TEACHERS’ BELIEFS ABOUT GENDER DIFFERENCES IN SINGLE-SEX CLASSROOMS

By

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Ontario Institute for Studies in Education

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Abstract

Some argue that girls’ and boys’ education should be based on biological differences between learners, while other studies argue that sex-based instruction problematically dismisses or ignores issues of gender. Using a qualitative design, this study addresses two main research questions concerning teachers’ beliefs about the salience of gender in their single-sex classrooms, and how teachers’ beliefs about gender shape their pedagogy. The 6 participating teachers were selected randomly from private, single-sex schools in the Greater Toronto Area. The results show teachers did not take a firm stance on “gender exploitive” (i.e., working with dominant gender constructions and stereotypes) or “gender transformative” (i.e., working against and to challenge dominant gender constructions and stereotypes) pedagogies and shared experiences that both reinforced and challenged gender norms. Conclusions drawn support the need for further professional development to build teacher capacity to effectively respond and address gender and gender issues in their classrooms.
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Chapter 1

Introduction

Single-sex classrooms are seen as attractive learning spaces for boys and girls because programs are designed to include pedagogical strategies that are believed to cater to the unique needs of girls and boys as learners. Some argue that single-sex learning should be centered on what are believed to be biological or sex-based differences in learning between boys and girls (Gurian, Henley & Trueman 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006ab). In this literature, primary justifications for separating boy and girl students into different schools and/or classrooms include: improvements in student academic achievement, decreasing rates in bullying, the elimination of gender biases, and meeting biological or sex-based differences for the human anatomy, especially the brain (See Barnett et al., 1999; Eliot, 2011; Johnson & Gastic, 2014ab; Kaufmann, Elbel, Goessl, Puetz & Auer, 2001; Pahlke, Bigler & Patterson, 2014; Pahlke, Hyde & Allison, 2014; Slayer, Lund, Fleming, Lephart & Horvath, 2001; Spielhagan, 2011). However, in opposition, some scholars argue that a focus on biological or sex-based differences in learning ignores the social dimensions of learning or in other words, the way gender – as a social construction – influences learning styles and processes of different students (Berenbaum & Blackmore, 2011; Muehlenhard & Peterson, 2011; Signorella & Bigler, 2013; Zosuls, Miller, Ruble, Martin & Fabes, 2011).

Segregated programming for boys and girls can represent a helpful method for improving learning outcomes, but it can also reinforce socially constructed stereotypes about girls’ and boys’ behaviour and abilities (see Johnson & Gastic, 2014ab; Spielhagan, 2011). For example, de Kraker-Pauw, Wesel, Verwijmeren, Denessen & Krabbendam’s (2016) suggest that male teachers have an implicit belief about the abilities of boys and science, technology, engineering, and math (STEM). Men that teach STEM subjects link independent learning with boys and “for male teachers only, teaching in the STEM domain was associated with stronger gender-related beliefs linking male gender to STEM abilities and female gender to non-STEM abilities” (de Kraker-Pauw et al., 2016, p. 337). Current thinking and research on single-sex schooling tends to consider gender differences in learning as rooted in biological differences in the brain between boys and girls, with little attention paid to gender—a social factor crucial to a child’s learning (Johnson & Gastic, 2014b; Rivers & Barnett, 2011).
When gender is conceived as a static category of biological sex, it is unlikely that the dynamics of gender and gender identity and their various components, including masculinity and femininity, can be articulated in their relationship to the social and developmental context of schooling. (Johnson & Gastic, 2014b, p. 127)

Supporters of single-sex learning tend to prescribe instructional strategies from a biological perspective in which sex differences are linked with students’ ability to learn. Thus, students’ learning abilities are viewed as determined by their sex at birth and teachers must instruct based on their students’ biological needs because inherited learning abilities cannot change (Gurian et al., 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006). From this biological perspective, teachers are believed to need training focused on helping them understand and be able to respond pedagogically to what are seen to be biological or sex-based differences between boys and girls (Pahlke et al., 2014c). However, within a social perspective, Driessen and Van Langen (2013) argue that scholars see learning behaviours based on brain or biological differences as “neuromyths”; which are misconceptions concerning boys’ and girls’ learning abilities based on brain-based differences and scientific justifications (p. 71). The biological theoretical perspective highlights the belief that single-sex schooling provides segregated instruction to meet the needs related to the biological differences in learning styles between girls and boys (Pahlke et al., 2014c).

In this study, I used a gender inclusive lens to challenge the current scientific belief that boys and girls learn differently based on biological or sex-based differences in learning (Eliot, 2011; James, 2009). Furthermore, a gender inclusive framework helps to challenge differences categorized for boys and girls based on inherited learning abilities as a function of their sex at birth. Parker and Rennie (2002) stress that gender inclusive practice include structuring classrooms with harassment free discussions, establishing real-life contexts that are familiar to both boys and girls, address socially constructed experiences and hegemonic influences, and provide opportunities for all students. Additionally, “take account of diverse ways of knowing, viewing and describing the world”; as well as, challenge dominant ways of thinking “about what kinds of knowledge are valued and legitimated” (p. 882-3). A socially gendered perspective does not regard learning processes to be fixed based on innate abilities but addresses learning processes to be fluid based on a spectrum of social experiences constructed on dominant ideologies of gender. Studies have shown that gender conforming peers in the classroom generally disapprove of gender non-conforming behavior and produce negative reactions;
resulting in the victimization of adolescents who do not conform to group norms of gender expression (Drury, Bukowski, Velásquez, & Stella-Lopez, 2012; Goodkind, 2012; Rayside, 2014). Additionally, teaching techniques that support gender biases reinforce beliefs and assumptions about the learning potential of boys and girls that are not scientifically based (Signorella & Bigler, 2013). The recruitment of teachers in this study samples from six teachers who teach in an all-boy or an all-girl private school from grade seven to grade twelve to reflect this study’s focus on teachers’ beliefs about gender differences in their classroom.

Context: Reasons for Single-Sex Schooling

Some say that although there is not a determining significance between single-sex and co-educational classrooms, there is still a moderate difference in learning achievement that needs to be considered (Bigler & Signorella, 2011). In Canada, there were 535 elementary and secondary private schools in Ontario in 1984; and within the last two decades it has grown to over 900 private schools (Aurini & Quirke, 2011; Lawton, 1986). The philosophy of single-sex schooling stems from biological theories that concern meeting the needs of brain anatomy and brain functions; rather than social experiences (Eliot, 2011; Gurian et al., 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006). Views concerning the purpose of single-sex schooling vary depending on a multitude of perspectives, experiences, values, beliefs, and ideologies (Pahlke, Bigler, & Patterson, 2014). In this literature, the assumption is that learning behaviours are inherited biologically and therefore cannot be modified; rather, sex-based learning behaviours may be accommodated by instructional strategies thought to be best suited for boys and for girls respectively (Eliot, 2011; Tavris, 1992).

Jull (2002) explains that the bureaucracy within the Canadian public system includes socio-political ideologies that are constructed around “the so-called nature of sex, gender, and the natural distribution of knowledge-power” (p. 13). Thus, discrimination, stereotyping, sexism, and gender bias must be viewed within a systemic and hierarchical lens, which is why some, like teachers, find it challenging to overcome in their classroom. Although, there have been historical social movements that challenge sex-role positionality in society, perceptions about “natural roles” continue to dominate the status quo (Muehlenhard & Peterson, 2011; Liben, 2015). Authors such as Barnett et al. (1999), Eliot (2011), Johnson and Gastic (2014ab), Kaufmann et
al. (2001), Pahlke et al. (2014abc), Slayer et al. (2001), and Spielhagan (2011) argue that research supporting biological or sex-based differences in learning tends to dismiss social barriers (i.e., gender), created and or reinforced, when the recommendations from this work are applied to policy and practice. In single-sex schools there is a belief that gender discrimination does not exist because there is only one gender in the classroom; however, gender biases, gender discrimination, sexism, and gender identity are existing social issues that affect a student’s learning even in a sex-segregated classroom (Johnson & Gastic, 2014a; Kearns, Mitton-Kukner & Tompkins, 2017; Pahlke et al., 2014ab). Biological or sex-based differences are not entirely an accurate depiction of a student’s learning abilities and behaviors in the classroom. My study gave teachers the opportunity to express their opinions, beliefs, and values of gender and its importance (or not) in shaping their pedagogical practice.

Statement of the Problem

Some teachers believe in using a biological framework to assess students’ neurological and psychological needs but if they are not careful, teachers can also reproduce gender categories that socially feminize or masculinize student behaviour, interests, skills, and learning abilities. A large body of popular media includes prescribed instructions for teaching students in single-sex classrooms and parents and teachers have been influenced to believe that boys and girls learn differently based on brain differences (Gurian et al., 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006). Since the body of literature focuses on biological perspectives of learning differences, there is a lack of research that highlights social perspectives of learning differences. Consequently, teachers may categorize all girls and boys to possess innate skills based on genetic or hormonal processes that largely determine their learning styles and would be deemed “unnatural” if challenged (Liben, 2015, p.410). Pahlke et al.’s (2014a) study found that single-sex settings are dependent on teachers who interpret policies based on their beliefs or reasons for single-sex schooling. By sampling 115 teachers in single-sex schools, Pahlke et al., (2014a) found that teachers support single-sex education to endorse brain-based gender differences in learning between boys and girls; but, these findings suggest that it is possible that teachers’ beliefs are associated with stereotype endorsement. Teachers may unconsciously or consciously apply pedagogical strategies that are based on beliefs about biological or sex-based roots of learning differences between boys and girls, thereby contributing to the reproduction of
dominant norms and attitudes of masculine and feminine learning styles, needs, and abilities (Signorella & Bigler, 2013). As a result, research that includes teachers’ perspective about gender in single-sex classrooms can illustrate on-the-ground challenges and experiences brought forth by dominant ideologies.

With reference to Canada, David Rayside (2014) argues that school policies tend to dismiss gender equity advocacy which impedes on the development of inclusive and safe climates in schools. Rayside (2014) indicates that educators are “poorly trained on sexual diversity issues” and that gender identity was a “fleeting mention” in its report (Shaping a Culture of Respect in Our Schools) for gender-based violence in educational facilities (p.198). Teachers deal with the lack of adequate educational administrative support and professional development in advancing their awareness of gender discriminatory issues in schooling and their ability to support non-gender conforming ideologies. Empirical studies that implement a micro-level perspective in their research emphasizes individual experience which helps to problematize specific social challenges compared to macro-level perspectives which produces a generally broader perspective of populations. Since current research lacks attention to on-the-ground, micro-level experiences of teachers in single-sex schools, this study used interviews to collect data from teachers concerning their beliefs about gender in single-sex classrooms and how they seek (or not) to address gender differences in their practice.

Micro-level data analysis helps to address issues that occur in classrooms and may even give policy makers ideas on improving classroom practices and offer new paths for future research on improving teaching practices. Studies such as, Spielhagen (2011), interviews teachers who teach in middle school single-sex classrooms to gain their perspective of issues that occur on a daily basis. Findings such as administrative support and the need for more professional development provides researchers and policy makers valuable information to implement changes directly into classrooms (See also, Malins, 2016; Martin & Beese, 2016). Micro-level research considers variables such as social context of schools, teaching experiences, and beliefs about sex differences to shape a teacher’s pedagogical approach (Maher and Tetreault, 1993; Martino and Frank, 2006; Parker et al., 2002; Spielhagan, 2015). Understanding a teacher’s beliefs about gender is a good foundation in interpreting every day issues in classrooms and teacher beliefs about the source of learning differences and learning needs (i.e., whether they are biologically or
socially rooted) to inform pedagogical practices. Depending on one’s perspective, this could lead to misunderstanding learning outcomes, and also, the reproduction of dominant and oppressive gender norms and behaviours.

**Research Questions**

The two research questions guiding this exploratory study were: 1) **What beliefs do teachers in single-sex schools have about the nature and significance of gender differences in learning processes?** 2) **To what extent and in what ways do teachers’ beliefs about gender differences in single-sex schooling shape their pedagogy?** The findings contribute to insights about teachers, their beliefs and practices, and their beliefs concerning the effectiveness of their practices (Lee et al., 1994; Pahlke et al., 2014a; Watt et al., 2012).

**Locating the Researcher**

This study stems from my experience as an educator who has had experience working in the Toronto public school board and a private single sex-classroom in the GTA. My professional experiences were marked by differences and tensions between the way I understood and approached issues of gender in the classroom, and the way teachers, principals, and parents seemed to. With a background in gender studies, special education, feminism, policy research, research and education, and my professional practice as a teacher, I attempted to introduce content and apply pedagogical strategies that I felt would help raise students’ awareness and challenge dominant gender norms. I gave students novels that included the main character experiencing different gender identities; however, my efforts were largely unsuccessful. Students were not able to relate to the character and did not accept the idea that gender included multiple identities other than male and female. Students knew gender to be a binary concept and understood gender to have specific social rules that determine innate human characteristics and behaviours based on a person’s biological sex. Reflecting on these experiences, I believe that powerful and deeply entrenched patriarchal values and beliefs linked to dominant masculinity in the private all-boys school context that I worked in, served to effectively thwart my efforts to challenge gender norms and stereotypes through my work (Breunig, 2009; Russell, McPherson & Martin, 2001). Thus, I experienced a gap between research and practice with respect to problematizing social issues in my classrooms when using a gender equitable lens.
Consequently, I was forced to follow the status quo in order to keep students interested in learning, and meet the expectations of parents, the principal, as well as my colleagues. As a result, the attempt to provide students with new perspectives and challenging content concerning masculinity and femininity was not successful due to students’, parents’, and principals’ beliefs about the importance of conforming to social norms to maintain social acceptance and legitimacy as a professional.

