Undergraduate Students' Attitudes Toward Marriage Equality: Changes in an Introductory Family Science Course

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ABSTRACT. This study explored undergraduate students' changes in attitudes toward marriage equality in an introductory family science course. Students enrolled in the course were exposed to teaching activities centered largely around prejudice and discrimination to examine their effectiveness in facilitating the development of more positive attitudes toward marriage quality. The results of quantitative analyses revealed that substantial numbers of students became more supportive of marriage equality over time in this course. Qualitative analyses of written open-ended student responses utilizing the constant comparative method resulted in three emergent themes: support of marriage equality, increased understanding of marriage equality, and opposition to marriage equality. Collectively, the findings of this exploratory study indicate that the teaching method utilized was effective in fostering the development of more positive attitudes toward marriage equality. Implications for future research, replication, and adaptation in other disciplines are discussed.

Keywords: marriage equality, family science, Scholarship of Teaching and Learning, SOTL

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Since the U.S. Supreme Court decision (Obergefell v. Hodges, 2015) in support of same-sex marriage, the general public has reacted to marriage equality in starkly different ways. In 2015, some states were refusing to issue marriage licenses to same-sex couples, and elsewhere marriage equality was widely celebrated (McStravick, 2016; Tobias, 2015). More recently, with the Dobbs v. Jackson Women's Health Organization (2022) decision eliminating the constitutional right to abortion, the Supreme Court opened the door for the reconsideration of the right to marry. In December of 2022, the Respect for Marriage Act (2022) was passed in response to concerns about the Court overturning the Obergefell decision. Despite the fact that 61% of Americans now support marriage equality, a complete reversal from 60% opposing it just eighteen years ago (Pew Center, 2022), it remains to be seen whether the discourse surrounding marriage equality will continue to be polarized between those who are in support of it and those who oppose it across a sociopolitical landscape that continues to evolve. Understanding the underlying factors that precipitate resistance to social change is of great interest to educators, especially family science educators.

A myriad of variables influences an individual's attitude towards relatively rapid cultural transformations like that of marriage equality in the United States. It is well established that micro and macro-level influences, moderated by demographic variables, shape public opinion of marriage equality (Mehra & Braquet, 2011; Renger & Bernd, 2011). Moreover, extant research has documented the role of homophobia in opinions toward marriage equality (Lannutti & Lachlan, 2007; Powell et al., 2015). Homophobia is a form of prejudice and discrimination that is of interest to educators, as belief and value systems inform behavior (Moskowitz et al., 2010). Education can be utilized as a tool to mediate prejudice and discrimination. However, in order for teaching to be effective, educators must have an understanding of the intersection of demographic variables, experiences, biases, and beliefs at play.

Numerous factors, including those internal and external to the learner, can shape how exposure to educational content will be received. This issue is compounded by the teaching of concepts perceived as being explicitly value-laden, which may present unique challenges to the learner, insomuch as ideologies and value systems related to these concepts are often transmitted intergenerationally in families and social groups (Keijer et al., 2019). Additionally, the proliferation of technology results in countless messages regarding social issues, such as marriage equality, competing for one's attention and support (McDaniel et al., 2017).

The majority of extant literature assessing public opinion toward marriage equality has focused on middle-aged, middle-class Americans. Some research focused on educational settings highlights the effectiveness of certain teaching modalities in reducing prejudice and discrimination. For example, Maurer (2013) evaluated a teaching strategy targeting social distance and discrimination through the implementation of the Bogardus Social Distance Scale; results indicated greater positive changes toward the target group (gay people) among students who received the teaching intervention than those who did not. However, Maurer and Keim (2018) performed a three-year replication and extension of Maurer's (2013) work, and their findings differed significantly. Results from six sections of an introductory family science course wherein students were assigned to one of three conditions illustrated that all were equally effective in reducing prejudice and discrimination, suggesting the need for additional research in this area (Maurer & Keim, 2018).

The role of higher education in experientially refining and/or confirming the beliefs of students regarding marriage equality has yet to be fully explored. Furthermore, the effectiveness of teaching

strategies around marriage equality and appropriate points of prevention and/or intervention with respect to homophobia is less developed. Understanding how teaching about these issues is received, as well as how students engage with or avoid content that may be at odds with the information they receive in other spheres, is critical to effective teaching.

