GENDER EQUITY PRIORITIZATION BY AND GENDER ATTITUDES OF PROFESSORS IN TEACHER PREPARATION PROGRAMS

by

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Dedication

This work is the result of the encouragement, love, and friendship of an incredible number of individuals who have believed in me.

I must first thank my committee, Dr. Audrey Rogers, Dr. Colleen Tapley, and Dr. Robert McLaughlin. You have all challenged and questioned me, expanding my thinking and pushing my scholarship, while you have simultaneously supported me and encouraged me to believe in myself. I hope that one day I can inspire others as you have inspired me.

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Mom, I miss you every single day. I know you are watching from Heaven, and I hope I have made you proud.

I love you, all.

Abstract

In response to the research findings that teacher gender biases negatively impact students, this quantitative research study gathered data on how professors in teacher preparation programs and professors in those programs in New England are prioritizing gender equity among other social justice issues, and what those professors' gender attitudes are. One hundred eighty-one professors currently teaching in preparation programs in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont responded to the electronically distributed survey. The results from the surveyed participants indicate that institutional and personal priority of gender equity among other social justice issues is low. However, these surveyed participants had highly positive gender attitude scores. The lack of gender equity prioritization among other social justice issues by surveyed participants suggests that these positive gender attitude scores are not being passed on to teacher candidates, however more research is needed on this point. Though the results failed to meet required assumptions for statistical analyses, the data gathered in this nascent study provide a plethora of opportunities for future research.

Keywords: Gender equity, gender attitudes, prioritization, social justice issues, professors, teacher preparation programs, heteronormativity

Chapter 1

Introduction

The negative impacts of teacher gender biases on students have been the subject of both research and debate for many years (AAUW, 1992; Ciciora, 2011; Dee, 2007; Engebretson, 2016; Hannon, 2014; Lavy & Sand, 2015; Metropolitan Life Survey, 1997; Patrick & Urhievwejire, 2012; Retelsdorf, Schwartz, & Asbrock, 2015; Sadker & Koch, 2016; Sadker & Sadker, 1994; Sadker, Sadker, & Klein, 1986; Sadker, Sadker, & Zittleman, 2009; Seifert & Sutton, 2009; Sommers, 2000; Streitmatter, 1994; Stromquist, 2007; Weinstein, Marshall, Sharp, & Botkin, 1987). Educators and lawmakers alike have worked tirelessly to ensure that no student suffers in school because of their gender. In an effort to ban sexual discrimination practices, Title IX became law in 1972. Title IX prohibits any organization that receives government funds from engaging in discriminatory practices based on gender ("Title IX," n.d.). Despite this, researchers (Engebretson, 2016; Lavy & Sand, 2015; Sadker & Sadker, 1994; Sadker & Koch, 2016) have found that students continue to suffer from teachers' classification of gender into two distinct categories of masculine and feminine, known as binary gender bias. Although researchers disagree on whether boys (Retelsdorf et al., 2015; Sommers, 2000) or girls (Sadker et al., 1986; Sadker & Sadker, 1994) are most negatively impacted by teacher biases, they all agree that these teacher gender biases are to blame for the differential treatment of students, and that students who identify as boys, those who identify as girls, and the students who identify within the LGBTQ community are negatively impacted by such treatment (Ciciora, 2011; Kearns, Mitton-Kükner, & Tompkins, 2017; Lavy and Sand, 2015).

It is important to note that many students do not view themselves as what would be traditionally referred to as male or female (Blank, 2014). While individuals use multitudinous words and phrases to describe their gender identities, broad categories remain in use as descriptors. Individuals may broadly identify as lesbian, gay, bisexual, transgender, or queer, often referred to collectively as the LGBTQ Community, for example, or they may identify as cisgender, a word used for people who feel their gender identity aligns with their biological sex at birth. Additionally, people may also identify their gender as binary, either male or female. Gender can be thought of as binary, or it may not be described using the word 'gender' at all. Self-description that would traditionally be tied to the word gender is leading to a rejection of that very word, and instead, language that attempts to describe this personal construct is becoming increasingly identified with a form of self-expression (Blank, 2014). Language used to effectively describe what is essentially a personal feeling or construct is challenging, and therefore, language that describes those feelings or self-descriptions is constantly changing. Indeed, as Blank (2014) stated, "our vocabulary of gender and sex is in flux right now because our ideas about gender and sex are in flux, too" (para. 12).

Despite this, many educators continue to view their students as either boys or girls, and unconsciously instruct students according to traditionally defined, socially reified, and binary gender roles (Howe & Abedin, 2013; Nürnberger & Nerb, 2016). This may be due to the fact that gender bias is activated by sight. Wheeler (2015) noted this human tendency in his article, "We All Do It: Unconscious Behavior, Bias, and Diversity." In it, he stated, "our tendency as humans, subject to stereotypes and unconscious biases, is to make assumptions based on what we see" (Wheeler, 2015, pp. 330-331). Indeed, when we meet someone, our brains are taking in information about

them: their height, weight, age, race, and even fashion choices. The person's perceived gender is also something we note in these moments. As Bohnet (2017) stated, "when we learn the sex of a person, gender biases are automatically activated, leading to unintentional and implicit discrimination" (para. 14). Our perceptions of a person as either male or female may not align with how that specific individual views himself, herself, or, to speak in gender neutral terms, theirselves, as it is nearly impossible to accurately determine a person's gender identification or orientation simply by sight. Despite this, teachers continue to view their students through a binary lens (Blank, 2014, Sept. 24; Bohnet, 2017; Wheeler, 2015). However, Mojica and Castañeda-Peña's (2017) work suggests that this prevailing binary can be changed through gender equity training, where participants come to view gender as "multiplicities" (p. 143). This word is in keeping with both the awareness that language surrounding gender is fluid, and the recognition that how a person visually appears may not be aligned with how that person identifies.

Considering that the negative impact of teacher biases on students is profound (Lavy & Sand, 2015; Sommers, 2000), and that those very biases are perpetuating the cycle of heteronormativity (Kearns et al., 2017; Kreitz-Sandberg, 2013; Scandurra, Picariello, Valerio, & Amodeo, 2017) in schools, it is essential to determine how professors in teacher preparation programs are prioritizing gender equity among other social justice issues to disrupt these cycles. Though the efficacy of teacher preparation programs has recently been the subject of suggested policy change (Cochran-Smith et al., 2016; LiBetti, 2018), teacher preparation programs remain the best sample for this research because those programs are the most frequently selected path to certification for prospective teachers in the United States (United States Department of Education, 2015).

Specifically, in the 2012-2013 school year, 447,116 teacher candidates were enrolled in teacher preparation programs nationwide and in United States territories, a number representing 89% of the total candidate population seeking to become teachers (United States Department of Education, 2015, p. 1).

Statement of the Problem

While many teachers believe that they deliver instruction without giving preferential treatment to students based on gender, researchers including Stromquist (2007) and Glock (2016) have discovered that teacher gender bias determines the manners in which teachers interact with their students. Indeed, teachers' differential treatment shapes students' achievements and self-concepts more powerfully than that of the students' actual ability (Weinstein et al., 1987). Despite this, researchers including Engebretson (2016), Jennings (2007), and Rosiek, Schmitke, and Heffernan (2017), have found that teacher preparation programs are doing surprisingly little to prepare their teacher candidates to address these biases. These researchers therefore urged teacher preparation programs to incorporate gender equity into their curricula (Engebretson, 2016; Jennings, 2007; Rosiek et al., 2017).

While some researchers found that female students suffer most significantly from teacher gender biases (Lavy & Sand, 2015; Sadker et al., 1986; Sadker & Sadker, 1994; Sadker et al., 2009; Sadker & Koch, 2016; Stromquist, 2007), others argued that it is, instead, the male students who are most profoundly affected (Retelsdorf et al., 2015; Sommers, 2000). Illustrating that this is not simply a binary debate, still other researchers noted that members of the LGBTQ communities and those who are gender

non-conforming[1] are also negatively affected by teacher gender bias (Kearns et al., 2017; Scandurra et al., 2017). However, the larger issue is not which student group suffers more. Instead, of central importance is that teacher gender biases are negatively impacting all students (AAUW, 1992; Lynch, 2016). Therefore, it is essential to discover how professors in teacher preparation programs prioritize gender equity (Aslan, 2015; Kearns et al., 2017; Kreitz-Sandberg, 2013; Mojica & Castañeda-Peña, 2017; Scandurra, Picariello, Valerio, & Amodeo, 2017).

Theoretical Framework

Social justice theory informs the framework for this study. Social Justice Theory

> actively addresses the dynamics of oppression, privilege and isms, recognizing that society is the product of historically rooted, institutionally sanctioned stratification along socially constructed group lines that include race, class, gender, sexual orientation, and ability (Özlem & DiAngelo, 2009, p. 350)

Working to eradicate this differential treatment is the work of social justice. Wilson-Strydom (2015) stated that "social justice is about understanding and interrogating how different individuals or groups are faring in comparison with others in a specific context" (p. 145). Clearly, work for gender equity falls under this theory, as students of all gender identities have been negatively affected by teacher gender biases (Kearns et al., 2017; Sadker et al., 2009; Sommers, 2000). Prioritizing gender equity in teacher preparation programs may begin to aid teachers to recognize their gender biases so as to interact with and educate students as individuals and not as members of specific groups (Mojica & Castañeda-Peña, 2017).

[1] The phrase gender non-conforming is itself a heteronormative term. However, much of the research uses this term to refer to individuals who identify outside of stereotypical gender identities.

John Rawls (2001), considered one of the great thinkers in social justice theory, noted that social justice should be conceived of as "justice as fairness" (p. 39). Here, one must view others from behind what Rawls (2001) called a "'veil of ignorance'" (p. 15), through which another's "social positions…race and ethnic group [or] sex" (p. 15) are not considered. The stripping away of these descriptors allows for people to be seen authentically rather than as members of a specific group whose membership denotes certain skills or traits (Rawls, 2001). For Rawls (2001), social justice not only means treating people with "fairness" (p. 39), but it also means treating them as individuals.

Social justice as a framework is suitable for a gender equity study because gender equity has not yet been realized, specifically in schools with different populations of students who identify their genders in various ways. When teacher gender biases are negatively impactful, and when heteronormativity continues to exist in schools to the detriment of many students, social justice theory will help to shape the research on the professors in teacher preparation programs who may be on the front lines of destroying this cycle.

Research Questions

This quantitative study investigated how professors in teacher preparation programs prioritized gender equity and how self-reported indicators influenced professors' gender attitudes. This research study utilized Jennings's (2007) survey that asked respondents to rank order social justice issues, of which gender equity was one item. Additionally, the Quick Discrimination Index (QDI) (Ponterotto, Burkard, Rieger, Grieger, D'Onofrio, & Dubuisson, 1995) was used to measure professors' gender attitudes. The QDI is a valid and reliable measure of race and gender attitudes: a lower score signifies more negative race and gender attitudes and a higher score signifies more

positive race and gender attitudes. Because teacher gender bias has negative effects on all students (AAUW, 1992; Lavy & Sand, 2015; Sadker et al., 1986; Sadker & Sadker, 1994; Sadker & Koch, 2016; Sadker et al., 2009; Sommers, 2000; Stromquist, 2007), it is important to investigate how institutions and professors prioritize gender equity as part of their preparation of teacher candidates and those professors' gender attitudes. Therefore, the research questions guiding this study are:

Research question #1: How do professors in teacher preparation programs prioritize gender equity among other social justice concerns?

Research question #2: What self-reported indicators influence the gender attitudes of professors in teacher preparation programs?

Worldview

The overarching worldview for this study is Postpositivist. The researcher believes that humans have complex belief systems and attitudes, and that measuring these systems and attitudes is likewise complex. As Creswell and Creswell (2018) stated, this worldview "is based on careful observation and measurement of the objective reality that exists 'out there' in the world" (p. 6), and yet, absolute truth can never be identified because humans are constantly changing. However, it is possible to measure how participants respond to a given question numerically. This worldview is in keeping with this study because professors' self-reported indicators, actions, and decisions may be quantified through statistical measures using survey results.

The Postpositivist worldview simultaneously provides for the ability to (a) determine how professors rank order social justice issues and then to analyze indicators influencing each professor's selected rank order, and (b) to measure professors' gender attitudes and then determine whether these professors' reported indicators, including age

and gender, may influence these attitudes. A Postpositivist worldview informed the current quantitative study because the researcher was seeking to contribute to the understanding of how professors prioritize gender equity among other social justice concerns, what indicators influenced professors' prioritization of some social justice issues over others, and how professors' gender attitudes may have been influenced by their demographic characteristics. This study may shed light on how to break the negative effects of teacher gender biases and the negative cycle of heteronormativity that exist in schools.

Significance of the Study

Research on teacher gender bias has revealed that these biases negatively affect students. Researchers have therefore advised that teacher preparation programs prioritize gender as a topic in their courses (Aslan, 2015; Chemaly, 2015; Engebretson, 2016; Kearns et al., 2017; Kreitz-Sandberg, 2013; Lynch, 2016; Mojica & Castañeda-Peña, 2017; Sandholtz & Sandholtz, 2010; Scandurra et al., 2017; United Nations Educational, Scientific, and Cultural Organization (UNESCO), 2015). This study contributed to the research in this area because it gathered data on (a) how teacher preparation programs and professors in those programs prioritized gender equity among other social justice concerns, and (b) professors' gender attitudes using Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). Ultimately, the goals of this study were to contribute to an understanding of how professors in teacher preparation programs rank ordered gender equity among other social justice issues and whether professor reported indicators influenced their gender attitudes so as to begin to uncover the reasons why gender equity was or was not a high priority for professors in these programs. The results of this study may inform how professors in teacher preparation programs can begin to place increased

value on gender equity concerns and gender attitudes to initiate the great work of breaking the cycles of teacher gender bias and heteronormativity that exist in schools.

Definitions of Terms

Gender – Gender is informed through social interaction, which begins in childhood. Early interactions with family members, and even childhood friends and play partners, may begin to shape this socially-based sense of gender (Mulac, Erlandson, & Farrar, 1998). Therefore, the terms "*boy* and *girl* are created and reified by socially necessary displays of identification as a member of one sex or the other" (Mulac et al., 1998, p. 642, emphasis original).

Cisgender – Accepted into the Oxford English Dictionary in 2015, this word is used for people who identify as the biological sex with which they were born (Blank, 2014; Green, 2015; Cisgender, n.d.). It is important to note that this word does not denote a person's sexual orientation. Instead, it simply means that a person born with male reproductive organs identifies as male, while a person born with female reproductive organs identifies as female (Brydum, 2015). The term was originally coined in the 1990s to serve as a counterpart to transgender. As Brydum (2015) explained, transgender and cisgender "share Latin roots, with 'trans' meaning 'across, beyond, or on the other side of' and 'cis' meaning 'on this side of.' Add the suffix 'gender' onto either word, and both terms emerge as strictly descriptive adjectives" (para. 6).

Gender Roles – Seifert and Sutton (2009) maintained that these "are the patterns of behaviors, attitudes, and expectations associated with a particular sex – with being either male or female" (p. 72). However, these researchers differentiated between what is socially constructed and what is biologically constructed. Because of this difference, "psychologists sometimes distinguish *gender differences*, which are related to social

roles, from *sex differences*, which are related only to physiology and anatomy. Using this terminology, gender matters in teaching more than sex" (Seifert & Sutton, 2009, p. 72, emphasis original) because gender and gender roles are social constructs.

Gender Equal – This refers to all individuals of all gender descriptions being given the same supports or being treated in the same way. The word equal here refers to sameness: for example, a group of runners has an equal opportunity to win a race, as they all begin at the same starting line. It is important to note, however, that not all supports or treatments are in fact equal. In the above illustration, for example, providing each runner with the same sized shoes would be equal, but it would not equally benefit all runners.

Gender Equity – Equity refers to giving an individual or group the treatment or support that is needed. In the example above about the runners, equity would be providing each runner with the correct sneaker size. Equity therefore takes into consideration the specific person's or group's needs to ensure the most advantageous supports are provided to those persons or groups. For the purposes of this study, the term gender equity will be applied broadly to encompass all students: those who identify as male, as female, as members of the LGBTQ community, and those who do not place language on their gender self-concept.

Bias – Most people have biases. Biases are judgments based on what we perceive or believe. These "cognitive shortcuts can cause problems when we're not aware of them and apply them inappropriately, leading to rash decisions or discriminatory practices" ("Bias," n.d., para. 1). Individuals must therefore be made cognizant of their biases so as to manage them effectively.

Gender Bias – This refers to the "underlying network of assumptions and beliefs" that individuals who appear by sight to be a man or a woman "differ in systematic ways other than physically, that is, in talents, behaviors, or interests" (Streitmatter, 1994, p. 2).

Diversity – Simply put, the word diversity refers to "the presence of difference" (Blaine & Brenchley, 2018, p. 2). However, diversity is actually more multi-faceted than that concise definition. Indeed, as Blaine and Brenchley (2018) wrote, "the most common usages of diversity refer to the *social* difference, or differences, among people" (p. 2, emphasis original). Diversity can therefore be referred to as "demographic, political, ideological, or [as] social justice" (Blaine & Brenchley, 2018, p. 8). Ultimately, diversity encompasses "difference based on one's sex, sexual orientation, race and ethnicity, national background, income and education level, first language, religion, and appearance" (Blaine & Brenchley, 2018, p. 18).

General Procedures

This quantitative research study sought to understand how professors in teacher preparation programs prioritized gender equity among other social justice concerns, and whether professors' self-reported indicators including age and gender identification influenced their gender attitudes.

Participants in this study were professors or adjuncts teaching full or part time in teacher preparation programs in New England. New England states were chosen because they have not been studied on this topic (Jennings, 2007). Table 1 shows population information for these states using data compiled in 2018 by the United States Census Bureau. Though this information is for the general population, it is important because it illustrates both the sizes of these states in overall population, and the overwhelmingly Caucasian majority in each state. It will be beneficial to study professors in teacher

preparation programs in New England, an area not previously researched, to determine institutional and professors' personal prioritization of gender equity among other social justice concerns and professors' gender attitude scores.

A portion of the survey was adapted from Jennings's (2007) survey as presented in his article, "Addressing Diversity in US Teacher Preparation Programs: A Survey of Elementary and Secondary Programs' Priorities and Challenges from Across the United States of America." This survey modified the wording of some of Jennings's (2007) original survey questions and was revised to include open-ended questions. Another portion of the survey was adapted from Ponterotto et al.'s (1995) Quick Discrimination Index, or QDI, which measures race and gender attitudes. As gender attitudes were the focus of this study, Ponterotto et al.'s (1995) survey items measuring racial attitudes were not used. A demographics section gathering data on participants' characteristics including age, marital status, and gender identification was also included. The survey, designed using Qualtrics, was sent electronically to potential participants in teacher preparation programs in New England who fit the criteria for this study. The list of Connecticut, Maine, Massachusetts, Rhode Island, and Vermont professors in teacher preparation programs was gathered from the lists of colleges and universities offering these programs as listed in the Departments of Education Websites for each state. The researcher identified the heads of each teacher preparation program at these colleges and universities and used these individuals as points of contact to initially solicit the participation of their professors in this study. Following this initial contact, individual professors in these programs were sent the survey directly.

The New Hampshire population was accessed by using the existing listing of teacher preparation department leaders in colleges and universities as published through

the New Hampshire Institutions of Higher Education Network (IHE). The researcher met with these leaders at an IHE Network meeting and requested that they send the link to the survey to the professors in their teacher preparation departments. Following this contact, the researcher sent the link to the survey directly to these New Hampshire professors. A survey was the most effective tool to gather data for this study because it was both economical and convenient.

Chapter 2

Literature Review

Since the late 1960s, researchers have analyzed how teachers' beliefs, actions, and biases influence students. Leaders and researchers in the field, including David and Myrna Sadker, have been researching the effects of gender-based teacher biases on students. From student self-perception to student performance, how a teacher views and subsequently interacts with a student is immensely powerful. The negative impact of teachers' gender biases on the scholastic achievement of students remains despite the recommendations of researchers (Engebretson, 2016; Mojica & Castañeda-Peña, 2017; UNESCO, 2015) that teacher preparation programs prioritize gender equity.

Impact of Teacher Gender Bias

Teachers' gender based beliefs about the abilities of students are a strong predictor of student success (Retelsdorf, Schwartz, & Asbrock, 2015). A mainstream, stereotypical view of these gender differences of males and females in particular is "that males possess greater quantitative and visuospacial abilities than females while females possess greater verbal ability than males" (Hannon, 2014, p. 69). However, Hannon (2014) found that "few, if any, gender differences exist on measures of mathematical computation (i.e. arithmetic), mathematical concepts, and other measures of visuospatial abilities…[and] few if any gender differences exist on measures of vocabulary," specifically in adults (p. 69). Nürnberger and Nerb's (2016) research in Germany yielded similar findings, as they discovered that teachers differentially recommended students for math and language education tracks based on those students' genders. As a result, Nürnberger and Nerb (2016) recommended that teachers be made aware of these biases, and that any "training programs should ideally be integrated in teacher training to

minimize biased behavior in later teaching in classrooms" (p. 169). Therefore, because some teachers continue to misguidedly evaluate students' skill levels based on gender, professors in education programs should prioritize the inclusion of gender equity in their curricula (Aslan, 2015; Nürnberger & Nerb, 2016).

An additional negative caveat of the effects of teacher gender biases is that students come to believe and to internalize their teachers' gender based perceptions (Weinstein et al., 1987). Weinstein et al. (1987) found that, by the time they are in upper elementary school, children who are "fifth graders…mirror teacher expectancies in their self-descriptions regardless of the degree of differential treatment reported in the classroom environment" (p. 1079). This alignment of student beliefs with teachers' gender based expectations actually increases, as students in later grades more readily both identify differential teacher treatment and then internalize that treatment. Thereby, teachers' gender based biases shape how students view their own abilities (Weinstein et al., 1987).

Streitmatter (1994) also studied the negative impact of teacher perception on students. Echoing other researchers who have conducted studies in this area, she observed, "a teacher who believes, however unconsciously, that if a child is of a particular gender she or he is likely to do, think, or feel a particular way… the opportunities of many of the learners in the class" (Streitmatter, 1994, p. 2) will diminish. Streitmatter (1994) stated that some teachers

> do not acknowledge gender equity as an issue in the classroom. By not reflecting upon their own teaching as it may be affected by gender stereotypes and bias, these teachers tend to perpetuate the problem. (p. 2)

Streitmatter's (1994) research found that teachers who manage their gender biases are making conscious and consistent decisions surrounding gender as they craft lesson plans and deliver instruction (Streitmatter, 1994, p. 123). By managing biases in this manner, teachers may ensure "gender equity in their teaching" (Streitmatter, 1994, p. 157).

Further, those teachers who differentially interact with students based on those students' genders negatively affect all students long term (Dee, 2007). Dee (2007) found that many teachers either reward or correct male students, but do not provide value judgments to female students, instead merely noting their contributions. Because of this, Dee (2007) argued, boys and girls are both underrepresented in a variety of different areas, from achievement in various subjects to college attendance (p. 531). Dee (2007) concluded, "the gender interactions between students and teachers constitute a quantitatively important environmental determinant of the comparative educational outcomes of both girls and boys" (p. 551). This finding suggests that professors in teacher education programs should prioritize gender equity.

Many researchers have sought to investigate how teacher biases impact classroom interactions, including Howe and Abedin (2013). These researchers synthesized 40 years of studies on the structure of verbal gender interaction in their article, "Classroom Dialogue: A Systematic Review Across Four Decades of Research," and found that teachers interact differentially with male and female students. For example, boys verbally reply to teachers more often than girls, but boys are more likely to receive a negative teacher response (Howe & Abedin, 2013). They also found that young women seek assistance more often than young men, and of young men rather than of young women (Howe & Abedin, 2013). However, these young men tended not to respond to requests, and so, young women were more likely to provide that assistance (Howe &

Abedin, 2013, p. 337). The research Howe and Abedin (2013) synthesized also consistently found that high achieving students of both genders gave more answers, were more likely to lead group work, and subsequently received more teacher communication than students of lower skill levels, but suggested that more research is needed on this last point (Howe & Abedin, 2013).

Retelsdorf et al. (2015) also discovered that differential, gender-based teacher treatment of students has negative results. They studied whether or not teachers' beliefs about their adolescent male students' abilities affected those students' views of themselves as learners and consequently, their achievements in reading comprehension. These researchers discovered that teachers in their study held the stereotype that girls were stronger readers than boys (Retelsdorf et al., 2015, p. 189). Interestingly, however, the researchers also found that these teacher stereotypes regarding gender negatively affected boys' reading comprehension and, perhaps more damagingly, negatively affected how those male students viewed their own reading abilities. This finding was true even if the boys were already inherently good readers (Retelsdorf et al., 2015, p. 191). This clearly illustrates the damage teacher gender biases can have on students, as they can even affect how students view their innate abilities. The finding that a student who is a good reader would come to view their ability as negative because that is how their teacher perceives that ability underscores the importance of the current study.

These research studies illustrated that it is necessary for teachers to be intently aware of gender equity and that their differential, gender based interactions with students are negatively affecting those students and their work in the classroom (Dee, 2007; Howe & Abedin, 2013; Nürnberger & Nerb, 2016; Streitmatter, 1994; Retelsdorf et al., 2015).

Negative Effects of Teacher Gender Biases

In 1992, a study conducted by the American Association of University Women in conjunction with the Center for Research on Women produced a groundbreaking report, "How Schools Shortchange Girls." This study found that not only were females behind their male peers in the quality of the education they received, but also that "this disparity has critical long term effects on girls' self-esteem" (AAUW, 1992, abstract). To work to eliminate this differential treatment, the report recommended that teacher preparation programs specifically focus on educating teacher candidates to identify and then to manage gender biases. Further, the report advocated that "state certification standards for teachers and administrators…require course work on gender issues, including…bias in classroom-interaction patterns" (AAUW, 1992, p. 148). Introducing this component both into teacher preparation programs and making it a requirement of state certification, the research stated, would specifically benefit these female students (AAUW, 1992).

A more recent 2007 study conducted by Stromquist, in conjunction with the United Nations Educational, Scientific, and Cultural Organization (UNESCO), also found that teachers' gender biases were negatively impacting female students. Stromquist (2007) noted that "teacher attitudes and expectations" (p. 2) are different for boys and girls, to the detriment of girls. Noting that many teachers have not been prepared to manage their gender biases, Stromquist (2007) argued that they "tend not to foster gender equity in their classrooms" (p. 2). Creating a space where all students can thrive requires that teachers instruct and interact with their students in a manner that promotes gender equity, yet "most current efforts toward innovation and efficiency in the teaching profession are oblivious to the treatment of gender in the classroom" (Stromquist, 2007, p. 28). This, Stromquist (2007) argued, needs to be remedied.

David and Myrna Sadker also found that female students suffer most from teacher gender biases, though Sadker and Koch's (2016) recent work argued that male students and gender non-conforming students likewise suffer. One of the Sadkers' early articles, published along with Klein in 1986 entitled "Abolishing Misperceptions about Sex Equity in Education," highlighted that socially ingrained gender roles are evident in children as young as those in kindergarten, and that students' paradigms about male and female gender roles continue to be socialized and proliferated through interactions with teachers (Sadker et al., 1986). The researchers found that "teachers talked more to boys, questioned them more, gave them more praise and help, [and] criticized them more" (Sadker et al., 1986, p. 220). According to these researchers, this attention directed towards the male students negatively affected the female students in the classroom. While boys seemed to dominate the classroom, girls were largely ignored. Training to elucidate teacher gender bias is therefore essential, they argued, because teacher gender biases may negatively impact student achievement and may also lead to mental health challenges for both male and female students (Sadker et al., 1986).

In addition to publishing numerous articles in the field, the Sadkers and later David Sadker also published numerous books. One of their most famous texts, *Failing at Fairness* (1994), reaffirmed their earlier research that students suffer from differential teacher treatment grounded in gender biases. Importantly, Sadker and Sadker (1994) also indicated that gender based teacher biases resulting in this differential treatment is unconscious. Sadker and Sadker (1994) observed, "it is difficult to detect sexism unless you know precisely how to observe. And if a lifetime of socialization makes it difficult to spot gender bias even when you're looking for it, how much harder it is to avoid the traps when you are the one doing the teaching" (p. 22).

Fifteen years following this research, Sadker, Sadker, and Zittleman (2009) expanded on these ideas in *Still Failing at Fairness*. In this text, however, Sadker et al. (2009) highlighted that while female students may still suffer from teacher gender biases more frequently than male students, both male and female students are negatively effected. Sadker et al. (2009) also reaffirmed that teacher biases are culturally informed, stating that they are "fleeting but persistent, brief but powerful, flying under our conscious radar" (Sadker et al., 2009, p. 17). Because these biases are unconscious, "over the course of years the uneven distribution of teacher time, energy, attention, and talent shapes both genders" (Sadker et al., 2009, p. 18), as girls learn to be cooperative and boys learn that if they are verbal they receive attention. The subtleties of gender inequity are difficult to identify specifically because both males and females have been educated to conform to gender-based stereotypical behaviors. Thus, "the *gender culture* of schooling persists; many girls find solace in classroom silence, and many boys still feel the need to clown around in class, or dominate the discussion" (Sadker et al., 2009, p. 23, emphasis original). This cycle is seemingly never ending, which necessitates an investigation of how professors in teacher preparation programs are prioritizing gender equity and an inquiry into what the gender attitudes are of the professors themselves to begin to finally combat this cycle in which all students continue to suffer.