Significance of the Study

There is an existing gap in the literature concerning the significance of gender in single-sex schools and classrooms. More specifically, little is known about how teachers’ beliefs about gender in the classroom influence their professional practices. For example, Pahlke, Bigler and Patterson (2014) argue that, “research on stakeholders’ views of single-sex schooling is needed to better understand the factors that drive policies related to gender segregation in educational contexts” (p. 261). It is essential to gain on-the-ground perspectives from teachers to evaluate their stance on biological or sex-based differences in learning and their responses to gender in a single-sex environment because it also has an impact on student learning and development. Currently, there is tension between applying research into practice, which disconnects teachers, students, parents, and principals with understanding how to approach and practice teaching and learning (Hooks, 2015). Research that collects data from on-the-ground experiences connects researchers to teachers, which supports teachers in making systemic level changes. Filling this gap will serve policy makers a crucial look into classroom dynamics and comprehensive school-wide changes on gender inclusivity. Issues such as bullying, harassment, and marginalization of gender non-conforming students addresses the need for policies that implement safe schools and climates (Rayside, 2014). Canadian school boards are required by law to deal with gender expression discrimination and gender; thus, this research helps to address gender related issues, such as the curriculum, dress codes, gender neutral restrooms, and students’ learning abilities (Bowers & Lopez, 2013).

Definition of Terms

The terms defined below are used to describe concepts used to analyze data from the interviews of teachers. The terms have been pulled from scholarship using gender inclusive frameworks
related to issues concerning gender norms to anchor their analysis. The terms in this section help to describe specific pedagogical approaches related to gender inclusivity and are addressed later in the data analysis to locate the frequency of gender inclusive or gender conforming teaching practices.

*Sex:* Biological differences between men and women (UNGEI, 2012, p. 3).

*Gender:* The social and constructed differences in women’s and men’s roles and responsibilities, which are learned, vary from culture to culture and change over time (UNGEI, 2012, p. 3).

*Gender Aware:* “Policies and programs that examine and address the culturally-defined set of economic, social, and political roles; responsibilities; rights; entitlements; obligations; and power relations associated with being female and male; and the dynamics between and among men and women, boys and girls” (The Gender Integration Continuum, 2017, n.p.).

*Gender Blind:* “Policies and programs that ignore gender considerations altogether. Designed without prior analysis of the culturally-defined set of economic, social, and political roles; responsibilities; rights; entitlements; obligations; and power relations associated with being female and male; and the dynamics between and among men and women, boys and girls” (The Interagency Gender Working Group, 2017, n.p.).

*Gender Exploitative:* “Policies and programs that intentionally or unintentionally reinforce or take advantage of gender inequalities and stereotypes in pursuit of project outcomes, or who’s approach exacerbates inequalities. These inequalities and stereotypes are harmful and can undermine program objectives in the long run” (The Interagency Gender Working Group, 2017, n.p.).

*Gender Transformative:* “Fostering critical examination of inequalities and gender roles, norms, and dynamics… Recognizing and strengthening positive norms that support equality and an enabling environment… Promoting the relative position of women, girls, and marginalized groups, and transforming the underlying social structures, policies, and broadly held social norms that perpetuate gender inequalities (The Interagency Gender Working Group, 2017, n.p.).
Biological or Sex-Based Differences in Learning: Differences in learning between boys and girls, men and women based on the scientific belief that there are differences in the brain.

Gender Bias: “The underlying network of assumptions and beliefs held by a person that males and females differ in systematic ways other than physically, that is, in talents, behaviours, or interests” (Streitmatter, 1994, p.2).

Gender Identity: “Relates to a person’s inner sense of being male, female, or something else” (Bowers and Lopez, 2013, p. 245).

Gender Inclusive Practices: Address social diversity, create harassment free discussion, challenge dominant social constructions and hegemonic influences, use contexts that are familiar to boys and girls, and challenge dominant kinds of thinking and knowledge (Parker & Rennie, 2002).

Pedagogy: Teaches’ conceptions of engagement, educational aims for students, and the ways in which teachers frame their practice (Bullock, 2017; Vibert & Shields, 2003).

White Ribbon Campaign: A social movement that encourages boys and men to acknowledge gender-based violence and promotes positive social changes

Chapter Summary

Single-sex schooling is the primary setting for my study to address teachers’ beliefs about gender and how it shapes the nature of their practice. To frame the analysis, I used a gender inclusive lens to analyze teachers’ experiences, challenges, and beliefs about instruction rooted from gender differences between girls and boys. In the second chapter, a body of literature is synthesized, dedicated to challenging stereotypical notions that socially categorize students’ learning abilities based on beliefs rooted in brain differences and the human anatomy. The literature highlights the debate between gender as rooted in biological perspectives or gender as rooted in social perspectives. Additionally, chapter two includes a literature review that describes the importance of teachers’ beliefs and its influence in the classroom and also includes the

https://www.whiteribbon.ca/?gclid=EAIaIQobChMI_oTAoYTj3AIVBrjACCh0YUQnYEAAYASAAEgJ7jPD_BwE
conceptual framework which reviews the analytical approach for the participant interviews. The following chapter includes profiles of each participants and includes a summary and analysis of their interviews. The concluding chapter presents a cross-case analysis of the participants, which show similarities and differences of their experiences teaching in single-sex classrooms; as well as illustrate findings and discussion to the research questions. Further reflections on the significance of the study and recommendations are made to demonstrate the need for further research for gender inclusivity in single-sex classrooms.
Chapter 2

Literature Review

Introduction

The literature review in this chapter is centered on teachers and their approach to teaching based on their knowledge and beliefs about gender inclusivity or biological or sex-based differences in learning. Feminist education is one movement that campaigns to integrate gender inclusive practices in schools to promote equal treatment, access to education, inequity awareness, and agency for men and women (DeLuca, 2012). Author and feminist, Bell Hooks (2015), describes feminist education as removing biases from curriculum and pedagogy. She notes that feminism helps to challenge male dominant ideologies, bring awareness to race, class, and gender, and address realities of both women and men. The literature comes largely from Canadian, American, and Australian contexts, and includes a range of studies that use a gender inclusive lens to challenge gender norms and studies that engage biological perspectives that do not challenge gender norms in single-sex schooling. The chapter describes why teachers’ beliefs matter, gender inclusive practices, gender identity, pedagogical challenges, and the significance of a teacher’s gender affecting student learning.

Why Teachers’ Beliefs Matter

Rayside (2014) argues that Toronto public school boards do not recognize gender inclusivity as an important pedagogical approach because of the public’s belief about the absence of multiple gender identities in single-sex settings. This is due in part to schools’ lack of awareness of harassment and bullying caused by homophobia, sexism, gender non-conformity, and gender discrimination. In some studies that survey teachers’ beliefs before and after the school year, it has been suggested that teachers share the belief that boys and girls learn differently based on biological or sex-based differences (see for example, Martino & Frank, 2006). A teacher’s views, experiences or beliefs can be shaped by the context of their school and the dominant beliefs of educational stakeholders, including those held by educational administration, other teachers, parents, and students: “Beliefs can have a stereotypical character when they involve customary assumptions about traits and behaviours that people in a particular category are thought to
possess” (De Kraker-Pauw et al., p. 333, 2016). Martino and Frank’s (2006) study found that men teaching in all-boy classrooms were influenced by their students’ gender identity in ways that served to maintain hegemonic masculinity norms to meet masculine behaviours and interests (such as talking about sports in class). Having to participate in the normalization of gender norms and reinforcement of gender stereotypes limits a teacher’s pedagogical potential, and schooling outcomes more broadly, with the dominant gender regime shaping the way teachers and students behave in class (Bauer, 2000; Brown & Silber, 2000).

Gender discrimination in terms of socially constructed roles assigned to men and women in teaching, determines how men and women should practice teaching based on feminine and masculine career roles. A woman teaching in an all-boys classroom may not have the same opportunities as a man to build healthy rapport with students because of their “feminine” identity and the concomitant assumption that she does not share the same interests or experiences as her students. Lee, Marks, and Byrd (1994) describe how institutional settings create a climate that categorizes traditionally feminine and masculine roles which in turn affects student and teacher behaviour (See also, Dei, 2010). Thus, it is essential for teachers to challenge the status quo and maintain a climate free from stereotypes so that students can believe that they can pursue any career or identity they want. Additionally, teachers can raise awareness and critical consciousness of the gender regime and constructions of masculinity and femininity. Teachers’ beliefs matter because they are influential to students’ learning experiences and these beliefs can be shaped by the teachers’ ideologies about gender and/or it can be shaped by systemic social gender norms, forcing teachers to maintain the dominant status quo.

The teacher is said to have a key influence on students’ achievement in the classroom (Brown & Silber, 2000; Hallinan, 2008; Lee, Marks, & Byrd, 1994; Sanders, 2000). Thus, a teacher’s beliefs and values as they inform teaching practices, consequently impact the way students learn as well as impacting the broader learning environment (Vollet, Kindermann & Skinner, 2017). A teacher may hold a gender stereotypical belief about the way students particularly learn, which in turn affects students’ learning experiences and outcomes (Astit, Feather & Keeves, 2002; Hallinan, 2008; Macleod & Nápoles, 2015). A stereotype is a “cognitive structure that contains the perceiver’s knowledge, beliefs, and expectancies about some human group” (Bigler & Liben, 2006, p 42). Scholars (see for example, Bigler & Liben, 2006; Erling & O’Reilly, 2009;
Lee et al., 1994; Pahlke et al., 2014a; Rivers & Barnett, 2011; Watt et al., 2012) argue that teachers who believe in theories about brain-based differences in learning between boys and girls tend to use and reproduce gender stereotypes through their professional practice (James, 2009). In other words, teachers who believe in brain-based differences in learning engage and teach young children in ways that reproduce socially constructed stereotypes, and perform masculinities and femininities based on hegemonic notions of gender (for example, how boys or girls should dress) (Bigler & Liben, 2006).

Implementing Gender Inclusive Practices in the Classroom

Esiobu (2011) describes gender inclusive practices as working toward the, “elimination of all practices that are discriminatory to either sexes especially girls and women, thereby, providing a level playing ground for all to learn, operate and excel (p. 245). Parker and Rennie (2002) and Schniedwind (1993) argue that gender inclusive practices in a single-sex classroom should encourage students to communicate, use interpersonal negotiation, interact, and generate harassment-free discussions. Brown and Silber (2000) argue that gender inclusive practices are treated as a social justice issue where students should be encouraged to critically analyze dominant ideologies and forms of power that shape gender discriminatory practices. Brown and Silber’s (2000) study looks into the perception of pre-service teachers and found that teachers applying a gender inclusive approach would ask students to:

- reflect on their own school and personal experiences as a gendered person.
- conduct focused observations in classrooms.
- analyze literature and folk tales for stereotypes.
- role-play sexual harassment.
- analyze videos of classroom interaction and Toys-R-Us catalogs.
- read and discuss research.
- develop a portfolio that has a section on gender (p. 158).

Teachers can utilize any course material or resources to challenge dominant hegemonic norms that reflect their beliefs and values about gender and at the same time, meet the needs and cater to the interests of their students. Bauer (2000) suggests that teachers use books that reflect on diversity and create discussion about systemic power, such as race, sex, class or sexual orientation, which may shape a person’s life experiences. Bell Hooks (2015) emphasizes that, Children’s literature is one of the most crucial sites for feminist education for critical consciousness precisely because beliefs and identities are still being formed. And more often than not narrow-minded thinking about gender continues to be the norm on the
playground. Public education for children has to be a place where feminist activists continue to do the work of creating an unbiased curriculum. (p.23) Although, there are several different strategies or theories about how to implement inclusivity and equity in classrooms, teachers still experience pressures that can constrain them from fully implementing gender inclusive practices because of a gendered status quo and regime (Brown & Silber, 2000).

Miller (2018) argues that in general, institutional practices and policies are designed to legitimate dominant gender norms and these are rarely challenged; individuals who are non-gender conforming risk encountering negative social, emotional, academic, and health consequences. Teachers can be forced to negotiate their power to maintain hegemonic masculinity or femininity in order to gain acceptance from students, other teachers, school administrators, or parents (Edwards & Richards, 2002). Although teachers may face micro and macro-level constraints in their efforts to promote gender inclusivity, there are nonetheless positive outcomes to be realized when teachers are given an opportunity to implement gender inclusive supportive content and practices in their classrooms (Larkin & Staton, 2001). Parker and Rennie’s study (2002) looks into the benefits of single-sex classrooms to teach science and mathematics and reveals important insights about challenging gender conforming behaviour in the classroom as an important practice in gender inclusivity. Due to some concern over teachers who find it challenging to overcome social barriers, some teachers seek to enhance their knowledge and ability to challenge social barriers by taking professional development courses.

Malin’s (2015) study includes interviews of five teachers in Ontario who teach in co-educational classrooms and addresses their interest for professional development workshops to enhance their knowledge about the concept of gender. One teacher found it difficult to define gender and others related gender identity to stereotypes about masculinities and femininities. Additionally, one teacher expresses concern for “how deeply” they can talk about gender in classrooms because of parental and cultural limitations and the guidance needed to address issues concerning gender stereotyping and discrimination (p. 135). With the revision of the health and physical education curriculum in Ontario, starting in 2010, teachers were given support by policy makers, researchers, principals, parents, and students to be more open about speaking about sexual activity and sexual diversity with their students and with parents (Rayside, 2014). Prior to this,
sexual diversity and sexual health was and still may be an uncomfortable topic in the classroom and the household.

