescued before men.* b
4. Most women interpret innocent remarks or acts as being sexist. a
5. Women are too easily offended. a
6. People are often truly happy in life without being romantically involved with a member of the other sex.* b
7. Feminists are not seeking for women to have more power than men.* a
8. Many women have a quality of purity that few men possess. b
9. Women should be cherished and protected by men. b
10.   Most women fail to appreciate fully all that men do for them. a
11.   Women seek to gain power by getting control over men. a
12.   Every man ought to have a woman whom he adores. b
13.   Men are complete without women.* b
14.   Women exaggerate problems they have at work. a
15.   Once a woman gets a man to commit to her, she usually tries to put him on a tight leash. a
16.   When women lose to men in a fair competition they typically complain about being discriminated against. a
17.   A good woman should be set on a pedestal by her man. b
18.   There are actually very few women who get a kick out of teasing men by seeming sexually available and then refusing male advances.* a
19.   Women, compared to men, tend to have a superior moral sensibility. b
20.   Men should be more willing to sacrifice their own well-being in order to provide financially for the women in their lives. b
21.   Feminists are making entirely reasonable demands of men.* a

22.   Women, as compared to men, tend to have a more refined sense of culture and good taste. b

Key:
Hostile Sexism Question- a
Benevolent Sexism Question- b
Reverse Code- *

Modern Sexism Scale

Response Scale: 1 (Strongly Disagree) to 5 (Strongly Agree).

1. Discrimination against women is no longer a problem in the United States
2. Women often miss out on good jobs due to sexual discrimination*
3. It is rare to see women treated in a sexist manner on television
4. On average, people in out society treat husbands and wives equally.*
5. Society has reached the point where women and men have equal opportunities for achievement.*
6. It is easy to understand the anger of women's groups in America*
7. It is easy to understand why women's groups are still concerned about societal limitations of women's opportunities
8. Over the past few years the government and new media have been showing more concern about the treatment of women than is warranted by women's actual experiences. *
Reverse Code- *