In 2016, David Sadker returned to his earlier work on the impact of teacher gender bias on students (Sadker & Koch, 2016). In their article, Sadker and Koch (2016) discussed the impact of teacher gender bias in both shaping the self-perceptions of younger students and un-shaping potentially harmful self-perceptions in older students. While younger students are actively creating their identities through social interaction, students in upper grades have largely formed their identities. Teachers well versed in

gender equity can positively influence both groups – shaping the former and changing the latter – because of the brain's neuroplasticity (Sadker & Koch, 2016). Speaking to this point, Sadker and Koch (2016) argued, "we are not victims of our brain; we are its architects" (p. 64). Therefore, professors in teacher preparation programs should engage teacher candidates in gender-equity coursework not only so that these candidates may amend and mange their own gender biases, but also so that they can ultimately come to build firm foundations of self-concept in younger children and activate neuroplasticity in older students (Sadker & Koch, 2016).

Consistent with the other research here discussed, Lavy and Sand (2015) agreed that girls are being negatively impacted by teacher biases, but they also indicated that females' career choices are likewise affected. Indeed, they argued, the negative impact on girls continues throughout their educations, and causes them to make different occupational choices than their male peers (Lavy & Sand, 2015). This is especially true in the areas of mathematics and sciences, where girls are perhaps most negatively impacted by teachers' gender based biases about students' abilities. The researchers extrapolated that these early differences prevent many females from pursuing those more lucrative fields as adults (Lavy & Sand, 2015, p. 1). Specifically, Lavy and Sand (2015) discovered that

> teachers' biases that favor boys encourage boys to enroll in advanced math courses while doing the opposite for girls; since these courses are prerequisites for admission to higher education in these subjects, such teachers' stereotypical biases contribute to the gender gap in academic degrees in fields like engineering and computer science, and by implication they also contribute to the gender gap in related occupations. These impacts on human capital outcomes by the end of high

> school have meaningful economic consequences for quantity and quality of post-secondary schooling and for earnings at adulthood. (pp. 5-6)

The authors ultimately concluded that managing teacher biases in this area could affect not only girls' participation in math and science fields, but also may affect their future career choices (Lavy & Sand, 2015, p. 27), leading them to pursue more lucrative careers in these fields.

While research studies here discussed indicate that girls are more negatively affected by teacher biases, notable research including 1997's survey of "The American Teacher" and Christina Hoff Sommers's 2000 work *The War Against Boys* have contradicted these findings, and instead have maintained that it is, in fact, boys who are the silent sufferers. In the article, "The American Teacher, 1997: Examining Gender Issues in Public Schools," the Metropolitan Life Survey found that, because of their compliance, female students were favored by teachers in classrooms over their male peers. This study found that teachers believe girls will be more academically successful than boys (Metropolitan Life Survey, 1997). Because "teachers' expectations shape students' expectations…girls appear to be benefitting from their relationship with teachers in ways that boys are not" (Metropolitan Life Survey, 1997, p. 4).

Similarly, Sommers (2000) argued that it is, in fact, male students who are most negatively affected by teachers' gender biases. In *The War Against Boys*, Sommers (2000) found that young men are more likely to be identified for special education, are more likely to receive discipline referrals, and are less likely to go to college than female students (p. 2; see also Chemaly, 2015). The belief that girls are so much more disadvantaged than boys, she argued, is so rampant that teachers cannot see the discrepancies in their own classrooms. To this end, Sommers (2000) stated,

> so accepted has the myth of girls in crisis become that even teachers who work daily with male and female students tend to reflexively dismiss any challenge to the myth, or any evidence pointing to the very real crisis among boys. (p. 7)

She went on to argue that, if the Sadkers and their coauthors (1986; 2009; 2016) believed girls are in distress because they are underrepresented in areas of high achievement, then these particular researchers should likewise be concerned that males are overrepresented in the areas of low achievement (Sommers, 2000, p. 5).

While researchers vehemently disagree over whether male and female students are the greater victims of teacher gender biases, what remains clear is that these biases continue to negatively impact the very students those teachers wish to aid. It is therefore essential to research not only how professors in teacher preparation programs are prioritizing gender equity in their programs and coursework, but also to identify the individual gender attitudes of these professors.

Teachers Lack Awareness of Their Own Biases

While researchers have found that teachers' gender biases are negative (Nürnberger & Nerb, 2016; Retelsdorf et al., 2015; Streitmatter, 1994), Seifert and Sutton (2009) also discovered that teachers are likely unaware of these biases. Specifically, they found that what teachers acknowledged and what they ignored in individual students could be predicted by that student's gender. Of teachers, Seifert and Sutton (2009) stated the following:

> with boys, they tend to overlook *wrong* answers, but with girls, they tend to overlook *right* answers. The result…is a tendency to make boys' knowledge seem more important and boys themselves more competent…[and] to make

> girls' knowledge *less* visible and girls themselves *less* competent. (p. 74, emphasis original)

Additionally, they discovered, teachers disproportionately critique males' and females' classroom actions, as girls are less likely to receive negative feedback on poor actions, and boys are less likely to receive positive feedback for appropriate actions (Seifert & Sutton, 2009). These differentially rewarded behaviors serve to applaud girls for right choices and boys for right thought processes (Seifert & Sutton, 2009). Robinson and Lubienski (Ciciora, 2011) supported this conclusion with their research. They echoed that teachers are unaware of their own differential treatment of students, and they are equally unaware of the effect of how these biases shape their perceptions of students (Ciciora, 2011). For example, of her research with Robinson, Lubienski observed, "'we thought that teachers might rate boys higher in math, but we found that even when boys are outscoring girls, the teachers think the girls are outscoring the boys'" (Ciciora, 2011, n.p.). Further complicating this is that teachers' gender biases also impacted how teachers viewed their female students' levels of content comprehension. Again, Lubienski cautioned, "'girls tend to be perceived as 'good girls' in the classroom, and then teachers assume that they understand the material because they complete their work and don't cause trouble'" (Ciciora, 2011, n.p). Clearly, teachers are unaware of how their biases are not only shaping how they interact with students, but also how those biases are shaping their own unconscious perceptions of those students. Because of this, both male and female students will be negatively impacted on everything from self-perception to future career selection and salary amount (Ciciora, 2011; Lavy & Sand, 2015; Lynch, 2016).

Overall, teachers do not know how to teach in a gender equitable manner despite the fact that they believe they do (Reynolds, 2007). Additionally, teachers do not manage their own gender biases as they develop their pedagogy, craft the delivery of their lessons, and interact with their students (Reynolds, 2007; Sadker & Sadker, 1994). The fact that educators reward, punish, or ignore male and female students differently for the very same behavior must give us pause (Glock, 2016; Seifert & Sutton, 2009). It is therefore essential to discover both how professors in teacher preparation programs are addressing gender equity in their curricula and what gender attitudes these professors harbor so as to begin to disrupt the negative cycle of differential gender based instruction of and interaction with students.

In addition to differentially perceiving student ability and acknowledging student actions, teachers also differentially ask questions of students. In their 2012 research, conducted in Nigerian high school science classrooms, Patrick & Urhievwejire ascertained that how verbal questions are phrased and to whom they are posed are often dependent on both the gender of the student and the gender of the teacher (see also Chemaly, 2015). Instead of using questions to engage the students in the material in a meaningful way, teacher questioning, as analyzed in this study, was mostly used as a basic gauge to measure students' understanding of the material. The researchers found, therefore, that teacher-constructed questions in their sample primarily required students to think and to process at low levels, simply requiring that students recall facts (Patrick & Urhievwejire, 2012). Higher order questioning, such as inquiries that required the students to analyze or to judge, were infrequently posed. Patrick & Urhievwejire (2012) found that when these questions were asked, they were directed toward the male science students rather than toward the female science students (Patrick & Urhievwejire, 2012;

see also Chemaly, 2015). Indeed, this research discovered "that of the 761 questions asked in science classrooms, 503 (66%) were directed at the male students while 258 (34%) were directed at the female students" (Patrick & Urhievwejire, 2012, p. 195). This disproportionate questioning, the researchers maintained, may suggest to girls that they do not have strong science skills (Patrick & Urhievwejire, 2012, p. 196).

Patrick and Urhievwejire (2012) also discovered that male and female science teachers differentially question their students. For example, female teachers in this study spent as much as 70% of their time with students on questions that required low level thought processes, 5% higher than male teachers who also taught science (Patrick & Urhievwejire, 2012, p. 198). Conversely, male science teachers spent twice the amount of class time than their female peers on questions that required higher order thought (Patrick & Urhievwejire, 2012). Ultimately, the researchers observed that teachers of both genders disproportionately allocated class time to low level thought because they did not ask questions that required their students to think analytically. Going forward, the researchers suggested, teachers must be more aware of the ways in which they phrase questions, how often, and to whom in order to not only engage students in higher order thought, but also to provide equal opportunities for the male and female students in their classrooms (Patrick & Urhievwejire, 2012). This reaffirms the significance of the current study.

Teacher Preparation Programs and Gender Equity

While they may disagree on whether male or female students are most negatively impacted by teacher gender biases, researchers do concur that teacher preparation programs need to incorporate gender equity coursework to begin to disrupt the negative cycle perpetuated by teacher gender biases (Engebretson, 2016; Chemaly, 2015; Lynch,

2016; UNESCO, 2015). Specifically, Sandholtz and Sandholtz (2010) urged, "the curriculum in teacher education programs and the accompanying instructional materials need to incorporate gender issues" (Sandholtz & Sandholtz, 2010, p. 132).

Chemaly (2015), Engebretson (2016), and Lynch (2016) similarly discussed the need for teacher education programs to incorporate gender bias topics into their curricula. Chemaly (2015) maintained that "understanding bias and its effects is critically important [and that] the long-term return on investment is inestimable" (p. 4) for both students and school districts.

Engebretson (2016) also stated that education programs do not sufficiently incorporate gender equity into the curricula, despite the fact that gender inequity and heteronormativity continue to exist in schools. She argued, "it is imperative that our teachers analyze and deconstruct their complex, personal, and often unshared ideas around gender" (Engebretson, 2016, p. 51), and suggested that it may be "beneficial for our teachers to have explicit instruction in how they participate in, recognize, and disrupt stereotypical discourses surrounding gender if we are to hope that any change can be made for future generations" (Engebretson, 2016, p. 51). Thus, Engebretson's (2016) research underscores the need for teacher preparation programs to prioritize gender equity so as to begin the work of disrupting the negative cycles of both teacher gender bias and heteronormativity.

A number of other studies, completed outside the United States, similarly advocated for teacher preparation programs to specifically include gender equity in their curricula (Aslan, 2015; Kearns et al., 2017; Kreitz-Sandberg, 2013; Mojica & Castañeda-Peña, 2017; Scandurra et al., 2017). Although the focus of each of these research studies varied, what emerged overall was that teachers lack gender equity awareness, that this

lack is detrimental to students, and therefore, that leaders in teacher education have a duty to incorporate gender equity into their programs and curricula (Aslan, 2015; Kearns et al., 2017; Kreitz-Sandberg, 2013; Mojica & Castañeda-Peña, 2017; Scandurra et al., 2017). As these articles reveal, gender equity is of global importance.

Aslan's (2015) research, conducted in Turkey, found that classroom teachers perpetuated heteronormativity and therefore stated that not only do teacher preparation programs need to incorporate gender equity topics and discussions in their coursework, but also that the professors in these programs need to work to increase their own "gender equity awareness" (p. 380). The topic of professors' potential for harboring gender biases was also evaluated by Kreitz-Sandberg in 2013, who conducted her research in Sweden. She found that male professors were valued over female professors specifically in "male-coded fields" (Kreitz-Sandberg, 2013, p. 461), and stated that professors are victims of their own binary paradigms. Therefore, Kreitz-Sandberg (2013) cautioned that many professors and university programs may be perpetuating "heteronormative patterns" (p. 444). If this finding is accurate, the very fact that professors are likewise contributing to heteronormativity may complicate how those professors in teacher preparation programs prioritize gender equity. This is why measuring professors' gender attitudes is essential.

Another study, conducted in Columbia in 2017 by Mojica and Castañeda-Peña, found that a sample of English language teacher candidates also harbored gender biases. Mojica and Castañeda-Peña (2017) therefore argued that training is needed to alleviate "gender iniquities" (p. 140) such that teachers will come to recognize "unfair situations, sexist discourses and behaviors, and asymmetry in class participation" (p. 149). Significantly, this research found that when teachers were exposed to gender equity

training, they came to view gender not as binary, but rather as "discourses of multiplicities" (Mojica & Castañeda-Peña, 2017, p. 143). This phrase recognizes that individuals' concepts of gender may be indeed be multi-faceted.

Related to this idea of "multiplicities" (Mojica & Castañeda-Peña, 2017, p. 143) are studies that have analyzed the effect of teacher gender biases on students who identify within the LGBTQ community (Kearns et al., 2017; Scandurra et al., 2017). In Canada, Kearns et al. (2017) studied teacher candidates' awareness of heteronormativity in schools, and concluded that professors in teacher preparation programs should be explicitly preparing teacher candidates "to disrupt, disturb, and deprivilege heteronormativity and trouble gender" (p. 10) such that all students, specifically "sexual minority, transgender, and gender non-conforming youth" (p. 4) feel welcomed and included. To effect these changes, Kearns et al. (2017) advocated that "critical curricula and social justice…be brought together to inform teacher education" (p. 1).

Scandurra et al. (2017) also researched teacher gender biases with respect to students in the LGBTQ communities. This study, conducted in Italy, discovered that demographic characteristics of teacher candidates correlated with biases. Specifically, Scandurra et al. (2017) discovered that male teachers who identified as conservative and religious were likely to be biased against members of the LGBTQ community. The researchers therefore stated that "intervention methodologies and education programmes addressing pre-service teachers that would allow them to reshape their own prejudices and discriminatory attitudes" (Scandurra et al., 2017, p. 256) are essential. Because of this, as other researchers have here stated, Scandurra et al. (2017) advocated that teacher education programs provide coursework in gender equity.

Lynch (2016) also reported that teacher gender biases have far reaching effects, arguing that the "gender bias in the workforce" (p. 2) may be rooted in differential treatment of students in the classroom. If Lynch's (2016) argument is correct, wage discrepancies and differential gender achievement in the work force can be traced back to classroom teachers' unconscious, socially ingrained gender biases. To this end, Lynch (2016) observed, "as teachers become more aware of the ways that their actions impact the long-term success of their students, gender interactions will likely improve and equalize" (p. 2).

Perhaps the most powerful call for eliminating teacher gender biases through implementation of gender bias training in teacher education programs comes from the United Nations Educational, Scientific, and Cultural Organization's (UNESCO) 2015 work, "A Guide for Gender Equality in Teacher Education Policy and Practices." This comprehensive research urged teacher training programs to not only make inclusion of gender equity a part of their curricula, but also to infuse each class with gender based issues and training (UNESCO, 2015, p. 32; see also p. 59). To do so, this research suggested a fundamental redesign of teacher preparation programs. Of Teacher Education Institutes (TEIs), it stated:

> students being prepared to become schoolteachers are given courses on education theories, the psychology of learning, teaching methodologies and class management, evaluation and assessment, and one or two practicum courses. Nowhere can any emphasis on gender equality issues be seen…This problem of omission needs to be addressed by curriculum designers of TEIs. Gender equality issues need to form an integral part throughout the curriculum in order to sensitize future teachers about gender equality so that

> they can become agents of change when they exercise their teaching profession in schools. It is all very well to guide schoolteachers in becoming gender-sensitive after they finish their pre-service preparation, but it is perhaps more effective to make them agents of change during their training in TEIs by mainstreaming gender into the different courses that form the curricula. The perspective of gender equality should therefore be explicitly recognized and stated in mission statements, as well as in the TEI programme and the course's expected outcomes. (p. 60)

In order to effectively combat gender bias, the research suggests, professors in teacher preparation programs must include gender equity in their coursework to begin to disrupt the negative cycle of heteronormativity that exists in schools (Engebretson, 2016; Kearns, Mitton-Kükner, & Tompkins, 2017; Lynch, 2016; UNESCO, 2015). When this occurs, all students, including male students, female students, students in the LGBTQ communities, and students who feel language cannot be used to describe their gender, will benefit.

Rawls (2001) and Social Justice Theory

Social justice theory serves as the theoretical underpinning and lens for this study (see Figure 1). Social justice theory considers how individuals and groups may be treated differently based on personal or ideological traits that may be subtle or overt (Wilson-Strydom, 2015). It is a suitable "foundation" (Grant & Osanloo, 2014) for this research study for three reasons: (a) because gender based treatment of others is an area that social justice seeks to eradicate, (b) because gender equity prioritization in teacher preparation programs should seek to disrupt teacher gender biases, thereby contributing to the work

of social justice, and (c) because professors' positive gender attitudes may assist the gender attitudes of teacher candidates, also contributing to the work of social justice.

John Rawls (2001) argued that in order for a society to best function, it had to view each of its constituents as having equal freedoms, liberties, and rights independent of any defining characteristics or traits those individuals may possess, and must be considered in conjunction with the "veil of ignorance" (p. 15), where physical or ideological traits are stripped away so the person can be seen authentically as an individual.

The current study seeks to gather data on gender equity prioritization and gender attitudes so as to do the work of social justice theory by working to disrupt the negative effects of teacher gender biases and the cycles of heteronormativity that exist in schools. The research has shown that male students, female students, and students who identify within the LGBTQ community have suffered from the gender biases of their teachers (Ciciora, 2011; Kearns et al., 2017; Lavy & Sand, 2015), that teacher gender biases are harmful to students (Engebretson, 2016; Lavy & Sand, 2015; Sadker & Sadker, 1994; Sadker & Koch, 2016), and that teacher preparation programs need to prioritize gender equity to elucidate and eradicate teacher gender biases (Aslan, 2015; Kearns et al., 2017; Kreitz-Sandberg, 2013; Mojica & Castañeda-Peña, 2017; Sandholtz & Sandholtz, 2010; Scandurra et al., 2017; UNESCO, 2015). However, if gender equity is prioritized in teacher preparation programs and if positive gender attitudes guide professors, then teacher candidate gender biases may be disrupted, and teachers may come to interact with their students through Rawls's (2001) concept of a "veil of ignorance" (p. 15), where students will cease to be members of a particular group and be seen instead as individuals.

Gender Attitudes Scales and Jennings's (2007) Survey Instrument

While there are many scales that measure various gender attitudes, surveys measuring how professors prioritize gender equity in their programs and coursework are scarce at best. In 2014, for example, Underwood, Leddy, and Morgan provided an overview of eleven gender scales, all of which measured males' and females' perceptions of procreation, relationship violence, sexual intimacy, and power. Some of the scales included in this overview included the Gender Equitable Men (GEM) Scale, which measures "gender norms" (Underwood, Leddy, & Morgan, 2014, p. 8) on topics including violence and sexuality in relationships, the Gender Equity Scale, which measures how women view themselves and their possible duties with respect to their spouse, and the Gender Equity Index, which "measures access to resources and rights, and well-being and attitudes towards gender norms…[specifically] women's economic rights and women's social rights" (Underwood et al., 2014, p. 17). These scales are not suitable for this research study because this study will gather information on how institutions and professors prioritize gender equity to begin to understand how to disrupt the cycle of heteronormativity that exists in schools, and to measure those professors' gender attitudes. Scales that measure violence and inter-gender relationships are therefore not appropriate for this study.

Marszalek, Barber, and Nilsson's (2017) Social Issues Advocacy Scale is similarly unsuitable for this research, as this measure conceives of social justice in a broad sense, asking respondents about their community and political involvement. Further, Bargad and Hyde's (1991) Feminist Identity Development Scale measures whether and to what extent an individual identifies as feminist, while Murillo, Hernandez-Castilla, Hidalgo, Martinez-Garrido, and Perines's (2015) Scale of Attitudes

Toward Social Justice in Education measures teachers' beliefs about social justice and injustice in general and how those teachers are working to promote social justice, broadly conceived, as part of their work. Finally, other scales, specifically those presented by the National Center for Educational Statistics in the NSOPF:04 Faculty Instrument, measure how professors' genders informed their workload, publications, financial compensation, and contentment with their profession (nces.ed.gov). Clearly, these measures do not meet the needs of this current study.

On the other hand, the survey instrument Jennings (2007) used in his study fulfills the needs of this research in that it gathered data on how leaders of elementary and secondary teacher preparation programs prioritized gender diversity as part of their overall programs. This makes it an ideal survey for the current research, where professors in teacher preparation programs throughout New England will be asked how their institution and how they personally prioritize gender equity among other social justice conerns. Jennings (2007) administered this descriptive survey in seven states to measure how leaders in teacher preparation programs prioritized social justice issues, including racial/ethnic diversity, economic diversity, and gender diversity. He then divided the results both by state and by elementary and secondary programs. Jennings (2007) incorporated statistical tests such as Analysis of Variance (ANOVA) to investigate each state's responses, post hoc analyses using Tukey HSD to measure the diversity priorities of each state, Pearson product moment correlations to measure whether or not the gender of the program leader influenced their ranking of the diversity issues, and t-tests to measure differences between the elementary and secondary education programs (pp. 1262-1263).

Though this descriptive survey instrument lacks proven validity and reliability, experts in both qualitative research (Miles, Huberman, & Saldaña, 2014; Wolcott, 2009), and quantitative research (Maul, 2017) have questioned the measures used to find validity and reliability of research scales. Specifically, in a 2017 research study, Dr. Andrew Maul of the University of California, Santa Barbara, was able to successfully validate and prove reliable three separate surveys, all of which had been presented with unintelligible words, phrases, or numbers (pp. 53-56). Despite these survey components that were intentionally included to be nonsensical, each of the three surveys was proven to be statistically valid and reliable. Therefore, Maul (2017) stated "that traditional approaches to the design and validation of survey-based measures may suffer from a number of serious shortcomings" (p. 64), and argued that "it may be time to let go of the need to identify specific validation procedures applicable across different research situations" (Maul, 2017, p. 66). Maul's (2017) argument regarding validity and reliability gives strength to using Jennings's (2007) descriptive survey instrument for this research.

Conclusion

Gender biases, of which teachers might not be consciously aware, negatively impact students. Students suffer from these negative biases because teacher-centered gender biases hinder students' learning while negatively shaping students' self-concepts (Retelsdorf et al., 2015; Weinstein et al., 1987). Therefore, teachers must be made aware of their own biases while learning to manage them as part of their teacher candidate preparation programs (Aslan, 2015). To these ends, it is imperative both to discover how existing teacher preparation programs and professors in those programs prioritize gender equity and to identify those professors' gender attitudes so that we may finally begin to

disrupt the damaging effects of teacher gender bias and the negative cycle of heteronormativity that continue to exist in schools.

Chapter 3

Research Methods

The design for this quantitative study was non-experimental. This study did not include randomization, there was not a control group, and the researcher did not have control over the independent variables in the study. Data gathering was cross-sectional: respondents took this survey once and at one point in time. Open-ended questions asking for participants to provide written responses were used. These responses were coded using a qualitative content analysis approach.

This descriptive study sought to understand the state of gender equity inclusion among social justice issues in teacher preparation programs as prioritized by the institution and professors who teach in those programs, the professors' gender attitudes, and whether professor reported indicators influenced those gender attitudes. Research conducted on teacher preparation programs and gender equity by Engebretson (2016), Kearns et al., (2017), Kreitz-Sandberg (2013), and Mojica & Castañeda-Peña (2017) all used qualitative methodology, were conducted in one location, and had small sample sizes with under 30 participants. Still others, including those conducted by the AAUW (1992) and UNESCO (2015), were compilations of research previously conducted or were the result of original research conducted by groups of researchers appointed by the organization. Aside from Jennings's (2007) study, no other research gathered data for quantitative analysis on teacher preparation programs' institutional prioritization of gender equity in multiple states. Including Jennings's (2007) study, no other research has quantitatively gathered data on professors' personal prioritization of gender equity among other social justice concerns. Additionally, no other studies gathered data on teacher preparation program professors' gender attitudes as measured using Ponterotto et al.'s

Quick Discrimination Index (QDI) (1995), or the factors that may have influenced those professors' gender attitude scores. To ensure that a maximum number of possible participants could be accessed across states that have not been previously studied, and to ensure that those participants' responses had the potential to be statistically analyzed, a quantitative methodology was used because it allowed the researcher to gather data to contribute to the understanding of how professors are prioritizing gender equity among other social justice concerns, what those professors' gender attitudes are, and whether professors' reported indicators influence those gender attitudes. This research will begin to shed light on how teacher educators may start the important work of ending the cycle of heteronormativity in schools.

Research Questions

Research question #1: How do professors in teacher preparation programs prioritize gender equity among other social justice concerns?

Research question #2: What self-reported indicators influence the gender attitudes of professors in teacher preparation programs?

Research Question #1

Data for research question one was gathered through descriptive survey questions and through the use of Jennings's (2007) survey instrument. Open-ended questions eliciting professors' rationale for rank ordering social justice issues and professors' words regarding gender equity were analyzed using qualitative methods. As Saldaña (2016) encouraged, the researcher remained open to coding options as she initially reviewed the data. Following this, the researcher selected In Vivo coding and Values coding to capture "participant perspectives" (Saldaña, 2016, p. 73), using participants' own words as data points. These two first cycle coding methods were best to glean information from these narrative questions because they both capture the participants' exact words through In

Vivo coding and "reflect a participant's values, attitudes, and beliefs" (Saldaña, 2016, p. 131) through Values coding. Therefore, the researcher grounded "the coding decisions…on the *methodological needs* of the study" (Saldaña, 2016, p. 71, emphasis original).

Once the responses were coded in these ways, the researcher organized and grouped the codes to determine common categories that emerged in the data, and generated overarching themes from this data to aid in determining why professors prioritized some social justice concerns over others, and what professors said about their equity rankings (Saldaña, 2016).

Research Question #2

Data for research question two was quantitatively gathered using Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). The QDI measures racial and gender attitudes. Though some questions measuring racial attitudes remained on the survey to limit possible socially driven response bias, this study was only concerned with results from the gender attitudes section of Ponterotto et al.'s (1995) scale. This research question sought to measure if professor reported demographics such as age (continuous independent variable) or marital status (categorical independent variable) influenced professors' gender attitudes as measured by the Quick Discrimination Index (QDI) (continuous dependent variable).

Sample

Research Setting

This study used non-probability, convenience sampling methodology. Sampling was purposive because the researcher targeted a set population. Participants in the

sample were not randomly selected; this was a single-stage sampling procedure (Creswell & Creswell, 2018, p. 150).

Initially, the northern New England states of Maine, New Hampshire, and Vermont were chosen as the setting for this research study because these states have not been studied on this topic. Following a low response rate from participants in those states, the researcher elected to add the southern New England states of Connecticut, Massachusetts, and Rhode Island to the research setting to increase that response and also because these states have not been studied on this topic. Connecticut and Massachusetts have different populations and ethnic compositions and are larger in population than the other New England States, and including them also provided a more complete picture of gender equity priority and gender attitudes of surveyed teacher preparation program institutions and program professors in the New England area specifically (United States Census Bureau, "Quick Facts: Connecticut," n.d.; United States Census Bureau, "Quick Facts: Maine," n.d.; United States Census Bureau, "Quick Facts: Massachusetts," n.d.; United States Census Bureau, "Quick Facts: New Hampshire," n.d.; United States Census Bureau, "Quick Facts: Rhode Island," n.d.; United States Census Bureau, "Quick Facts: Vermont," n.d.).

Finally, the New England States as a whole were selected for this study because they are different in both population and ethnicity from the states Jennings (2007) included in his survey, which were: Alabama, California, Georgia, Illinois, Minnesota, New Jersey, and Pennsylvania (United States Census Bureau, "Quick Facts: Alabama," n.d.; United States Census Bureau, "Quick Facts: California," n.d.; United States Census Bureau, "Quick Facts: Connecticut," n.d.; United States Census Bureau, "Quick Facts: Georgia," n.d.; United States Census Bureau, "Quick Facts: Illinois," n.d.; United States

Census Bureau, "Quick Facts: Maine," n.d.; United States Census Bureau, "Quick Facts: Massachusetts," n.d.; United States Census Bureau, "Quick Facts: Minnesota," n.d.; United States Census Bureau, "Quick Facts: New Hampshire," n.d.; United States Census Bureau, "Quick Facts: New Jersey," n.d.; United States Census Bureau, "Quick Facts: Pennsylvania," n.d.; United States Census Bureau, "Quick Facts: Rhode Island," n.d.; United States Census Bureau, "Quick Facts: Vermont," n.d.).