In the midst of increasing recognition that more supports are needed to fully include LGBTQ youth and their families in schools, is the topic of gender. Schools often serve as contexts where students come to narrowly understand gender roles and expectations, which limits the gender expression of all youth, since those who do not conform or perform their gender roles are vulnerable to harassment and bullying (Rayside, 2014). Professional development is one solution to encouraging teachers to challenge gender normativity; however, Cuenca (2010) argues that pre-service teacher training courses focus too much on theory rather than how to develop teaching practices in a classroom setting. Hooks (2015) argues that institutions have made understanding theories exclusive to “academic politics” which disconnects people from understanding social movements, such as feminism, which moves away from the realities of women and men (p. 22; see also Harris & Leonardo, 2018). Gender inclusivity may be taught within a broader discourse but its application in co-ed or single-sex settings is not usually addressed adequately in teacher pre or in-service training and professional development.

Pedagogical Challenges of Teachers Integrating Gender Inclusive Practices

Some of the challenges that teachers experience when considering gender inclusivity in their classroom are: not enough administrative support, teaching environment affecting the teacher’s ability to practice inclusivity, power and autonomy, sex discrimination and oppression.

School Administrative Support

Teachers are not given the support needed by their school administration to implement a gender inclusive environment. Administrative leaders, such as principals, can hold traditional views and perceptions of gender that can force teachers to reinforce stereotypes about the way girls and boys learn in schools. Furthermore, Martin and Beese (2016) argue that gender biases can implicitly or explicitly reinforce existing social inequalities that deem boys and girls different and influence what “students learn about values of the school and the expectations of adults” (p. 97). The hidden curriculum highlights what is being taught in schools and classes about specific

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2 During the writing of this thesis, a change in provincial policy (Premier Doug Ford) removed this new curriculum and directed teachers to teach the 1998 sexual health curriculum.
values and beliefs that are not a part of the formal education curriculum (See, Tompkins, Kearns & Mitton-Kukner, 2017). Principals, vice principals, guidance counsellors, and other teachers can form a hidden curriculum that reflects their current ideologies about gender and how it can influence discussions in classrooms and resources collected for teaching (Apple, 2014; Martin & Beese, 2016). For example, women and girls are still being underrepresented in textbooks which can undermine a girl’s abilities in non-traditional career roles and enforce stereotypical identities, such as domesticity and passivity (Martin & Beese, 2016).

**Teaching Environment**

Malins (2016) expresses concern for teachers who have to overcome boundaries within their teaching environment to challenge the dominant status quo. The teaching environment includes social factors such as parents, students, culture, religion, dominant beliefs and values, and socio-economic status, which shape classroom norms and develops a culture which can help support or hinder a teacher’s ability to practice gender inclusivity in classrooms. Parents can heavily influence a teacher’s pedagogical approach and shape the schools culture with dominant beliefs and values concerning social norms that can also be preserved in the household (Malins, 2016). Within a private school perspective, teachers may be forced to follow social rules enforced by parents because of parents’ economic influence on the school and “selective admission policies” that result in "affluent clientele" (Lee et al., 1994, p. 98). Research conducted by Meyer (2007 & 2009) suggest that Canadian teachers are limited by parents in creating discussions concerning gender and sexual identities in elementary education (See also Martino & Cumming-Potvin, 2011, 2014; Robinson & Feralja, 2001 & 2008). Pleasing parents and modifying lesson plans to meet dominant beliefs and values can force teachers to maintain the status quo and reproduce gender stereotypes that take away a teacher’s power and autonomy to implement inclusive practices; which is discussed in the section below.

**Power and Autonomy**

Another challenge that teachers may face in the classroom is practicing the power and autonomy to encourage students to challenge gender because of dominant social norms that shape a school’s culture. Furthermore, teachers experience challenges applying equitable practices due to the ideals, beliefs, and values that may come from educational stakeholders such as parents,
students, and administrators. Gore (1990) explains that teachers have the pressure to “empower” their students to become the best that they can; however, teachers often do not have the proper training to exercise the necessary power to do so. By simply choosing to question the power and authority of a dominant culture, teachers are often criticized and feel the need to give up their power to meet the needs of administrators, students, parents or other teachers: “Sharing power may be too threatening to many teachers, preventing them from creating the mutuality needed in effective student-teacher relationships” (Edwards and Richards, 2002, p. 37). Maher and Tetreault (1993) consider how institutional contexts shape and constrain classroom practices because gender difference is embedded within a dominant social structure and schools can be dominated by traditionally patriarchal standards.

**Gender Discrimination and Oppression**

Lastly, women in the teaching profession struggle to exercise power in the workplace compared to men due to gender oppression and discrimination (Stockdale & Nadler, 2013). Women are socially gendered subjects who deal with stereotypes and biases about their pedagogical approach and for women who try to challenge the status quo and traditional practices, they often must deal with expectations that they be a ‘mother figure’ in their classrooms; which is presented as a role that women ‘naturally’ embody and practice in education (Breunig, 2009; Greig, 2011; Weiler, 2001). Women constantly have their power or authority challenged and questioned by social norms and practices that emphasize an unequal valuation of difference based on biological or sex differences (Briskin, 1990; Coulter & Greig, 2008). Women also face violence, sexual harassment, gender wage gap, oppression and abuse in the workplace, which automatically takes away a woman’s power and rights (Crenshaw, 1991; Basfrod, Offermann & Behrend, 2014; Sangha, Slade, Mirchandani, Maitra & Shan, 2012). In addition, women and men may encounter challenges related to heterosexual norms in relation to their sexual orientation—where men and women deal with issues concerning homophobia and heteronormativity (Kearns et al., 2017; Kehler, 2010).

**Gender Identity**

Often, the concepts of gender and sex are blended together or blurred in a single-sex classroom because of the assumption that gender discrimination and sexism do not exist in single-sex
settings (Pahlke et al., 2014b). Slovin (2016) drew analysis from teachers in a co-educational elementary school in Canada and found that there is tension between understanding gender identity and maintaining traditional gender norms; teachers were uncertain about the “truth” in science and their beliefs about gender non-conformity (p. 531). Students in single-sex classrooms can appear as one gender and sex; however, a growing number of students identify as non-gender conforming and/or as having a fluid gender identity (Ingrey, 2013). DeLuca (2013) argues that gender identities are “complex and dependent upon other social identities such as race, religion, and sexuality, with gender identity thought to be fluid and shaped by institutional and social structures” (p. 317). Students and teachers find themselves following dominant gender norms embedded within their school’s culture, and beyond, and face challenges related to systemic gender hierarchies: “When [non-gender conforming] children are frustrated and cannot express their felt identity, behavioural problems can surface and in some cases suicide ideation occurs” (Bowers & Lopez, 2013, p. 246). Additionally, Johnson and Gastic (2014) find that non-gender conforming students are more likely than their cis-gender counterparts to experience bullying in both co-educational and single-sex classrooms.

Maher and Tetreault (1993) acknowledge the importance of identifying societal positions that shape one’s identity rather than considering biological difference as an essential factor: “positionality points to specific and changing contextual and relational factors as crucial for defining our identities and our knowledge—as women, as teachers, as students—in any given situation” (p. 29). Identifying race, class, and sexuality helps to deconstruct false dichotomies, especially for students of colour in single-sex classrooms (Goodkind, 2013). Inclusivity acknowledges all forms of oppression, discrimination, and harassment to criticize systemic and hegemonic norms in society. As a result, teachers must consider the concept of gender within their inclusive practices to recognize their position in the classroom, the context of the school, and their students’ social identity. One approach to identifying students’ multiple social identities is applying an intersectional lens to be aware of multiple perspectives and voices. For example, students in a single-sex classroom can identify themselves with a non-conforming gender and sexual identity, as well as, be a racial minority who faces challenges with being a sexual and racial minority at the same time. By using this framework in the analysis of the interviews in the current study, intersectionality theory helps to account for not one but multiple social experiences that shape a teacher’s pedagogy, beliefs, and behavior. Social experiences such as
sexism, racism, and class can represent challenges concerning their identity at community and systemic levels and their ability to apply gender inclusive or gender reinforcing practices in their classrooms (Crenshaw, 2009).

Gender identity is not a fixed but fluid concept that highlights multiple definitions of gender identity, femininity, and masculinity (Miller, 2018). Historically, within the North American context, a White patriarchy has dominated and produced racial and gender inequalities, resulting in students of colour experiencing more oppression, harassment, and bullying compared to students who are White (Goodkind, 2012). In the U.S, public single-sex schooling was a solution for students of colour to overcome racial challenges, especially for African American students. Goodkind (2012) argues that providing a “safe” space for African American students in single-sex schooling creates binaries about the learning potential of Black and White students. White masculinity and femininity creates standards that African American students cannot achieve and thus, fail at achieving successful academic outcomes. Furthermore, students and teachers of colour, who are Indigenous, and who experience socio-economic challenges face more discrimination, stereotypes, and biases which in turn constrains their opportunities and resources. Teachers need to be prepared to deal with multiple social identities that experience in a single-sex learning environment, as well as, use an intersectional approach (see, Crenshaw, 1991; Warner & Shields, 2013) to challenge the idea that students only experience one form of oppression.

Butler (1990) argues that most of the time when gender is problematized, gender is not framed as intersecting with “race, class, ethnic, sexual, and regional modalities of discursively constituted identities” (p. 4). Warner and Shields (2013) find that:

Intersectionality captures the idea that social identities, identities that stem from group membership, are organizing features of social relationships, and these social identities mutually constitute, reinforce, and naturalize one another, creating both oppression and opportunity for the individual (p.803). Crenshaw (1991), suggests that we look at individuals as having multiple intersecting identities to develop a critical and nuanced understanding of opportunities and challenges of differently positioned individuals, including for example, when an individual experiences racism and sexism at the same time. Sangha, Slade, Mirchandani, Maitra, and Shan (2012) as well as Stockdale and Nadler (2013), provide examples of how women experience segregation at work at the ground level—where racialized minority women experience precarious work and discrimination. In
three secondary schools in Northern Ontario, Wilkinson (2000) samples students to investigate minorities who are racially prejudiced; focusing its attention to students who have an Indigenous background and students who are Black. Results show that boys who are not members of visible minorities are more prejudiced towards Indigenous and Black minorities. Furthermore, female students of Indigenous descent experienced more discrimination. Racial and gendered discrimination manifests intersectionally to cause multiple layers of oppression and barriers that affect a student’s learning; and intersectional theory helps to address those layers to implement policies and programs to overcome racism, sexism, heteronormativity, and homogeneity.

Significance of Teachers’ Gender Affecting Student Performance

In this section, I focus on the importance of considering the gender of a teacher as it affects student achievement in schooling. Findings from de Kraker-Pauw et al. (2016) suggest that men tend to implicitly associate teaching STEM with boys and link independent learning of boys in STEM and link girl students with non-STEM abilities (de Kraker-Pauw et al., 2016). Lee et al. (1994) found that when girls were taught by a woman in math or science, they were more likely to see their teacher as role models and continue to pursue science or math. Additionally, Winters, Haight, Swaim and Pickering’s (2013) five-year study looked at boys and girls from grade three to ten and found a statistical significance where students benefit more when their assigned teacher was a woman; boys benefit less when assigned with a woman in math class. Cho (2012) also notes how women have a positive effect academically on students in high school and in colleges and finds that in Canada there is a statistically significant relationship between a teachers’ gender and boys’ test scores, and particularly that boys received higher scores when matched with male science teachers. However, Cho (2012) argues that there are just not enough male teachers in education in the junior high school level to collect sufficient data on teacher gender interactions with students. Concerns about the so-called “feminization” of schooling have been raised by critics who point to the disproportionately large number of women who work as educators, and argue that feminizing education negatively affects boys, thereby highlighting the unique and complex challenges facing women teachers (Coulter & Greig, 2008; Gosse, 2011; Grieg, 2011). The threat of women proclaiming their independence and their determination to challenge the status quo is undermined by dominant hegemonic femininities and masculinities about the way men and women should perform their social gender roles (Martino, 2008).
Conceptual Framework

Gender inclusive practices address hierarchy, power, and authority (Maher & Tetreault, 1993; Malins, 2015). My analysis of teacher interviews sought to determine whether teachers approach their work in ways that work within the structures of the dominant gender regime, thereby reinforcing gender stereotypes (Martino and Frank, 2006), or if teachers seek to challenge and transform dominant constructions of masculinity (s) and femininity (s) in their classrooms (See, Briskin, 1990; Foster, 1986; Sosik & Cameron, 2010; The Interagency Gender Working Group, 2017³; Thoonen, Sleegers, Peetsma, & Geijsel, 2011). In this study, I use feminist theory to inform the research design and process, with two concepts – “gender exploitive” (reproduction of gender norms) and “gender transformative” (challenging and transforming gender norms to promote social change) — anchoring the analysis of the interview data, which is described in the next section below. Gender exploitive and gender transformative are terms used to categorize teachers according to beliefs about gender and how their beliefs inform their pedagogical approaches. In this study, a micro-level approach is utilized to gain perspective of teachers in understanding their beliefs and pedagogical approaches in a single-sex environment (Malins, 2016; Martin & Beese, 2016; Spielhagen, 2011). The terms gender transformative and gender exploitive are concepts implemented by The Interagency Working Group in their Gender Integration Continuum framework to identify individuals (or programs) who reinforce gendered norms or who critically examine social barriers related to gender discrimination, oppression, and segregation.

Gender Exploitive

The concept, “gender exploitive”, refers to the practices of teachers who follow dominant (i.e., cisgender/heterosexual) expectations of masculine or feminine appearance and/or behaviour (Gordon, Conron, Calzo, White, Reisner & Austin, 2018). Current research in education focuses on victimization, bullying, and harassment as a result of non-conforming students in both single-sex and co-educational schooling (See Dijkstra & Berger, 2017; Gordon et al., 2018; Johnson & Gastic, 2014a; Kearns, Mitton-Kukner & Tompkins, 2017; Rayside, 2014). Gender norms are rooted in society’s perception of differences between boys and girls defined by biological

³ https://www.igwg.org/training/gender-analysis-and-integration/
differences such as hormones, vision, hearing, physical appearance, and the brain (Eliot, 2011, James, 2009). As Eliot (2011) suggests, “Over the past decade, gender segregationists have been highly successful at distorting basic research findings to persuade parents and teachers that boys and girls are categorically different types of thinkers and learners” (p. 375). Beliefs about gender and gender roles come from a broad influence of students, teachers, parents, and other social factors that shape or pressure students to conform to the heteronormative status quo (Johnson & Gastic, 2014b).