The Scholarship of Teaching and Learning (SoTL) provides a foundation from which to examine the potential role of educational settings in shaping attitudes towards marriage equality and homophobia and, by proxy, conceptualizations of prejudice and discrimination at large. As Hutchings and Shulman (1999) noted:

> [A] scholarship of teaching is not synonymous with excellent teaching. It requires a kind of "going meta," in which faculty frame and systematically investigate questions related to student learning—the conditions under which it occurs, what it looks like, how to deepen it, and so forth—and do so with an eye not only to improving their own classroom but to advancing practice beyond it. (p. 13)

Maurer and Law (2016) observed that SoTL and family science are both interdisciplinary and, as such, both family science research and SoTL research have the ability to inform multiple disciplines. Projects like these could speak to teaching about prejudice, discrimination, and marriage equality in numerous disciplines, not just family science.

This exploration would be classified as a "What works?" SoTL question in Hutchings' (2000) typology because it investigates the effectiveness of teaching methods or approaches. This study examined student opinions as they pertain to marriage equality after the issuance of the U.S. Supreme Court decision in June of 2015, as students progressed through an introductory family science course. More specifically, this research focused on the following questions:

1) To what extent do students' attitudes toward marriage equality change over the course of a semester when enrolled in an introductory family science course that explicitly teaches about prejudice and discrimination?

2) When asked to reflect on potential changes to their attitudes toward marriage equality across the course, to what do students attribute the changes or lack thereof?

Theoretical Framework

To examine students' attitudes towards marriage quality, an integrative framework including life course theory and constructivist learning theory was applied. Both perspectives guided this exploratory SoTL study while taking into account the internally and externally constructed understandings students bring with them to the classroom. Together, these theoretical lenses provided the foundation for investigating the role of teaching strategies in shaping attitudes toward marriage equality.

Life Course Theory

Life course theory supports the exploration of the interplay between individuals and sociocultural, political, and historical moments (Johnson & Elder, 2002). Elder (1994) presented the life course as a "multilevel phenomenon, ranging from structured pathways through social institutions … to the social trajectories of individuals and their developmental pathways" (p. 5); the students in this study are simultaneously navigating educational institutions as well as roles in other arenas. This framework provides a unique perspective from which to examine social norms, expectations, and individual conceptualizations of social change.

Constructivist Learning Theory

Constructivist learning theory hypothesizes that context plays an important role in learning and that learning is the product of individual development and application of knowledge (Habibi & Branch, 2015; Thomas et al., 2015). DiGregorio (2018) notes, "this framework helps students create their own internal working definitions and understandings of concepts that are socially constructed and highly influential" (p. 26). As students progress through their education, they identify and apply artifacts from their own lives to course content, which is of particular interest with respect to value-laden content. This theoretical lens enables the researchers to explore the role of external information that students may draw upon when presented with content related to marriage equality in an educational setting.

Methods

Research Design and Participant Selection

This study employs a concurrent, mixed methods, exploratory design. According to Plano Clark and Ivankova (2016), an exploratory design is appropriate when investigating the efficacy of a new practice or approach. A concurrent mixed methods approach allows both qualitative and quantitative data to be collected simultaneously to inform each other in the analysis and "produce more complete and validated conclusions" (p. 107). This design is also appropriate because the focus of most SoTL investigations is not generalizability but grounding in context (Felten, 2013), enabling replicability across different contexts that can identify differences (Friberg, 2018), and building a research-based literature to inform other teachers' scholarly teaching and facilitate translation to other teaching contexts (Maurer & Law, 2016).

The university Institutional Review Board [IRB] approved this study. Students who were enrolled in two sections of an introduction to family science course, with one section taught in the Spring semester of 2017 and one section taught in the Fall semester of 2017, were welcomed to participate. Both sections of the class were taught by the second author.

Sample and Context

This research was conducted at a public university with an R2 Carnegie classification, situated in the southeastern U.S. Total institutional enrollment was approximately 26,000 students when data were collected. During the first semester of the project, 41 students (of 56 enrolled) completed both the pretest and posttest and were included in the analyses, reflecting a response rate of 73.21%. During the second semester of the project, 37 students (of 60 enrolled) completed both questionnaires and were included in the analyses, reflecting a response rate of 61.67%. The total response rate was 67.24%.