Survey Distribution

Leaders of teacher preparation programs in Maine and Vermont were identified through each state's Department of Education websites. Leaders of teacher preparation programs in New Hampshire were identified through the Institutions of Higher Education (IHE) Network. Leaders in Maine and Vermont were contacted by both phone and email (see Appendices G, H, and I for transcripts of each of these requests). An announcement about the research was sent to the New Hampshire leaders via the IHE president, and these leaders were then directly contacted via email (see Appendix H). The researcher then repeated the same process to gather contact information for professors in the southern New England states that was used to gather contact information for professors in the northern New England states (see Appendices G, H, and I for transcripts of each of these requests).

Eighty-nine leaders of teacher education programs in 79 schools throughout New England received participation requests between January 5, 2019, and January 22, 2019. Of these, seven schools were eliminated either because they did not fit the criteria for the study or because the leader of the program requested removal directly by emailing the researcher. The researcher was required to go through an additional Institutional Review

Board (IRB) process for an eighth school in order to contact participants from that location.

Between February 19, 2019, and April 1, 2019, a total of 1,124 leaders of teacher preparation programs and program professors at 71 colleges and universities in New England received email requests for participation directly from the researcher. The researcher presented her request for survey participation in person to New Hampshire's IHE Network's February 28, 2019 meeting (see Appendix F for handout), and subsequently sent two rounds of emails to professors in New Hampshire (see Appendix I).

During these multiple requests for participation, the researcher received emails from 17 participants stating that they had taken the survey and from 16 participants declining to take the survey. These individuals were not contacted thereafter. The 12 participants who were on leave from their institutions along with the 14 non-functioning emails from the possible participants list were also removed. A total of six participants offered to forward the researcher's survey to other professors teaching in teacher preparation programs in New England, or to specific teacher education committees of which they are members, and the researcher agreed (personal email communications, January 26, 2019; January 30, 2019; April 1, 2019). This manner of gathering participants is referred to as a snowball method. While useful for increasing numbers of respondents, the snowball method is limited in that once it is used, the researcher has no way of determining the numbers of possible participants who then received the survey or who went on to complete the survey from those emails.

By April 3, 2019, a total of 197 responses had been recorded. Sixteen of these responses were deleted because they were incomplete or were partially recorded, and 70

additional responses were still labeled in Qualtrics as responses in progress by that date. On April 3, 2019, the survey was closed. A total of 181 responses will be analyzed, representing a 16.10% response rate.

Participants

Participants were professors who teach full or part time in college and university teacher preparation programs throughout Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. This population was selected to create an accurate depiction of what is happening in teacher preparation programs in New England with respect to institutional prioritization and professors' personal prioritization of gender equity among other social justice issues and to determine the gender attitudes of these professors.

Participants were able to withdraw from the survey at any time, and were told that taking this survey and engaging with this research was purely voluntary. The first window of the electronic survey was designed to gain informed consent from the participants. If participants did not provide informed consent, they were not directed to the survey.

G Power analyses are used to "estimate the target sample size" (Creswell & Creswell, 2018, p. 151) of participants for research studies. An a priori G Power analysis was conducted to determine the number of participants needed for this research study. The number of participants ($N = 167$) was based on an a priori G Power statistical analysis to determine sample size for ANOVA: fixed effects, main effects, and interactions. This analysis was computed using an alpha of .05, a power of .80. The total number of participants in the study was 181. A post hoc G Power analysis was performed based on the sample size of 181 participants with an effect size of .30 and a

power of .839 (critical $F = 2.06$). Cronbach's alpha for Ponterotto et al.'s (1995) Quick Discrimination Index (QDI) was .579. Cronbach's alpha could not be determined for Jennings's (2007) survey. While validity and reliability have been statistically found for the QDI, they have not been found for Jennings's (2007) survey.

Demographics

Ages of the surveyed participants ranged from 27 years old to 73 years old, and the median age was 49. Of the 181 surveyed participants, 73.5% ($n = 133$) identified their gender as female, 23.8% ($n = 43$) identified as male, 1.1% ($n = 2$) identified as cisgender, 0.6% ($n = 1$) identified as other, and 1.1% ($n = 2$) preferred not to respond. Participants' pronoun use was as follows: 23.2% ($n = 42$) used he/his/him, 72.9% ($n = 132$) used she/hers/her, 1.1% ($n = 2$) used they/theirs/them, 1.7% ($n = 3$) used other, and 1.1% ($n = 2$) preferred not to respond. When asked about their sexual orientation, 88.4% ($n = 160$) identified as straight, 3.9% ($n = 7$) identified as lesbian, 2.2% ($n = 4$) identified as bi-sexual, 1.1% ($n = 2$) identified as gay, 1.1% ($n = 2$) identified as queer/questioning, 1.1% ($n = 2$) identified as other, and 2.2% ($n = 4$) preferred not to respond. The vast majority of surveyed participants, 92.8% ($n = 168$), were Caucasian, while 2.2% ($n = 4$) were African American, 1.7% ($n = 3$) were Latino(a) or Hispanic, 1.1% ($n = 2$) were Asian, 1.1% ($n = 2$) were Bi-Racial, 0.6% ($n = 1$) was Multi-Racial, and 0.6% ($n = 1$) was other. One hundred forty-eight of the surveyed participants, representing 81.8%, were married, 6.6% ($n = 12$) were single, 5.5% ($n = 10$) were in a committed relationship, 3.3% ($n = 6$) were divorced, 1.1% ($n = 2$) were widowed, 0.6% ($n = 1$) said other, and 1.1% ($n = 2$) preferred not to respond. Thirty of the surveyed participants, representing 16.6%, were from Connecticut, 13.3% ($n = 24$) were from Maine, 32.6% ($n = 59$) were from Massachusetts, 21.5% ($n = 39$) were from New Hampshire, 3.9% ($n = 7$) were from

Rhode Island, and 9.4% (*n* = 17) were from Vermont. Five of the surveyed participants, representing 2.8%, did not respond to this question. Participants described their political beliefs as well. Two surveyed participants, representing 1.1%, described themselves as very conservative, 8.3% (*n* = 15) as conservative, 38.7% (*n* = 91) as liberal, and 38.7% (*n* = 70) as very liberal. Three (1.1%) participants elected not to respond to this question. Of the surveyed participants, 43.1% (*n* = 78) have a close family member or friend who identifies as gender non-conforming, 49.7% (*n* = 90) do not, and 7.2% (*n* = 13) are not sure (see Table 2).

When asked about their level of education, 78.5% (*n* = 142) of participants reported having a doctoral degree, 17.7% (*n* = 32) reported having master's degrees, and 3.9% (*n* = 7) reported having a CAGS. Professors' academic titles were varied, with 18.2% (*n* = 33) professors, 28.2% (*n* = 51) associate professors, 25.4% (*n* = 46) assistant professors, 16.0% (*n* = 29) adjunct professors, 1.1% (*n* = 2) professors of practice, 6.1% (*n* = 11) directors, 3.3% (*n* = 6) lecturers, and 1.7% (*n* = 3) other. The majority of participants taught both full time and in person, with 78.5% (*n* = 142) and 82.9% (*n* = 150) respectively. There were 21.5% (*n* = 39) of surveyed participants who taught part time, while 17.1% (*n* = 31) reported that they taught online. Total years of teaching experience ranged from 3 to 50 years, and time spent teaching in higher education specifically ranged from 1 to 45 years (see Table 2).

The majority of the participants held doctoral degrees 78.5% (*n* = 142), taught full time 78.5% (*n* = 142), taught in person 82.9% (*n* = 150), used she/hers/her 72.9% (*n* = 132) as pronouns, and were in the following demographic categories: female 73.5% (*n* = 133); straight 88.4% (*n* = 160); Caucasian 92.8% (*n* = 168); married 81.8% (*n* = 148) (see Table 3).

Data Collection

Data was gathered for this research study using a survey instrument that was built using Qualtrics. It contained a total of 41 questions, three of which were short answer. The survey had its own unique link, which was distributed via email to possible participants. The individual professors and the institutions at which they taught remained completely anonymous. A survey measure was the preferred method of data collection because this method of distribution was both economical and convenient. The survey in its entirety as presented to respondents is included (see Appendix A). The survey had three sections, which are outlined below.

Demographic Survey Items

A demographic survey section (see Appendix B) was used to collect information on the demographics of the participants in this sample. The demographic questions asked respondents to report information that aligned with the following themes: (a) age, (b) gender identification, (c) professional experience, (d) teaching assignment, (e) personal beliefs regarding gender biases, and (f) personal beliefs regarding gender equity training. These questions were included to see if they influenced the professors' gender attitude scores as measured by the Quick Discrimination Index (QDI) and to identify potential covariates that would need to be included for statistical analysis.

Jennings's (2007) Descriptive Survey Items

This study adapted Jennings's (2007) descriptive survey instrument (see Appendix C) for research question #1: how do professors in teacher preparation programs prioritize gender equity among other social justice concerns? Jennings's (2007) survey gathered information on how leaders in teacher education programs prioritized social justice issues. While Jennings's (2007) study explored differences among states and

between elementary and secondary teacher education programs, the current research asked program professors to rank order these social justice issues for institutional and personal priority and then asked them to explain, in their own words, why their top 2 rankings were selected. The aim of these qualitative questions was to begin to understand how professors in teacher preparation programs prioritize gender equity. This study did not differentiate between elementary and secondary teacher preparation programs so as to obtain a wholistic view of the current state of New England institutions' and professors' gender equity priority and professors' gender attitudes.

Some of the wording Jennings (2007) used in his survey was changed to fit the needs of the current research. Jennings's (2007) use of the word 'diversity' has been replaced with the word 'equity' to better align with the social justice theory theoretical framework that frames this research. Finally, the question asking professors to rank order the social justice issues was utilized twice but with a slightly different focus for each question. Jennings's (2007) original question asked respondents to "*rank order the importance your program explicitly gives to the following topics*" (p. 1268, emphasis original). Respondents might have interpreted this question as asking about the program overall, but they could also have interpreted the question as asking about their own courses. Repeating the question allowed this researcher to clearly ask both questions of respondents. Simply put, question number 21 asked participants to rank order the social justice issues when thinking of their institution's teacher preparation program as a whole, and question number 23 asked participants to rank the same social justice issues to reflect the priority they as professors give to those issues in the courses that they teach.

The researcher added open-ended, follow-up response questions to question numbers 21 and 23 where for each question, respondents were asked to explain why they

selected their top two rankings of the social justice issues (questions 22 and 24). The additional data in these responses aided the researcher in developing a clearer picture of what specific social justice issues professors in New England teacher preparation programs were prioritizing. The final question of this survey was also an open-response question (question 41), and asked participants if there were anything else they would like the researcher to know about them or their program in relation to gender equity. All responses to these open-response questions were analyzed using qualitative coding methods (Saldaña, 2016).

It is important to note that Jennings's (2007) survey was used for descriptive purposes because the validity and reliability measures for that survey have not been determined. Yet, despite this, Jennings's (2007) survey remains the best tool for this current study, as combining the descriptive data that Jennings's (2007) survey provided with qualitatively analyzed open response questions aided the researcher to better understand how institutions with and professors in teacher preparation programs in New England are prioritizing gender equity. The goal of this information was to provide initial insights into understanding how to begin to disrupt the negative and damaging cycles of teacher gender bias and heteronormativity that exist in schools.

Ponterotto et al.'s (1995) Quick Discrimination Index (QDI) Items

Ponterotto et al.'s (1995) Quick Discrimination Index (QDI), was also used (see Appendix D). The QDI gathers data on an individual's "overall sensitivity, awareness, and receptivity to cultural diversity and gender equality" (Ponterotto, Utsey, & Pedersen, 2006, p. 279). This test uses a Likert-scale asking the respondents to identify their response to a given statement using strongly disagree (1), disagree (2), not sure (3), agree (4), or strongly agree (5). The QDI has been proven to be valid and reliable (Ponterotto

et al.,1995; Ponterotto, Potere, & Johansen, 2002; Ponterotto et al., 2006; Utsey & Ponterotto, 1999). Ponterotto et al. (2002) reported that "coefficient alphas for the QDI total and subscale scores were as follows: total score, range from .74 to .89 (median = .88); Subscale 1, range from .80 to .90 (median = .85); Subscale 2, range from .70 to .87 (median = .77); and Subscale 3, range .47 to .76 (median = .71)" (p. 203). The QDI aligns with this research study because it scores professors' gender attitudes. A high score on the QDI scale is indicative of positive gender attitudes, while a lower score on this instrument is associated with more negative attitudes (Ponterotto et al., 2006). The scale ranges from seven, which is the lowest score possible and indicative of highly negative gender attitudes, to 35, which is the highest score possible and indicative of highly positive gender attitudes (Ponterotto et al., 1995). This data was analyzed in conjunction with professor reported indicators provided by the demographics section of the survey to see if these indicators influenced the QDI score and to identify possible covariates for statistical analysis.

It is important to note that Ponterotto et al.'s (1995) QDI not only measures gender attitudes, but it also measures racial attitudes. Considering that professors' racial attitudes were not part of this study, survey item numbers 4, 8, 11, (15), 17, 24, and 29 were eliminated because they measured "affective attitudes toward more personal contact (closeness) with racial diversity" (Ponterotto et al., 1995, p. 11). However, survey items that measured general racial attitudes were included with gender equity items so as to limit response bias that may have led participants to respond in a socially desirable manner.

Limitations

Response bias is a fundamental issue of this research study. One of the dilemmas surrounding this issue is how to recruit participants into the study but not bias their potential responses. The likelihood that participants may have respond in a socially desirable manner is high.

Another limitation of this study is the difference between what people say they do and what they actually do. Observed behavior, for example, is significantly different than having individuals self-report.

An additional limitation of this survey is that Jennings's (2007) descriptive survey has not been found to be valid or reliable. Further, this survey may be weak because it asks respondents to rank order the social justice issues, which may imply that some issues are more important than others (Jennings, 2007). However, a rank order is important to not only evaluate how professors divide their attention among these issues, but also to "minimize the potential for respondents to cite all forms of diversity as important as a value statement rather than reflecting the often de facto emphases that topics receive within programs" (Jennings, 2007, p. 1261).

A limitation in using Ponterotto et al.'s (1995) survey instrument is that it measures gender attitudes specifically with respect to women. Scales measuring gender attitudes with respect to men, members of the LGBTQ community, or other gender non-conforming groups were not used.

Another limitation is that the data was only gathered from the New England states. This may limit the generalizability of the study to other, demographically different states. In addition, the survey is quite lengthy, which may have contributed to respondent fatigue.

Finally, the response rate of 181 participants is a low percentage of the total number of professors contacted: 1,124 professors at 71 colleges and universities in New England. Therefore, the data pertains only to a small percentage of professors in New England who chose to take the survey.

Strengths

All institutions in New England that offer teacher preparation programs and professors within those programs were included as possible participants in the research. Therefore, the methodology of this study provided an opportunity to access and gather data from the largest number of possible participants in the New England area. Emailing a link to the survey instrument to potential participants throughout this region was also both economical and convenient. No distinction was made between programs that were strictly elementary or strictly secondary. Both two and four-year programs were included, and professors who teach full time or part time were also included.

Data Analysis

Research question #1: How do professors in teacher preparation programs prioritize gender equity among other social justice concerns?

Survey questions 21 and 23 asked respondents to rank order the importance their program and they as professors place on social justice issues. Questions 22 and 24 asked respondents to explain why they selected their top two choices for institutional and personal priority among the six listed social justice issues. A final open ended question, number 41, asked respondents to communicate any additional thoughts or ideas that they had regarding their program or themselves with respect to gender equity.

These open ended responses were then qualitatively analyzed using two coding strategies, In Vivo coding and Values coding (Saldaña, 2016). In Vivo coding was used to capture the participants' words verbatim, and Values coding was used to capture

respondents' "values, attitudes, and beliefs" (Saldaña, 2016, p. 131). In a research study whose survey asked participants to rank order the priority of social justice issues, it was important to both capture participants' exact phraseology and attempt to unpack the opinions and thoughts that informed those decisions. Therefore, the In Vivo and Values coding strategies were integral facets of analyzing the data gathered in this research study.

Following the first round of coding, the researcher organized and analyzed the codes that were generated and identified patterns that emerged in the data, something Saldaña (2016) terms "pattern coding" (p. 235). This kind of coding strategy was important to incorporate to not only see similar patterns in the data but also to begin to derive meaning from those patterns.

Finally, the researcher analyzed these generated categories and developed overarching themes that emerged from the data. Saldaña (2016) referred to this as "theming the data" (p. 198), where the researcher attempted to craft "an *extended phrase* or *sentence* that identifies what a unit of data is *about* and/or what it *means*" (p. 199, emphasis original). Developing themes from the qualitative data was helpful to this quantitative research because these themes may begin to shed light on how professors in teacher education programs prioritize or do not prioritize gender equity among other social justice issues.

Research question #2: What self-reported indicators influence the gender attitudes of professors in teacher preparation programs?

The researcher analyzed the survey data using the Statistical Package for the Social Sciences. Specifically, t-tests, Analysis of Variance (ANOVA), and Pearson product moment correlations were slated to be used to analyze the data, but were not run

because not all of the assumptions required to run the analyses were met. These data will be discussed further in chapter 4.

T-Tests and ANOVAs. T-tests were to be used for categorical independent variables with two levels to determine if there were a statistical significance between groups (Trochim & Donnelly, 2008). One of the independent variables in this test was whether professors taught full or part time. The dependent variable was professors' gender attitudes as measured by Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). The hypothesis (H_1) was that there was a relationship between professors' full or part time teaching status and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). The null hypothesis (H_0) was that there was no relationship between professors' full or part time teaching status and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). If *F* test results had been greater than the critical value, then the null hypothesis would have been rejected. If the null hypothesis was rejected ($p = < .05$), the results would have been considered statistically significant.

The other independent variables in this t-test were whether professors taught online or in person. The dependent variable was professors' gender attitudes as measured by Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). The hypothesis (H_1) was that there was a relationship between professors who teach online or in person and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). The null hypothesis (H_0) was that there was not a relationship between professors who teach online or in person and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). If *F* test results had been greater than the critical value, then

the null hypothesis would have been rejected. If the null hypothesis were rejected ($p = <$ .05), the results would have been considered statistically significant.

ANOVAs were slated to be used for categorical independent variables with more than two levels to determine if there were statistically significant differences between groups (Trochim & Donnelly, 2008). The independent variables included in the ANOVAs were professors': (a) academic rank or title, (b) highest attained level of education, (c) age, (d) years of teaching experience, (e) number of years teaching in higher education, (f) state of residence, (g) marital status, (h) gender identification, (i) personal pronoun use, (j) sexual orientation, (k) racial/ethnic group identity, (l) political views of program faculty, (m) personal political views, (n) having a close family member or friend who identifies as gender non-conforming, (o) beliefs of whether people can control their biases, (p) beliefs of whether teacher candidates have gender biases, (q) beliefs of whether teacher candidate gender biases are harmful to students, (r) professors' comfortability discussing gender equity with teacher candidates, (s) beliefs of whether gender equity should be programmatically included in teacher preparation programs, (t) whether professors believed gender equity training would benefit the faculty, (u) whether professors believed that gender equity training would benefit them personally in their role as professor, and (v) whether professors believed that gender equity training would benefit their teacher candidates. The dependent variable was professors' gender attitudes as measured by Ponterotto et al.'s (1995) Quick Discrimination Index (QDI).

The hypothesis (H_1) was that there was a relationship between professors' (a) academic rank or title, (b) highest attained level of education, (c) age, (d) years of teaching experience, (e) number of years teaching in higher education, (f) state of residence, (g) marital status, (h) gender identification, (i) personal pronoun use, (j) sexual

orientation, (k) racial/ethnic group identity, (l) political views of program faculty, (m) personal political views, (n) having a close family member or friend who identifies as gender non-conforming, (o) beliefs of whether people can control their biases, (p) beliefs of whether teacher candidates have gender biases, (q) beliefs of whether teacher candidate gender biases are harmful to students, (r) professors' comfortability discussing gender equity with teacher candidates, (s) beliefs of whether gender equity should be programmatically included in teacher preparation programs, (t) whether professors believed gender equity training would benefit the faculty, (u) whether professors believed that gender equity training would benefit them personally in their role as professor, and (v) whether professors believed that gender equity training would benefit their teacher candidates, and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). The null hypothesis (H_0) was that there was not a relationship between (a) academic rank or title, (b) highest attained level of education, (c) age, (d) years of teaching experience, (e) number of years teaching in higher education, (f) state of residence, (g) marital status, (h) gender identification, (i) personal pronoun use, (j) sexual orientation, (k) racial/ethnic group identity, (l) political views of program faculty, (m) personal political views, (n) having a close family member or friend who identifies as gender non-conforming, (o) beliefs of whether people can control their biases, (p) beliefs of whether teacher candidates have gender biases, (q) beliefs of whether teacher candidate gender biases are harmful to students, (r) professors' comfortability discussing gender equity with teacher candidates, (s) beliefs of whether gender equity should be programmatically included in teacher preparation programs, (t) whether professors believed gender equity training would benefit the faculty, (u) whether professors believed that gender equity training would benefit them personally in their role as professor, and

(v) whether professors believed that gender equity training would benefit their teacher candidates, and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). If *F* test results had been greater than the critical value, then the null hypothesis would have been rejected. If the null hypothesis had been rejected ($p = < .05$), the results would have been considered statistically significant.

Both statistical tests using t-tests and Analysis of Variance (ANOVA) require that the following six assumptions are met: (a) the independent variables are categorical, (b) the dependent variable is continuous, (c) there is independence of observations, (d) there are no significant outliers, (e) the dependent variable is approximately normally distributed for each group of the independent variable, and (f) there is homogeneity of variances. Not all of these conditions were met for t-tests and ANOVAs (Laerd Statistics, "One Way ANOVA," 2017).

Pearson Product Moment Correlations. Tests of association were slated to be run using Pearson product moment correlations to determine if there were a relationship among continuous independent variables and the continuous dependent variable. Coefficients can range from -1.00 to +1.00 (Laerd Statistics, "Pearson Product Moment Correlations," 2018). This test is used to determine whether a change in a continuous independent variable or variables triggers a change in the continuous dependent variable. A perfect positive relationship is indicated by a value of +1.00. A perfect negative relationship is indicated by a value of -1.00. A value of 0.00 indicates that there is no statistically significant relationship between these variables (Trochim & Donnelly, 2008). Independent variables that were to be used in the Pearson product moment correlations were professors': (a) age, (b) total number of years teaching, and (c) number of years teaching in higher education. The dependent variable was professors' gender attitudes as

measured by Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). The hypothesis (H_1) was that there was a relationship between professors' (a) age, (b) total number of years teaching, and (c) number of years teaching in higher education and professors' gender attitudes as measured by the Quick Discrimination Index (QDI). The null hypothesis (H_0) was that there was not a relationship between professors' (a) age, (b) total number of years teaching, and (c) number of years teaching in higher education and gender attitudes as measured by the Quick Discrimination Index (QDI). If *F* test results had been greater than the critical value, then the null hypothesis would have been rejected. If the null hypothesis had been rejected ($p = < .05$), the results would have been considered statistically significant.

Pearson product moment correlations require that the following four assumptions are met: (a) both variables must be continuous, (b) there has to be a linear relationship between the independent and dependent variables, (c) there can be no significant outliers, and (d) the data must be normally distributed. Not all of these conditions were met for Pearson's product moment correlations (Laerd Statistics, "Pearson Product Moment Correlations," 2018).

Conclusion

This study used a quantitative, non-experimental design. It was cross sectional, and data was gathered using a survey instrument. The survey was comprised of demographic questions, portions of Jennings's (2007) survey instrument, and the gender attitudes section of Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). The sampling methodology was non-probability convenience sampling that was purposive and single-stage, and the sampling frame was professors in teacher preparation programs in New England. By studying how institutions with and professors in surveyed teacher

preparation programs in New England reported that they prioritized gender equity among other social justice concerns in their programs and courses, coupled with measuring what these surveyed professors' gender attitudes were and whether their self-reported demographic indicators influenced these gender attitudes, we may make progress in understanding how we can begin to break the profoundly negative effects of both teacher gender bias and heteronormativity that exist in schools.

Chapter 4

Data Analysis and Findings

This chapter presents the findings gathered from the survey instrument that used a demographics section, Jennings's (2007) descriptive survey, and Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). The demographic section was used to identify demographic traits of surveyed participants. Jennings's (2007) survey section was used to determine how surveyed teacher preparation programs and professors within those programs institutionally and personally prioritized gender equity among other social justice concerns. Finally, Ponterotto et al.'s (1995) Quick Discrimination Index (QDI) section was used to measure surveyed program professors' gender attitudes.

Overall, this research study found that surveyed participants prioritized gender equity low among other social justice issues for both institutional and personal priority. Specifically, surveyed participants ranked institutional priority of gender equity as fifth out of six possible social justice concerns, and they also ranked personal priority of gender equity as fifth out of the six possible social justice concerns. These results indicate that, for the surveyed population of New England participants, gender equity is not being either programmatically or personally prioritized. Despite this low ranking, surveyed participants had highly positive gender attitude scores. Out of a possible 35 points, with 35 representing the most highly positive gender attitudes possible, the surveyed participants' mean gender attitudes score was 31.45. The gender attitude scores results and indicators leading to those results as indicated by demographic characteristics of participants were to be run using t-tests, Analyses of Variance (ANOVA), and Pearson product moment correlations. However, the data did not meet all of the assumptions required to run these statistical tests and they were not run. Gender equity priority

findings, findings gathered from participants' short answer responses, and gender attitude scores findings and indicators will be fully presented in this section.

Institutional and Personal Prioritization of Gender Equity for Research Question #1

Research Question #1: How do professors in teacher preparation programs prioritize gender equity among other social justice concerns?

Rank Order of Institutional Priority of Gender Equity

Survey question 21 asked participants to rank order the importance that the teacher preparation program at their institutions overall explicitly give to the following six social justice issues: race/ethnic equity, language equity, economic (social class) equity, gender equity, sexual orientation equity, and special needs equity. These were forced rankings: respondents had to assign each social justice issue to a first priority through a sixth priority.

Overall, the highest percentage of participants, 40.3% (n = 73), ranked gender equity in fifth place out of six for institutional priority. Only 4.4% (n = 8) participants ranked gender equity as first for institutional priority. Surveyed participants, representing 9.4% (n = 17), ranked gender equity second, 16.6% (n = 30) ranked gender equity third, 18.2% (n = 33) ranked gender equity fourth, and 11.0% (n = 20) ranked gender equity sixth (see Figure 2).

Only 4.4% (n = 8) of surveyed participants out of 181 total participants identified gender equity as the top institutional priority. This placed gender equity in fifth out of six for frequency of top ranking for institutional priority. Special needs equity was most frequently selected as the top institutional priority, with 44.2% (n = 80) participants assigning it first. Thirty-three point seven percent (n = 61) of surveyed participants selected racial/ethnic equity as first priority, while 9.9% (n = 18) of participants chose

economic (social class) equity as first, 7.2% (*n* = 13) of participants selected language equity as first, and only 0.6% (*n* = 1) participant placed sexual orientation equity in the top spot (see Figure 3).

Seventeen (9.4%) of 181 participants selected gender equity as their second choice for institutional priority. This means that of the social justice issues most frequently chosen as second for institutional priority, gender equity ranked in fifth place out of six. Racial/ethnic equity was most frequently selected as the second most important institutional priority, with 30.9% (*n* = 56) of surveyed participants assigning it as such, while 25.4% (*n* = 46) of participants selected language equity as their second choice, 16.6% (*n* = 30) of participants placed special needs equity in second, 14.4% (*n* = 26) of participants chose economic (social class) equity for their second selection, and 3.3% (*n* = 6) of participants placed sexual orientation equity in second (see Figure 4).

As this descriptive data illustrates, institutional priority of gender equity in teacher preparation programs for surveyed participants is quite low.

Rank Order of Personal Priority of Gender Equity

Survey question 23 asked participants to rank order the importance that they personally give to the same six social justice issues. Overall, the highest percentage of participants, 32.6% (*n* = 59) ranked gender equity as fifth out of six for personal priority. Only 4.4% (*n* = 8) of participants ranked gender equity as first for personal priority. Fourteen point four percent (*n* = 26) of participants ranked gender equity as second overall for personal priority, 14.9% (*n* = 27) of participants placed it third overall, 22.7% (*n* = 41) of participants placed it fourth overall, and 11.0% (*n* = 20) of participants ranked it sixth overall (see Figure 5).

As with institutional priority, gender equity was also not likely to be selected as the first or second personal priority for surveyed respondents. Only 4.4% (n = 8) of participants out of 181 identified gender equity as the top institutional priority, which placed gender equity in fifth out of six for frequency of top ranking for personal priority. Racial/ethnic equity was most frequently selected as the top personal priority, with 35.4% (n = 64) of participants assigning it first. Meanwhile, 32.6% (n = 59) of participants selected special needs equity as first priority, 18.8% (n = 34) participants chose economic (social class) equity as first, 8.8% (n = 16) of participants selected language equity as first, and 0.0% (n = 0) of participants placed sexual orientation equity in the top spot (see Figure 6).