The Gender Integration Continuum (GIC) (2017), developed by the Interagency Gender Working Group (IGWG), is a continuum of strategies that identify individuals that seek to challenge gender norms or exploit it. The IGWG was established in 1997, to raise awareness for gender equity within global health programs. Their focus has been on gender education, advocacy, and development of operational tools⁴. Authors such as Pahlke et al. (2014ab), Lee et al. (1994), and Watt et al. (2012), report that gender exploitive practices promote biological needs of students and disregard social factors such as socio-economic, race, and gender to be essential in understanding student needs. Within the Gender Integration Continuum framework that addresses “gender exploitive” practices, this tool is used to address teachers in this study who “reinforces or takes advantage of gender inequalities and stereotypes” as a part of their teaching practice (Gender Integration Continuum, 2017, n.p.). The “gender exploitive” framework is concerned with a biological lens which produces one fixed notion about the way students learn compared to a “gender transformative” lens which considers multiple variables, such as class, race, context, sex, and gender, to identify the way a student learns.

“Gender exploitive” teaching practices can show teachers supporting ideologies that categorize students into thinking that they hold different inherent abilities based on biological sex. For example, teachers can support students into pursuing careers that are traditional to dominant social gender roles, such as women staying at home and men working to become breadwinners. Additionally, teachers can believe that certain subjects such as STEM are designed for boys, whereas subjects like art and reading are designed for girls (Briskin, 1990; Martino & Frank, 2006; Weiler, 2001; Breunig, 2009). Teachers who take a “gender exploitive” approach do not

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⁴ https://www.igwg.org/about-igwg/
challenge gender norms and do not recognize inequities caused by gender discrimination or stereotyping; resulting in “gender exploitive” behaviour and instructional strategies.

*Gender Transformative*

The Interagency Gender Working Group (2017) conceptualizes “gender transformative” practices as,

Fostering critical examination of inequalities and gender roles, norms, and dynamics….Promoting the relative position of women, girls, and marginalized groups, and transforming the underlying social structures, policies, and broadly held social norms that perpetuate gender inequalities (The Interagency Gender Working Group, 2017, n.p.). Gender transformative practices are more specific to teachers and their leadership role in their classroom. Furthermore, gender transformative practices help teachers to approach their pedagogy through a leadership that brings awareness to social justice issues related to gender and dominant heteronormative ideologies. De Vries and Van den Brink (2016) argue that teachers need to see gender as organizational or systemic power structures that categorize characteristics of specific populations (i.e., marginalized groups) rather than seeing gender rooted in an individual’s thoughts or ideas. By identifying social norms, stereotypes, and discrimination at the organizational and systemic level, students can identify gender issues outside the school environment and challenge hegemonic norms in their communities and their own lives. The Malins (2016) suggests that inclusion is:

Something that moves beyond the mere gesture of including someone to a way of life that also shares respect for difference and where people are treated equitably. Similarly, when speaking about individuals, equitable language makes the way we speak about identities more accessible to everyone (p. 129)

Students do not have to worry about conforming to gender dominant norms that force them to follow behaviors and practices perceived by some as “naturally” more suited for boys and girls. Bauer (2000) and Brown and Silber (2000), implement gender inclusive practices within class discussions, course text books, research, and videos that relate to students’ life. These two concepts – gender exploitive and gender transformative – were used to analyze teachers’ beliefs concerning the importance of gender in their single-sex classes, and how these beliefs shaped their professional practice.
Chapter Summary

The literature review in this chapter considers the importance of applying gender inclusive practices in single-sex settings to address individuality, diversity, and equity for all students. On-the-ground micro-level research that concerns teachers’ beliefs about gender helps to recognize teachers’ perspectives about gender inclusivity and its value in their pedagogy, lessons, and teaching instruction. The literature review also evaluated how a teacher’s gender can influence a student’s behaviour and evaluated the challenges, such as teaching environment, in relation to implementing inclusive teaching practices. The conceptual framework included specific pedagogical approaches that determine whether teachers apply “gender transformative” practices in their classroom or “gender exploitive” practices which support systemic levels of gender normativity. As indicated, I use the conceptual framework to analyze teacher beliefs about gender and how these beliefs may or may not shape the nature of their practice in single-sex classrooms. This study provided teachers the opportunity to share their opinions, values, and beliefs about gender in their classrooms.
Chapter 4: Methodology

Introduction

The following chapter describes the methods used, including data sources, sampling and recruitment strategies, as well as the procedures used in the analysis.

Participants

My qualitative study explores teachers’ beliefs and perceptions about gender, related to their professional experiences and practices in single-sex classroom contexts. Teachers are influential in the ways students learn and their behaviours in the classroom, as they dictate what is to be taught from the curriculum and what is excluded. But, at the same time, teachers can also experience limitations as a result of their work environments (e.g., policies, resources, students, parents, and administrators, etc.). In the context of my study, I conceptualize teachers as having the ability to unintentionally or intentionally influence students to think that their abilities are dictated by their biological makeup rather than students’ ability to develop their skills based on interest and social factors (Sanders, 2000). As a result, factors such as gender can play a major role in shaping the learning experiences of students (Sanders, 2000). In this study, I explored the beliefs that teachers have about gender in a single-sex classroom and how these beliefs and understandings shape their pedagogical practices. The Gender Integration Continuum (2017) is used to analyze if teachers’ beliefs and practices are more gender exploitive or gender transformative in nature. The following table shows a summary of information on the teachers participating in this study:

**Table 1: Participants’ Gender, Teaching Background and Context**

<table>
<thead>
<tr>
<th>Participant pseudonym</th>
<th>Number of years teaching in total</th>
<th>Teaching Experience in Co-ed</th>
<th>Teaching Experience in Single-sex</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patrick</td>
<td>7 years</td>
<td>0</td>
<td>7 years</td>
<td>Man</td>
</tr>
<tr>
<td>Chandra</td>
<td>2 years</td>
<td>Practicum (Pre-service)</td>
<td>2 years</td>
<td>Woman</td>
</tr>
</tbody>
</table>
Recruitment Criteria

The first stage of recruitment required participants to qualify for an interview by having a background in teaching in the intermediate/senior division (Grades 7-12) and that they teach in a private single-sex school in the GTA. I experienced a challenge recruiting participants because of their busy work schedules involving lesson planning, marking report cards, attending parent-teacher interviews, etc. The sample for the study included six teachers (three women and three men) who all teach in private single-sex schools in the GTA. The teachers were recruited, with random sampling, by posting information about the study on an online social media platform.

Participants were recruited through several Facebook groups such as “Math Teachers”, “Science Teachers”, “Ontario Teachers”, and “Ontario Teachers (High School)” — each group included members of Ontario College of Teachers. The message in Appendix C was used to recruit teachers who have experience teaching in single-sex classrooms in the select jurisdiction. Prior to the interviews, participants were sent an email that included detailed project information and a consent form (Appendix B) to be familiarized with the study and be prepared to sign a consent form. At the time of the interview, participants were given a hard copy of the consent form (Appendix B) to keep and another copy to sign and give back to me. Participants were entered in a raffle and if chosen, were given a gift card. Participants were still eligible to be entered in the raffle even if they withdrew from the study after the interview is completed; however, no participants withdrew from the study.

<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
<th>Practicum (pre-service)</th>
<th>Years</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nabeeha</td>
<td>1 year</td>
<td>Practicum (pre-service)</td>
<td>1 year</td>
<td>Woman</td>
</tr>
<tr>
<td>Jane</td>
<td>2 years</td>
<td>Practicum (pre-service)</td>
<td>2 years</td>
<td>Woman</td>
</tr>
<tr>
<td>Morris</td>
<td>11 years</td>
<td>Practicum (pre-service)</td>
<td>11</td>
<td>Man</td>
</tr>
<tr>
<td>Kevin</td>
<td>25 years</td>
<td>5 years working experience in public board</td>
<td>20 years</td>
<td>Woman</td>
</tr>
</tbody>
</table>
Data Collection

This study involved semi-structured audio-recorded interviews of teachers who are currently teaching in private single-sex schools in the GTA. I asked a range of open-ended questions about their general professional experiences, their beliefs about gender and its significance, and how their beliefs shape their pedagogical practice. Participants were informed that their identity would be protected, and their names were replaced by pseudonyms in the study. Teachers received an executive summary of the study’s main findings and themes after analysis was complete.

Questions

The questionnaire was designed to encourage participants to share experiences that reveal how insights about their beliefs of gender in a single-sex classroom shape the nature and extent to which these understandings shape their pedagogy and classroom management practices. The first set of questions reflected on teachers’ experiences more broadly to determine whether or not teachers frame their perspective on teaching with gender exploitive or gender transformative practices. The second set of questions focused on teachers’ gender-related experiences within their pedagogy, for example,

1. Do you believe that research around differences in learning between male and female students is credible in determining the academic potential of male or female students? Please, explain.

2. Have you received any professional development around implementing gender equity in the classroom? If so, what did you learn? If not do you believe it should be a requirement for all teachers who enter single-sex schools? Explain.

3. What are some of the misconceptions about gender in single-sex classrooms, which you would like to be emphasized for future research?

The questions asked if teachers’ pedagogical practices support or are shaped by gender stereotypes that determine inherent differences in abilities between girls and boys. Teachers may draw on popular media texts, such as, Gurian et al. (2001), Gurian and Stevens (2009), James (2009), and Sax (2006), to justify their reasons for or against biological or sex-based instruction
in single-sex schooling. Teachers may strongly believe that structuring pedagogy around biological differences or gender stereotypes determines students’ learning potential which may be limiting but also useful (in their perspective) in meeting the needs of boys and girls. Teachers were invited to express any type of concern and challenge they experienced in the classroom, whether it is determined by gender-related concepts or not.

Analytical Process

For this study, I assess how teachers treat sex difference in learning and gender in the classroom to evaluate the significance of sex-based differences for instruction, question classroom dynamics, evaluate their resources on instructional strategies, and most importantly, focus on what teachers believe about gender in the classroom. The Gender Integration Continuum (GIC) categorizes whether programs and policies are designed within a framework that is “gender transformative” or “gender exploitive” (See, The Interagency Gender Working Group, 2017, n.p.). By using this framework, policy makers, educators, and students can analyze and challenge the design of programs and services. Within the data analysis of this study, the GIC was used as a tool to understand a teacher’s instructional strategy and how their beliefs about gender in a single-sex classroom can shape their instructional design to be “gender transformative” or “gender exploitive” in nature and consequence.

After the data was collected, interviews were transcribed, the latter process guided by Saldaña’s (2009) *The Coding Manual for Qualitative Researchers*. Saldaña (2009) describes coding in a qualitative study as a:

> Researcher-generated construct that symbolizes and thus attributes interpreted meaning to each individual datum for later purposes of pattern detection, categorization, theory building, and other analytic processes. Just as a title represents and captures a book, film, or poem’s primary content and essence, so does a code represent and capture a datum’s primary content and essence (4).

For the purpose of my study I decided to code by writing down repeating words (For example, student needs, stereotypes, challenges, pedagogy, etc.) from the interviews and expand the analysis with paragraphs of emerging themes (Results section).
Limitations

Multiple teachers shared the same concern that they did not have enough time to participate in the interview because I recruited teachers during report card season. The interviews lasted from 15 minutes to 40 minutes, depending on the participant and did not take place in schools but rather, in public spaces (e.g., public library, coffee shop), or over the phone. Teachers were not observed in their classes. Before the interviews, I considered that a teacher’s response during the interview may not truly reflect the way they perform their instruction in the classroom (Reddy, Fabiano, Dudek & Hsu, 2013). Doettlin (1996) argues that interviews that involve teachers reflecting on their past experiences do not offer real-time assessment of their teaching in the classroom. As a result, data is collected from a teacher’s judgement of students and their own behaviour, which may be inaccurate and/or could be interpreted differently from the point of view of the researcher or the observer.
Chapter 5: Results: Participant Profiles

Introduction

The findings presented in this chapter come from an analysis of the interviews with teachers, who shared their beliefs about dealing with gender differences in single-sex classrooms and how these beliefs informed their professional practices. All of the teachers work in single-sex private schools and teach in intermediate and/or senior classrooms. Organizing the findings were four broad themes: 1. Beliefs about the effectiveness and purpose of single-sex schooling 2. Response to biologically-based theories of learning 3. Pedagogical challenges related to teaching environment and 4. Implementing gender equitable practices founded on beliefs about gender. The results are presented through a series of teacher profiles, structured according to the above four themes.

Table 2: Participants’ Background Experience and Teaching Environment

<table>
<thead>
<tr>
<th>Participant</th>
<th>Background Experience</th>
<th>Teaching Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patrick</td>
<td>-Teachable in Science and Technology -Ontario Certified Teacher -Previous worked in construction -Attended an all-boy school as a student -Master of Education Candidate</td>
<td>-Teaches in an all-boy private school -High academic outcomes -Mostly male teachers (male dominated) -Teaches grade 10</td>
</tr>
<tr>
<td>Chandra</td>
<td>-Teachable in English and social sciences -Ontario Certified Teacher -Qualification in special education -Has taken gender-related courses in undergrad</td>
<td>-Teaches in an all-girl private school -Teaches grade 10</td>
</tr>
</tbody>
</table>
Patrick identifies himself as a male teacher who teaches science and technology in an all-boy private school within the GTA. This interview was conducted in a university library in central Toronto and Patrick came forward with his participation through an online social media platform my post requesting teachers to participate in the current study. Patrick is a full-time teacher as well as a part-time master of education student. Generally, the school that Patrick teaches in has a reputation for high academic outcomes, and Patrick’s students are eager to go to university. Patrick’s interview reflects his challenges with his students’ needs to gain admission to a post-secondary institution and his mission to implement an inclusive classroom environment. Patrick
has knowledge about social barriers such as gender discrimination, stereotyping, and biological sex-based differences and considers the concepts to be challenges in his teaching environment because of the lack of interest from students in identifying social barriers.