In an effort to maintain the anonymity of participants, responses targeting basic demographic information were limited to four items. Participants were prompted to provide data regarding their gender, ethnicity, age, and class standing. Out of the total 78 participants, seven (9.0%) self-identified as male, 70 (89.7%) self-identified as female, and one (1.3%) self-identified as other. One participant (1.3%) identified as Hispanic, 42 (53.8%) identified as White, 31 (39.7%) identified as African American, and four (5.1%) identified as other. In terms of age, 75 (96.2%) of the participants were between 18-24 years old (i.e., "traditional college age"), and three (3.9%) were older. Three participants were first-year students (3.8%), 30 (38.5%) were sophomores, 36 (46.2%) were juniors, and nine (11.5%) were seniors.

Measures

Attitudes Toward Same-Sex Marriage [ATSM] Scale

The Attitudes Toward Same-Sex Marriage Scale (Pearl & Galupo, 2007) is a 17-item Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*) that assesses general attitudes toward same-sex marriage. Scores from each item are summed to create a total score between 17-85, with higher scores indicating more positive attitudes. The ATSM has a unidimensional factor structure and a reported internal reliability of alpha = 0.96. The ATSM was the first section of both the pretest and posttest questionnaires.

Demographic Questions

The four demographic questions appeared at the end of the pretest questionnaire.

Qualitative Questions

At the end of the posttest questionnaire, participants were asked two open-ended questions. The first question read, "Think about your attitudes towards marriage equality and answer either "a" or "b" below" and presented participants with two options: a) "If your attitudes towards marriage equality have changed any as a result of this course, how have they changed and why did they change?", and b) "If your attitudes towards marriage equality have not changed as a result of this course, why do you think they haven't changed?". The second question read, "If there was one thing you wanted people to know about marriage equality, what would it be and why?".

The qualitative data serve as additional data points of reference. Utilizing the core tenets of grounded theory and the constant comparative method (Boeije, 2002; Corbin & Strauss, 2008), data were analyzed to inform the meaning-making processes surrounding attitudes toward marriage equality. Open coding was applied to highlight categories that emerged from the data (Strauss & Corbin, 1998). Responses to the open-ended items were coded through continual juxtaposition of relevant data points (Boeije, 2002). Given the explicit nature of the open-ended questions and clear demarcation between categories, one reviewer was utilized. Repeated coding was performed by the reviewer at two separate points, spaced three months apart, per Mackey and Gass's (2005) recommendations.

Procedure

In the first weeks of each semester, before any relevant course content had been taught, the second author exited the classroom, and the first author introduced the study and invited students to participate. The first author distributed copies of the questionnaire with the announcement. Students were told that anyone who did not wish to participate could work on other tasks quietly and should turn in a blank questionnaire at the end of the time period so as not to reveal their decision. The first author told students that the course instructor (second author) would not see any of their responses until after the semester was over and final course grades had been assigned. Students had 20 minutes to complete the questionnaire, after which the first author collected the responses and left the room. In the final weeks of each semester, the process was repeated, and the first author collected the posttest measures. In between the assessment points, the second author taught the relevant course content as part of the topic of "Diversity in Relationships & Families."

Course Content

The course met for 15 weeks on Tuesdays and Thursdays for 75-minute periods. Three consecutive periods were used to cover the topic of "Diversity in Relationships & Families." Less than 20% of the time allotted to the topic was spent on issues of singlehood and single parenthood, and this

content was covered last. The remainder of the time was allocated to terminology (e.g., prejudice, discrimination, stereotypes, bigotry, marriage equality), concepts (e.g., social oppression, sexual identity, and sexual orientation, homophobia), models (e.g., Allport's Scale of Prejudice and Discrimination), facts and examples (e.g., absence of federal and state non-discrimination laws, hate crime incidents), and in-class activities. The majority of the examples given throughout the topic centered on LGBTQI+ persons (e.g., state non-discrimination laws on the the basis of gender identity, The Matthew Shepard Act), but examples for other marginalized groups were also included (e.g., atheists, Muslims, undocumented immigrants, indigenous peoples). Because these materials were assembled and designed by the second author as part of an integrated teaching and learning experience for the course, the following descriptions will be presented in a first-person narrative format in roughly chronological order. Because of space limitations, only the six activities most central to LGBTQI+ persons will be included.