Gender equity was also not surveyed participants' most frequently selected second choice for personal priority, as only 14.4% (n = 26) of participants selected gender equity as their second choice. This means that of the social justice issues most frequently chosen as second for personal priority, gender equity ranked in fifth place out of six. As with institutional priority, racial/ethnic equity was most frequently selected as the second most important personal priority, with 26.5% (n = 48) of participants assigning it as such, while 21.5% (n = 39) of participants chose economic (social class) equity for their second selection, 17.7% (n = 32) of participants selected language equity as their second choice, 15.5% (n = 28) of participants placed special needs equity in second, and 4.4% (n = 8) of participants placed sexual orientation equity in second (see Figure 7).

As this descriptive data illustrates and echoing institutional priority, the importance that surveyed participants are personally placing on gender equity is quite low.

Institutional and Personal Priority of Gender Equity

Although the highest percentages of participants ranked gender equity priority as fifth out of six, and did not rank gender equity as a first or second institutional or personal priority, it is important to note that some surveyed participants did institutionally and personally prioritize gender equity. Specifically, of the 181 surveyed participants, a total of 31.49% (*n* = 57) of participants ranked gender equity as first or second for institutional priority or personal priority. Of the 181surveyed participants, 4.42% (*n* = 8) ranked gender equity first for institutional priority (question 21), and 9.39% (*n* = 17) participants ranked it as a second priority. Similarly, 4.42% (*n* = 8) of participants ranked gender equity first for personal priority (question 23), and 13.26% (*n* = 24) of participants ranked it as a second priority.

Surveyed participants who did rank gender equity as first or second for both question 21 and question 23 in combination are as follows. A total of 6.08% (*n* = 11) of participants ranked gender equity as either first or second for both institutional priority (question 21) and personal priority (question 23). Of these, 1.66% (*n* = 3) of respondents ranked gender equity first for both institutional and personal priority. Only 1.66% (*n* = 3) of participants ranked gender equity as first for institutional priority and second for personal priority. Zero participants ranked gender equity as second for institutional priority and first for personal priority. Finally, 2.76% (*n* = 5) of participants ranked gender equity as second for both institutional and personal priority. These data show that surveyed professors' impressions of institutional priority and personal priority of gender equity among other social justice issues is low.

Discussion of Open-Response Findings for Research Question #1

Research Question #1: How do professors in teacher preparation programs prioritize gender equity among other social justice concerns?

Coding Process of Narrative Responses

Of the 41 survey questions, three questions were open response. Two of these three open response questions asked respondents to discuss the indicators that led to their answer on the previous question. Specifically, question 21 asked respondents to rank order social justice concerns (race/ethnic equity, language equity, economic (social class) equity, gender equity, sexual orientation equity, and special needs equity) according to the importance that the respondent's institution overall gives to those issues. Question 22 then asked respondents to consider the indicators that led them to select their top two rankings of these social justice issues. A total of 96.7% (n = 175) of participants responded to this open ended question. Then, question 23 asked respondents to rank order the same social justice concerns (race/ethnic equity, language equity, economic (social class) equity, gender equity, sexual orientation equity, and special needs equity) according to the importance that the respondents themselves personally give to those issues in the classes that they currently teach. Question 24 asked respondents to discuss the indicators that led them to select their top two rankings for personal priority. Similarly, a total of 96.7% (n = 175) of surveyed participants also responded to this open ended question. Question 41 asked respondents if there were anything else that they would like to share with the researcher about their program in relation to gender equity. A total of 43.1% (n = 78) of participants responded to this final question.

The researcher applied the coding process that was presented in chapter 3 to the qualitative data gathered from the open response survey questions. First, responses to each of the three open response questions were copied and pasted from Qualtrics into a Word document. Following this, the researcher carefully and thoroughly read through each of the responses three times. Then, responses were analyzed using In Vivo and

Values coding methods to elicit data from participants' direct words and to capture their "perspectives" (Saldaña, 2016, p. 131). Once the first cycle coding methods were completed, the researcher determined the categories and themes that then emerged from the data for each question in turn (Saldaña, 2016). Responses from question 22 were analyzed first, then question 24, and finally question 41. After the data were analyzed using these two first cycle coding methods, the researcher used pattern coding as a second cycle coding method to reveal the overall topics participants addressed most frequently (Saldaña, 2016). At this point in the analysis, the researcher focused the coding on two types of responses: those that referenced gender equity specifically or generally, and/or those responses that ranked gender equity as a first or second priority for either the institution (question 21) or for the professors themselves (question 23).

The researcher then organized the data pertaining to gender equity for each question into categories. As this process was continuing and emerging, the researcher kept memos to keep track of her thoughts about categories and initial themes (Saldaña, 2016). Throughout the coding process, categories were integrated into others, revised, or eliminated (Saldaña, 2016). Because this process is cyclical (Saldaña, 2016), themes were likewise developing and being revised simultaneously. When the categories had been revealed and themes constructed for each open response question, the researcher then spent time in "comparable reflection on participant meanings and outcomes" (Saldaña, 2016, p. 200) to construct overarching gender equity themes from the data corpus.

Themes

Four overall themes, each consisting of a number of categories, emerged from the open response data (see Figure 8). These themes are as follows:

- Institutional and Personal Incorporation of Gender Equity
- Gender Equity Addressed in Conjunction with Other Equity Issues and Valued
- Variable Incorporation of Gender Equity
- Professors' Ideological Paradigms of Gender Equity and Social Justice Rankings

Institutional and personal incorporation of gender equity. The following are categories that emerged from the narrative responses of all three open response questions and that then yielded the theme Institutional and Personal Incorporation of Gender Equity.

- Institutional Curricula and Gender Equity as a Discussion Topic
- Personal Curricula
- Gender Equity as a Focus Area

Institutional curricula and gender equity as a discussion topic. When asked to discuss the indicators that led to their top two social justice rankings for institutional priority, surveyed respondents who ranked gender equity as a first or second priority identified both "course descriptions" and the "mission" statement of the school as primary factors for their response. Participants also referenced faculty meeting items or discussions with other program faculty as indicators that led to them ranking gender equity in the top two rankings. Participants referenced these two factors in a variety of ways, including the following: gender equity is "emphasized at opening and closing full faculty gatherings," is addressed in "topics of conversations in meetings," and has been part of "discussions with…faculty." Participants' answers were brief, with some participants simply writing the word "syllabus" or briefly touching on their "program" in

their responses. Of the factors leading to institutional prioritization, one participant succinctly observed, "curriculum focused on these topics. Assignments and student learning outcomes focused on these topics." Participant responses for this particular question were largely clinical in nature: participants were simply reporting indicators for their institution's priority.

Personal curricula. When asked to discuss the indicators that led to their personal ranking of the social justice issues, surveyed professors' responses were personal. Respondents who ranked gender equity as first or second for personal priority used the pronouns "I" or "my" in their responses, indicating ownership of their courses. For example, one participant stated their gender equity prioritization was based on the "lessons that I have designed," while another stated, "creating norms and content, I keep these in mind." Participants also identified "my curriculum and pedagogical choices" and mentioned "I discuss gender expansive students through theoretical readings" as indicators for the gender equity prioritization in their classes. This personal ownership as evidenced by personal pronoun use was not used when participants discussed factors leading to institutional priority of social justice issues. There, participants spoke of their program using third person. For example, one participant stated his, her, or their institutional social justice issue priority was selected from "hearing faculty talk about their classes." However, of personal social justice issue priority, the very same participant wrote in part, "I incorporate these elements into the scoring rubrics for their lesson plan assignments." Additionally, participants' personal experiences or cultures were prominent factors in their prioritization of social justice issues. Participants stated that their experiences as "an immigrant," as "a Black Woman," and being "in poverty" informed their social justice priority.

Gender equity as a focus area. Surveyed respondents stated that gender equity is either a specific focus of their institution, their classes, or of their own research. Respondents addressing institutional priority of gender equity reported of their institution, "we've increased our explicit emphasis on gender, focusing on the gender spectrum and development of gender identity." Of personal priority of gender equity, one participant noted, "my classes are specifically focused on gender and education. We've added them to our program listings for that purpose." Gender equity was the central focus area for only one survey participant who stated, "gender equity is one of the most pressing issues in my field." Of a faculty research focus, a respondent wrote that there are "several faculty with research focus on gender equity." Respondents did not indicate whether this research focus translates into course content.

Gender equity addressed in conjunction with other social justice issues and valued. The following are categories that emerged from the narrative responses of all three open response questions and that then yielded the theme Gender Equity Addressed in Conjunction with Other Social Justice Issues.

- Intersectionality and Combination of Social Justice Issues
- Gender Equity Valued

Intersectionality and combination of social justice issues. When discussing their equity priority indicators, participants combined gender equity with other social justice issues. For example, survey participants who spoke of gender equity stated that it was incorporated institutionally, in classes through intersectionality, or in combination with other equity issues. Intersectionality is a term used for the interrelationship and inter-influence of different social justice issues including race, class, and gender. Of intersectionality, participants stated, "we include issues of gender equity in discussion

and practice in relation to social and emotional learning," "my approach to educational justice is intersectional," and "racial/ethnic, sexual orientation, gender, and language communities are deeply interconnected through issues of socioeconomic status." For these surveyed participants, gender equity is a component within a broader, intersectional approach to social justice issues.

Gender equity valued. Surveyed respondents mentioned gender equity as an institutionally and personally valued topic among these other issues. Participants noted, "we have been paying attention to all" equity issues, they are all "equally important," and "gender equity is definitely intentionally addressed in the curriculum." How these equity issues are synthesized, how much classroom time is devoted to prioritizing gender equity in combination with other social justice issues, or how specifically it is included as a valued topic were not mentioned.

Variable incorporation of gender equity. The following are categories that emerged from the narrative responses of the surveyed participants and that then yielded the theme Variable Incorporation of Gender Equity.

- Gender Equity in Programs
- Gender Equity Training is Voluntary
- Program Focus and Students' Coursework
- Uncertainty

Gender equity in programs. Participants in the study discussed gender equity in relation to their teacher education program. Paradoxically, participants stated that gender equity is an important part of their teacher education program, and that gender equity is not prioritized in their program. These differing views can be illustrated through participants' statements. Participants discussing gender equity inclusion reported that

they “feel passionate about this topic” personally, or that “we've increased our explicit emphasis on gender” as an institution. However, participants also stated that gender equity is not prioritized, reporting that “gender equity is a not an emphasis of our program” and that, of the social justice issues as a whole, “none really come up in my class.” One participant discussed the importance of gender equity inclusion but also the challenge of incorporating it into the curricula among other social justice issues. This participant stated,

> gender equity is particularly important to the Ed Studies program - although so are all of the others you list because each impacts learning... our own and our students' - we aren't perfect with seamlessly integrating social justice issues with our curricula, but I think that's a goal.

As this section illustrates, gender equity is being differentially addressed in surveyed participants’ programs.

Gender equity training is voluntary. Surveyed participants also addressed gender equity training, stating that participation is voluntary. For example, participants stated, “I have not taken advantage of the gender equity professional development opportunities offered to me” and “social justice training…is optional and…I was not required to attend any.” One participant stated, “we have hosted multiple trainings and workshops related to gender equity, but the same people always come. One of my challenges is thinking about how to reach those people who don't attend voluntarily.” This participant’s response highlights the possible disconnect between voluntary training and attendance.

Program focus and students’ coursework. Surveyed participants reported that gender equity is incorporated into coursework in a variety of ways. Of the participants who addressed these differences, one stated that “the emphasis in each individual

student's program varies," while another said that "in some courses I add in gender." Surveyed participants acknowledged that gender equity is included in students' coursework, though this inclusion is based on student choice. For example, students complete "choice-based assignments" or "do presentations on these issues." These comments indicate that, while gender equity is a component of social justice, its emphasis is inconsistent.

Uncertainty. Surveyed participants' responses showed that there is uncertainty surrounding gender equity inclusion, reporting that they are "not sure," how gender equity is included in the program in which they teach. This uncertainty was visible in participants' comments that they "really do not know" how gender equity is programmatically included and that they "really don't have a strong appreciation for how the entire program works." This uncertainty was typical of the responses in this section. One participant attributed the uncertainty to differences in faculty members, stating that, "it's complicated…there's still a knowledge gap between senior and junior faculty, partially driven by the technological divide (with senior faculty, generally speaking, being less digitally literate than their junior counterparts, creating a lag on understanding of contemporary sociocultural issues)." The survey responses support these statements of uncertainty, as 34.8% (n = 63) of participants reported that they are "not sure" if specific gender equity courses are offered at their institution, 37.6% (n = 68) of participants stated that their institution does offer courses on gender equity, and 27.6% (n = 50) of participants said their institution does not offer those classes. Of note however, is that one participant who responded no to this question later reported in the open response section that "the answer I gave was no, but that was for my program (teacher prep). There are courses in another department." The numbers of institutions offering gender

equity outside teacher preparation programs, or whether participants indicated yes to this question even though the course may be outside of the teacher preparation program itself, is unclear.

Professors' ideological paradigms of gender equity and social justice rankings. The following are categories that emerged from the narrative responses of the 181 surveyed participants and that then yielded the theme Professors' Ideological Paradigms of Gender Equity and Social Justice Rankings.

- Personal Beliefs
- Paradigms of Others' Beliefs
- Ideas About Rankings

Personal beliefs. Personal beliefs about gender equity inclusion were observed in surveyed participants' responses. Participants reported that gender equity can be easily discussed and, conversely, easily dismissed. While one participant stated that gender equity is the "easiest to talk about and cause[s] the least amount of self-reflection for those discussing it," another stated, "in teacher education, which is majority female (students and faculty), gender equity can be overlooked or ignored because we are in a predominantly female context and are socialized to see that as 'normal.'" Interestingly, one participant noted the possible disconnect between beliefs and actions, stating, "we def [sic] talk the talk about inclusion and diversity issues, I am not sure we walk the walk." For this participant, there is a difference between saying equity is included in a program or course and actually including equity issues in programs and coursework.

Paradigms of others' beliefs. Participants' statements in this section are based on personal impressions of how others perceive gender equity. For example, participants discussed other people's attitudes and beliefs, reporting that their students are already

prepared to promote gender equity as future teachers. Speaking to this point, one participant stated, "teacher candidates now seem better able to address gender equity issues than in the past…they feel that those times and those issues are behind us as a culture and society." Of teacher candidates, participants also observed, "I think that the students are more than ready to address topics around gender equity. They are receptive and open to our discussions in class" and that they "are more open to issues of gender equity than students were in previous years." Whether the teacher candidates are indeed prepared for and open to gender equity, or whether these participants are seeing in those candidates what they want to see, is unclear.

Ideas about rankings. Surveyed participants also discussed how they ranked the social justice issues. Surveyed respondents noted that they were uncertain how to rank order the social justice issues. One participant's reason for institutional rank order was, "just a dangerous assumption. I do not really know." Similarly, another participant stated that, "unfortunately there are priorities assigned perhaps unconsciously." Additional participants stated that their rankings were not the result of program wide agreement, as "a 'vote' or rank ordering by faculty with respect to these important issues has not been taken--it's a given that they're equally important," and, "my thinking is based on faculty discussions around curriculum, but we have never discussed in terms of one over the other." Surveyed participants showed similar uncertainty for rank order of personal priority, with one participant noting, "they are equally important to me and I don't think I can put one above the other for any relevant reason." Thus, these open response statements indicate that rank ordering social justice issues for institutional and personal priority is both challenging and unclear for surveyed participants.

Gender Attitudes and Respondent Indicators for Research Question #2

Research Question #2: What self-reported indicators influence the gender attitudes of professors in teacher education programs?

Quick Discrimination Index (QDI)

Ponterotto et al.'s (1995) Quick Discrimination Index (QDI) measures both racial attitudes and gender attitudes. For the purposes of this dissertation research, only the section of Ponterotto et al.'s (1995) Quick Discrimination Index (QDI) survey measuring gender attitudes was used. This subsection of the survey can be scored separately from those sections measuring racial attitudes (Ponterotto et al., 1995). The gender attitudes section of the QDI has a range of values from 7-35, with 35 indicating the most highly positive gender attitudes possible, and seven indicating the most highly negative gender attitudes (Ponterotto et al., 1995). The QDI is a scale where, for gender attitudes, higher scores reflect more positive, "nonsexist attitudes, and low scores reflect negative attitudes" (Ponterotto et al., 2002 p. 192). Participants in the current research scored between 20 and 35 on Ponterotto et al.'s (1995) QDI. The mean score for these surveyed participants was 31.45. Outliers were present in the data, with 0.6% (n = 1) of participants scoring 20, 0.6% (n = 1) of participants scoring 21, 1.1% (n = 2) of participants scoring 22, and 1.1% (n = 2) of participants scoring 24. The majority of participants scored at the highly positive end of Ponterotto et al.'s QDI gender attitudes scale, with 77.35% (n = 140) participants scoring 30 or higher (see Figure 9).

Statistical Tests

To determine if there were a relationship between professor reported indicators and gender attitudes as measured by the QDI, the researcher's intention was to run a series of statistical analyses including t-tests, Analyses of Variance (ANOVA), and Pearson product moment correlations. However, data did not meet the assumptions

required by these analyses, so these statistical tests were not run. However, the numbers and percentages of participants in each variable group, along with mean and standard deviation, are useful and will be presented in this section. The data here will be reported as mean ± standard deviation.

T-Tests for professional indicators. Independent t-tests are used to evaluate whether there is a statistically significant difference in means of two groups of categorical, independent variables when measured against a continuous, dependent variable. Six assumptions must be met for an independent t-test to be run. The assumptions are as follows: (a) the independent variable is categorical, (b) the dependent variable is continuous, (c) there is independence of observations, (d) there are no significant outliers, (e) the dependent variable is approximately normally distributed for each group of the independent variable, and (f) there is homogeneity of variances. The research design was to use an independent samples t-test to determine if there were a statistically significant difference in gender attitudes between professors who taught in person or online. The two independent variables were teaching in person or online, and the dependent variable was gender attitude scores as measured by the QDI. There were 82.9% (n = 150) of participants who taught in person, and 17.1% (n = 31) of participants who taught online. The data met the first three assumptions required for an independent t-test: the dependent variable was continuous, the independent variables were categorical, and there was independence of observations. However, the last three assumptions were not met. There were outliers in the data as observed by a visual inspection of a boxplot. Gender attitude scores for each group were not normally distributed as measured by Shapiro-Wilk's test ($p < .05$). The assumption of homogeneity of variances as calculated by Levene's test was not met ($p = .022$). Although the t-test could not be run because not

all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores for professors who taught in person and for those who taught online. The mean gender attitude scores as measured by the QDI were nearly identical for professors who taught in person ($M = 31.54$, $SD = 2.94$) and online ($M = 31.03$, $SD = 3.78$).

An independent samples t-test to determine if there were a statistically significant difference in gender attitudes for professors who taught full time or part time was also slated to be run. The two independent variables were teaching full time or teaching part time, and the dependent variable was gender attitude scores as measured by the QDI. There were 78.5% ($n = 142$) of participants who taught full time, and 21.5% ($n = 39$) of participants who taught part time. Four of the six requirements to run an independent samples t-test were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as calculated by Levene's test ($p = .667$). However, the data did not meet two required assumptions, as there were outliers in the data as observed by a visual inspection of a boxplot, and QDI gender attitudes score for each level of job frequency were not normally distributed as measured by Shapiro-Wilk's test ($p < .05$). Although the t-test could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores for professors who taught full time and for those who taught part time. Gender attitude scores as measured by the QDI were slightly higher for participants who taught full time ($M = 31.71$, $SD = 2.99$) than for participants who taught part time ($M = 30.51$, $SD = 3.32$).

ANOVAs for professional indicators. A one-way analysis of variance test (ANOVA) is used to determine whether there is a statistical difference in means of three

or more levels of categorical, independent variables when measured against a continuous, dependent variable. Six assumptions must be met for a one-way ANOVA to be run. The assumptions are as follows: (a) the independent variable is categorical, (b) the dependent variable is continuous, (c) there is independence of observations, (d) there are no significant outliers, (e) the dependent variable is approximately normally distributed for each group of the independent variable, and (f) there is homogeneity of variances. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on academic title. The independent variables were professors' academic titles, and the dependent variable was gender attitude scores as measured by the QDI. There were eight professional titles: professor (18.2%; $n = 33$), associate professor (28.2%; $n = 51$), assistant professor (25.4%; $n = 46$), adjunct professor (16.0%; $n = 29$), director (6.1%; $n = 11$), lecturer (3.3%; $n = 6$), professor of practice (1.1%; $n = 2$), and other (1.7%; $n = 3$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.582$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' academic titles. Mean gender attitude scores were lowest for adjunct professors ($M = 30.24$, $SD = 3.49$) and professors of practice ($M = 30.50$, $SD = 4.95$) and highest for professors who identified their titles as other ($M = 33.67$, $SD = 1.16$), with professors ($M = 31.94$, $SD = 3.11$),

associate professors (M = 31.49, SD = 2.94), assistant professors (M = 31.85, SD = 3.16), directors (M = 31.18, SD = 2.93), and lecturers (M = 31.00, SD = 1.10) having scores in between these values.

The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitude scores based on professors' highest level of attained education. The independent variables were professors' highest level of education, and the dependent variable was gender attitude scores as measured by the QDI. There were three groups: master's degree (17.7%; n = 32), CAGS (3.9%; n = 7), and doctoral degree (78.5%; n = 142). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test (p = .415). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' highest level of attained education. Mean gender attitude scores were lowest for professors with a CAGS (M = 28.86, SD = 4.10), increased for professors with master's degrees (M = 30.69, SD = 3.31) and were highest for professors with doctoral degrees (M = 31.75, SD = 2.93).

ANOVAs for personal indicators. The researcher was also interested in determining whether professors' personal indicators influenced their gender attitude scores as measured by Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). These indicators were surveyed professors' ages, numbers of years teaching overall,

numbers of years teaching in higher education, state of residence, marital status, gender identification, personal pronoun use, sexual orientation, race/ethnicity, perceived institutional political views, personal political views, and having a friend or family member who is gender non-conforming.

ANOVA for age. In keeping with the research design, a one-way analysis of variance test (ANOVA) was to be run to determine whether there was a statistically significant difference in participants' gender attitudes based on age. The independent variable was professors' age, and the dependent variable was gender attitude scores as measured by the QDI. Professors' ages were grouped as follows: 25-29 (1.1%; $n = 2$), 30-34 (6.1%; $n = 11$), 35-39 (11.6%; $n = 21$), 40-44 (16.6%; $n = 30$), 45-49 (14.9%; $n = 27$), 50-54 (14.4%; $n = 26$), 55-59 (11.6%; $n = 21$), 60-64 (9.4%; $n = 17$), 65-69 (9.9%; $n = 18$), and 70-74 (4.4%; $n = 8$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.442$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' age. Mean gender attitude scores for each group were as follows: 25-29 ($M = 29.50$, $SD = 2.12$) 30-34 ($M = 31.45$, $SD = 3.48$), 35-39 ($M = 31.95$, $SD = 2.56$), 40-44 ($M = 30.33$, $SD = 3.90$), 45-49 ($M = 32.48$, $SD = 2.08$), 50-54 ($M = 31.85$, $SD = 3.08$), 55-59 ($M = 31.05$, $SD = 2.66$), 60-64 ($M = 31.76$, $SD = 2.11$), 65-69 ($M = 31.17$, $SD = 3.84$), and 70-74 ($M = 31.13$, $SD = 4.22$).

ANOVA for years of teaching experience. The research design called for a one-way ANOVA to determine whether there was a statistically significant difference in participants' gender attitudes based on their total years teaching. The independent variables were professors' total years of teaching experience represented by 5-year increments, and the dependent variable was gender attitude scores as measured by the QDI. Total years of experience were grouped as follows: 0-4 (1.1%; $n = 2$), 5-9 (3.9%; $n = 7$), 10-14 (9.9%; $n = 18$), 15-19 (16.0%; $n = 29$), 20-24 (16.0%; $n = 29$), 25-29 (16.0%; $n = 29$), 30-34 (14.9%; $n = 27$), 35-39 (7.7%; $n = 14$), 40-44 (9.4%; $n = 17$), 45-49 (3.9%; $n = 7$), and 50-54 (1.1%; $n = 2$). The data met the first three assumptions required for a one-way ANOVA: the dependent variable was continuous, the independent variables were categorical, and there was independence of observations. However, the last three assumptions were not met. Visual inspection of a box plot revealed that there were outliers, the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$), and there was not homogeneity of variances as measured by Levene's test ($p = 0.011$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' number of years teaching. Mean gender attitude scores for each group were as follows: 0-4 ($M = 32.00$, $SD = 4.24$) 5-9 ($M = 28.71$, $SD = 6.02$), 10-14 ($M = 31.56$, $SD = 2.85$), 15-19 ($M = 31.10$, $SD = 3.12$), 20-24 ($M = 31.62$, $SD = 2.82$), 25-29 ($M = 31.86$, $SD = 2.33$), 30-34 ($M = 32.07$, $SD = 2.42$), 35-39 ($M = 31.93$, $SD = 2.56$), 40-44 ($M = 30.47$, $SD = 3.89$), 45-49 ($M = 33.57$, $SD = 0.98$), and 50-54 ($M = 25.50$, $SD = 4.95$).

In keeping with the research design, a one-way ANOVA was to be run to determine whether there was a statistically significant difference in participants' gender

attitudes based on years of teaching in higher education. The independent variables were professors' number of years teaching in higher education, represented by 5-year increments, and the dependent variable was gender attitude scores as measured by the QDI. The number of years of teaching experience in higher education were grouped as follows: 0-4 (13.8%; $n = 25$), 5-9 (26.0%; $n = 47$), 10-14 (18.2%; $n = 33$), 15-19 (17.7%; $n = 32$), 20-24 (12.2%; $n = 22$), 25-29 (8.8%; $n = 16$), 30-34 (2.2%; $n = 4$), 35-39 (0.6%; $n = 1$), and 45-49 (0.6%; $n = 1$). There were no participants in the 40-44 years group, so that category was eliminated because it had no data. Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.342$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' number of years teaching in higher education. Mean gender attitude scores for each group were as follows: 0-4 ($M = 31.16$, $SD = 2.50$) 5-9 ($M = 30.91$, $SD = 3.72$), 10-14 ($M = 31.52$, $SD = 2.62$), 15-19 ($M = 31.50$, $SD = 3.05$), 20-24 ($M = 32.36$, $SD = 3.32$), 25-29 ($M = 32.38$, $SD = 2.19$), 30-34 ($M = 30.00$, $SD = 4.40$), 35-39 ($M = 34.00$, $SD =$ --), and 45-49 ($M = 29.00$, $SD =$ --). There was only one participant each in the 35-39 and 45-49 years of teaching in higher education groups.

Pearson product moment correlations for age and years of experience. The researcher elected to use Pearson product moment correlations to rerun participants' age, total years of teaching experience, and years teaching in higher education as separate

continuous independent variables against the continuous dependent variable, gender attitude scores as measured by the QDI, to see if there were a relationship between these independent variables and the gender attitude score.

A Pearson product moment correlation is used to determine the strength and direction of a relationship between two continuous variables. Four assumptions must be met to run a Pearson product-moment correlation: (a) both variables must be continuous, (b) there has to be a linear relationship between the independent and dependent variables, (c) there can be no significant outliers, and (d) the data must be normally distributed. The research design called for a Pearson product moment correlation to be run to determine if there were a statistically significant difference in gender attitudes based on participants' ages. Participants' ages ranged from 27 to 74 years old. The continuous independent variable was professors' ages, and the continuous dependent variable was professors' gender attitude scores as measured by the QDI. Two of the four requirements to run a Pearson product moment correlation were met: the dependent and independent variables were both continuous, and preliminary analyses showed that the relationship between both variables was linear. However, two of the four requirements to run a Pearson product moment were not met: visual inspection of the scatter plot illustrated that the data had outliers, and the variables were not normally distributed as determined by Shapiro-Wilk's test ($p < .05$). This test was not run because the data did not meet all of the required assumptions.

A Pearson product moment correlation was also slated to be run to determine if there were a statistically significant difference between participants' gender attitudes and total number of years teaching. The continuous independent variable was professors' total number of years teaching, and the continuous dependent variable was professors'

gender attitude scores as measured by the QDI. The range of number of total years teaching was 3 to 50. Two of the four requirements to run a Pearson product moment correlation were met: the dependent and independent variables were both continuous, and preliminary analyses showed that the relationship between both variables was linear. However, two of the four requirements to run a Pearson product-moment were not met: visual inspection of the scatter plot illustrated that the data had outliers, and the variables were not normally distributed as determined by Shapiro-Wilk's test ($p < .05$). This test was not run because the data did not meet all of the required assumptions.