**Beliefs about the Effectiveness and Purpose of Single-Sex Schooling Compared to Co-ed Schooling**

Patrick believed that research concerning biological sex differences may be relevant only when it meets the needs of a student (Gurian et al., 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006). For example, Patrick finds that although he participated in gender inclusivity workshops in his school, his students are not engaged in content dedicated to gender issues. Instead, the limitation he might be experiencing is the senior grade students who are more concerned about getting high marks for post-secondary school. He suggests that one must be cautious when implementing practices concerning biological or sex-based differences in learning because teachers must take into consideration the individual differences of each student rather than assuming learning differences in boys and girls stem from their biological makeup.

Patrick supports the idea that if his students value and are interested in male-dominated activities, such as sports and video games, he is open to implementing gender-specific instructional strategies to meet the needs of his students’ interests; resulting in a gender exploitive approach:

> I think that teaching practices have to be responsive to the needs of individual students in the classroom. If there are sex differences that are causing different student needs in the classroom then yes, absolutely you have to be sensitive to that. If the differences aren’t apparent, I mean, you know if we are going to assume that there’s this whole list of things you’re supposed to do for boys and a whole list of things you’re supposed to do for girls and you teach every boy the boy way and every girl the girl way, that’s not doing a service to the individual students who are there. (Patrick)

Patrick claims that his pedagogical approach is shaped by his students needs rather than assumptions about the way his students learn based on their biological makeup, which is an indicator that he is heavily influenced by his teaching environment. He does not believe that there is a universal approach to teaching boys and girls, but rather teachers must find effective strategies that are a “service” for a student’s individual unique needs. The “service” he may be
referring to specifically, within the context of the school, is their goal of achieving high marks to enroll into a university.

When asked about his beliefs about the effectiveness of research that supports biological sex differences, he does not think that it accurately depicts how a student should learn and challenges its credibility:

Some of the primary research looks convincing. It looks like they are saying reasonable things. A lot of the secondary research that I have seems to be cherry picking findings to support the position, it doesn’t look balanced. But the problem of the primary research is that you have this internal validity where they’ve done all this research and they’ve got great data for these individual sets of students but that doesn’t necessarily translate to certain populations. So, I think you’ve got to take it all with a grain of salt and I think you’ve got to be very careful trying to draw conclusions. I’m more skeptical than convinced by it. (Patrick)

Patrick is not convinced that research supporting biological sex differences in learning can be applied universally across single-sex classrooms. When Patrick interprets research, he frames his thinking by considering the individuality of his students to develop a learning strategy which will help his students achieve their goals. Patrick is clear that he does not want to draw mainly on science to determine how his students learn, and he feels more “skeptical than convinced” by current research.

Patrick addresses stereotypes about the way boys behave and discusses the way teachers should approach their teaching practices:

I think there’s a very large misconception in terms of the emotional lives of boys. I think there’s this sense that boys are tough and (inaudible) and they don’t have feelings, they don’t know how to express things. In my experience, I think it’s the exact opposite; they have rich, emotional lives. They do grapple with things. They’re not always good at bringing them out. They don’t know how to express things, they don’t know how to say things, they’re not going to start that conversation, they are not going to lead the conversation. So it really becomes a responsibility of the teacher to create a space were things can come out and sometime they come interactive…so I think just trying to create the space to express those things (Patrick).

Patrick emphasizes that creating a space for students to feel comfortable enough to express their concerns or their individuality is essential for boys to feel that they do not need to conform to dominant masculine identities; which is a gender transformative response. Teachers can create a non-conforming climate to encourage students to identify their needs without any systemic barriers. Part of Patrick’s strategy to create an inclusive learning environment is to challenge misconceptions about masculinity and challenge the social status quo. Furthermore, Patrick says
that he wants to create a space where boys do not have to conform to masculine stereotypes concerning the way they behave. He creates a space where boys can express themselves openly without any judgement, rooted from dominant social constructions of masculinity and/or femininity.

**Gender Equitable Responses to Biological and Social Factors that Affect Learning**

Patrick’s intention is to help his students think about social issues rather than focus solely on academics. He wants to encourage students to be “leaders” to challenge current social issues such as masculine and feminine gender roles. However, Patrick experiences tension with his students because of their disinterest in social justice discourse. He explains:

> I want to teach the next generation of leaders that’s going to go off and change the world and they just want to get into university, Queens engineering. It’s totally at odds with each other and it’s just trying to strike that balance where yes, they will get the marks they need, they will get the education they need to advance to the next level but while I’ve got them, I’m also going to try to express their consciousness a bit. So there’s certainly a conflict and just trying to navigate it (Patrick).

Patrick explains that his gender transformative pedagogical approach is at “odds” with his students’ preferences, which is a concern reflected in the literature in relation to teacher goals and their teaching environment (Coulter & Greig, 2008; Gosse, 2011, Grieg, 2011). Due to the pressure of his students to achieve high academic outcomes, Patrick must give up his personal ambitions and interests to meet the needs of his students; which is unrelated to issues concerning gender. He believed that the school can make more improvements to the learning environment to allow teachers to implement practices that focus on social factors, rather than strictly focusing on academics (Vollet, Kindermann & Skinner, 2017).

Patrick tries to help students “express their consciousness” and introduce them to gender-based discrimination and oppression when they complete their schooling.

> Because we are such a mark driven place it’s hard for them to see the value of the assessment; they just want it for marks. If it’s not marks they won’t put in the time. I think that’s the shift that they are going to have to take or they are going to have to accept. A lot of the students, (inaudible), are in high school grades, they didn’t come up through growing success. Growing success has kind of been imposed halfway through their education and they’re not fully adapted to it yet. So I’m hoping that when the younger cohort comes through, that will change (Patrick).
Patrick tries to offer learning experiences that develop their thinking beyond academics and promotes social change to overcome traditional learning practices but his students limit his attempts to implement gender transformative approaches (Abbott, 2010).

**Pedagogical Challenges of Overcoming Social Barriers to Achieve Successful Learning Outcomes**

Patrick may receive more respect from his students compared to female teachers because Patrick can relate to his students’ experiences as a male and graduate of an all-boys school himself (Cho, 2012; Winters et al., 2013). A teacher’s gender identity, as well as sharing similar experiences, can play a significant role in shaping a student’s learning experience in the classroom (Sanders, 2000). For Patrick, getting a job at his school was easy for him because of his technical background experience and his enrollment in an all boys’ school in the past, which he admits, helped him with his hiring process. When asked about his preparation for his first day as a teacher in an all-boy school he says:

> Very prepared. That’s why they hired me. I came out of an all-boys school. And there was a relationship between the schools so they kind of thought that I was part of the system already. That I did my degree in science where it was very male dominated and then this second career, my other career was construction, from the trades, very very very male dominated. So there’s a sense that they felt comfortable with me (Patrick).

Power hierarchies within a school system are both a cause and effect of sexism and oppression. Men and women will have different experiences based on their gender and their response to systemic hierarchies that dictate norms about masculine and feminine professional roles. Women, for example, will not be able to have a “comfortable” hiring experience like Patrick because women have to constantly validate their identity and ability in an all-boys school (Kehler, 2010). The administrators may feel “comfortable” allowing Patrick to practice his teaching freely while women have to undergo constant battles with their administration to justify their teaching practices, and they tend to experience higher levels of anxiety than men (see for example, Daniels, Mandzuk, Perry & Moore, 2011). Patrick feels that he “was part of the system already” which is an advantage that women, who are not graduates of an all-boy school, will not have when working in an all-boy school.

**Implementing Gender Inclusive Practices into the Classroom**
Patrick mentions that there is an attempt by his school to implement gender inclusive practices by participating in an organization called the White Ribbon Campaign. The White Ribbon Campaign supports boys and men through education to challenge notions concerning masculinities and manhood and advocates for positive social change\(^5\). Patrick goes into detail about the organization and its importance in positively impacting his students. Although he offers positive feedback about the organization, Patrick believed that it will take time for the school to achieve a gender inclusive environment because he recognizes that boys “lose perspective”—which may mean that being in a homogenous group maintains a social status quo about gender.

I actually have [with the White Ribbon campaign] and I helped work with a team to bring that into the school. The white ribbon campaign, the last couple of years… I think it is necessary. I think especially being in that kind of environment, it’s easy for the boys to lose perspective. Ultimately, they are going to enter society, they are going to have to respect gender and sex differences and that may not…because the girls are not there they don’t always have that issue in front of them. So we have to put it on the table for them and problematize it. These things you’re taking for granted. We have to interrogate these ideas. So, we talked about healthy masculinities, we’ve talked about the man box, we’ve talked about social expectations for what a man is supposed to be, we talked about consent culture, we’ve talked a lot about that. At this stage, they’re just starting to transition to make a mandatory program for all staff and students. I think they have a way to go with it but it’s a cultural shift and it’s going to take some time to make that happen (Patrick).

Patrick’s school engages in workshops that promote gender transformative practices, but it may not be valuable in meeting a student’s interest, such as earning high marks. Students may not respond positively to gender inclusive practices because teachers have to re-evaluate a student’s personal values and beliefs, which have been established already over a number of years (Young, Mountford, & Skrla, 2006). However, teachers must continue to offer challenging programs, courses, and workshops to encourage students to problematize social and cultural norms and internalize social justice issues (Young, Mountford & Skrla, 2006).

\(^5\) White Ribbon is the world’s largest movement of men and boys working to end violence against women and girls, promote gender equity, healthy relationships and a new vision of masculinity. Since its inception in Toronto in 1991, The White Ribbon Campaign has spread to over 60 countries around the world. White Ribbon asks men to wear white ribbons as a sign of their pledge to never commit, condone or remain silent about violence against women and girls.

https://www.whiteribbon.ca/?gclid=EAIaIQobChMI_oTAoYTj3AIVBrjACh0YUQ_QnYEAAYASAAEgJ7jPD_BwE
Patrick believed that although there are no girls in his classroom, his students must still be aware that other genders other than male exists: “They are going to enter society, they are going to have to respect gender and sex differences and that may not...because the girls are not there they don’t always have that issue in front of them”. In his quote, Patrick uses the term “gender” to regard other genders who are non-existent in his all-boy classroom and believed that his boys must be exposed to issues or content about gender to understand the world they live in and their place in society. Patrick provides advice:

I would suggest that [teachers] not make assumptions about the students, don’t assume that because these are boys they are all into sports and they’re all insensitive and they’re all tough. But no. They are individuals; it’s no different than teaching any classroom. You have to take the time to get to know the students and build rapport. There’s more differences within the category of boys than there probably is between girls and boys (Patrick).

Issues of identity will be prominent when children are exposed to stereotypes that categorize their behavior or traits; unless changes occur systemically to eliminate discrimination (Gerin-Lajoie, 2011). Patrick noted that boys’ social experience and learning abilities are influenced by society’s idea of stereotypical male behaviours. Currently, not only is it believed that boys are “into sports”, “insensitive”, and “tough”, perceptions of their learning abilities are being shaped by “the boy problem” discourse in education, prevalent in many parts of the world, including Australia, the UK, US and Canada, where boys are categorized as being outperformed by and disadvantaged relatively to girls academically (Driessen & Langen, 2013). Furthermore, “the boy problem” is a misconception reinforced by innate biological characteristics of boys which is an over generalization of their behaviour and supports “neuromyths” about their abilities in school (Driessen & Langen, 2013, p. 71).

Participant 2: Chandra

Chandra identifies herself as a female teacher who teaches in an all-girl private school. She has a teaching background in English and Social Sciences, with a qualification in Special Education. Chandra is a full-time teacher who has taught for two years and has only taught in an all-girl private school. Chandra stepped forward to participate in the current research study after seeing a public posting on a social media platform and her interview took place in a public library, in a quiet study room.
Beliefs About the Effectiveness of Biological Sex-Based Differences Theory in Single-Sex Schooling

The majority of Chandra’s responses to the interview questions emphasized her focus on a student’s individual needs rather than on gender and sex-based differences as her justification towards shaping her pedagogical practices.

I just feel that instruction, no matter what the kid is, is going to be based on what their needs are, not what their sex is. I feel like a sex doesn’t define a person. I feel like it’s, yeah, you’re female or male, what is it that makes you, you? What is it that makes you an individual? What is it that makes you special and what am I going to use to determine how I’m going to teach my kids (Chandra).