Tell Great Stories. I open the topic at the start of the first day by showing students two black and white headshot photographs and asking students if they know who either of the two men in the photographs are. Occasionally, a student or two might guess but never has anyone volunteered a correct answer for either person. I then provide a brief synopsis of the contributions of each 20th Century figure, but without naming them, explaining what happened to them, or explaining why students have probably never heard of them. This teaching technique is based on what Lang (2016) calls "Tell Great Stories" and is designed to spark student interest and curiosity in the topic. After I tell these stories, I explain that we will loop back to these men and finish their stories after we have covered some relevant course content. Later in the class period, as part of the discussion of Allport's Scale of Prejudice and Discrimination, when we get to Level 2: Avoidance/Isolation, I explain how omitting the accomplishments of members of marginalized groups is a form of Avoidance/Isolation. I then redisplay the photographs, identifying the men as Alan Turing and Bayard Rustin and explaining what happened to both of them. The fact that their stories are rarely told because they were gay people is a personal example of the impact of Avoidance/Isolation in students' own lives.

Words Matter. In 2008, comedian Liz Felman remarked, "It's very dear to me, the issue of gay marriage, or as I like to call it 'marriage,' you know, because I had lunch this afternoon, not gay lunch. I park my car; I didn't gay park it." This comment went viral and was used as part of the campaign to oppose California's Proposition 8, a proposition that sought to deny legal recognition to same-sex marriages ("Liz Feldman," 2020). I display a meme of this quotation and ask the students what point Feldman was trying to make and the extent to which they thought she was effective in communicating that point. Next, I discuss with the class why the words we use about these topics matter and frame the topics in very specific ways that influence how people think about the issues and people involved (Daniels, 2015). We then compare and contrast the terms "same-sex marriage" with "marriage equality" and how each framing influences how the issues are perceived.

When was the Last Time a Member of Congress Called for Your Death? I share with my students the following passage written by Cramer (2016) that illustrates Level 4: Physical Attack in Allport's model:

> When was the last time a member of Congress called for your death? For the estimated 9 million LGBT adults in the United States, it was May 26 [2016], during a meeting of the House Republican Conference on Capitol Hill. Expressing opposition to an amendment that would have added LGBT job protections to an appropriations bill, Rep. Rick Allen of Georgia read Romans 1:18–32 to his colleagues. One of six Bible passages about homosexuality, it decrees that "those who persist in such practices deserve death."

We discuss as a class how this is an example of a Physical Attack in Allport's model (i.e., calling for genocide against a marginalized population) and what it says about American society that elected members of the federal government are openly calling for the death of gay and lesbian people. Congressman Allen was reelected in November 2016 and was the representative for his district at the time of this research. His district included the university where this research took place, as I pointed out to students at the end of this discussion.

Applying Terminology Activity. Before introducing terminology related to sexual orientation, I have students take out an activity they were assigned to complete reflecting on their own sexual orientation and the criteria that they used to determine that orientation (e.g., self-classification, feelings of erotic/romantic attraction, actual sexual behavior). This activity also requires students to reflect on how to reconcile conflicting information between different criteria (e.g., self-classification is inconsistent with feelings of attraction) and the potential problems of using each of the criteria. To prevent students from feeling pressured to disclose their sexual orientation or otherwise outing themselves or being outed, all questions in the activity are phrased in more general ways (e.g., "Whatever your sexual orientation is, how do you know? What criteria are you using to determine your sexual orientation?"). Students discuss their answers in small groups (of their own choosing, again to protect students) for five minutes; then, we discuss them as a whole class for 10 minutes. This segues into the lecture material on sexual orientation terminology and statistics.