Another Pearson product moment correlation was also slated to be run to determine if there were a statistically significant difference between participants' gender attitudes and number of years teaching in higher education. The continuous independent variable was professors' number of years teaching in higher education, and the continuous dependent variable was professors' gender attitude scores as measured by the QDI. The range of number of years teaching in higher education was 1 to 45. Two of the four requirements to run a Pearson product moment correlation were met: the dependent and independent variables were both continuous, and preliminary analyses showed that the relationship between both variables was linear. However, two of the four requirements to run a Pearson product moment were not met: visual inspection of the scatter plot illustrated that the data had outliers and the variables were not normally distributed as determined by Shapiro-Wilk's test ($p < .05$). This test was not run because the data did not meet all of the required assumptions.

ANOVA for state of residence. In keeping with the research design, a one-way ANOVA was to be run to determine whether there was a statistically significant difference in participants' gender attitudes based on the state where the participant

resided. The independent variables were the states in which the participants lived, and the dependent variable was participants' gender attitude scores as measured by the QDI. This research study was limited to the New England states: Connecticut (16.6%; $n = 30$), Maine (13.3%; $n = 24$), Massachusetts (32.6%; $n = 59$), New Hampshire (21.5%; $n = 39$), Rhode Island (3.9%; $n = 7$), and Vermont (9.4%; $n = 17$). Five participants chose not to respond to this question. Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.674$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' state of residence. Mean gender attitude scores for each group were as follows: Connecticut ($M = 31.93$, $SD = 2.95$) Maine ($M = 32.38$, $SD = 2.89$), Massachusetts ($M = 31.24$, $SD = 3.00$), New Hampshire ($M = 30.56$, $SD = 3.51$), Rhode Island ($M = 33.43$, $SD = 1.40$), and Vermont ($M = 31.47$, $SD = 2.94$). New Hampshire had the lowest mean gender attitude score, and Rhode Island had the highest. Connecticut, Massachusetts, and Vermont had similar mean gender attitude scores, which were higher than New Hampshire but lower than Maine, which had the second highest mean gender attitudes score.

ANOVA for marital status. In keeping with the research design, a one-way ANOVA was slated to be run to determine whether there was a statistically significant difference in participants' gender attitudes based on marital status. The independent

variables were participants' marital status, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants self-selected into the following groups: married (81.8%; $n = 148$), single (6.6%; $n = 12$), in a committed relationship (5.5%; $n = 10$), divorced (3.3%; $n = 6$), widowed (1.1%; $n = 2$), other (0.6%; $n = 1$), and prefer not to respond (1.1%; $n = 2$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.184$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' marital status. Mean gender attitude scores for each group were as follows: married ($M = 31.36$, $SD = 3.06$) single ($M = 31.33$, $SD = 3.34$), in a committed relationship ($M = 32.10$, $SD = 2.85$), divorced ($M = 33.67$, $SD = 1.21$), widowed ($M = 32.00$, $SD = 4.24$), other ($M = 33.00$, $SD =$ --), and prefer not to respond ($M = 27.50$, $SD = 7.78$).

ANOVA for gender identification. The research design called for a one-way ANOVA to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' gender identification. The independent variables were participants' gender identification, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants self-selected into the following groups: male (23.8%; $n = 43$), female (73.5%; $n = 133$), cisgender (1.1%; $n = 2$), other (0.6%; $n = 1$), and prefer not to respond (1.1%; $n = 2$).

Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.140$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' gender identification. Mean gender attitude scores for participants who identified as male ($M = 31.33$, $SD = 3.42$) or female ($M = 31.56$, $SD = 2.90$) were nearly identical. Mean gender attitude scores for participants who identified as cisgender were highest ($M = 33.00$, $SD = 2.83$), while participants who identified as other ($M = 27.00$, $SD =$ --) or who preferred not to respond ($M = 27.50$, $SD = 7.78$) were the lowest.

ANOVA for personal pronoun use. In keeping with the research design, a one-way ANOVA was to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' personal pronoun use. The independent variables were participants' pronoun use, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants' pronoun use was as follows: he/his/him (23.2%; $n = 42$), she/hers/her (72.9%; $n = 132$), they/theirs/them (1.1%; $n = 2$), other (1.7%; $n = 3$), and prefer not to respond (1.1%; $n = 2$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.157$). However, the data did not meet two required assumptions:

visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' pronoun use. Mean gender attitude scores for participants who used he/his/him ($M = 31.31$, $SD = 3.42$), she/hers/her ($M = 31.61$, $SD = 2.83$), and they/theirs/them ($M = 31.50$, $SD = 3.54$) were nearly identical and highest of the group. Mean gender attitude scores for participants who selected other ($M = 29.00$, $SD = 6.08$) were the middle value, and those who preferred not to respond ($M = 27.50$, $SD = 7.78$) were the lowest.

ANOVA for sexual orientation. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' sexual orientation. The independent variables were participants' sexual orientation, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants self-selected into the following sexual orientation groups: straight (88.4%; $n = 160$), bisexual (2.2%; $n = 4$), gay (1.1%; $n = 2$), lesbian (3.9%; $n = 7$), queer/questioning (1.1%; $n = 2$), other (1.1%; $n = 2$), and prefer not to respond (2.2%; $n = 4$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.180$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions

were met, it was still possible to determine participants' mean gender attitude scores based on participants' sexual orientation. Mean gender attitude scores for participants who identified their sexual orientation as gay (M = 34.00, SD = 1.41), lesbian (M = 34.14, SD = 1.57), queer/questioning (M = 34.50, SD = 0.71), and other (M = 34.00, SD = 1.41) were nearly identical and were highest of the group. Mean gender attitude scores for participants who were bisexual (M = 33.75, SD = 1.89), were the second highest value, followed by participants who were straight (M = 31.21, SD = 3.04). Participants who preferred not to respond (M = 30.25, SD = 5.74) had the lowest mean gender attitudes score of the group.

ANOVA for racial/ethnic group identification. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' racial/ethnic group identification. The independent variables were participants' racial/ethnic group identification, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants were in the following groups: African American (2.2%; n = 4), Asian (1.1%; n = 2), Bi-Racial (1.1%; n = 2), Caucasian (92.8%; n = 168), Latino(a) or Hispanic (1.7%; n = 3), Multi-Racial (0.6%; n = 1), or Other (0.6%; n = 1). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test (p = 0.557). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine

participants' mean gender attitude scores based on participants' racial/ethnic group identification. Mean gender attitude scores for each group were as follows: African American (M = 32.50, SD = 2.52), Asian (M = 30.00, SD = 1.41), Bi-Racial (M = 33.50, SD = .707), Caucasian (M = 31.43, SD = 3.15), Latino(a) or Hispanic (M = 31.33, SD = 3.51), Multi-Racial (M = 29.00, SD = --), and Other (M = 33.00, SD = --).

ANOVA for political views of program faculty. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' reported political views of the program faculty. The independent variables were participants' political views of the program faculty, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants classified the political views of the program faculty into the following groups: very conservative (0.6%; n = 1), conservative (6.1%; n = 11), liberal (74.0%; n = 134), or very liberal (18.2%; n = 33). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test (p = 0.976). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' reported political views of the program faculty. Mean gender attitude scores for each group were as follows: very conservative (M = 34.0, SD = --), conservative (M = 30.82, SD = 2.89), liberal (M = 31.51, SD = 3.12), and very liberal (M = 31.45, SD = 3.06).

ANOVA for personal political views. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' personal political views. The independent variables were participants' personal political views, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants classified their political views into the following groups: very conservative (1.1%; $n = 2$), conservative (8.3%; $n = 15$), liberal (50.3%; $n = 91$), or very liberal (38.7%; $n = 70$). The first three assumptions required for ANOVA were met: the dependent variable was continuous, the independent variables were categorical, and there was independence of observations. However, the last three assumptions required to run an ANOVA were not met. Visual inspection of a box plot revealed that there were outliers, the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$), and there was not homogeneity of variances as measured by Levene's test ($p = 0.020$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' personal political views. The mean gender attitude score was lowest for the very conservative group ($M = 26.00$, $SD = 5.66$), then the conservative group ($M = 27.13$, $SD = 2.97$), the liberal group ($M = 31.18$, $SD = 2.91$) was second highest, and the very liberal group ($M = 32.93$, $SD = 2.00$) had the highest mean gender attitude score. Mean gender attitude scores increased the more liberal the participant. Six of the seven outliers with low gender attitude scores identified as liberal (four participants) or very liberal (two participants). The seventh outlier with low gender attitude scores identified as conservative.

ANOVA for having a close family member or friend who identifies as gender non-conforming. In keeping with the research design, a one-way ANOVA was slated to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants having a close family member or friend who identifies as gender non-conforming. The independent variables were having a close family member or friend who identifies as gender non-conforming, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes (43.1%; $n = 78$), no (49.7%; $n = 90$), and not sure (7.2%; $n = 13$). The first three assumptions required for ANOVA were met: the dependent variable was continuous, the independent variables were categorical, and there was independence of observations. However, the last three assumptions required to run an ANOVA were not met. Visual inspection of a box plot revealed that there were outliers, the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$), and there was not homogeneity of variances as measured by Levene's test ($p = 0.031$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants having a close family member or friend who identifies as gender non-conforming. Participants with the highest mean gender attitude scores responded yes, they have a close family member or friend who identifies as gender non-conforming ($M = 32.24$, $SD = 2.40$). Participants who responded no ($M = 30.96$, $SD = 3.38$) and not sure ($M = 30.15$, $SD = 3.81$) had lower mean gender attitude scores.

Beliefs about biases indicators. The researcher was also interested in determining whether surveyed participant indicators surrounding beliefs about biases influenced gender attitude scores as measured by the QDI.

ANOVA for professors' beliefs of whether people can control their biases. The research design called for a one-way ANOVA to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs about whether people can control their biases. The independent variables were whether participants believed people are capable of controlling their biases, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes (54.1%; $n = 98$), no (14.4%; $n = 26$), and not sure (31.5%; $n = 57$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.897$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs about whether people can control their biases. Mean gender attitude scores were close to equal for participants who responded yes, people can control their biases ($M = 31.52$, $SD = 3.16$), no, people cannot control their biases ($M = 31.77$, $SD = 2.78$) and not sure if people can control their biases ($M = 31.19$, $SD = 3.15$).

ANOVA for professors' beliefs of whether teacher candidates have gender biases. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs about whether teacher candidates have gender biases. The independent variables were whether participants believed teacher candidates have gender biases, and the

dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes, they believe teacher candidates have gender biases (86.2%; n = 156), no, they do not believe teacher candidates have gender biases (1.7%; n = 3), and not sure (12.2%; n = 22). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test (p = 0.643). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test (p < .05). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs about whether teacher candidates have biases. Mean gender attitude scores were highest for participants who responded yes (M = 31.60, SD = 3.05), lowest for those who responded no (M = 29.33, SD = 4.73) and between these values for those who responded not sure (M = 30.73, SD = 3.14).

ANOVA for professors' beliefs of whether teacher candidate gender biases are harmful to students. In keeping with the research design, a one-way ANOVA was slated to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs of whether teacher candidates' gender biases are harmful to students. The independent variables were participants' beliefs about whether teacher candidates' gender biases are harmful to students, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes, they believe teacher candidates' gender biases are harmful to students (93.4%; n = 169), no, they do not believe teacher candidates' gender biases are

harmful to students (2.2%; $n = 4$), and not sure (4.4%; $n = 8$). The first three assumptions required for ANOVA were met: the dependent variable was continuous, the independent variables were categorical, and there was independence of observations. However, the last three assumptions required to run an ANOVA were not met. Visual inspection of a box plot revealed that there was one outlier, the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$), and there was not homogeneity of variances as measured by Levene's test ($p < .0005$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs about whether teacher candidates' gender biases are harmful to students. Mean gender attitude scores were highest for participants who responded yes ($M = 31.70$, $SD = 2.74$), lowest for those who responded no ($M = 26.50$, $SD = 7.05$) and between these values for those who responded not sure ($M = 28.63$, $SD = 4.47$).

Program inclusion of gender equity indicators. Descriptive statistics were run to determine if participants' teacher education programs offered gender equity courses specifically. There were 37.6% ($n = 68$) of participants who responded that yes, there are gender equity courses offered, while 27.6% ($n = 50$) of participants responded no and 34.8% ($n = 63$) reported that they were not sure. These findings suggest that the presence of gender equity courses specifically in surveyed teacher preparation programs is not overt, as a combined 62.4% ($n = 113$) of participants are either not sure if the course is offered or believe such a course is not offered at all.

ANOVA for professors' comfortability discussing gender equity with teacher candidates. A caveat of the inclusion of gender equity specific courses is whether or not professor participants were comfortable discussing gender equity with their teacher

candidates. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' comfortability discussing gender equity with teacher candidates. The independent variable was whether or not professor participants were comfortable discussing gender equity with their teacher candidates, and the dependent variable was professors' gender attitudes as measured by the QDI. Participants responded yes, they are comfortable discussing gender equity with their teacher candidates (90.6%; $n = 164$), no, they are not comfortable (2.8%; $n = 5$), and not sure (6.6%; $n = 12$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.209$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' comfortability discussing gender equity with their teacher candidates. Mean gender attitude scores were highest for participants who responded that they were not sure if they were comfortable discussing gender equity with their teacher candidates ($M = 32.17$, $SD = 1.75$). Mean gender attitude scores were roughly equal for participants who responded yes, they are comfortable ($M = 31.41$, $SD = 3.06$) and those who responded no ($M = 31.00$, $SD = 6.25$).

ANOVA for professors' beliefs of whether gender equity should be programmatically included. In addition to gathering data on professors' comfortability discussing gender equity with teacher candidates, the researcher also sought to gather

data on whether or not these professors felt there was a need to include gender equity in their teacher preparation program. A one-way ANOVA was slated to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs about programmatic gender equity inclusion. The independent variable was whether or not participants believed gender equity should be programmatically included in their teacher education program, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes, they believe gender equity should be programmatically included (71.8%; $n = 130$), no, they do not believe it should be included (3.9%; $n = 7$), or not sure (24.3%; $n = 44$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.472$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs of whether gender equity should be programmatically included in their teacher preparation program. Mean gender attitude scores were highest for participants who responded yes, there is a need to include gender equity in their teacher preparation program ($M = 31.82$, $SD = 2.87$). Mean gender attitude scores were lowest for participants who responded no, gender equity should not be included in teacher preparation programs ($M = 29.29$, $SD = 4.35$). Participants who responded not sure had mean gender attitude scores between these values ($M = 30.73$, $SD = 3.33$).

Descriptive data for challenges to inclusion of diversity related topics.

Amending existing programs or content to make way for additional coursework, even coursework deemed necessary by both an institution and its faculty, can be challenging. Participants were therefore asked to assess the challenges facing inclusion of diversity related topics in their programs, where a value of 1 was no challenge at all, 2 was a slight challenge, 3 was a strong challenge, and 4 was so great a challenge as to be impossible. Time was the most frequently cited challenge, with 37.6% (n = 68) of participants reporting that time was a strong challenge to inclusion and 3.9% (n = 7) stating that time was so great a challenge as to make inclusion impossible. The second most frequently cited challenge was faculty lack of knowledge regarding the topic, with 24.9% (n = 45) of participants saying that it was a strong challenge and 2.8% (n = 5) reporting that it was so great a challenge as to make inclusion impossible. The third most frequently selected factor hindering the inclusion of diversity related topics in programs' content was faculty discomfort with or resistance to the topic. There were 19.3% (n = 35) of participants who noted faculty discomfort with the topic as a strong challenge, and 1.7% (n = 3) of participants who stated that it was so great a challenge as to make inclusion impossible.

Social justice training indicators. Along with the possible challenges to the inclusion of social justice issues is the inclusion of social justice training. Therefore, participants were asked if their current institution provided social justice training to professors. There were 39.2% (n = 71) of participants who stated that yes, their institution provided training. Interestingly, a nearly equal number of participants, 38.1% (n = 69), stated that no, their current institution does not provide social justice training. An additional 22.7% (n = 41) of participants reported that they were not sure if their institution provided training. Participants were then asked if they believed their faculty

as a whole, or they themselves, or their teacher candidates, could benefit from gender equity training specifically.

ANOVA for whether professors believed gender equity training would benefit the faculty. The research design called for a one-way ANOVA to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs that gender equity training would benefit the faculty. The independent variable was whether participants believed gender equity training would benefit the faculty with whom they teach, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes, they believe gender equity training would benefit their peers (74.0%; $n = 134$), no, they do not believe gender equity training would be beneficial (2.2%; $n = 4$), or not sure (23.8%; $n = 43$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.248$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs that gender equity training would benefit the faculty. Mean gender attitude scores were highest for participants who responded yes, gender equity training would benefit the faculty with whom they teach ($M = 31.92$, $SD = 2.76$). Mean gender attitude scores were lower and nearly equal for participants who responded no ($M = 30.25$, $SD = 3.59$) and not sure ($M = 30.12$, $SD = 3.67$).

ANOVA for whether professors believed gender equity training would benefit them personally in their role as a professor. The research design was to run a one-way ANOVA to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs that gender equity training would be personally beneficial. The independent variable was whether professors believed gender equity training would benefit them personally in their role as a professor, and the dependent variable was participants' gender attitude scores as measured by the QDI. Participants responded yes, they believe gender equity training would personally benefit them (74.0%; $n = 134$), no, they do not believe gender equity training would be beneficial for them personally (5.5%; $n = 10$), or not sure (20.4%; $n = 37$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.217$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs that gender equity training would benefit them in their professorial role. Mean gender attitude scores were highest for participants who believed they would personally benefit as a professor from gender equity training ($M = 31.89$, $SD = 2.76$). Mean gender attitude scores were lower and were nearly equal for participants who responded no ($M = 30.30$, $SD = 3.23$) and not sure ($M = 30.19$, $SD = 3.81$).

ANOVA for whether professors believed gender equity training would benefit their teacher candidates. In keeping with the research design, a one-way ANOVA was slated to be run to determine if there were a statistically significant difference in participants' gender attitudes based on participants' beliefs that gender equity training would benefit teacher candidates. The independent variable was whether professors believed gender equity training would benefit their teacher candidates, and the dependent variable was professors' gender attitude scores as measured by the QDI. Participants responded yes, they believe gender equity training would benefit their teacher candidates (90.1%; $n = 163$), no, they do not believe teacher candidates would benefit from gender equity training (1.7%; $n = 3$), or not sure (8.3%; $n = 15$). Four of the six requirements to run a one-way ANOVA were met. The dependent variable was continuous, the independent variables were categorical, there was independence of observations, and there was homogeneity of variances as measured by Levene's test ($p = 0.371$). However, the data did not meet two required assumptions: visual inspection of a box plot revealed that there were outliers, and the data was not normally distributed for each group as indicated by the Shapiro-Wilk test ($p < .05$). Although the ANOVA could not be run because not all of the assumptions were met, it was still possible to determine participants' mean gender attitude scores based on participants' beliefs that gender equity training would benefit their teacher candidates. Mean gender attitude scores were highest for participants who believed that teacher candidates would benefit from gender equity training ($M = 31.67$, $SD = 2.91$). Mean gender attitude scores were lowest for participants who did not believe that teacher candidates would benefit from gender equity training ($M = 28.00$, $SD = 2.65$), and were between these values for participants who responded not sure ($M = 29.73$, $SD = 4.22$).

Conclusion

The data presented in this chapter show that institutional and personal gender equity prioritization among other social justice issues for the surveyed teacher preparation programs and program professors is low. Specifically, the numbers of participants in this study who prioritized gender equity as first or second among other social justice issues, or that referenced gender equity specifically in written responses, were very small. This indicates that gender equity is not being consistently prioritized by the small number of institutions and professors in New England who responded to the survey.

Although the data did not meet all the assumptions required to run statistical tests, results of the open response questions and mean gender attitude scores for various demographic indicators begin to shed light on how professors' demographic indicators may connect to those professors' gender attitudes. These results will be further discussed in chapter 5.

Chapter 5

Discussion

Heteronormative patterns continue to exist in schools, and teacher gender biases continue to negatively impact students in those schools (Engebretson, 2016; Kearns et al., 2017; Lavy & Sand, 2015; Sadker & Sadker, 1994; Sadker & Koch, 2016). Teacher gender bias not only informs how teachers interact with their students (Glock, 2016; Seifert & Sutton, 2009), but it also negatively shapes student success (Dee, 2007), molds students' personal beliefs (Retelsdorf et al., 2015), informs how students view their personal skills (Howe & Abedin, 2013; Nürnberger & Nerb, 2016; Weinstein et al., 1987), and has far reaching future effects including career selection and salary earnings (Lavy & Sand, 2015; Lynch, 2016).

Research has also found that teachers lack awareness of their personal gender biases and that these biases are negatively impacting students (Ciciora, 2011; Seifert & Sutton, 2009). Researchers (Engebretson, 2016; Lynch, 2016) have therefore advocated that teacher preparation programs prioritize gender equity to begin the work of eradicating these negative effects of teacher gender bias (see also Sandholtz & Sandholtz, 2010; UNESCO, 2015). This issue is of global importance, as studies in Turkey (Aslan, 2015), Columbia (Mojica & Castañeda-Peña, 2017), Canada (Kearns et al., 2017), and Italy (Scandurra et al., 2017) have also found that teachers lack awareness of their gender biases, that these biases are damaging to students, and that teacher preparation programs should place increased priority on gender equity. Echoing the global importance of this issue, in 2015 the United Nations Educational, Scientific, and Cultural Organization (UNESCO) said of teacher preparation programs: "nowhere can any emphasis on gender equality issues be seen" (p. 60). Therefore, the organization recommended that "gender

equality issues…form an integral part throughout the curriculum in order to sensitize future teachers about gender equality so that they can become agents of change when they exercise their teaching profession in schools" (p. 60). Clearly, this issue is of central importance.

The current non-experimental quantitative study sought to begin to unpack how professors in teacher preparation programs in New England are prioritizing gender equity in their classrooms, and to identify what these professors' personal gender attitudes are. This study used a survey instrument comprised of two existing surveys, Jennings (2007) and Ponterotto et al. (1995), and a demographics section. This research offers a nascent understanding of how and why professors in teacher preparation programs prioritize gender equity as determined by survey results (Jennings, 2007) and open response questions, and what factors are leading to their gender attitudes score as determined by the Quick Discrimination Index (QDI) (Ponterotto et al., 1995). The study found that professors in teacher preparation programs in New England who responded to the survey place low institutional and personal priority on gender equity among other social justice concerns, but those professors' mean gender attitude scores were highly positive. The following section presents these last two findings.

Findings

The response rate for this quantitative research study was low. However, overall, the findings from the small numbers of surveyed teacher preparation program professors and their institutions indicate that gender equity is not being prioritized among other social justice concerns (Jennings, 2007). Additionally, the research found that the small number of surveyed participants had highly positive gender attitude scores as measured by Ponterotto et al.'s (1995) Quick Discrimination Index (QDI). Out of a possible 35

point total, with the higher the score denoting more positive gender attitudes, mean score of gender attitudes of participants in this research study was 31.45 with a mode value of 33. These findings indicate gender attitudes of the surveyed professors in New England are highly positive. However, it is unclear whether the small numbers of professor participants in this study are passing these positive gender attitudes on to their teacher candidates, given that these surveyed professors are not prioritizing gender equity in their classes.

Research Question #1: How do professors in teacher preparation programs prioritize gender equity among other social justice concerns?

The findings for surveyed participants are as follows:

- Institutional and personal gender equity prioritization low
- Institutional and personal incorporation of gender equity inconsistent and uncertain
- Prioritization personally driven
- Gender equity discussed in conjunction with other social justice issues
- Challenges to social justice issue inclusion
- Gender equity beliefs grounded in individual perceptions
- Gender equity training is essential but not consistently attended
- Beliefs about teacher candidates and gender equity parallels literature

Institutional and personal prioritization of gender equity low. Of the six possible social justice issues: racial/ethnic equity, language equity, economic (social class) equity, gender equity, sexual orientation equity, and special needs equity, surveyed participants ranked institutional prioritization of gender equity as fifth out of six. This indicates that gender equity is not being highly prioritized by the teacher preparation programs in New England represented in this study. Further, surveyed participants'

personal prioritization of gender equity was equally low, again ranking as fifth out of six. Not only are the institutions represented in this research study not prioritizing gender equity in their teacher preparation programs as a whole, but surveyed professors are also not prioritizing gender equity in the classes that they teach.

These results reaffirm Jennings's (2007) findings. Although Jennings (2007) divided his survey by elementary education programs and secondary education programs and used the phrase gender diversity rather than gender equity, he found that both programs "placed gender diversity as fifth among the six topics" (p. 1261). It is centrally important to note here that, despite a twelve-year span of time between Jennings's (2007) study and the current study, gender equity remains a fifth out of six priority among other social justice issues for surveyed participants. This lack of change is even more powerful given the preponderance of discussions that have occurred surrounding both gender and gender equity in society since 2007. Specifically, language used to discuss gender has evolved (Blank, 2014; Mojica & Castañeda-Peña, 2017), and research studies have consistently found that gender equity should be of central priority in teacher education programs (Engebretson, 2016; Lynch, 2016; Sandholtz & Sandholtz, 2010; UNESCO, 2015). In spite of these developments, gender equity is still not a highly prioritized social justice issue for surveyed teacher preparation programs or for surveyed professors in New England.

Institutional and personal incorporation of gender equity inconsistent and uncertain. Another finding of the current quantitative study is that the institutional and personal incorporation of gender equity is marked by inconsistency and uncertainty. Participant perceptions of programmatic gender equity inclusion are inconsistent and lack clarity, with some participants indicating they incorporate gender equity in some classes,

and others stating overtly that they are "not sure" how gender equity is included. While surveyed participants reported that gender equity is addressed at the institutional level through faculty meeting discussions, they also noted that uncertainty underlies how social justice issues are institutionally included. Overall rankings of social justice issues were likewise marked by uncertainty. Participants in this study were more certain of their personal rankings and inclusion of gender equity, yet still noted that gender equity specifically is differentially included in courses and that teacher candidates can select gender equity as a topic of project investigation should they so choose. These findings suggest that gender equity inclusion in both surveyed institutions as a whole and in individual classrooms is quite varied. Institutional and personal gender equity inclusion for surveyed participants remains inconsistent and uncertain despite the literature that explicitly advocates for specific gender equity inclusion in teacher education programs (Aslan, 2015; Kearns et al., 2017; Kreitz-Sandberg, 2013; Mojica & Castañeda-Peña, 2017; Scandurra et al., 2017).

Prioritization personally driven. Another finding that reaffirms Jennings's (2007) results is that surveyed professors in teacher preparation programs are prioritizing social justice issues based on their personal experiences. For example, as noted in chapter 4, one New England-based participant in this study stated that, "personally, I am a first-generation immigrant so that has impacted my views on diversity." Another stated, "as a Black woman, race or ethnicity is always foremost for me." A third participant noted, "I have some personal experience of poverty growing up, and so I think I emphasize this a bit more than other faculty in my program." These findings support Jennings's (2007) statement that "types of diversity addressed in teacher education programs are ultimately reflections of the values and beliefs held by teacher education

faculty" (p. 1266). This is also evident in surveyed participants' personal pronoun use to discuss the classes that they teach. Open response questions pertaining to professors' personal social justice priority in the classes that they teach contained the pronouns I, my, and our to describe content priority. The data indicate that personal participant experiences of surveyed individuals influenced curricular choices and curricular priority.

Gender equity discussed in conjunction with other social justice issues. Gender equity was rarely mentioned as a stand-alone topic by surveyed participants. These participants noted that gender equity is incorporated into their programs and coursework in an intersectional manner, where gender equity is included as a topic among other social justice issues. Despite noting its importance, participants also stated that gender equity is difficult to incorporate alongside other social justice issues. Certainly, saying gender equity and other social justice issues are programmatically included is one thing, and actually incorporating those issues is another. As one participant colloquially stated, "We def [sic] talk the talk about inclusion and diversity issues, I am not sure we walk the walk." In spite of the literature that strongly recommends gender equity be an "integral part" (UNESCO, 2015, p. 60) of teacher preparation programs, how specifically gender equity was included in courses taught through intersectionality was not mentioned by surveyed participants.

Challenges to social justice issue inclusion. When asked to discuss any potential challenges to the programmatic inclusion of social justice issues, surveyed participants noted, in order, that time constraints, faculty lack of knowledge of the topic, and faculty discomfort with or resistance to the topic were either strong challenges to inclusion or so great a challenge as to be impossible. Although 71.8% (n = 130) of participants stated there is a need to include gender equity in teacher preparation

programs, these three topics that surveyed participants reported as challenges to implementation may hinder the inclusion of a social justice issue in practice. This finding again reaffirms Jennings's (2007) results, as he also found that "time constraints" (p. 1263) were of greatest concern to participants. Although not of secondary or tertiary concern for his participants, Jennings (2007) did find that "faculty lack of knowledge of diversity issues and resistance or discomfort still register as challenges to overcome" (p. 1266). Although not specifically addressing gender equity, it is important to note these three challenges going forward, as the majority of surveyed teacher preparation programs and program professors are not currently highly prioritizing gender equity among other social justice concerns.