Chandra questioned the reliability of theories surrounding sex-based differences in learning and she believed that teaching instruction should be centered on a student’s unique individuality in both a single-sex classroom and co-ed classroom. She does not believe that focusing on a student’s sex is required to understand a student’s ability to learn and it does not represent a student’s identity. Rather, a teacher’s ability to categorize needs is more important in understanding a student’s challenges, behaviors, interests, and values. Bowers & Lopez (2013) and Tillapaugh (2016) explain that recognizing an individual’s identity requires that one understand the social identities that shape an individual’s experience (DeLuca, 2013). Chandra describes what her teaching approach looks like:

So I’ll group these six students as having a reading deficiency or these two students have behavioral issues or these two students need individual attention. Then I kind of say ‘Okay, what’s my lesson for today?’, ‘Okay, how much time do I need for each of these things?’, ‘Okay, what are the activities?’, ‘Is it going to meet the needs of everybody?’ If not, how am I going to add an activity or change an activity to meet those needs? (Chandra)

Chandra believed that assessing her students’ learning abilities and processes will shape her instructional approach by focusing on modifying her lessons and providing accommodations. She mentions that not only would she apply this strategy to an all-girl classroom, but in any classroom environment because she believed that meeting students’ academic needs are transferable, and it is not specific to sex-based differences between boys and girls: “If I had a group of boys with the same learning needs or whatever and just duplicate it. I don’t think that I would have to change it because now they’re boys”. It is evident that Chandra’s focus on individual needs rather than focusing on a student’s sex frames her thinking and she does not see gender being related to understanding the individuality of her students.
Gender Equitable Responses to Biological and Social Factors that Affect Learning

Chandra responds to questions with hesitance by ending her sentences with “you know” which implied that she was seeking validation or confirmation for her statements. Additionally, I experienced tension with Chandra’s responses because she makes gender inclusive points about creating an equitable learning environment for boys and girls but also implied differences in learning based on biologically or sex-based differences. The first quote is an example of how she shared her perspective about gender roles between men and women:

I want my girls to understand just because you’re a woman you’re not lower than a man, you know? Just because you’re in this all-girl’s school doesn’t mean you’re inferior to men. I think they understand that and I promote that. That’s why certain things like Sex-Ed and whatever I’m teaching, it’s like you need to know both sides of the coin here. Like it’s not going to be one sided in life. So, I’m not going to teach in a one-sided way now (Chandra).

The second quote shows how Chandra makes contradictory points and blurs the concept of gender and sex in her classroom (Pahlke et al., 2014ab). She addressed the need for teachers to recognize perspectives from boys and girls; but at the same time emphasized that boys and girls have different personality traits:

You know, girls’ personalities are different from boys’ personalities. Boys may brush off issues where girls may fester them. So I think… but I don’t think, you know, that teachers college could prepare you to teach in that classroom either. I think it’s more a learning curve and kind of going in there and saying ‘this is my classroom, I’ve observed them for a week, now what do I need to learn to teach my kids to make an effective, like school year (Chandra).

Throughout the interview, Chandra provided points that are contradictory to her beliefs that learning differences should not be determined by biological or sex-based differences between boys and girls. Although she showed her awareness to gender-related issues, she still implied that there are unchangeable aspects between boys and girls based on biological differences.

Pedagogical Challenges of Overcoming Social Barriers to Achieve Successful Learning Outcomes

Chandra’s only challenge for teaching in a single-sex classroom was when she first began teaching and she assumed that she would need to deal with girls differently than boys because girls and boys have different personalities. “I think when I first started in that classroom it was
hard for me because it’s different. You know girls’ personalities are different from boys’ personalities” (Chandra). Although Chandra made statements related to gender inclusivity, she still believed that there are differences apparent between boys and girls. She emphasized two main beliefs concerning her instruction: 1) she believed that personalities are shaped by gender and 2) she does not believe that gender and biologically or sex-based differences determine a student’s learning potential but rather teachers should focus on students’ individual needs.

**Implementing Gender Inclusive Practices into the Classroom**

Within Chandra’s pedagogical approach, she not only helps students think about external forces or perspectives, but she requires that students reflect on their peers’ experiences as well. It is important that teachers create a learning climate and offer content that addresses a student’s values, ideals, and culture within their community (Deer, 2003 and Lee, 2007).

I feel because there are so many different personalities, and opinions, biases, you want that to come from both areas so that students can learn from each other and maybe that might not be all educational stuff. It could be soft skills or personal traits, and all that kind of stuff. Understand that everybody in the world, like you might not end up being in a single-sex area. I mean, in terms of careers and where you need to learn how to work with one another, learn to work with other sexes (Chandra). She believed that not only are achieving successful learning outcomes important, but learning about social surroundings, such as issues within diverse communities, is also important in a student's learning as a means to generate an inclusive learning experience. Chandra explained gender-related issues by referring to men and women’s experiences and challenges in the workforce; which many students will experience in the future (See: Crenshaw, 1991; Sangha, Slade, Mirchandani, Maitra, & Shan, 2012; Basfrod, Offermann & Behrend, 2014).

**Participant 3: Nabeeha**

Nabeeha teaches in an all-boy private school within Toronto and teaches grade 6 with a teachable in social sciences. She is a full-time teacher who has taught in a private school for one year; with no co-educational teaching experience. Her interview took place in a quiet setting over the phone to accommodate her scheduling needs. Thus far, within her teaching experience she has developed beliefs about how single-sex private schooling has more advantages than co-ed schooling mainly because private schooling offers flexibility and attention to the needs of
individual students compared to public schooling (i.e., more one-on-one time between students and teachers in the former).

**Beliefs About the Effectiveness of Biological Sex-Based Differences Theory in Single-Sex Schooling**

Private schooling, compared to public schooling, allows teachers to lead their own teaching instruction because of advantages such as class size, student attention, and socio-economic context in comparison to public schools (Volante, 2006). As Nabeeha explained, “There’s more flexibility and there’s also different ways, like more time that they give for due dates”. Nabeeha shares a teaching strategy to deal specifically with boys’ learning needs:

I know there’s a lot of one-on-one in small corners, a lot of working in the hallways, there was … there’s a lot of… it becomes more you teach in a class, you teach together but when I come to independent work you automatically have to know that… like boys for example I was in an all boy school that they want their space or they want to withdraw themselves from crowds. They like to be able to sit in a corner or work outside and are alone. That’s how they feel like they function better (Nabeeha).

Nabeeha presents a belief that categorizes boys and girls based on biological or sex-based differences in learning. She acknowledges that her boys work best when they figure out how to develop their own style of learning and she makes an effort to accommodate her students by allowing her them to use the classroom space to build on their preferred way of learning. She finds that boys are independent learners who want their own space away from crowds, and she modifies her pedagogy to fit the needs of her boys rather than challenging it.

**Gender Equitable Responses to Biological and Social Factors that Affect Learning**

During Nabeeha’s interview, she mentions two different impressions of boys’ and girls’ behavior which is currently an issue highlighted in the literature (See Gurian et al., 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006). The first is the image of an aggressive boy, which is constructed by societal ideologies that maintain stereotypes about boys’ behavior. The second is the way society has historically implemented an image of how girls are portrayed. Nabeeha mentions how society portrays girls as “saints”; which is the assumption that girls are better behaved, quiet, and respectful compared to boys.
Yes, a lot of times it seems that for a single-sex school, you need to be able to adjust certain things. So if there is, for example, behavioral challenges a parent would automatically say ‘well you are dealing with a boy so you should expect this’. It’s an automatic characteristic of ‘okay, well boys behave badly or girls are going to be like saints’. It’s just that automatic assumption of what gender should be and that you are supposed to act accordingly to the judge. So I do think that there are certain things that you are expected to know when you are teaching a particular gendered school (Nabeeha).

Stakeholders, such as parents, can have an immense impact on the way that teachers approach their pedagogy. Parents can contribute to shaping a teaching environment such that it maintains masculine or feminine stereotypes about a student’s character or behaviour. Not only are gender norms reproduced within Nabeeha’s classroom, the extent of gender reproduction can also be maintained in the household where boys will continue to conform to dominant masculine stereotypes based on their parents’ beliefs about masculinity and femininity.

The interaction of gender is evident through Nabeeha’s experience of dealing with “a particular gendered school” between students, parents, and teachers which shapes a student’s learning experience and influence their academic performance (Vibert & Shields, 2003). If parents maintain an assumption about sex differences in learning within the home environment, students will be influenced to translate stereotypes from the home to the classroom; which in turn develops beliefs about the way they must perform their gender in schooling. As a result, these assumptions affect their identity and their ability to challenge the status quo.

In a sense where if you’re teaching all boys, there are ways to approach things and when I first went in, I wasn’t quite sure how to. I mean I had a student start crying, he felt really stressed in class, and I didn’t really know how to approach the situation. There’s this way of … the stereotypical way of if you’re a girl and I am a girl, I can relate to you. I can understand and be a lot more caring because that is how our gender is portrayed to be as. However, I didn’t know if it was a boy and I was a girl doing that, how would that make him feel? How would it be like in front of his friends? Is it going to affect him? So it’s how do you… before you go in, how do you approach situations without making them feel different about themselves without you having to feel... just knowing how to handle particular situations and don’t put the student and the teacher in awkward positions (Nabeeha).

Nabeeha brings up a scenario where a male student has cried in her classroom and the way she has to think about dealing with the student and at the same time being gender aware of the situation. Crying is commonly associated with girls’ behaviour and not associated with boy’s behaviour (Schniedwind, 1993; Larkin & Staton, 2001; Parker & Rennie, 2002). In this case, Nabeeha shares that her students sometimes experience stressful situations that make them cry and she limits herself on how to resolve the issue without making her student feel uncomfortable.
Nabeeha shares that since she is a female teacher, there may be a disconnection with her students because they are male. Her student may not be able to relate or feel comfortable sharing personal challenges with a female teacher compared to a male teacher but may feel more comfortable crying in front of a female teacher, rather than a male.

Pedagogical Challenges of Overcoming Social Barriers to Achieve Successful Learning Outcomes

Current research highlights the considerable challenges faced by teachers dealing with aggressive boys and those with more general behavioural issues (Rivers & Barnett, 2011). Nabeeha tries to overcome the common stereotypical image of aggressive boys in a single-sex classroom. Nabeeha believed that the stereotype did not fit the true image of her students and instead, described that her students have unique needs that require attention and that gender and sex does not define those needs.

One of the big things that I know it was always if you were an all-boy school, you are in for a disaster because it was “omg they are boys, they are aggressive, they are just bossy… they are like out there and they’re very… they want to be tough in a classroom and they will argue with you” and there’s this misconception that boys are going to give you a harder time and I don’t agree with that because when I do teaching I was very well respected in a sense that there was a lot of respect between the student and the teacher and regardless what grade I taught (Nabeeha).

To overcome the stigma of boys having aggressive characteristics, Nabeeha tried to focus on other needs that may reflect her students’ learning experiences (Cuenca, 2010). Nabeeha shares her strategies of dealing with stereotypes that claim boys have behavioral issues:

One of the big things is when preparing for an all-boy class was thinking of behavior and the content and how effective the way your teaching strategy is going to be for a particular content and what the class behavior is going to be like. So especially because they’re boys, how do you keep the attention without losing their attention? How do you make it fun at the same time and how do you also bring your end goal and get your point across to them? So those are my main three things. Yes, so I would look at behavior, I would look at content, and also how do you relate to them, so what is something in the content that you would want to teach that they could relate to their current life. There’s especially a lot of boys who want to see how it’s relevant to their life and why do I need to know this. So those are the things I keep in mind (Nabeeha).

Nabeeha’s statement highlights her beliefs that boys would rather learn about content related to their life and, therefore, Nabeeha focused on creating content that is relevant to avoid lack of attention and behavioural issues. In this statement and others, Nabeeha repeated her concern with behavioural issues several times. Furthermore, she made a distinguishing claim that
behaviour is directly related to the learning process of boys and how they learn compared to girls.

**Implementing Gender Inclusive Practices into the Classroom**

Not only did Nabeeha consider the importance of all teachers to take gender inclusivity classes to be mindful of how students experience culture and society outside of school. Nabeeha thinks within a context where society is constantly changing and that every one of her students experience their life differently from their peers. Thus, Nabeeha is taking an intersectional approach by considering students who come from different backgrounds, ethnicities, religions, cultures, beliefs, or values. Teaching within the GTA requires that teachers acknowledge the diversity of different communities that students come from. This is especially important for school age children where they are still developing their ideas about their individual gender identity, sexuality, and sexual orientation (Patterson & Pahlke, 2011).

I think our population is changing. I think 20 years ago it was very different from what we are seeing right now and with time… as time goes on, people change, and our mindset changes. I think it’s just very important to be able to have knowledge about gender equity and to see how it is impacting a lot of our students’ lives, parents’ lives and that we must able to be accepting of it and also be taught about this and also how to approach the situation. How do we teach certain things? Be in mind we have to consider all genders (Nabeeha).

The most important point Nabeeha emphasizes is considering the intersectionality of different genders and other social positions/categories (Bowers & Lopez, 2013; Tillapaugh, 2016). It is evident that Nabeeha applies a gender inclusive lens to investigate different identities that shape her students’ experience. Nabeeha believed that one must acknowledge these experiences within students’ lives and some of the challenges that they may experience because of social barriers that limit one’s potential to explore gender—such as gender discriminating stereotypes. By including parents within her response, she is aware that students come from different backgrounds and have experiences that affect their learning experiences in the classroom and at home (Deer, 2013).

Research has suggested that students are less likely to have a positive relationship with teachers when curriculum does not reflect themselves in their experiences outside of the classroom—especially for students who are minorities, discriminated, and/or come from low socio-economic backgrounds, single parents, and English as a second language at home (Patterson & Pahlke,
I think as a teacher, that’s one of the things you have to have is being flexible and if a student does not learn the way you initially thought, then you are going to have to change your method to understand. You have to change your methods a couple of times but your end goal should be able to try doing whatever it takes to meet that goal (Nabeeha). Nabeeha’s teaching approach considers all genders, students’ learning goals, and her student’s individual learning experiences to frame her understanding of achieving student success:

“Engagement, separated from its social, cultural and political contexts, is a contradiction that ignores deeply embedded understandings about the purpose and nature of engagement itself” (Vibert & Shields, 2003, p. 225). It is evident that Nabeeha’s thought process includes intersectional, gender inclusive, and biologically based frameworks to address her beliefs and she did not express a firm stance on what are the appropriate strategies about dealing with boys in her classroom.