Discrimination is Pervasive. To help students understand the pervasiveness of sexual-orientation based discrimination, I ask students to take out a blank piece of paper and list the names of all the states in the U.S. that they would like to live in, work in, visit family and friends in and travel to. I also ask them to list any states that they would need to travel *through* to get to the states on their list (e.g., drive through, catch a connecting flight through, etc.). After several minutes, I explain to students that discrimination on the basis of sexual orientation is not illegal in most states and show them a map depicting this (see www.theTaskForce.org). I ask students to cross off any state on their lists without sexual orientation nondiscrimination laws and explain that without such legal protection, anyone, including heterosexual individuals, can be discriminated against on the basis of their sexual orientation without any legal recourse. I then lead a whole class discussion of what they would have to "give up" if they had to avoid every state without nondiscrimination laws.

Combatting Myth and Stereotype. As part of the lecture material about myths and stereotypes about LGBTQI+ persons, I present research about "gaydar," how it uses stereotypes about LGBTQI+ individuals to infer their sexual orientation, and that such judgments are inaccurate (Cox, Devine, Bischmann, & Hyde, 2016). I show students a 2-slide photo array of 18 celebrities who publicly identify as either gay, lesbian,or bisexual (e.g., Gareth Thomas, Sally Ride) and discuss how they diverge from popularly-held stereotypes. I then lead a brief whole-class discussion about the importance of challenging stereotypical concepts like "gaydar."

Results

Quantitative Results

A paired samples *t*-test revealed a significant change in participants' ATSM scores from pretest to posttest, $t(77) = -3.90$, $p < .001$, Cohen's $d = 0.45$. As hypothesized, participants' ATSM scores increased significantly from pretest ($M = 64.74$, $SD = 15.67$) to posttest ($M = 69.22$, $SD = 14.61$), reflecting more positive attitudes toward marriage equality at posttest (almost 7% more positive on average). Ten students (12.8%) reported no change in attitude over time, 12 students (15.4%) reported

more negative attitudes over time (range = 1 - 54), and the remaining 56 students (71.8%) reported more positive attitudes (range = 1 - 32).

Qualitative Results

Analysis of qualitative data did not result in differences between the first and second rounds of coding. The primary themes that emerged from the data highlight the role of sociocultural moments in shaping attitudes towards marriage equality. Open-ended responses illustrated a continuum with three substantive groupings: participants who came into the study exhibiting a positive attitude towards marriage equality, participants who reported their attitudes towards marriage equality had changed throughout the course, and participants who remained in opposition to marriage equality.

Supportive of Marriage Equality

The majority of participants across both semesters reported supporting marriage equality prior to the course. More specifically, 23 out of 34 students in the Spring 2017 semester and 16 out of 37 students in the Fall 2017 semester expressed positive attitudes towards marriage equality. Collectively, 39 out of the 71 posttests with completed open-ended questions echoed this theme (almost 55%). Some participants noted that while the course may not have changed their attitudes, it reinforced their stance, as noted by a 19-year-old African American female, "My attitude hasn't changed, but it has gotten stronger." This point was reiterated by a 20-year-old White female, "I have always been accepting of same-sex marriages … this course has just given me more insight."

Students often made connections to other contemporary social problems, as expressed by a 20-year-old African American female, "The information I received confirms attitudes I already had … If you do not like marriage equality, you need to check your privilege." Students who came into the course with positive attitudes towards marriage equality were more likely to link course content to moments in history, illustrating their perspectives on multiple issues related to prejudice and discrimination, as a 20-year-old African American female stated, "They haven't changed because I've always been pro-equality … to deny that legal right … it's segregation all over again." Students drew upon external information to shape their understanding of course content and to further justify their support of marriage equality.

Increased Understanding of Marriage Equality

Across both semesters, a total of 28 students out of the 71 posttests with completed open-ended questions reported that their attitudes towards marriage equality had changed throughout the course (almost 40%). More specifically, eight out of 34 students in the Spring 2017 semester and 20 out of 37 students in the Fall 2017 semester expressed shifts in their attitudes related to marriage equality. Change in attitudes was often clear, as illustrated by a 20-year-old White female, "This course showed me the importance of equality in all circumstances." Other students called upon previous experiences when discussing same-sex relationships to articulate how and why their attitudes had changed, as a 19-year-old White female stated, "My attitudes have changed as I have learned about this subgroup. It was always displayed to me as a taboo topic … That discomfort is now minimized." A number of students indicated their support of equal access to rights and privileges for all, "My attitudes have changed to be more accepting of same-sex couples and marriage equality ... it is not right to hold rights from a group," said a 20-year-old White female.