Gender equity beliefs grounded in individual perceptions. The current study also found that surveyed professors' beliefs and paradigms about gender equity as an institutional or course component, and professors' beliefs and paradigms about teacher candidate preparation regarding gender equity, are grounded in professors' individual perceptions. For example, one participant reported that gender equity is easily discussed, while another stated that it is easily dismissed. Surveyed participants also stated that they believe their teacher candidates are already prepared to promote gender equity in their future classrooms and therefore, these participants stated that they do not need to prioritize gender equity in their coursework. The literature, however, strongly advises against such personally formed opinions that lead to a simple glossing of gender equity. Sadker and Sadker (1994) cautioned that heteronormativity is so socially ingrained that one must actively and consciously work against it, while Nürnberger and Nerb (2016) stated that gender equity must be expressly addressed with teacher candidates to begin to

disrupt that heteronormative cycle (see also AAUW, 1992; Ciciora, 2011; Patrick & Urhievwejire, 2012; Reynolds, 2007; Seifert & Sutton, 2009).

Gender equity training essential but not consistently attended. Despite the disconnect between surveyed professors' impressions and prioritization of gender equity as a topic and the literature, surveyed participants overwhelmingly believed they and their faculty peers would benefit from gender equity training. Specifically, 74.0% (n = 134) of participants stated the faculty with whom they teach would benefit from training, and the same number of participants stated that they themselves would benefit from training. Despite these numbers, only 39.2% (n = 71) of surveyed participants reported that their institution provides training. There were 38.1% (n = 69) of surveyed participants who stated their institution does not offer gender equity training, and 22.7% (n = 41) of participants stated that they are not sure. It is unclear how many of the 39.2% (n = 71) of surveyed participants attended the training provided by the institution, as one participant indicated that they "have not taken advantage" of the optional gender equity training that has been provided to them. One participant noted that "the same people always come" to optional, institutionally provided trainings, and that one of the "challenges is thinking about how to reach those people who don't attend voluntarily." When asked if they had received training directly from their institution, only 27.1% (n = 49) of surveyed participants said yes, while 37.6% (n = 68) of participants said they have not received gender equity training. Notably, Kreitz-Sandberg (2013) argued that "heteronormative patterns" (p. 444) may be perpetuated by the professors themselves, and therefore articulated the importance of gender equity training for professors. This underscores the importance of this training for professors who may be unconsciously perpetuating heteronormativity in interactions with their teacher candidates. Ultimately,

it is unclear why surveyed professors overwhelmingly stated that they and their peers would benefit from training, and yet also stated that they do not attend trainings that are offered. How many institutions offer gender equity training to their teacher preparation program professors, and whether or not those trainings are optional, are likewise unclear.

Beliefs about teacher candidates and gender equity parallel literature. One of the most compelling findings of the current quantitative study, and that aligns with the research on teacher gender bias (Hannon, 2014; Nürnberger & Nerb, 2016; Retelsdorf et al., 2015; Sadker & Sadker, 1994; Sommers, 2000), is that the vast majority of surveyed participants, 86.2% (n = 156) of 181, believe that teacher candidates have gender biases. An even larger number of surveyed participants, 93.4% (n = 169) of 181, believe that these teacher candidate biases are harmful to students. Additionally, 90.1% (n = 163) of 181 participants indicated that they believe that gender equity training would benefit their teacher candidates. These findings parallel the literature that teacher candidates have gender biases (Ciciora, 2011; Reynolds, 2007; Seifert & Sutton, 2009), and that those biases negatively affect students (Dee, 2007; Retelsdorf et al., 2015; Sadker et al., 2009; Sadker & Koch, 2016; Sommers, 2000). It remains perplexing, then, why surveyed participants acknowledge the existence and negative effects of teacher gender bias and yet place low priority on gender equity in their institutions and in their courses.

Research Question #2: What self-reported indicators influence the gender attitudes of professors in teacher preparation programs?

Although the findings of this quantitative study could not be statistically analyzed because the data did not meet all of the assumptions required to run statistical analyses, survey responses yielded interesting results when combining professors' self-reported indicators with professors' gender attitude scores as measured by the QDI. Findings of surveyed participants include:

- Gender attitudes with gender identification and sexual orientation
- Gender attitudes with having a close family member or friend who is gender non-conforming
- Gender attitudes with teaching assignment, degree, and personal political beliefs
- Gender attitudes with comfort discussing gender equity
- Gender attitudes with programmatic inclusion of gender equity
- Gender attitudes with gender equity training

Gender attitudes with gender identification and sexual orientation. While surveyed participants who identified as male or as female had roughly the same mean gender attitude scores, with a mean gender attitudes score of 31.33 for males and 31.56 for females, a participant's sexual orientation changed mean gender attitudes score as measured by the QDI. Specifically, participants who were queer/questioning (M = 34.50), lesbian (M = 34.14), gay (M = 34.00), other (M = 34.00) or bi-sexual (M = 33.75) had higher mean gender attitude scores than participants who were straight (M = 31.21). This is an interesting finding, and suggests that surveyed participants' sexual orientation contributes to positive gender attitude scores, specifically for surveyed participants who did not identify as straight.

Gender attitudes with having a close family member or friend who is gender non-conforming. Surveyed participants who stated that they have a close family member or friend who identifies as gender non-conforming also had higher mean gender attitude scores as measured by the QDI, with a mean of 32.24, than participants who indicated no (M= 30.96) or not sure (M = 30.15). The finding that familiarity with a close family member or friend who is gender non-conforming leads to an increase in positive gender attitudes is an interesting one, because it suggests that personal

experience beyond hetero-norms leads to more positive gender attitudes. However, more research is needed in both of these areas.

Gender attitudes with teaching assignment, degree, and personal political beliefs. Surveyed participants' full or part time teaching assignment, level of degree, and political leanings were also associated with different mean gender attitude scores. Specifically, mean gender attitude scores were higher for professors who taught full time (M = 31.71) were highest for participants with a doctoral degree (M = 31.75), and increased the more liberal a participant identified (liberal M = 31.18; very liberal M = 32.93). It must also be noted, however, that six of the seven outliers with lower gender attitude scores identified as liberal (four participants with scores of 21, 22, and two at 25) or very liberal (two participants with scores of 27). The seventh outlier with the least positive gender attitude score of the entire sample (20) identified as conservative. It is interesting that these factors of surveyed participants were associated with a change in these participants' mean gender attitude scores.

Gender attitudes with comfort discussing gender equity. Beliefs surrounding gender equity were also associated with an increase in mean gender attitude scores for surveyed participants. Interestingly, surveyed participants who stated that they are not sure if they are comfortable discussing gender equity with their teacher candidates had the highest mean gender attitude scores (M = 32.17). Equally interestingly, these positive gender attitude scores did not translate into a definite willingness to discuss gender equity with teacher candidates for surveyed participants. Why this is the case is unclear. However, this finding indicates that surveyed professors with positive gender attitudes are not necessarily passing those positive attitudes on to their teacher candidates.

Gender attitudes with programmatic inclusion of gender equity. Another interesting finding is that the surveyed participants who do not believe programmatic inclusion of gender equity is necessary actually had the lowest mean gender attitude score (M = 29.29). This is interesting because it would seem to indicate that the individuals with less positive gender attitudes do not see the value in incorporating gender equity into teacher preparation programs or coursework.

Gender attitudes with gender equity training. Surveyed participants who believed that they personally would benefit from gender equity training had the highest mean gender attitude scores (M = 31.89). Mean gender attitude scores were lower and were nearly equal for participants who responded no (M = 30.30) and not sure (M = 30.19) to this question. This interesting finding seems to indicate that the surveyed participants with the more positive gender attitude scores are more willing to increase their knowledge about gender equity through training.

Implications for Practice

Social Justice Theory was the theoretical framework for this study. This theory responds to the differential treatment that individuals have experienced based on their membership in a particular group, including gender groups, racial groups, and economic class groups. The work of social justice theory is to strip away these group membership identities and to see others authentically for who they are as individuals (Rawls, 2001). The prevailing and stereotypical view of gender is binary, male and female. However, Mojica and Castañeda-Peña (2015) have instead articulated that gender should rather be considered as "multiplicities" (143). This notion of "multiplicities" (Mojica & Castañeda-Peña, 2015, p.143) should replace the prevailing binary idea of gender as part of social justice theory. This quantitative study therefore highlights the need for teacher

preparation programs and professors within those programs to prioritize gender equity not only to begin to disrupt the negative cycle of heteronormativity that exists in schools, but also to emphasize the myriad facets of gender as a central component within social justice theory.

The findings of this research study indicate that there are a number of gender equity and policy areas where both teacher preparation programs and professors within those programs could benefit. These areas are:

- Creating clarity about gender equity inclusion
- Incorporation of training
- Saying versus doing
- Addressing challenges to inclusion of social justice issues
- Enhanced opportunities for professors to pass on their highly positive gender attitudes to teacher candidates
- Increased institutional and personal prioritization of gender equity

Creating clarity about gender equity inclusion

Participants in this study indicated that there is not a consistent message given to professors for how gender equity is included in their teacher preparation program. There is also not a consistent message regarding how or even if professors should be including gender equity in their courses. This is perhaps why surveyed professors have alternatively said they have "no idea" how gender equity is included in their program, that students can select gender equity as an optional topic for projects, or that gender equity "emphasis varies" by course. One practical policy implication for this finding is basing teacher preparation program approval on both institutional and personal clarity and specificity of gender equity inclusion. Consistent implementation of gender equity

throughout the teacher preparation program and, as Kearns et al. (2017) urged, explicit teacher candidate preparation in gender equity, are essential to begin to eradicate teacher gender bias and the negative cycle of heteronormativity that exists in schools.

Incorporation of training

Gender equity training for professors is another aspect of teacher preparation program approval that should be considered. There were 39.2% (n = 71) of 181 surveyed participants who reported that they received training in gender equity, but a total of 55.8% (n = 110) of participants either stated they had not received training or they were not sure. However, 74.0% (n = 134) of participants in this study indicated that they believed gender equity training would benefit the faculty members with whom they teach, and the same number reported that they personally would benefit from gender equity training. Interestingly, surveyed participants reported that training would be beneficial, and yet over 50% stated that they had not received training or were not sure.

Significantly, participants also reported that they had access to gender equity training but that training was optional. While some participants stated they did not attend, others voiced the concern that the "same people always come" to the trainings. Although participants stated that they would benefit from gender equity training, that belief did not actually lead to their attendance at optional training sessions. Teacher preparation programs and program professors would therefore do well to consider these competing findings and find a way to provide gender equity training in such a way that increases rather than limits attendance.

One way to prioritize gender equity training throughout institutions is to work to shift the culture of the organization. While requiring professors to receive training in gender equity as part of program approval could stimulate rather than limit attendance, a

change in culture where gender equity is highly institutionally prioritized would be a stronger manner in which to stimulate that attendance, especially considering professors' beliefs that they would benefit from that type of training. This culture shift toward gender equity prioritization through training would also be in keeping with the research, as Aslan (2015) specifically urged that professors receive gender equity training to not only aid their teacher candidates to instruct in a gender equitable manner, but also to address their own unconscious gender biases. Culture creation wherein gender equity is a high priority is an essential component in securing gender equity training, and would also serve to shift the view of training as a chore to training as preparation for best practice.

Saying versus doing

While surveyed participants acknowledged that it is important to teach in a gender equitable manner and to prepare their teacher candidates to do likewise, these participants indicated that they discuss gender equity in meetings, with fellow faculty, and with students, but did not discuss specific actions that are being taken to incorporate gender equity into their programs or coursework. One surveyed participant noted the disconnect between discussing something and acting on it, saying that they "talk the talk" of gender equity inclusion, but may not "walk the walk" of actual gender equity inclusion. Specific and practical gender equity inclusion in coursework, including in methods courses, would begin to bridge the gap between this saying and doing chasm, especially if gender equity as a course component were expressly required for both program approval and professor recruitment.

Addressing challenges to inclusion of social justice issues

Teacher preparation programs and professors within them should also substantively address the findings of this research study surrounding challenges to the

inclusion of new social justice issues. Time was the most frequently cited challenge to inclusion, with 37.6% (*n* = 68) of surveyed participants reporting that was a strong challenge, and 3.9% (*n* = 7) of reporting that it was so great a challenge as to be impossible. Certainly, all social justice issues are of the highest import. However, class time is finite. Surveyed participants indicated that they include gender equity in an intersectional manner along with other social justice concerns, but their low priority ranking of gender equity among those other concerns indicates that the time spent on gender equity specifically within that intersectionality paradigm may be short and superficial. In spite of the reality of limited class time, teacher preparation programs and program professors would do well to consider the voluminous research literature articulating both the profoundly negative effects of teacher gender biases (Lavy & Sand, 2015; Sadker et al., 2009; Sommers, 2000; Stromquist, 2007) and the recommendation that teacher preparation programs consciously include gender equity issues (Aslan, 2015; Engebretson, 2016; Chemaly, 2015; Lynch, 2016; Mojica & Castañeda-Peña, 2017; Scandurra et al., 2017; UNESCO, 2015) so as to make the necessary time to prioritize gender equity inclusion.

Faculty lack of knowledge and faculty discomfort or resistance to the topic, in that order, were the second and third issues that surveyed participants stated were strong or very strong challenges to social justice inclusion. Specifically, 24.9% (*n* = 45) of surveyed participants stated that faculty lack of knowledge was a strong challenge, and 2.8% (*n* = 5) stated that it was so great a challenge as to be impossible. In turn, 19.3% (*n* = 35) of surveyed participants articulated that faculty discomfort or resistance to the topic was a strong challenge, and 1.7% (*n* = 3) stated that it was so great a challenge as to be impossible. Teacher preparation programs must address these participant-reported

challenges so as to ensure that gender equity becomes an integral facet of the curricula. Program approval and professor recruitment and retention should likewise be grounded in the inclusion of gender equity in coursework so as to prepare teacher candidates with curriculum, instruction, assessment, classroom climate, and classroom management strategies that are gender equitable.

Enhanced opportunities for professors to pass on highly positive gender attitudes to their teacher candidates

The findings of the current study indicate that although surveyed professors have highly positive gender attitudes, they may not be passing these attitudes on to their teacher candidates because of the low institutional and personal priority that is placed on gender equity among other social justice issues. Specifically, 90.6% (n = 164) of surveyed participants reported that they are comfortable discussing gender equity with their teacher candidates. This finding is interesting, as it indicates that although surveyed participants are comfortable discussing gender equity, these discussions are not occurring with and the surveyed professors' positive gender attitudes are not being passed to teacher candidates because of the low priority placed on gender equity. Incorporating gender attitudes into teacher candidates' clinical experiences as a required program component would stimulate these discussions and may lead to professors passing their highly positive gender attitudes to their teacher candidates.

Increased institutional and personal prioritization of gender equity

Most importantly, teacher preparation programs and program professors must consider the findings from these New England-based surveyed participants that institutional and personal priority of gender equity among other social justice issues is low. This finding is in direct contrast to the literature, which has shown that specific

attention to gender equity in both programs and coursework is essential to work to eliminate teacher candidate gender bias and to begin to undo the negative cycle of heteronormativity that exists in schools (Engebretson, 2016; Kearns et al., 2017; Lynch, 2016; UNESCO, 2015). The low institutional and personal priority given to gender equity by participants in this sample is interesting given that the vast majority of surveyed participants' beliefs surrounding teacher gender bias actually parallel this literature. Specifically, 86.2% (n = 156) of participants believe that teacher candidates have gender biases, 93.4% (n = 169) of participants believe teacher gender biases are harmful to students, and 90.1% (n = 163) of participants believe that teacher candidates will benefit from gender equity training. Not only are teacher candidates unaware of their own gender biases (Ciciora, 2011; Patrick & Urhievwejire, 2012; Seifert & Sutton, 2009), but teacher preparation programs are also not prioritizing gender equity to alleviate this known situation and they must if the cycle of heteronormativity and the negative effects of teacher gender bias are to be disrupted (Engebretson, 2016; Kearns et al., 2017; Lynch, 2016; UNESCO, 2015). It is imperative, therefore, that teacher preparation program leadership and program professors close the gap that exists between these beliefs and the low priority gender equity actually receives in practice. Incorporating gender equity as an essential facet of program approval, professor recruitment and retention, teacher candidates' clinical experiences, and even teacher certification would stimulate gender equity prioritization by both institutions and professors.

How each institution and faculty tackles these implications for practice will be theirs to decide. Intentionally and consciously addressing these implications is essential to eradicate teacher gender bias and to work to disrupt the negative cycle of heteronormativity that exists in schools. If these implications for practice remain

unaddressed, future research will report the same findings: heteronormativity will continue to exist in schools, and teacher gender biases will continue to negatively impact students.

Recommendations for Future Research

Although statistical significance could not be determined for the data gathered by this study, the findings are interesting and they have robust implications for future research. Future lines of inquiry of gender equity prioritization (Jennings, 2007) as well as factors influencing gender attitude scores as measured by the Quick Discrimination Index (QDI) (Ponterotto et al., 1995) could build on the results here presented. Future methodologies and lines of inquiry for this research are as follows:

- Methodology and sample
- Professional indicators and gender attitudes
- Personal indicators and gender attitudes
- Personal attributes underlying gender attitudes and gender equity priority
- Saying versus doing
- Challenges to inclusion of gender equity
- Gender equity incorporation with other social justice issues
- Gender equity implementation
- Gender equity training
- Gender equity prioritization
- Gender equity prioritization and teacher candidate gender biases

Methodology and Sample

Though the researcher believes a quantitative model was best for this research study, future research should consider a mixed methods approach. Specifically, an

explanatory sequential mixed methods study would provide the future researcher with the opportunity to speak directly with participants so as to further mine survey results. Overall, future research in gender equity should aim to study practical and specific institutional and personal inclusion of gender equity in teacher preparation programs and by teacher preparation program professors, and should continue to research factors influencing gender attitude scores.

This study gathered data only on teacher preparation programs and program professors working in New England institutions. While the findings mirrored Jennings's (2007) results, states that were not part of this study or Jennings's (2007) study merit investigation. Additionally, the researcher believes that expanding the research sample to all of the United States and shifting the methodology from strictly quantitative to a mixed methods approach would be beneficial to not only gather nationwide statistical data, but also to incorporate the voices and opinions of teacher preparation program professors across the country regarding gender equity prioritization and gender attitudes.

Professional Indicators and Gender Attitudes

Future research studies that are quantitative or mixed methods should investigate whether there is a connection between professional indicators, including job frequency and degree level, and gender attitude scores as measured by the QDI. Future research could use this study's findings to inform their investigation. For example, current research found that full time professors had higher mean gender attitude scores than professors who taught part time. Specifically, the 78.5% (n = 142) of participants who taught full time had a mean gender attitude score of 31.71, while the 21.5% (n = 39) of professors who taught part time had a mean gender attitude score of 30.51. Additionally, mean gender attitude scores as measured by the QDI varied according to participants'

degree level. The 3.9% (*n* = 7) of participants with a CAGS had a mean gender attitude score of 28.86. The 17.7% (*n* = 32) of participants with master's degrees had a mean gender attitude score of 30.69. The 78.5% (*n* = 142) of participants with doctoral degrees had the highest mean gender attitude score of the three groups, 31.75. It remains unclear why these differences exist, topics that future research should investigate.

Personal Indicators and Gender Attitudes

Future research should also study if there is a connection between personal indicators, including sexual orientation, having a close family member or friend who identifies as gender non-conforming, and personal political beliefs, and gender attitude scores.

Sexual orientation and gender attitudes. For the participants in this study, mean gender attitude scores varied based on participants' sexual orientation. The vast majority of participants, 88.4% (*n* = 164) identified as straight and had a mean gender attitude score of 31.21. The 2.2% (*n* = 4) of participants who identified as bisexual had a mean gender attitude score of 33.75. The 1.1% (*n* = 2) of participants who identified as gay and the 1.1% (*n* = 2) of participants who identified as other had the same mean gender attitude score, 34.00. The 3.9% (*n* = 7) of participants who identified as lesbian and the 1.1% (*n* = 2) of participants who identified as queer/questioning had the second and highest mean gender attitude scores, with mean gender attitude scores of 34.14 and 34.50, respectively. The lowest mean of the group, 30.25 was the 2.2% (*n* = 4) of participants who preferred not to respond. Future research should investigate a possible connection between sexual orientation and gender attitudes to determine if there is a connection between mean gender attitude scores and individuals who do not identify as

straight. If there is a connection, determining why that connection exists should also be part of this future research.

Having a close family member or friend who identifies as gender non-conforming and gender attitudes. Similarly, the 43.1% (*n* = 78) of surveyed participants who have a close friend or family member who identifies as gender non-conforming had a higher mean gender attitude score, 32.24, than the 49.7% (*n* = 90) of participants who did not, with a mean gender attitude score of 30.96, or the 7.2% (*n* = 13) of participants who were not sure, with a mean gender attitude score of 30.15. Being an individual who has a close family member or friend who is gender non-conforming had a bearing on gender attitude scores for surveyed participants. What this bearing is and whether it has a statistical correlation is unclear. Future research should investigate if having a close family member or friend who does not subscribe to hetero-norms affects gender attitude scores of participants, and if so, why is that the case.

Personal political beliefs and gender attitudes. Another interesting finding of the current research is that the more liberal a group of participants in this sample identified, the higher that group's mean gender attitude score. Specifically, the 1.1% (*n* = 2) of participants who identified as very conservative had a mean gender attitude score of 26.00. The 8.3% (*n* = 15) of participants who identified as conservative had a mean gender attitude score of 27.13. The 50.3% (*n* = 91) of participants who identified as liberal had a mean gender attitude score of 31.18. Finally, the 38.7% (*n* = 70) of participants who identified as very liberal had a mean gender attitude score of 32.93. This warrants further research to determine how and why a person's political beliefs influence their gender attitudes.

Personal Attributes Underlying Gender Attitudes and Gender Equity Priority

These interesting findings suggest that additional research is also necessary to determine how the fabric of who a person is – the latticework of their beliefs, their cultural background, their personal experiences, how they identify, their hobbies, their friends and family members – influences their gender attitudes. The current study found that participants' personal experiences were factors in driving their social justice issue priority, and future research may wish to study why this is the case. While future research can build on the factors here presented, that research would also do well to focus on additional personal indicators not here studied that may also affect gender attitudes.

Saying versus Doing

Future research should also investigate how teacher preparation programs and program professors are narrowing the chasm that exists between saying and doing. For example, while surveyed participants stated that gender equity is important and one participant said "we've increased our explicit emphasis on gender," it should be noted that saying something is being addressed and functionally prioritizing it in practice are two different things. Related to this future research item is how different faculty members prioritize gender equity and then act on that prioritization. For example, one participant noted that there is a difference between "junior and senior faculty" with respect to gender equity inclusion. However, it was unclear if this statement were subjective. Therefore, a study that researched how different faculty members prioritize gender equity coupled with an investigation of how statements about gender equity inclusion translates to actual gender equity inclusion would be compelling. Ultimately, an essential line of inquiry for future research, and one that is sorely needed, is how teacher preparation programs and program professors put into practice what they say they enact.

Challenges to Inclusion of Gender Equity

Future research should also build on the challenges to inclusion of social justice issues that the surveyed participants in this study reported so as to seek to discover why these challenges specifically were articulated as the biggest challenges, and how to possibly overcome them. Surveyed participants reported that time (strong challenge to inclusion: 37.6%, *n* = 68; so great a challenge as to be impossible: 3.9%, *n* = 7), faculty lack of knowledge of the topic (strong challenge to inclusion: 24.9%, *n* = 45; so great a challenge as to be impossible: 2.8%, *n* = 5), and faculty discomfort or resistance to the topic (strong challenge to inclusion: 19.3%, *n* = 35; so great a challenge as to be impossible: 1.7%, *n* = 3) were the three greatest hindrances to the inclusion of social justice issues. These three challenges may restrict incorporation of gender equity, despite the 71.8% (*n* = 130) of surveyed participants who reported that there is a need to include gender equity in programs. Therefore, future research should investigate these challenges with respect to gender equity inclusion, how and why they are challenges, and how to potentially overcome them. An additional line of inquiry is how personal or institutional pressure toward inclusion or resistance to inclusion of gender equity may affect actual inclusion.

Gender Equity Incorporation with Other Social Justice Issues

Another area in need of future study is how specifically gender equity is synthesized with other social justice concerns. Participants in this study stated that they include gender equity as part of their intersectional instruction, where gender equity is discussed as it relates to other social justice issues, including race and class. Given this finding, future research studies should investigate how specifically gender equity is included within that intersectional approach. Other questions related to this line of future

inquiry include how much classroom time is devoted to gender equity in an intersectional approach among other social justice issues, and how specifically professors are infusing gender equity into their coursework. Although they did not use the word intersectionality, other surveyed participants stated that gender equity was a valued topic. Future research should also study how specifically gender equity is valued, and what specifically that means for practical gender equity inclusion and application in course content. This should include time spent on gender equity in both coursework and class discussions.

Gender Equity Implementation

This research study also found that programmatic and personal gender equity inclusion was inconsistent. In open response sections, surveyed participants stated that gender equity is included differently in courses and noted that teacher candidates can self-select to learn about gender equity through project topics. A future line of inquiry, then, is to study how gender equity is incorporated within similar classes at single institutions, and across classes and programs at multiple institutions, to see how gender equity is included and whether or not that inclusion is successful. Surveyed participants' responses about inclusion of specific courses in gender equity at their institution would be another topic for future research. For example, 37.6% (n = 68) of participants reported that there are specific gender equity courses at their institutions, 34.8% (n = 63) of reported that they are not sure, and 27.6% (n = 50) of participants reported that there are not specific gender equity courses at their institution. As one participant noted, the gender equity class is not part of the teacher preparation program at their institution, but that students could elect to take that class in another department. Another future line of inquiry, therefore, is to investigate how gender equity courses are or are not

programmatically included for teacher candidates within and across institutions. For example, requiring teacher candidates to take a course in gender equity as part of teacher preparation program requirements is very different than offering the class as an elective, which students could choose or not choose to take.

Gender Equity Training

The current study found that 74.0% (n = 134) of surveyed participants believed that they and the faculty with whom they teach would benefit from gender equity training. However, participants also reported that the "training is optional" and "the same people always come." Indeed, a combined 60.77% (n = 110) of participants in this study reported either that they had not received training or that they were not sure. These numbers indicate that surveyed professors may not be offered training, or that they are not attending gender equity training despite believing they and their colleagues would benefit from that training. Future research should therefore investigate how gender equity training is provided to professors, and why professors do not attend training despite believing they would benefit. Additional lines of inquiry include how trainings are incorporated, whether they are beneficial, and how to increase prioritization of and participation in trainings for both professors and institutions.

Gender Equity Prioritization

Gender equity prioritization is another line of inquiry for future research. Studies should gather data both on institutional prioritization of gender equity and professors' personal prioritization of gender equity to determine why and how institutions and individual professors come to prioritize gender equity both on its own and in conjunction with other social justice concerns. Obstacles to that prioritization for both institutions and professors would also be an important caveat to include in this research, as

understanding these obstacles may provide a clearer picture of why gender equity is being prioritized, or why it is not. Paradigms of both the institutions and the professors studied in terms of values, belief systems, and individual perceptions would also be interesting as part of this line of inquiry, as unpacking these perceptions may aid in understanding how and why gender equity is or is not prioritized, and how it could ultimately be prioritized at both institutional and personal levels.

Gender Equity Prioritization and Teacher Candidate Gender Biases

Future research should investigate professors' gender equity priority in conjunction with professors' beliefs about teacher candidates' gender biases. In this study, surveyed participants ranked gender equity institutionally and personally low, at a ranking of fifth out of six, despite simultaneously acknowledging that gender equity is an important topic. Specifically, surveyed participants reported that (a) teacher candidates have gender biases (86.2%; $n = 156$), (b) that these biases are harmful to students (93.4%; $n = 169$), (c) that teacher candidates would benefit from gender equity training (90.1%; $n = 163$), (d) that professor participants are comfortable discussing gender equity with their teacher candidates (90.6%; $n = 164$), and (e) that there is a need to include gender equity in teacher preparation programs (71.8%; $n = 130$). Future research should therefore investigate why professors' awareness of these teacher candidates' gender biases and the negative effects of these biases, coupled with professors' comfortability discussing gender equity with these candidates and the need for gender equity to be programmatically included, are not translating into actual institutional or personal gender equity prioritization. This disconnect is an essential agenda item for future research because it may speak to the heart of why gender equity is not currently being prioritized by surveyed participants despite its acknowledged import.

Limitations

One of the limitations of this study is that it may not be generalizable to other populations. The researcher specifically elected to sample teacher preparation programs and professors within those programs in the New England states. This was done to glean a clearer picture of institutional and personal gender equity priority and gender attitude scores of those professors in New England, and was selected because New England has not been studied.