Participant 4: Jane

Jane has been teaching in an all-girl’s, k-12, school for two years. She teaches English and Social Studies for both grade 6 and 8 classrooms. Jane promoted her school as a feminist school where teachers encourage students to problematize gender and deconstruct social notions about femininity and masculinity. Jane’s only experience with a co-education classroom was during her teaching practicum. There are about 20-21 female teachers compared to 4 male teachers in Jane’s school with about 105 students in total. Jane spoke over the phone in her classroom during recess time for the interview. In terms of the research around biological theories she said, “I’m not super familiar with the research. I think in terms of most of what I’ve seen, I would say the differences are probably social. I’m not too well versed on the biological part”. She believed that single-sex schooling encourages students to overcome social stereotypes and barriers that affect their learning. She does not believe that single-sex schooling meets the needs of biological sex-based differences but rather can be used as a source in overcoming social challenges that students face, such as girls’ lack of confidence in STEM as a social rather than biological issue.

Beliefs About the Effectiveness of Biological Sex-Based Differences Theory in Single-Sex Schooling
Jane’s belief about the effectiveness of single-sex schooling stems from her experience in dealing with students’ needs. One experience that Jane shared was that they experience low self-esteem, lack confidence, and they are quiet:

, I know one of my students was in a public school and her classroom had about 30-32 kids and she is quite a bit quieter. So, her parents made the decision to move her to our school and she has 8 people including herself in the class. And I really see her confidence grow and she feels more comfortable sharing her opinions. So, I think that probably has to do with being in a co-ed school and I think a lot of it had to do with the size as well. I think it’s really an independent decision and different types of children will benefit from different types of education (Jane).

One of her students was described as benefitting from experiencing single sex-schooling more than co-ed schooling because it provided social benefits such as developing self-confidence. Current research suggests that girls often struggle to participate in STEM due to the lack of confidence they have when they are at present with boys in a co-educational classroom setting (Patterson & Pahlke, 2011). Jane considered the importance of overcoming stereotypes that challenge a student’s ability to pursue a subject that is male dominated and acknowledges that an all-girl setting may have contributed to her student’s growth in confidence by allowing the student to share her opinions in front of her peers.

**Gender Equitable Responses to Biological and Social Factors that Affect Learning**

Jane’s support for feminist ideologies involved her to incorporate feminist contexts within her teaching and chose to include content that challenged the status quo. She believed that by using this type of approach, her students will gain insight into social stereotypes about the way females are historically portrayed.

So a lot of the work that we’ve done around gender is looking at different gender identities, sexualities, pronouns, things like that and also a lot of the work that we do is talk about those things in age appropriate levels. You know when they get to middle school/ high school; we might be talking about like the wage gap or violence against women and things like that. The kindergarten/ grade 1 level we might be looking at you know, these are what people say are girl toys and these are what people say are boy toys but you can play with whichever one you want. It’s definitely structured kind of differently around that. I think we have had some professional development, like from Trans authors bringing literature and resources about genders other than male or female into the classroom (Jane).

Jane’s teaching environment supports her in creating discussion regarding gender wage gap and violence against women, as well as challenging dominant notions about masculinity and femininity in school subjects. An important point that Jane brought up in the conversation was...
about gender identification, which can be related to the challenges her students are experiencing in relation to lack of confidence. Many of her students question their ability to participate in subjects that are male dominated which in turn is a result of social constructions of masculinity and femininity. Yet, Jane responded to this concern by saying that gender has multiple identities, sexualities, and pronouns (Bowers, 2013; Tillapaugh, 2016) - Jane gives an example of what topics she covered:

In terms of indigenous education, is a really interesting kind of professional development that we’ve done. We look at different roles that Canadian women have taken, how that differs from a lot of indigenous cultures. So looking at the different roles of women and it’s something we do a lot at a school that identifies as feminist. In education you look at like representation, gender, race, sexual orientation, and all those different things (Jane).

To overcome systemic and historical discrimination, Jane highlighted the importance of implementing a curriculum that focuses on Indigenous and Canadian perspectives in academia. Jane’s students will be able to acknowledge oppressive and systemic barriers that women faced in the past and make connections to their current position in society within a Canadian perspective that they can relate to.

**Pedagogical Challenges of Overcoming Social Barriers to Achieve Successful Learning Outcomes**

Jane encouraged girls to build their confidence through her pedagogy as a way to achieve successful learning outcomes; however, one of her challenges is promoting confidence in STEM. Lack of confidence in STEM is a social factor established by society’s misconception about girls’ inability to achieve successful outcomes in math or sciences simply due to their biological sex. There is a stronger stereotyping by men of mathematics as masculine which negatively impacts a woman’s sense of self-efficacy and behaviour—especially in co-educational schooling (Bowd & Brady, 2003). Additionally, Jane explained how she, herself, has personal challenges with developing a math curriculum due to her lack of training in teaching in the subject area.

I would say because I’m in an all-girls school that has a feminist focus, I think when it comes to like my own insecurities about like certain subjects I have to be careful about how I adjust that. I was definitely not comfortable with math and science in school and when I taught it last year I had to do a lot of re-learning and you know all of that. The kids who were not super comfortable with it… like finding new ways to help them, so I think the biggest thing for me was making sure that I wasn’t like projecting like my own math anxiety onto the kids and making sure that you know I empower them and help
them with that; where sometimes I’m freaking out myself. It’s a kind of thing where you have to teach yourself and hope for the best but you learn as you go (Jane).

Jane mentioned that she must avoid showing signs of anxiety in front of her students to reduce anxiety upon her students: “It follows that if teacher candidates graduate with high levels of anxiety, they are more likely to pass this anxiety on to their students” (Daniels, Mandzuk, Perry, & Moore, p. 89, 2011). Jane’s experiences highlight the need for teachers to be provided with more resources and professional development workshops to build their confidence in teaching subjects they are not familiar with and to deal with girls’ self-confidence in subjects like math. Not only do girls experience anxieties in STEM fields, Jane’s experiences with her own math anxieties shows that teachers can also struggle with teaching subjects like math. Additionally, she cannot “project” her math anxieties because her students can be influenced by her lack of self-confidence. Although she experiences math anxieties, she used a feminist framework to empower her students to work on gaining confidence to achieve successful learning outcomes in a subject that is dominated by boys or men.

**Implementing Gender Inclusive Practices into the Classroom**

As a proclaimed “feminist school”, Jane’s access to workshops and professional development sessions that focus on social justice issues are more prevalent, compared to other institutions that do not have a feminist focus (Patterson & Pahlke, 2011). More specifically, there is an emphasis on challenging the status quo on femininity and masculinity, gender identification, and biological sex. For example, Jane emphasized that there is a need to enhance girls’ confidence in learning; especially in male dominated subjects such as math or science (Bowd & Brady, 2003). One way that her school has managed to overcome this social barrier, is to train teachers to implement gender equitable practices in classrooms that encourage girls to believe that they can achieve their goals, no matter the social circumstance.

We looked at different forms of bringing Indigenous education to the classroom and also for single-sex specifically we looked a lot at anxiety in girls because that’s kind of a growing issue. And so we’ve been looking at and trying to use those teaching strategies to… yeah help the girls deal with… you know they’ve been diagnosed with anxiety disorder, help them with that. If they feel that they are having more anxious feelings, help them cope with that (Jane).

Currently, there is a growing issue with girls who experience anxiety in STEM and many researchers have claimed that math anxiety develops in elementary school, where there is less
attention paid to socialization as the cause (Bowd & Brad, 2003; Daniels, Mandzuk, Perry & Moore, 2011). As a result, a gender discriminating social environment can force students to reproduce gender stereotyping in mathematics ability—female students are most likely to continue experiencing math anxieties (Rivers & Barnett, 2011; Johnson & Gastic, 2014a; De Kraker-Pauw et al., 2016). Jane participated in collaborations with other teachers in schools with students of the opposite sex to challenge misconceptions about the way girls in single-sex schooling are sheltered by boys.

We also sometimes collaborate with other private schools. We will have male students in the building or last year we went to New College to do an electricity workshop. And I think socially it’s definitely different for them. Like I remember last year the grade 6’s were kind of… they didn’t seem too comfortable because they were just so many guys and they you know when we got back they are like “boys stare a lot” which is kind of funny for me. So I think you know they have met boys in their life but like not to the same extent I guess (Jane). Interestingly, Jane shared how her students respond when they interact with the opposite sex—her students feel uncomfortable with the idea of working with boys, and she indicates that it is not a biological issue, but a social issue. She acknowledged that with the presence of boys, her girls feel uncomfortable. Jane’s goal is to work with other schools to encourage her girls to better challenge social norms around male dominated subjects and overcome social anxieties. Compared to other teachers in this study, Jane’s advantage of working in a “feminist school” can provide her with opportunities to freely challenge the status quo to overcome social barriers.

And our school started a program this year called CERES, Computers Engineering Robotics Electronics and Science. So it’s a very hands-on kind of class. They have for three hours a week where they get to build things and design things and I think that will be a really good way for the girls to establish that confidence because even in an environment where its only girls, some of them kind of doubt their ability because they are girls, especially the kids who have come from co-ed schools they kind of have this engraved in them already (Jane). Jane understood the negative impact that stereotypes have against girls who want to participate in male dominated fields. Women are not represented as much in math curriculum, textbooks, or content compared to men. Some research has argued that children’s preferences, “are driven by gender differences in styles of interaction or play, whereas others have argued they are driven primarily by in-group bias” (Patterson & Pahlke, 2011, p. 740). Jane emphasizes that although they are in an all-girl setting; gender discrimination still exists and influences her students’ lack of confidence in masculine school subjects. To overcome this barrier, she created an inclusive environment where girls get to work more “hands-on” and encourages students to participate in male-dominated activities to think past common stereotypes about girls’ abilities.
Participant 5: Morris

Morris is a male teacher who teaches grade 6 math and who has been teaching for 11 years in total in a single-sex all-boy school, from k-8. The school enrolls roughly 350 students, with an equal amount of male and female teachers. Morris shares that his school is involved with incorporating gender inclusive practices by involving discussions concerning male and female issues in society within their teaching strategy. For example, Morris included experiences where boys play women in dramatic plays and he includes women’s experiences within his teaching content. Morris read literature on sex-differences in learning and was open to the idea of applying insights from it into his classroom teaching practices to meet the needs of students. Morris’ interview was conducted over the phone in a quiet space.

Beliefs About the Effectiveness of Biological Sex-Based Differences Theory in Single-Sex Schooling

For Morris, teaching based on sex-based differences (See, Gurian et al., 2001; Gurian & Stevens, 2009; James, 2009; Sax, 2006) does not contribute to successful student learning outcomes (See, Bigler & Liben, 2006; Erling & O’Reilly, 2009; Lee et al., 1994; Pahlke et al., 2014ab; Rivers & Barnett, 2011; Watt et al., 2012); however, he suggested that it could be a useful tool in developing programming for some students. He believed that his approach to teaching students can be applied to both single-sex and co-ed classrooms and believed that strategies that are prescribed as gender-specific can also can be transferable to a co-ed or an all-girls school.

I would definitely say that I’m not against co-ed instruction or against like girls’ instruction or boys’ instruction. I think there are definitely approaches and benefits to teaching in single-sex schools that can really be applied to co-ed schools, right? We know that boys really connect to relational learning. There has been research that has been backed up as well. I’m sure girls can benefit from relational learning as well and from forming those bonds and relationships with teachers. So, whether or not I think boys or girls should be taught differently, I don’t necessarily think so (Morris).

Developing teaching instruction requires Morris to first look into the needs of his students and apply gender as a relational concept within his teaching practice. Edwards and Richards (2002) note that relational theory emphasizes how the self develops and is influenced with others. Morris develops a relationship with his students to foster development; more specifically on “mutual engagement, mutual empathy and mutual empowerment” (Edwards & Richards, 2002, p. 38). Morris found that making connections to his students’ experiences and interests.
stimulates engagement and learning. In this case, relational learning is a concept that Morris believed in as a way to approach learning.

I mean I would say one of the biggest instructional strategies is I feel that kind of benefits is in a boys school environment is the idea of relational learning, building a relationship with the student. A lot of our boys are kind of striving for connection. In some cases we have a lot of students... and I guess this is beneficial for me as a male teacher, in some cases we have a lot of students who their dads work a lot, they work long hours, they don’t have a connection with dads; so they are kind of looking for a male role model. So we have a mentorship program in the school where male and female teachers mentor boys in their final couple years when, before they go up to high school (Morris).

Morris believed that relational learning is a key teaching strategy to create a bond or “connection” with his students who lack a relationship with their fathers. Both male and female teachers are involved within a mentorship program, led by the school, to provide mentor support for students. Morris recognized that, as an identified male teacher, he can offer guidance to students and fulfill a fatherly role. Morris utilized his gender to play as a father figure in developing relationship with his students (Greig, 2011).

I think in terms of instructional strategies like really humanizing the teacher and kind of making me as a teacher like a co-learner in that environment I think that helps promote that idea of building a relationship, building trust, and also you know being a role model (Morris).

**Pedagogical Challenges of Overcoming Social Barriers to Achieve Successful Learning Outcomes**

Morris made a comparison of learning behaviors between boys and girls by bringing up an experience from when he observed an all-girl classroom. He noticed that girls focus more attentively to lessons compared to his boys when he teaches a lesson. In highlighting this distinguishing factor, Morris suggested that there are differences in learning between girls and boys in a single-sex setting. He explained that having to work on getting his students’ attention is a challenge that he faces:

I did some [Additional Qualifications] with a number of teachers from one of the girls’ schools in Toronto. And so we went in one day working with their students and just sitting in that classroom for the day, I was like ‘oh yea, like our students learn different ways’. Just seeing the focus and attention that girls would give over an extended period of time and I was thinking, like my boys couldn’t sustain this type of focus, we would have had to move on or like change up the task beforehand. So like I’ve read some of the research, I’ve looked into it a little bit and what I’ve been able to kind of corroborate anecdotally on my end is that, yea there is a difference. Is it monumental? I don’t think so. But it’s definitely there (Morris).
Morris explained his personal challenges as a teacher and his instructional challenges with organization and assessment. As an experienced teacher, who has taught for eleven years, Morris questioned his practice as a teacher and the need to make his learning continuous and to be up-to-date with current learning trends and practices.