A subset of students emphasized their shifts in attitudes toward marriage equality as being separate and, consequently, different from their religious beliefs. For example, a 21-year-old White female noted, "It has opened my eyes to the different perspectives of marriage… I agree with it more

than I did, but it's still something I can't fully accept." One 21-year-old White female reported, "My attitude has shifted from worrying about the legalization of marriage to sharing the love of Christ with those who don't know him," indicating that marriage equality appeared less threatening after the course. Similarly, a White female student who did not disclose her age stated, "My attitude on this has not changed because of my religious beliefs… I personally do not agree with it, but my eyes have been open to come to a more understanding and accepting view." The intersection of religious beliefs with shifting attitudes towards marriage equality was reconciled by these students by differentiating between attitudes and beliefs.

Opposed to Marriage Equality

A total of four students out of the 71 posttests with completed open-ended questions reported that they remained in opposition to marriage equality at the end of the course. More specifically, three of 34 students in the Spring 2017 semester and one of 37 students in the Fall 2017 semester. These students frequently cited religious beliefs as underpinning their disapproval of marriage equality, as illustrated by a 24-year-old White female, "Same-sex marriage is morally wrong. God tells of homosexuality is a sin. Homosexual individuals should not be allowed to marry!" Similarly, a 20-year-old African American male reported, "My beliefs toward marriage equality have not changed because I truly believe that my faith and its teachings are true." A 20-year-old African American female recounted her beliefs surrounding reproduction, "A man and woman should be married. I don't support homosexuality … it needs to stay between a man and woman because it's natural." These students utilized external teachings and experiences to justify their continued opposition to marriage equality.

Discussion

Marriage has been a relatively ubiquitous social institution throughout recorded history (Coontz, 2005; DiGregorio, 2016), yet we lack a clear understanding of how individuals conceptualize it. This study sought to examine student opinions related to marriage equality after the U.S. Supreme Court decision in June 2015 as students progressed through an introductory family science course. Additionally, this research aimed to build upon extant literature investigating the role of teaching and learning in reducing prejudice and discrimination as related to attitudes about marriage equality.

It was hypothesized that the use of a constellation of intentional teaching strategies targeting prejudice and discrimination against a range of marginalized populations would facilitate positive shifts in attitudes toward marriage equality. The activities employed challenged students to consider their conceptualization of marriage equality juxtaposed with those presented in other contexts within particular sociocultural moments. The results suggest that the teaching methods utilized in this study may have been effective in supporting attitudinal shifts in both semesters; scores on the ATSM indicated that 71.8% of students reported more positive attitudes after completing the course. The observed effect size of Cohen's $d = 0.45$ was larger than the average for effect sizes in research on teaching and learning (Hattie, 2009).

A review of the qualitative data provided a more nuanced understanding of the extent to which changes in attitudes from negative to positive occurred. Nearly 55% of students stated that they were supportive of marriage equality coming into the class, but that course information served to reinforce and validate their stance and, thus, likely contributed to augmenting their already positive attitudes towards marriage equality. Notably, approximately 40% of students specifically reported that their attitudes towards marriage equality had shifted in a positive direction as a result of the course. Responses in this category clearly articulated the importance of supporting equality ubiquitously. Students frequently drew upon the experiences of other oppressed groups throughout history to inform

their awareness of rights and privileges underpinning marriage equality. Interestingly, more than twice as many students indicated that their attitudes had changed throughout the course in the Fall of 2017 semester (54%) compared to the Spring of 2017 cohort (24%). It is possible that the 2016 U.S. presidential election shaped the sociopolitical context for students more directly after more time had passed and the Trump administration had made some significant changes to the policy. For example, the Trump administration weakened nondiscrimination protections for gender and sexual minorities and the publicity around efforts to undermine rights afforded to these communities was significant. The passage of time and more media coverage may have heightened students' attention to some of these issues, contributing to the disparities between semesters.