Another limitation is that response bias is a fundamental issue, as participants may have responded to the survey questions in what they perceived was a socially desirable manner. Participants' reported behavior and observed behavior may also be different. Another limitation of this study is that the data did not meet all of the assumptions required to run t-tests, Analyses of Variance (ANOVAs), and Pearson product moment correlations, so the statistical significance of the data could not be determined. Additionally, Jennings's (2007) survey instrument has not been statistically found to be valid or reliable, and Ponterotto et al.'s (1995) Quick Discrimination Index (QDI), though valid and reliable, measures gender attitudes toward women. Finally, the majority of participants in this study identified as female (73.5%, $n = 133$). This may have skewed mean gender attitude scores for self-reported indicators.

Conclusion

Unless teacher preparation programs and teacher preparation program professors prioritize gender equity in their institutions and courses, teacher gender bias will continue to negatively affect students, and heteronormativity will continue to exist in schools. This study reaffirms Jennings's (2007) findings that gender equity is not being prioritized in schools. This suggests that very little has changed in teacher preparation programs

with respect to gender equity in the twelve years that have passed between Jennings's (2007) survey and this 2019 research.

To disrupt the negative effects of teacher gender biases and the cycle of heteronormativity that exists in schools, teacher preparation programs and professors within those programs must (a) immediately act to functionally and purposefully incorporate gender equity throughout their programs, in coursework, in discussions, in assessments, and in clinical fieldwork, (b) prioritize training for both professors and teacher candidates so that they can come to both recognize gender as "multiplicities" (Mojica & Castañeda-Peña, 2017, p. 143) and effect a culture shift within the institutions themselves so gender equity becomes integral to the fabric of the program, and (c) actively promote the transfer of highly positive gender attitudes from professors to teacher candidates.

For too long, gender equity has been treated as a separate, additional, low-importance item among other social justice concerns. In reality, gender is inherently ingrained in other social justice issues, as gender as a social construct cannot be separated from a person's race or ethnicity, language, social class, special needs, or sexual orientation. Gender equity permeates all other social justice issues in such a profound manner that teacher preparation programs and program professors must actively, purposefully, and logically prioritize gender equity in their courses, practicums, and trainings.

As this research has shown, professors in teacher preparation programs in New England already have highly positive gender attitudes and now need to pass those attitudes on to their teacher candidates. However, these positive gender attitudes will only be passed to teacher candidates through the recognition that gender equity permeates

all other social justice concerns. This infusion, coupled with the functional prioritization of gender equity, will surface professors' positive gender attitudes and will then inform those professors' teachings. In turn, professors' positive gender attitudes will then pass on to teacher candidates, who will then positively impact their own future students.

Rectifying the harmful effects of teacher gender biases on students and reversing the cycle of heteronormativity that exists in schools will only be possible through institutional and personal gender equity prioritization by leaders and professors who have highly positive gender attitude scores and who not only make teacher candidates aware of their own gender biases but who also aid them to manage those biases. Then and only then will students of all gender identities succeed as individuals.

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Tables

Table 1.

Population and race in the New England states

State	Population Total	Percent White	Percent African American	Percent Asian	Percent Hispanic/Latino(a)
Connecticut	3.57 million	80.3	11.9	4.8	16.1
Maine	1.34 million	94.7	1.6	1.2	1.8
Massachusetts	6.90 million	81.3	8.8	6.9	11.9
New Hampshire	1.36 million	93.6	1.6	2.8	3.7
Rhode Island	1.06 million	84.1	8.2	3.7	15.5
Vermont	626,299	94.5	1.4	1.8	1.9

(United States Census Bureau, "Quick Facts: Connecticut," 2018;United States Census Bureau, "Quick Facts: Maine," 2018; United States Census Bureau, "Quick Facts: Massachusetts," 2018;United States Census Bureau, "Quick Facts: New Hampshire," 2018; United States Census Bureau, "Quick Facts: Rhode Island," 2018;United States Census Bureau, "Quick Facts: Vermont," 2018)

Table 2.

Demographic breakdown of participants

Demographic Indicators	*n*	%
Age		
25-29 years	2	1.1
30-34 years	11	6.1
35-39 years	21	11.6
40-44 years	30	16.6
45-49 years	27	14.9
50-54 years	26	14.4
55-59 years	21	11.6
60-64 years	17	9.4
65-69 years	18	9.9
70-74 years	8	4.4
Gender Identification		
Male	43	23.8
Female	133	73.5
Cis-Gender	2	1.1
Other	1	0.6
Prefer not to respond	2	1.1
Pronoun Use		
He/His/Him	42	23.2
She/Her/Hers	132	72.9
They/Theirs/Them	2	1.1
Other	3	1.7
Prefer not to respond	2	1.1
Sexual Orientation		
Gay	2	1.1
Lesbian	7	3.9
Bi-Sexual	4	2.2
Queer/Questioning	2	1.1
Straight	160	88.4
Other	2	1.1
Prefer not to respond	4	2.2
Race		
Native American	0	0.0
Latino(a) or Hispanic	3	1.7
African American or Black	4	2.2
Caucasian or White	168	92.8
Asian or Pacific Rim	2	1.1
Bi-Racial	2	1.1

Multi-Racial	1	0.6
Other	1	0.6
Marital Status		
Married	148	81.8
Single	12	6.6
Divorced	6	3.3
Widowed	2	1.1
In a committed relationship	10	5.5
Other	1	0.6
Prefer not to respond	2	1.1
State of residence		
Connecticut	30	16.6
Maine	24	13.3
Massachusetts	59	32.6
New Hampshire	39	21.5
Rhode Island	7	3.9
Vermont	17	9.4
Has a close friend or family member who identifies as gender non-conforming		
Yes	78	43.1
No	90	49.7
Not sure	13	7.2
Level of Education		
Master's Degree	32	17.7
CAGS	7	3.9
Doctoral Degree	142	78.5
Academic Title		
Professor	33	18.2
Associate Professor	51	28.2
Assistant Professor	46	25.4
Adjunct Professor	29	16.0
Professor of Practice	2	1.1
Director	11	6.1
Lecturer	6	3.3
Other	3	1.7
Full Time or Part Time		
Full Time	142	78.5
Part Time	39	21.5
Online or In Person		
Online	31	17.1
In Person	150	82.9
Total number of years teaching		
0-4	2	1.1
5-9	7	3.9
10-14	18	9.9
15-19	29	16.0
20-24	29	16.0
25-29	29	16.0

30-34	27	14.9
35-39	14	7.7
40-44	17	9.4
45-49	7	3.9
50-54	2	1.1
Number of years teaching in higher education		
0-4	25	13.8
5-9	47	26.0
10-14	33	18.2
15-19	32	17.7
20-24	22	12.2
25-29	16	8.8
30-34	4	2.2
35-39	1	0.6
40-44	0	0.0
45-49	1	0.6

Table 3.

Demographic breakdown of participant majorities

	n	%
Female	133	73.50%
She/Hers/Her	132	72.90%
Straight	160	88.40%
Caucasian	168	92.80%
Married	148	81.80%
Doctoral Degree	142	78.50%
Full Time	142	78.50%
In Person	150	82.90%

Figures

Figure 1.

Social Justice Theory: Rawls (2001) and definition

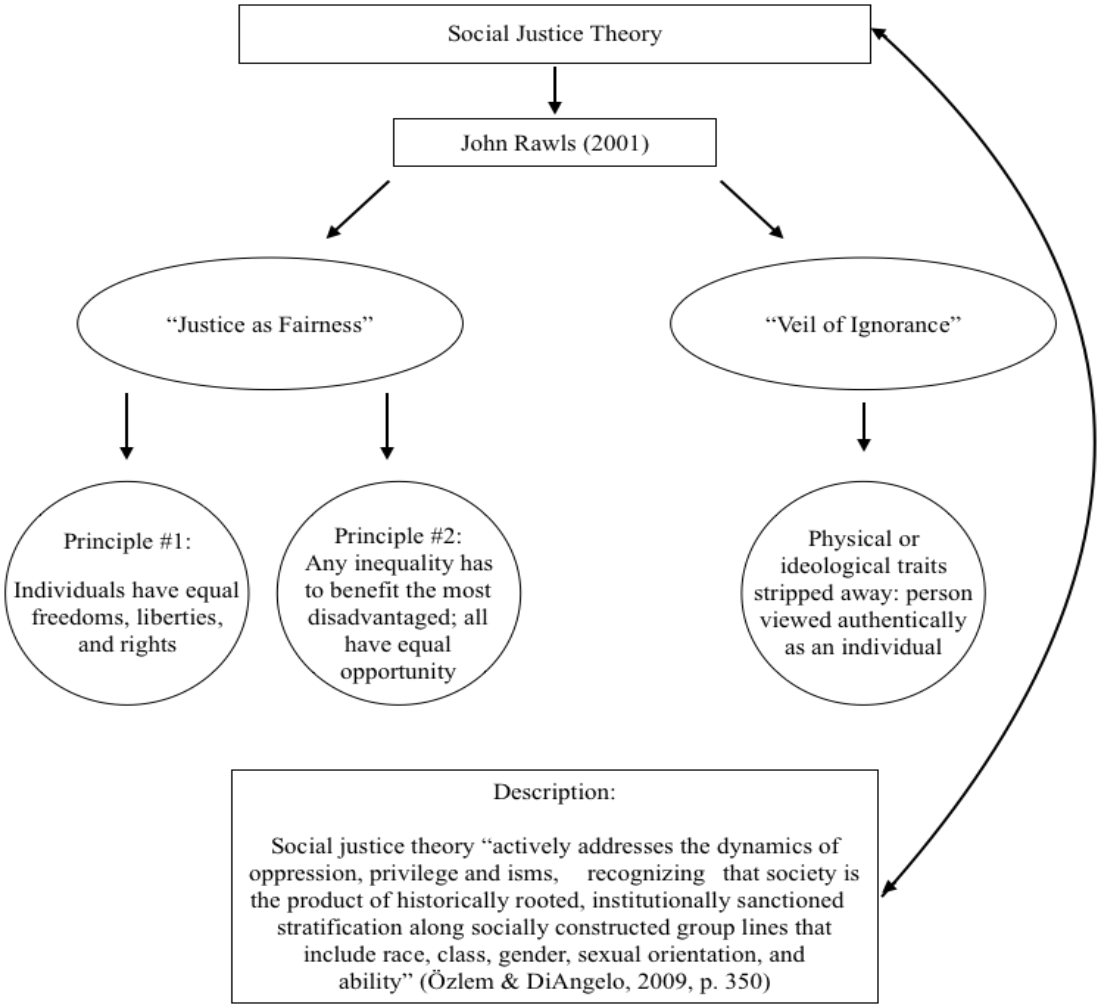


Figure 2.

Rankings of institutional priority of gender equity

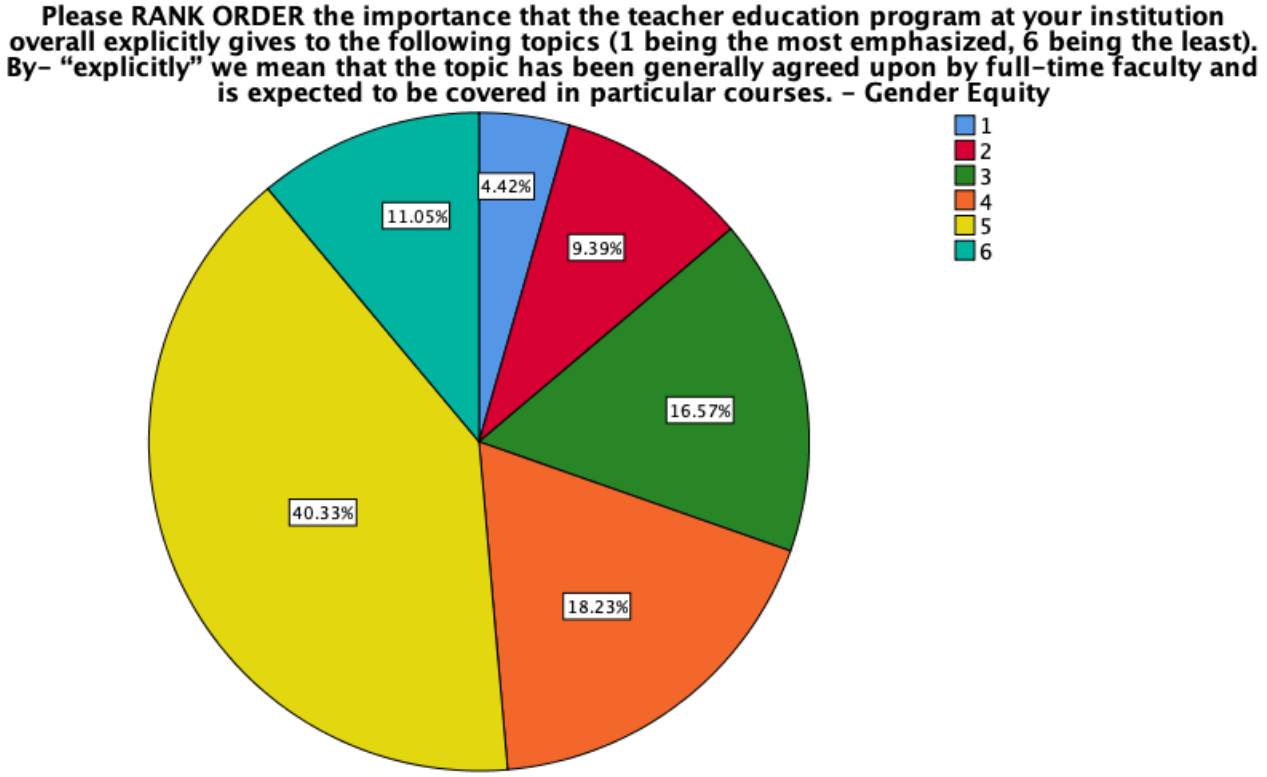


Figure 3.

Top selection of institutional priority of social justice issues

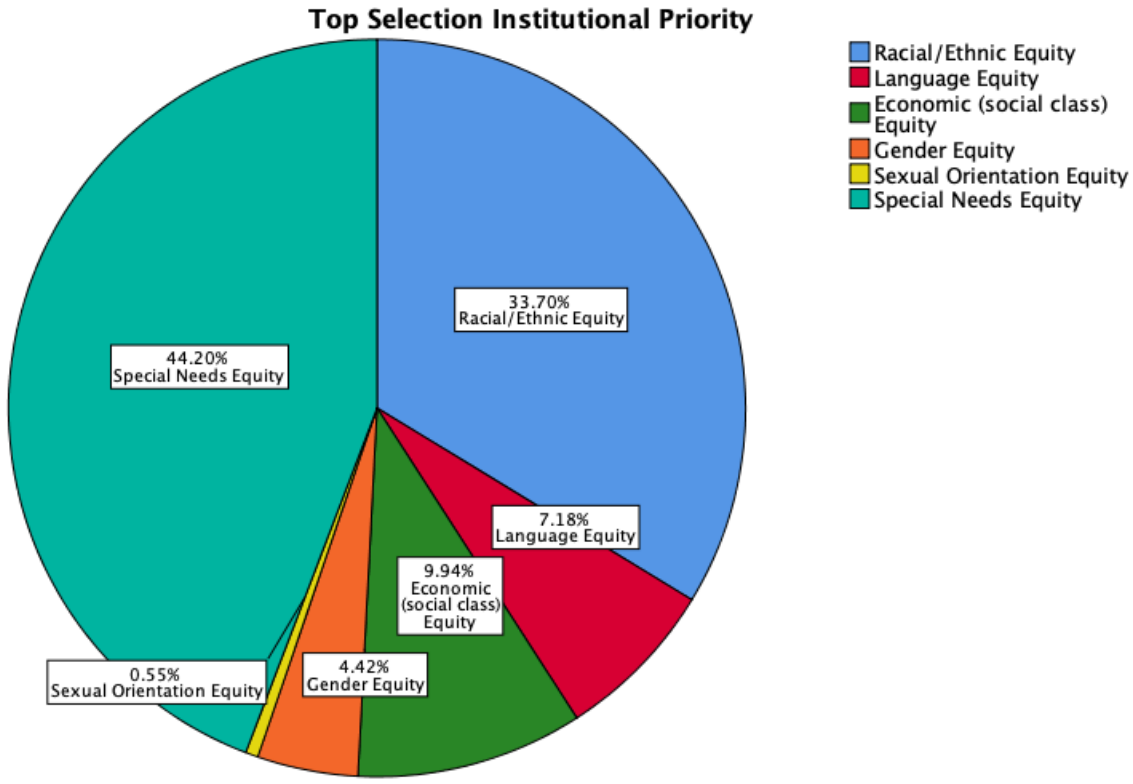


Figure 4.

Second highest selection of institutional priority of social justice issues

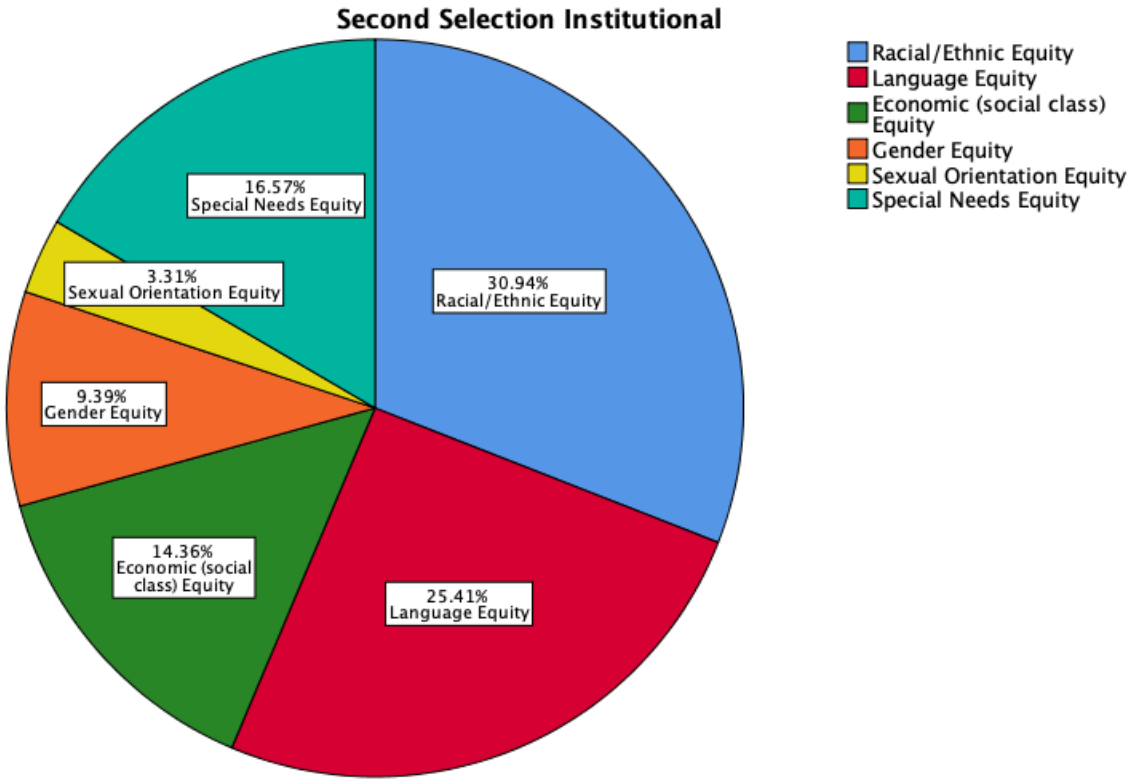


Figure 5.

Rankings of personal priority of gender equity

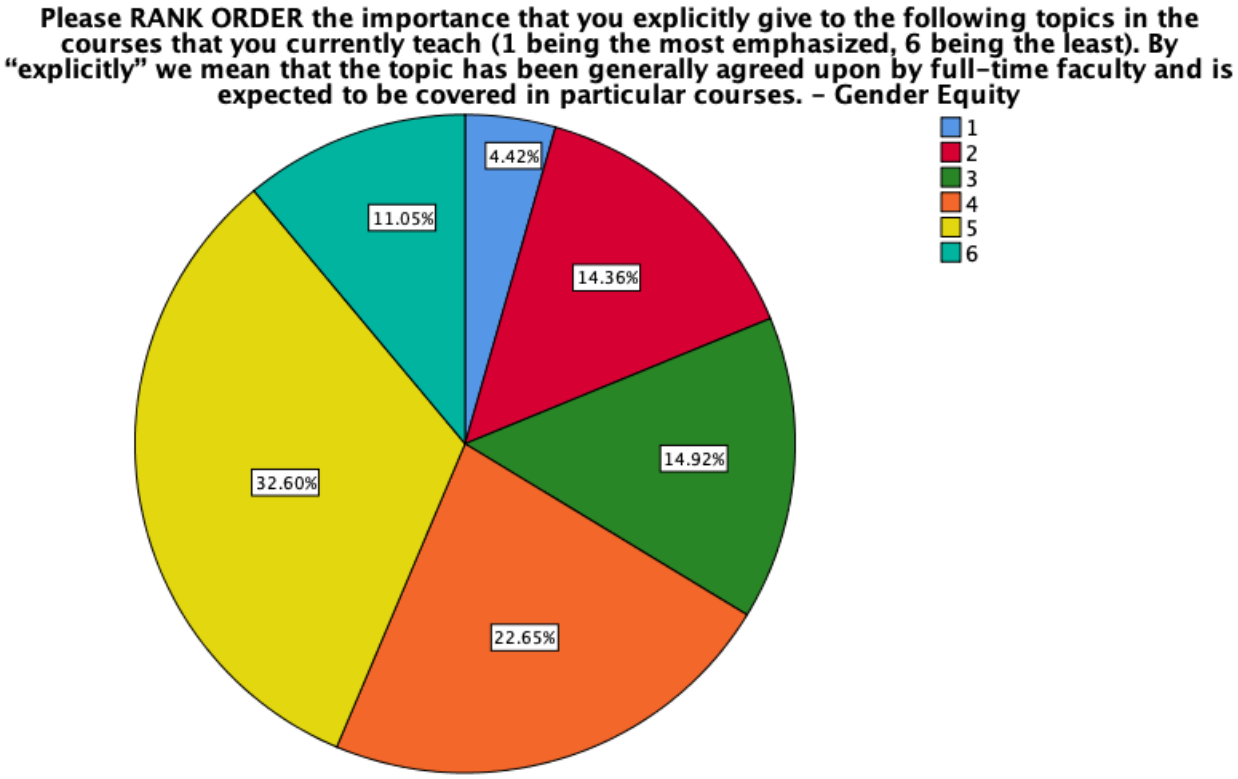


Figure 6.

Top selection of personal priority of social justice issues

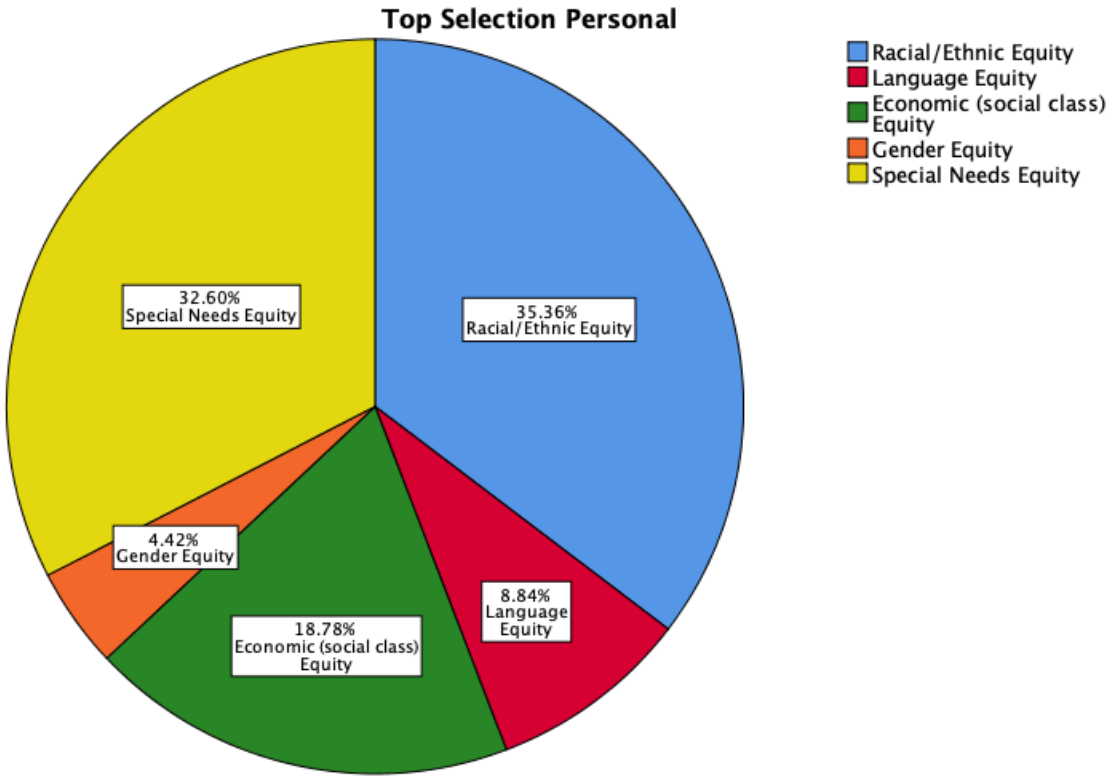


Figure 7.

Second highest selection of personal priority of social justice issues

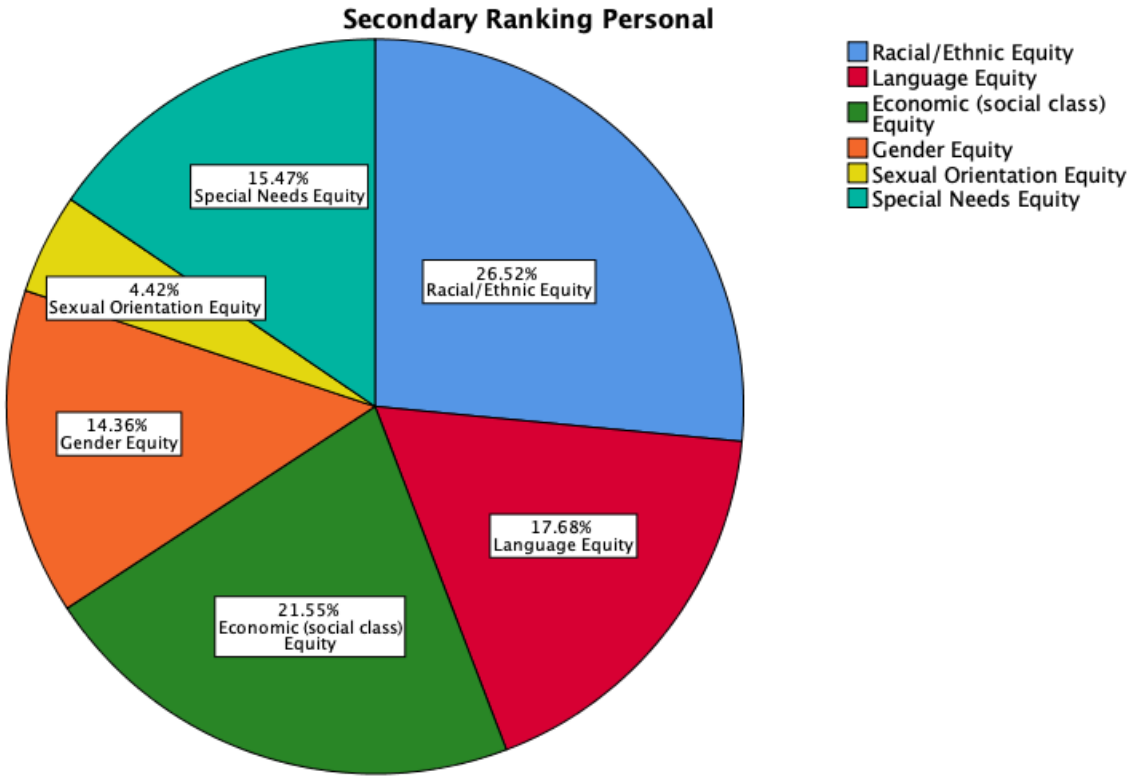


Figure 8.