A subset of the students who reported an increased understanding of marriage equality as a result of completing the course emphasized that their changed attitudes were separate from their unchanged religious beliefs, clearly demarcating where their knowledge from the class ended and where their personal beliefs began. The intersection of their shifting attitudes towards marriage equality and preexisting religious beliefs may have prompted them to experience cognitive dissonance, and they sought to reconcile this discord by differentiating between attitudes and beliefs. Thus, students reported that the course had prompted them to view marriage equality as less threatening but, ultimately, still conflicting with their religious beliefs.

Students that indicated more negative attitudes over time on the ATSM were likely unable to reconcile differences between information provided in class and messages received elsewhere. Students in this group often drew upon religious teachings in their written responses. Heteronormative assumptions that link ideas about morality with sexual reproduction informed some participants' attitudes, highlighting the pervasiveness of socially constructed norms. This finding illustrates some of the less visible challenges to teaching and learning about value-laden concepts.

Results illuminate the contrast between the results of the ATSM and the responses to the open-ended questions. A mixed methods research design was adopted to allow qualitative data to inform the meaning-making processes surrounding attitudes towards marriage equality among the participants in this sample. Findings suggest that open-ended items may be accessing a distinct area of thought processes, combining attitudes, values, and beliefs, separate from the targets of the ATSM. Similarly, the open-ended questions may have prompted students to consider their attitudes towards marriage equality broadly, as opposed to responding to individual items on the ATSM.

Limitations and Future Directions

This investigation had several limitations. First, there was a substantial gender imbalance in the sample, with nearly 90% of participants identifying as women. Women overall are more supportive of marriage equality (Armenia & Troia, 2017), and this may have influenced the observed results. Second, the response rate was just 67%, and there was no way to know if the students who completed the pretest and posttest attended all three class periods when the relevant material was covered. However, both of these limitations are similar to other SoTL investigations that have explored issues of discrimination and prejudice in introductory family science courses (Maurer & Keim, 2018; Maurer, 2013), which does facilitate comparison.

Third, because these activities were part of an integrated teaching and learning experience, there is no way to disentangle how much each activity may have individually contributed to changes in attitudes or the possible interactive effects. The fact that none of the qualitative comments appear to specifically mention any of the relevant teaching activities suggests that no one activity may have had a meaningful individual impact, though the collective impact appeared to be significant. Fourth, the

investigation explored only two semesters of a single introductory family science course, taught by one instructor, with no control group, which may not generalize to other contexts.

Fifth, it is possible that social desirability bias may have resulted in more positive shifts on the posttest. Finally, there is no way to separate this investigation from its unique time in history: the first year of the Trump administration. LGBTQIA+ issues, particularly the curtailing and revoking of civil rights, were increasingly discussed by the courts during this time, and there was increased anti-LGBTQIA+ rhetoric in the popular press and social media. It is possible that this context influenced the results of this investigation, as was suggested by qualitative response differences in the Fall semester from the Spring semester.

Collectively, the results from this exploratory study illustrate undergraduate students' changes in attitudes toward marriage equality in an introductory family science course, with most students becoming more supportive of marriage equality. Longitudinal research examining whether these changes are lasting is warranted. Future research detailing how shifts in attitudes towards marriage equality influence students' lives in other spheres would build upon extant literature exploring social change more broadly.

The data suggest the effectiveness of the teaching strategies utilized in teaching about prejudice, discrimination, and homophobia. Investigations adapting this study to other disciplines would help establish a better understanding of under which conditions these activities are most useful. Replication in other introductory family science courses would provide further insight into the teaching and learning of these concepts in relation to marriage equality.

Research with additional qualitative inquiries would further probe student perceptions of attitudes and values in conjunction with religious beliefs. Findings from this study indicate items on the ATSM may not invoke the same thought processes with respect to where attitudes and beliefs intersect. Increased collection of qualitative data may offer clarity as to which specific teaching assignments were most influential and why. Lastly, future research exploring teaching and learning in these areas in a post-Dobbs ruling educational context is warranted. The data for this study were collected after the Obergefell decision in 2015, yet prior to the Dobbs decision in 2022, making a unique contribution to the family science literature with application to other disciplines. Collectively, these efforts would further build upon relevant SoTL literature, as well as the growing body of research surrounding marriage equality.

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