Themes for Research Question #1

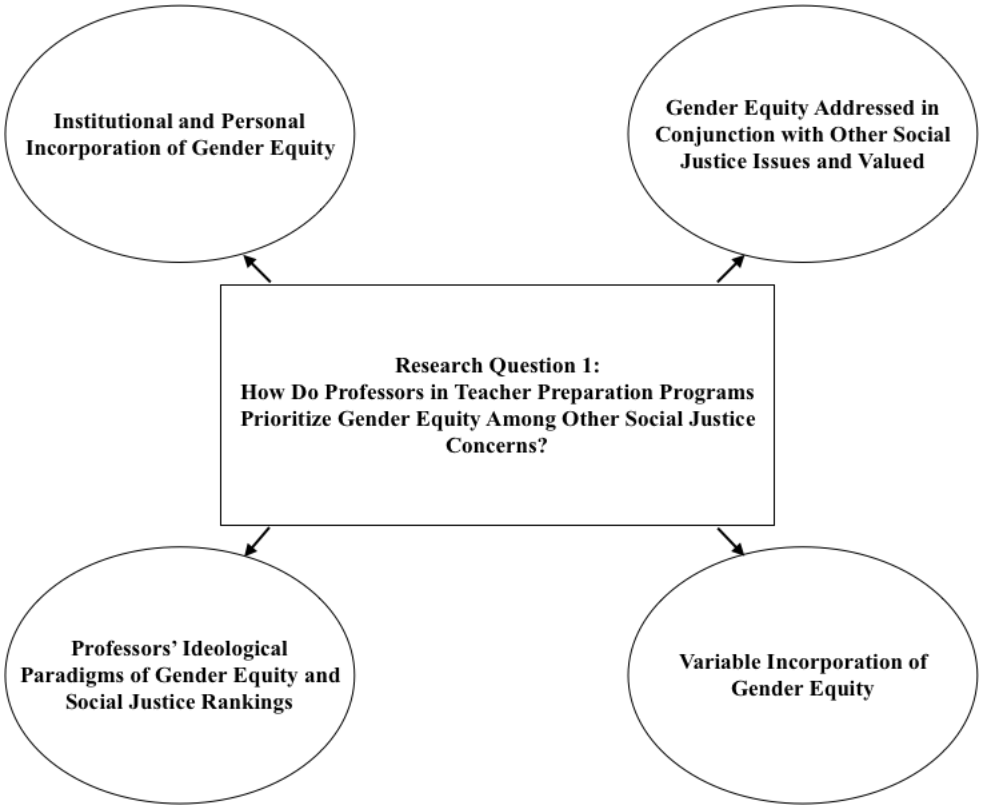
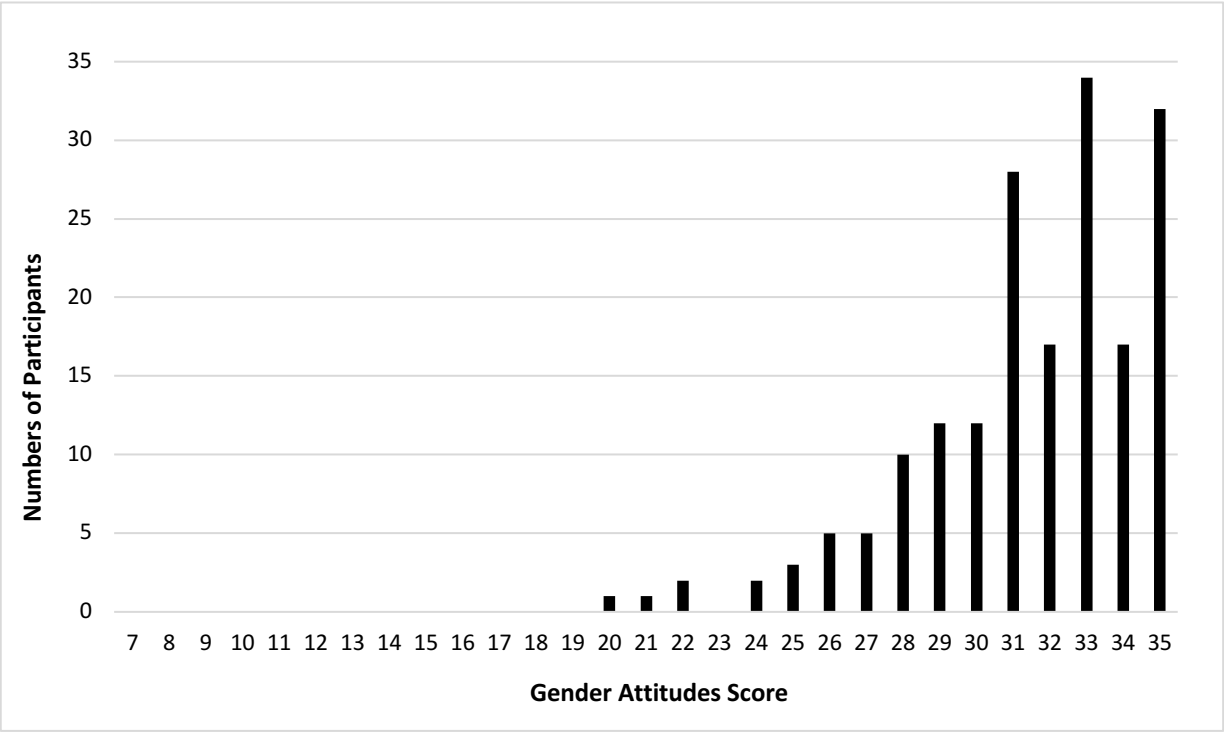


Figure 9.

Gender attitude scores of surveyed participants



Appendices

Appendix A – Survey

I am collecting data for my quantitative dissertation, and I would really appreciate your time and help!

My name is Amanda Murchison, and I am a doctoral student of educational leadership at Southern New Hampshire University. I am researching how professors in teacher education programs prioritize social justice issues in their classes. Data will be aggregated and used to determine these priorities. There are minimal risks to responding, and unfortunately there is no compensation except a deep appreciation for your time. The benefits will include learning how teacher educators prioritize social justice issues.

This survey should take approximately 20-30 minutes to complete.

The teacher education program in which you teach and your individual responses to the survey will both remain completely anonymous.

You can give consent to participate in this survey research by clicking the "yes" button, below. **Clicking "yes" indicates that you voluntarily agree to respond to the survey, that you are at least 18 years of age, and that you are aware that you can end the survey at any time, for any reason, and without penalty.** If you do not wish to participate in this research study, please click the "no" button, below.

If you have any questions or concerns regarding this research, please contact either the chair of my dissertation committee, Dr. Audrey Rogers, at a.rogers@snhu.edu, or the Institutional Review Board of Southern New Hampshire University, at irb@snhu.edu.

If you are interested in the findings of this research study, please contact me at amanda.murchison@snhu.edu to receive a copy of the cumulative survey results.

Thank you for your time!

Yes No

Please consider yourself, your role as a professor, and the teacher education program in which you teach as you respond to the following questions. Please respond to all items in the survey. Remember there are no right or wrong answers. The survey is completely anonymous. Thank you again for your time!

What is your age? _____

How do you identify your gender?

___ Male
___ Female

___ Trans-Gender
___ Cis-Gender
___ Other (Please specify)
___ Prefer not to respond

What pronoun(s) do you use to self-identify? Please check all that apply.
___ He/His/Him
___ She/Hers/Her
___ They/Theirs/Them
___ Other (please specify)
___ Prefer not to respond

What is your current marital status?
___ Married
___ Single
___ Divorced
___ Widowed
___ In a committed relationship
___ Other (please specify)
___ Prefer not to respond

What is your sexual orientation?
___ Gay
___ Lesbian
___ Bi-Sexual
___ Queer/Questioning
___ Straight
___ Other (please specify)
___ Prefer not to respond

Do you have a close family member or friend who identifies as gender non-conforming?
___ Yes
___ No
___ Not sure

How many total years of teaching experience do you have in the field of education? ____

Approximately how many years have you been teaching in higher education specifically?___

Please indicate the highest level of education you have attained.
___ Bachelor's Degree
___ Master's Degree
___ CAGS
___ Doctoral Degree

Which of the following best describes your academic rank, title, or position at this institution?

___ Professor
___ Associate Professor
___ Assistant Professor
___ Adjunct Professor
___ Other (please specify)

Do you teach part time or full time at your current institution?
___ Part time
___ Full time

What courses do you currently teach there? Please list a maximum of 5 courses.
Course Name: _____
Course Name: _____
Course Name: _____
Course Name: _____
Course Name: _____

Are the classes you currently teach primarily held online or in person?
___ Online
___ In person

In what state do you teach?
___ Connecticut
___ Maine
___ Massachusetts
___ New Hampshire
___ Rhode Island
___ Vermont

Approximately how many STUDENTS complete your teacher preparation program each academic year? Please provide your best estimate and express it as a whole number.
Completion of Program Estimate _____
Not sure _____

Approximately what percentage of the STUDENTS enrolled in your teacher education program are female? Please provide your best estimate and express it as a whole number.
Percentage of Female Students _____
Not sure _____

What percentage of the full-time PROGRAM FACULTY at your current institution are female? Please provide your best estimate and express it as a whole number.
Percentage of Female Faculty _____
Not sure _____

In which of the following groups do you place yourself?

___ Native American
___ Latino(a) or Hispanic
___ African American or Black
___ Caucasian or White
___ Asian or Pacific Rim
___ Biracial
___ Multiracial
___ Other (please specify)

As a group, how would you describe the political beliefs of your full-time PROGRAM FACULTY?

___ Very Conservative
___ Conservative
___ Liberal
___ Very Liberal

How would you describe your own political beliefs?

___ Very Conservative
___ Conservative
___ Liberal
___ Very Liberal

Please RANK ORDER the importance the teacher education program at your institution overall explicitly gives to the following topics (1 being the most emphasized, 6 being the least). By ‘‘explicitly’’ we mean that the topic has been generally agreed upon by full-time faculty and is expected to be covered in particular courses.

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity

Think about your top two selections. What are the indicators that led you to respond in this way? (Open response)

Please RANK ORDER the importance you explicitly give to the following topics in the courses that you currently teach (1 being the most emphasized, 6 being the least). By ‘‘explicitly’’ we mean that the topic has been generally agreed upon by full-time faculty and is expected to be covered in particular courses.

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity

Think about your top two selections. What are the indicators that led you to respond in this way? (Open response)

How great a challenge are the following to the inclusion of diversity related topics in your programs' content?

	No challenge at all 1	A slight challenge 2	A strong challenge 3	So great a challenge as to be impossible 4
Faculty disinterest in the topic	1	2	3	4
Faculty discomfort with the topic	1	2	3	4
Faculty lack of knowledge regarding the topic	1	2	3	4
Students' disinterest in the topic	1	2	3	4
Students' discomfort or resistance to the topic	1	2	3	4
Time constraints relative to other necessary topics in the program	1	2	3	4
Actual or potential opposition from university administration	1	2	3	4
Actual or potential opposition from community members or groups	1	2	3	4

In which types of classes are diversity topics explicitly addressed? We recognize that all programs are somewhat different, so please check those that appear closest to your program's structure. Please check all that apply.

___ Introduction to the field

___ Foundations (philosophical, social, cultural, psychological)
___ Teaching methods
___ Student teaching/Practica
___ None of the above

Are there courses in the teacher education program where you currently teach that are specifically and solely devoted to any of the following social justice issues? Please check all that apply.

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity
___ None of these issues is explicitly covered in its own class

Are there specific gender equity courses offered at your institution?

___ Yes
___ No
___ Not sure

Does your current institution provide social justice training to professors?

___ Yes
___ No
___ Not sure

Please RANK ORDER the following topics in order of the most likely to be offered for training to the least likely. Please assign 1 to the most likely to be offered, and 6 to the least likely to be offered. (This question was only displayed to participants if they responded "Yes" to the previous question)

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity

Have you received training in gender equity? Please check all that apply.

___ Yes, as part of my personal undergraduate coursework
___ Yes, as part of my personal graduate coursework
___ Yes, through training offered by the college/university where I currently teach
___ Yes, through training I self-selected and completed on my own
___ No, I have not received training

Do you believe that gender equity training would benefit you in your role as a professor?

___ Yes

___ No
___ Not sure

Do you believe that gender equity training would benefit the faculty with whom you teach?

___ Yes
___ No
___ Not sure

Are you comfortable discussing gender equity with your teacher candidates?

___ Yes
___ No
___ Not sure

Do you believe gender equity training would benefit your teacher candidates?

___ Yes
___ No
___ Not sure

Do you think there is a need to include gender equity in your current teacher education program?

___ Yes
___ No
___ Not sure

Do you believe that people can control their biases?

___ Yes
___ No
___ Not sure

Do you believe that teacher gender biases are harmful to students?

___ Yes
___ No
___ Not sure

Do you believe that teacher candidates have gender biases?

___ Yes
___ No
___ Not sure

Please select the appropriate number to the right.

	Strongly Disagree	Disagree	Not Sure	Agree	Agree Strongly

I do think it is more appropriate for the mother of a newborn baby, rather than the father, to stay home with the baby during the first year.	1	2	3	4	5
It is as easy for women to succeed in business as it is for men.	1	2	3	4	5
I really think affirmative action programs on college campuses constitute reverse discrimination.	1	2	3	4	5
All Americans should learn to speak two languages.	1	2	3	4	5
I look forward to the day when a woman is President of the United States.	1	2	3	4	5
Generally speaking, men work harder than women.	1	2	3	4	5
I am against affirmative action programs in business.	1	2	3	4	5
Generally, men seem less concerned with building relationships than do women.	1	2	3	4	5
I was very happy when an African American person (Barack Obama) was elected President of the United States on November 4, 2008.	1	2	3	4	5
In the past few years there has been too much attention directed toward multicultural issues in education.	1	2	3	4	5
I think feminist perspectives should be an integral part of the higher education curriculum.	1	2	3	4	5
I feel somewhat more secure that a man rather than a woman, is currently President of the United States.	1	2	3	4	5
In the past few years there has been too much attention directed towards multicultural issues in business.	1	2	3	4	5
Overall, I think racial minorities in America	1	2	3	4	5

complain too much about racial discrimination.					
I feel (or would feel) very comfortable having a woman as my primary physician.	1	2	3	4	5
I think the President of the United States should make a concerted effort to appoint more women and racial minorities to the country's Supreme Court.	1	2	3	4	5
I think white people's racism toward racial minority groups still constitutes a major problem in America.	1	2	3	4	5
I think the school system, from elementary school through college, should encourage minority and immigrant children to learn and fully adopt traditional American values.	1	2	3	4	5
I think there is as much female physical violence towards men as there is male physical violence toward women.	1	2	3	4	5
I think the school system, from elementary school through college, should promote values representative of diverse cultures.	1	2	3	4	5
I believe that reading the autobiography of Malcolm X would be of value.	1	2	3	4	5
I would enjoy living in a neighborhood consisting of a racially diverse population (e.g., Asians, Blacks, Hispanics, Whites).	1	2	3	4	5
Women make too big of a deal out of sexual harassment issues in the workplace.	1	2	3	4	5

What else would you like me to know about you or your program in relation to gender equity? (Open response)

Appendix B – Demographics

What is your age? _____

How do you identify your gender?

___ Male
___ Female
___ Trans-Gender
___ Cis-Gender
___ Other (Please specify)
___ Prefer not to respond

What pronoun(s) do you use to self-identify? Please check all that apply.

___ He/His/Him
___ She/Hers/Her
___ They/Theirs/Them
___ Other (please specify)
___ Prefer not to respond

What is your current marital status?

___ Married
___ Single
___ Divorced
___ Widowed
___ In a committed relationship
___ Other (please specify)
___ Prefer not to respond

What is your sexual orientation?

___ Gay
___ Lesbian
___ Bi-Sexual
___ Queer/Questioning
___ Straight
___ Other (please specify)
___ Prefer not to respond

Do you have a close family member or friend who identifies as gender non-conforming?

___ Yes
___ No
___ Not sure

How many total years of teaching experience do you have in the field of education? ____

Approximately how many years have you been teaching in higher education specifically?___

Please indicate the highest level of education you have attained.

___ Bachelor's Degree
___ Master's Degree
___ CAGS
___ Doctoral Degree

Which of the following best describes your academic rank, title, or position at this institution?

___ Professor
___ Associate Professor
___ Assistant Professor
___ Adjunct Professor
___ Other (please specify)

Do you teach part time or full time at your current institution?

___ Part time
___ Full time

What courses do you currently teach there? Please list a maximum of 5 courses.

Course Name: _____
Course Name: _____
Course Name: _____
Course Name: _____
Course Name: _____

Are the classes you currently teach primarily held online or in person?

___ Online
___ In person

In what state do you teach?

___ Connecticut
___ Maine
___ Massachusetts
___ New Hampshire
___ Rhode Island
___ Vermont

Do you believe that gender equity training would benefit you in your role as a professor?

___ Yes
___ No
___ Not sure

Do you believe that gender equity training would benefit the faculty with whom you teach?

___ Yes
___ No
___ Not sure

Are you comfortable discussing gender equity with your teacher candidates?

___ Yes
___ No
___ Not sure

Do you believe gender equity training would benefit your teacher candidates?

___ Yes
___ No
___ Not sure

Do you think there is a need to include gender equity in your current teacher education program?

___ Yes
___ No
___ Not sure

Do you believe that people can control their biases?

___ Yes
___ No
___ Not sure

Do you believe that teacher gender biases are harmful to students?

___ Yes
___ No
___ Not sure

Do you believe that teacher candidates have gender biases?

___ Yes
___ No
___ Not sure

Appendix C – Jennings's (2007) Survey (adapted)

Approximately how many STUDENTS complete your teacher preparation program each academic year? Please provide your best estimate and express it as a whole number.
Completion of Program Estimate _____
Not sure _____

Approximately what percentage of the STUDENTS enrolled in your teacher education program are female? Please provide your best estimate and express it as a whole number.
Percentage of Female Students _____
Not sure _____

What percentage of the full-time PROGRAM FACULTY at your current institution are female? Please provide your best estimate and express it as a whole number.
Percentage of Female Faculty _____
Not sure _____

In which of the following groups do you place yourself?
___ Native American
___ Latino(a) or Hispanic
___ African American or Black
___ Caucasian or White
___ Asian or Pacific Rim
___ Biracial
___ Multiracial
___ Other (please specify)

As a group, how would you describe the political beliefs of your full-time PROGRAM FACULTY?
___ Very Conservative
___ Conservative
___ Liberal
___ Very Liberal

How would you describe your own political beliefs?
___ Very Conservative
___ Conservative
___ Liberal
___ Very Liberal

Please RANK ORDER the importance the teacher education program at your institution overall explicitly gives to the following topics (1 being the most emphasized, 6 being the least). By ''explicitly'' we mean that the topic has been generally agreed upon by full-time faculty and is expected to be covered in particular courses.
___ Racial/Ethnic Equity

___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity

Think about your top two selections. What are the indicators that led you to respond in this way? (Open response)

Please RANK ORDER the importance you explicitly give to the following topics in the courses that you currently teach (1 being the most emphasized, 6 being the least). By ‘‘explicitly’’ we mean that the topic has been generally agreed upon by full-time faculty and is expected to be covered in particular courses.

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity

Think about your top two selections. What are the indicators that led you to respond in this way? (Open response)

How great a challenge are the following to the inclusion of diversity related topics in your programs’ content?

	No challenge at all 1	A slight challenge 2	A strong challenge 3	So great a challenge as to be impossible 4
Faculty disinterest in the topic	1	2	3	4
Faculty discomfort with the topic	1	2	3	4
Faculty lack of knowledge regarding the topic	1	2	3	4
Students’ disinterest in the topic	1	2	3	4

Students' discomfort or resistance to the topic	1	2	3	4
Time constraints relative to other necessary topics in the program	1	2	3	4
Actual or potential opposition from university administration	1	2	3	4
Actual or potential opposition from community members or groups	1	2	3	4

In which types of classes are diversity topics explicitly addressed? We recognize that all programs are somewhat different, so please check those that appear closest to your program's structure. Please check all that apply.

___ Introduction to the field
___ Foundations (philosophical, social, cultural, psychological)
___ Teaching methods
___ Student teaching/Practica
___ None of the above

Are there courses in the teacher education program where you currently teach that are specifically and solely devoted to any of the following social justice issues? Please check all that apply.

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity
___ None of these issues is explicitly covered in its own class

Are there specific gender equity courses offered at your institution?

___ Yes
___ No
___ Not sure

Does your current institution provide social justice training to professors?

___ Yes
___ No
___ Not sure

Please RANK ORDER the following topics in order of the most likely to be offered for training to the least likely. Please assign 1 to the most likely to be offered, and 6 to the least likely to be offered. (This question was only displayed to participants if they responded "Yes" to the previous question)

___ Racial/Ethnic Equity
___ Language Equity
___ Economic (social class) Equity
___ Gender Equity
___ Sexual Orientation Equity
___ Special Needs Equity

Have you received training in gender equity? Please check all that apply.

___ Yes, as part of my personal undergraduate coursework
___ Yes, as part of my personal graduate coursework
___ Yes, through training offered by the college/university where I currently teach
___ Yes, through training I self-selected and completed on my own
___ No, I have not received training

What else would you like me to know about you or your program in relation to gender equity? (Open response)

Appendix D – Ponterotto et al.'s (1995) Quick Discrimination Index (QDI) (adapted)

	Strongly Disagree	Disagree	Not Sure	Agree	Agree Strongly
I do think it is more appropriate for the mother of a newborn baby, rather than the father, to stay home with the baby during the first year.	1	2	3	4	5
It is as easy for women to succeed in business as it is for men.	1	2	3	4	5
I really think affirmative action programs on college campuses constitute reverse discrimination.	1	2	3	4	5
All Americans should learn to speak two languages.	1	2	3	4	5
I look forward to the day when a woman is President of the United States.	1	2	3	4	5
Generally speaking, men work harder than women.	1	2	3	4	5
I am against affirmative action programs in business.	1	2	3	4	5
Generally, men seem less concerned with building relationships than do women.	1	2	3	4	5
I was very happy when an African American person (Barack Obama) was elected President of the United States on November 4, 2008.	1	2	3	4	5
In the past few years there has been too much attention directed toward multicultural issues in education.	1	2	3	4	5
I think feminist perspectives should be an integral part of the higher education curriculum.	1	2	3	4	5
I feel somewhat more secure that a man rather than a woman, is currently President of the United States.	1	2	3	4	5

In the past few years there has been too much attention directed towards multicultural issues in business.	1	2	3	4	5
Overall, I think racial minorities in America complain too much about racial discrimination.	1	2	3	4	5
I feel (or would feel) very comfortable having a woman as my primary physician.	1	2	3	4	5
I think the President of the United States should make a concerted effort to appoint more women and racial minorities to the country's Supreme Court.	1	2	3	4	5
I think white people's racism toward racial minority groups still constitutes a major problem in America.	1	2	3	4	5
I think the school system, from elementary school through college, should encourage minority and immigrant children to learn and fully adopt traditional American values.	1	2	3	4	5
I think there is as much female physical violence towards men as there is male physical violence toward women.	1	2	3	4	5
I think the school system, from elementary school through college, should promote values representative of diverse cultures.	1	2	3	4	5
I believe that reading the autobiography of Malcolm X would be of value.	1	2	3	4	5
I would enjoy living in a neighborhood consisting of a racially diverse population (e.g., Asians, Blacks, Hispanics, Whites).	1	2	3	4	5
Women make too big of a deal out of sexual harassment issues in the workplace.	1	2	3	4	5

Appendix E – Quick Discrimination Index (QDI) Permission Form

Utilization Request Form

In using the Quick Discrimination Index (QDI), I agree to the following terms/conditions:

1. I understand that the QDI is copyrighted by Joseph G. Ponterotto (Ph.D.) at the Division of Psychological and Educational Services, Fordham University at Lincoln Center, 113 West 60th Street, New York, New York 10023-7478 (212-636-6480); Jponterott@aol.com.

2. I am a trained professional in counseling, psychology, or a related field, having completed coursework (or training) in multicultural issues, psychometrics, and research ethics, or I am working under the supervision of such an individual.

3. In using the QDI, all ethical standards of the American Psychological Association, the American Counseling Association, and/or related professional organizations will be adhered to. Furthermore, I will follow the "Research with Human Subjects" guidelines put forth by my university, institution, or professional setting. Ethical considerations include but are not limited to subject informed consent, confidentiality of records, adequate pre- and post-briefing of subjects, and subject opportunity to review a concise written summary of the study's purpose, method, results, and implications.

4. Consistent with accepted professional practice, I will save and protect my raw data for a minimum of five years; and if requested I will make the raw data available to scholars researching the prejudice construct.

5. I will send a copy of my research results (for any study incorporating the QDI) in manuscript form to Dr. Ponterotto, regardless of whether the study is published, presented, or fully completed.

Signature: Amanda J. Murchison Date: 10·8·18

Name: Amanda J. Murchison Phone: 603·494·1594

Address: 67 Post Road

Hooksett, NH

03106

If a student, supervisor/mentor's name and phone number, affiliation, and signature:

Name: Audrey Rogers, Ed. D. Phone: 603·261·5802

Affiliation: Southern New Hampshire University

Signature: Audrey Rogers Date: 10/3/18

Appendix F – Institutes of Higher Education Network Handout

Amanda Murchison's Dissertation Research and Survey Link

I will be extremely appreciative if you would please forward this link to all of the professors who teach in your teacher education programs!
https://snhu.qualtrics.com/jfe/form/SV_9zc6mmXcxYKVBul

- This study is gathering data on how professors in teacher education programs prioritize social justice issues and what those professors' attitudes are
- Survey will take approximately 20-30 minutes to complete
- Both your teacher education program and individual professors' responses will be kept completely anonymous
- Participants can give consent to complete the survey by clicking "yes" on the first slide. Clicking "yes" indicates that the participant voluntarily agrees to respond to the survey, and that the participant is aware that they can end the survey at any time, for any reason, and without prejudice. If the participant does not wish to engage in this research, they may click "no" on the first slide.
- If you have any questions, please feel free to contact me via email at amanda.murchison@snhu.edu or via phone at 603-494-1594. You are also welcome to direct your questions to my dissertation committee chair, Dr. Audrey Rogers, via email at a.rogers@snhu.edu!

Thank you again for your time in helping me to gather as many responses as possible!

Appendix G – Initial Outreach: Phone

Good Morning!

I am collecting data for my quantitative dissertation, and I would really appreciate your time and help!

My name is Amanda Murchison, and I am a doctoral student of educational leadership at Southern New Hampshire University.

I am researching how professors in teacher education programs prioritize social justice issues in their classes.

I am contacting you to inquire if you might consider asking the professors in your program to participate in my research study by taking a survey?

The survey will take approximately 20-30 minutes to complete. All responses will remain completely anonymous.

I will email you a link to the survey that you can then forward on to the professors who teach in your teacher education program.

Please feel free to reach out to me via email at amanda.murchison@snhu.edu or via phone at 603-494-1594.

Thank you very much for your time!

I wish you all the best in the New Year!

[Goodbye!]

Appendix H – Initial Outreach: Email

Amanda J. Murchison
Doctoral Candidate
Southern New Hampshire University
2500 North River Road
Manchester, New Hampshire
03102

Dear Educational Leader:

I left a voicemail message for you regarding my research, and I wanted to reintroduce myself and outline the research one more time!

I am collecting data for my quantitative dissertation, and I would really appreciate your time and help!

My name is Amanda Murchison, and I am a doctoral student of educational leadership at Southern New Hampshire University.

I am researching how professors in teacher education programs prioritize social justice issues in their classes.

If you are willing to participate, please share the link to the survey with the teacher education professors in your program. Your teacher education program as a whole and individual responses to the survey will both remain completely anonymous.

The survey should take approximately 20-30 minutes to complete. The link below will take the professors directly to the survey. This link will remain live for two weeks. If you have any questions regarding this research, please feel free to email me at amanda.murchison@snhu.edu, or to call me at 603-494-1594.

https://snhu.qualtrics.com/jfe/form/SV_9zc6mmXcxYKVBul

Thank you again for your time!

Best,
Amanda J. Murchison
Doctoral Candidate
Southern New Hampshire University
amanda.murchison@snhu.edu
603-494-1594

Appendix I – Subsequent Outreach: Email

Hello Again!

I am checking in again to ask if you can please help me by taking my doctoral dissertation survey? If you have already provided your response, thank you!

The survey link is:

https://snhu.qualtrics.com/jfe/form/SV_9zc6mmXcxYKVBul

My research questions will benefit from as many responses as possible.

Below is the text of the landing page of the survey. This research has received IRB approval from Southern New Hampshire University.

I truly appreciate your time and help! Thank you again!

Best,
Amanda Murchison
Doctoral Candidate
Southern New Hampshire University
amanda.murchison@snhu.edu
603-494-1594

I am collecting data for my quantitative dissertation, and I would really appreciate your time and help!

My name is Amanda Murchison, and I am a doctoral student of educational leadership at Southern New Hampshire University. I am researching how professors in teacher education programs prioritize social justice issues in their classes. Data will be aggregated and used to determine these priorities. There are minimal risks to responding, and unfortunately there is no compensation except a deep appreciation for your time. The benefits will include learning how teacher educators prioritize social justice issues.

This survey should take approximately 20-30 minutes to complete.

The teacher education program in which you teach and your individual responses to the survey will both remain completely anonymous.

You can give consent to participate in this survey research by clicking the "yes" button, below. **Clicking "yes" indicates that you voluntarily agree to respond to the survey, that you are at least 18 years of age, and that you are aware that you can end the**

survey at any time, for any reason, and without penalty. If you do not wish to participate in this research study, please click the "no" button, below.

If you have any questions or concerns regarding this research, please contact either the chair of my dissertation committee, Dr. Audrey Rogers, at a.rogers@snhu.edu, or the Institutional Review Board of Southern New Hampshire University, at irb@snhu.edu.

If you are interested in the findings of this research study, please contact me at amanda.murchison@snhu.edu to receive a copy of the cumulative survey results.

Thank you for your time!

- o Yes
- o No