Personally, I would say I always kind of consistently come back to organization and assessment. I’ve always kind of figured how to tweak that and how to get it right. I think I’m really good at doing some of the assessment as a teacher and I think I still need to kind of figure out how to formally assess my students well. Even though I’ve been doing it for 11 years, I think there’s always room for improvement in that. And then just like yeah… just like in terms of my like general organization in the classroom that is definitely an area where I need to improve and I think would support my students (Morris).

Although, Morris recognized that he must maintain awareness to his classroom needs, he faced challenges as a teacher in a private school system. Similar to Patrick’s experience, Morris believed that relative to public school teachers, there is more pressure for a teacher in a private school to achieve higher successful student learning outcomes. Not only does Morris have to consider the individual learning needs of his students but he also must consider parents and their interests, needs, and goals for their children. Due to this, he may feel limited to comply with the interests of his students and his own practices, beliefs, and strategies.

Being in an independent school there’s definitely more pressure in a certain way so like there’s the pressure of knowing that parents are paying substantial tuition to send their kids to the school. So you kind of feel down to that a little bit that like, I got to make sure that I’m A) I’m respecting the instruction and growth of the student and B) also regarding that like a substantial investment for parents into this education. So I better be doing a pretty damn good job to support that. So there’s definitely a bit of pressure there (Morris).

**Implementing Gender Inclusive Practices into the Classroom**

Morris believed that it is only possible to have discussions about gender issues rather than implementing practices of gender inclusivity in the classroom because he sees that teaching in an all-boy classroom is a limitation:

I guess in a boy’s school the idea of specifically working, talking about gender equity is… in terms of like how the classroom runs, we are a boy’s school. We try really hard to ensure that our boys are interacting with as much of an equal mix female/male created content as much as possible…So in terms of like being able to deliver on gender equity in the classroom it’s not possible but in terms of talking about gender equity in the wider world I think it’s a really important part of what we do (Morris).
Morris saw only one gender in his classroom which contributes to the notion that there is only one gender present in a single-sex classroom; and thus, he believed that implementing gender inclusive practice can only be done in coeducational classrooms. He describes more specifically the gender exploitive approach in which the teachers take to teach his boys about gender:

The boys are learning how to write speeches in humanities right now, like yesterday, our teacher, the humanities teacher for grade 6 showed them a video about a speech that Angelina Jolie delivered and a speech that Michelle Obama delivered; as well as a speech that a male speaker may have delivered. So we try and really diversify that content and talk a lot about this idea that just because we are in a boy’s school doesn’t mean that we’re all about a boy’s world right? (Morris)

Morris’ students do get exposure to issues around gender, but he did not express an in-depth look into specific issues about gender, biological sex, discrimination, and oppression compared to Jane. Morris explained gender inclusivity as a way to ‘diversify’ their students’ learning and understand a woman’s perspective. Although Morris does not experience gender on the same in-depth level as Jane, he is making an effort to advocate for gender inclusivity in his classroom, similar to Patrick.

Participant 6: Kevin

Kevin teaches in a private all-girl school with a population of roughly 140 students and has taught in the same school for the past 25 years. Prior, Kevin taught in a co-ed classroom for 5 years within a public school board. Kevin teaches string music from grade 4-9. Kevin’s interview was conducted over the phone and Kevin’s interview was unlike the rest of the participants in the study. With Kevin’s 30-year experience as an educator, he does not believe that there is a pedagogy attached to his teaching practice. He is careful to not make any claims about sex differences in learning because he is unfamiliar with the literature in the field. Kevin is careful when he answers the interview questions because he firmly bases his beliefs on his individual experience rather than framing his answers solely on assumptions or claims.

Beliefs About the Effectiveness of Biological Sex-Based Differences Theory in Single-Sex Schooling

Kevin is not familiar with any literature concerning biological or sex-based differences in learning and how it could impact a student’s learning process. “You know what, I can’t really answer that, I’m not sure exactly. Because I don’t know about [what] the research is”. Kevin
Kevin did not have a formula or framework to define his teaching practice for teaching girls or boys other than reflecting on his professional experience. Kevin asked a rhetorical question that implies no relationship between pedagogy and music. His claim at being “hard pressed” exemplified his firm stance in not believing in pedagogy and in general, Kevin believed that pedagogy is not an important part of a teacher’s experience in providing successful learning outcomes for either girls and boys.

**Gender Equitable Responses to Biological and Social Factors that Affect Learning**

Kevin believed that there is no need to concern sex-differences in learning with his teaching subject in string music. During his interview, Kevin refused to answer any questions that concern stereotyping, assumptions, or misconceptions about gender and how it can shape learning because he admits to not having a background in social issues concerning the topic. Additionally, Kevin has never attended any professional development workshops and he was not approached by his administration with any recommendations involving gender equity. Countryman (2012) explains that in Canadian education systems, music teachers must be able to challenge traditional methods and challenge the status quo to understand the individual needs of the student and find methods that suit those needs and interests. It is critical to emphasize that teachers must evaluate their students’ learning needs in any teaching subject by problematizing challenges they face; such as stereotyping.

McGhie-Richmond, Irvine, Loreman, Cizman, and Lupart (2013) examine how specific variables, for example, years of teaching experience, influence if (or if not) teachers will incorporate inclusive practices in their classroom. They find that younger teachers with less experience are more likely to incorporate inclusion and apply it to accommodate their students. By comparing Kevin to the rest of the participants in the study, Kevin’s experience in teaching
reflects why he approaches his pedagogy the way he does and his lack of consideration for gender inclusive practices stem from his years of traditional views of teaching which exemplifies gender exploitive practices.

**Pedagogical Challenges of Overcoming Social Barriers to Achieve Successful Learning Outcomes**

Since Kevin does not teach in a public board, he was not required to enroll in pre-service teaching programs to qualify for a position in his private school: “I have no teachers college experience at all and I don’t really remember or wonder what it was going to be like”. Kevin does not believe in the significance of pedagogy and therefore, he did not express any challenges with pedagogy and he felt prepared to teach in an all-girl school: “Yea I feel like I was ready, or I wouldn’t have done it” (Kevin).

**Implementing Gender Inclusive Practices into the Classroom**

Kevin did not determine his student’s needs based on their biological sex but only by evaluating his students’ learning progress with his assigned music: “It’s a question of how challenging the music [is]... Once I get the feel for a beginner class, I would see how much [students] can expect but that’s also affected by the amount of practicing that goes on” (Kevin). In comparison to Morris, Jane, Chandra, Patrick, and Nabeeha, Kevin believed that gender discourses are not important for student’s learning process in a single-sex classroom and thus, may not be aware that gender exists in a single-sex classroom. “Because I’m teaching string there’s no… the only preparation that I do is choose the class’ next piece of music and that’s based on the accomplishments of the class, the age of the class, and music that I know after all these years”. In comparison to Morris, Kevin does not form a relationship to understand a student’s individuality, needs or interests (Edwards & Richards, 2002). Choi (2014) notes that as a music educator, it is essential to apply critical pedagogical practices to implement transformational learning experience for both the student and the teacher.

**Chapter Summary**

All teachers, except Kevin, believe that gender inclusivity is important in single-sex classrooms because it challenges gender norms associated with student learning ability but at the same time,
some teachers such as Chandra, Morris, and Patrick implement biological or sex-based perspectives to meet what they perceive to be the biological needs of students. The results of this study show that participants do not hold a firm stance on gender inclusive practices and there is tension between biological or social frameworks. Furthermore, tension with biological or social beliefs about gender in single-sex classrooms can be the result of participants not knowing the appropriate definition of gender, which results pedagogies that both reinforce and challenge gender norms. Teachers such as Patrick, Jane, and Morris provide more gender inclusive practices compared to others, because their teaching environment supports teachers in challenging social gender norms and offer teachers services that help teachers apply gender inclusivity in their classrooms. The following chapter provides a cross-case analysis and summary of the study, discussion of major findings, implications, and recommendations.
Chapter 6: Discussion and Conclusion

Introduction

This chapter offers a cross-case analysis of the findings in relation to the two guiding research questions presented at the beginning of this study: 1) What beliefs do teachers in single-sex schools have about the nature and significance of gender differences in learning processes? 2) To what extent and in what ways do teachers’ beliefs about gender differences in single-sex schooling shape their pedagogy? Table 3 illustrates four summative themes emerging from the data analysis and used to address the research questions. The chapter also includes summary of the study, major findings, implications, and recommendations for future research.

During the data analysis, I used the framework represented in the Gender Integration Continuum to identify “gender transformative” and “gender exploitive” teaching approaches of the participants. Gender transformative practices recognize gender norms, roles, and inequities that create social barriers and marginalize individuals; and gender exploitive practices include programs and policies that ignore social hegemonic norms that support gender inequalities and reproduce stereotypes that limit a student’s learning potential. The pedagogical approaches of teachers are addressed below:

Table 3: Summary of Results for Each Teacher

<table>
<thead>
<tr>
<th>Participant</th>
<th>Beliefs</th>
<th>Gender Transformative/ Gender Exploitive</th>
<th>Tension between Theories: Biological or Sex-Based Differences and Gender Inclusive Practices</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| Patrick     | - Does not dismiss media literature that supports biological or sex-based differences in learning.  
- Advocates for gender inclusivity | - Gender Transformative  
- Gender Exploitive | - Tension between being an advocate for gender inclusive practices and students’ and parents’ engagement. | - Achieving high academic outcomes vs. achieving gender inclusive outcomes |
| **Chandra**          | -Believes that there are biological or sex-based differences in learning.  
                        | -Believes in gender inclusivity. | -Gender Transformative  
                        | -Gender Expulsive  
                        | -Tension between believing in biological or sex-based differences in learning and challenging gender norms. | -Understanding the behavioural differences between boys and girls. |
|---------------------|--------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------|
| **Nabeeha**         | -Believes in biological or sex-based differences in learning.  
                        | -Believes in implementing gender inclusivity. | -Gender Transformative  
                        | -Gender Expulsive  
                        | -Tension between believing in challenging gender norms and managing classroom behavior that reinforces masculine behaviour. | -Behavioural management of boys |
| **Jane**            | -Believes in implementing gender inclusivity  
                        | -Believes in implementing feminist theoretical values. | - Gender Transformative | -Tension between believing in challenging gender norms and non-gender conforming identities and behaviours. | -Applying gender theory into teaching practices |
| **Morris**          | -Does not dismiss media literature that emphasizes biological-or sex-based differences in learning.  
                        | -Believes in informing students about gender inclusivity. | -Gender Transformative  
                        | -Gender Expulsive  
                        | -Tension between believing in challenging gender norms and not believing that gender inclusive practices can be implemented in a single-sex classroom. | -self-organization (unrelated to gender)  
                        | -assessment of student academic outcomes (unrelated to gender) |
| **Kevin**           | -Not familiar with discourse surrounding gender in single-sex classrooms; thus, does not hold beliefs due to unfamiliarity | -Gender Expulsive | -Does not believe in pedagogy or gender to be important in a single-sex classroom. | -does not experience challenges |

**Discussion of Major Findings**

Teachers shared that they do not have a great deal of administrative support or even professional development opportunities available to help with the development of the attitudes and skills.
required for promoting gender inclusivity in their classrooms. An important finding to recognize was that there was tension in the data between gender exploitive and gender transformative approaches—all participating teachers, except for Jane, were unable to clearly determine what gender inclusive practices looked like, resulting in some teachers who reproduced stereotypical statements about gender. Additionally, two teachers believed that it was not possible to implement gender inclusive practices in a single-sex classroom, instead implying that boys and girls must exist in order for gender to exist. Another important reoccurring point that was raised in the interviews is that all teachers, except Kevin, supported the idea of having more professional development and specialized training available to deal with gender and gender issues in single-sex settings. In the next part of this section, the research questions reveal more insight about the tensions identified within participants’ answers.

**Research Question 1: What beliefs do teachers in single-sex schools have about the nature and significance of gender differences in learning processes?**

When teachers talked about their beliefs concerning gender-related teaching practices, they referred to research to justify how they support (or otherwise) gender-specific pedagogies. The results show that teachers experience tension between reproducing gender stereotypes and challenging them. Research regarding biological or sex-based differences in learning or research that supports gender inclusive practices is significant in shaping their beliefs about the way boys and girls learn differently. For example, Morris said:

I’ve read some of the research, I’ve looked into it a little bit and what I’ve been able to kind of corroborate anecdotally on my end is that, yea there is a difference [between boys and girls]. Is it monumental? I don’t think so. But it’s definitely there. (Morris)

Morris did not believe that research supporting differences in learning between boys and girls is significant enough to influence his pedagogy, but still mentioned that the differences are still “definitely there”. Similarly, Patrick believed that research regarding brain-based differences in learning does not define the way boys and girls learn, but at the same time considers the data to be useful in determining learning needs: “I think you’ve got to take it all with a grain of salt and I think you’ve got to be very careful trying to draw conclusions. I’m more skeptical than convinced by it” (Patrick). Five out of the six teachers participating in the study believe that utilizing current research can help to determine boys or girls’ needs in their classroom based on gender, which presents “gender exploitive” characteristics, resulting in teachers who utilize
gender norms to develop their instructional strategies. Furthermore, all participants, except Kevin, were fairly open to implementing sex-based instructional strategies if it met the needs of their students. For example, Morris encouraged his boys to be competitive when he teaches math and Nabeeha has to deal with masculinities to manage behavior in her all-boy classroom. Nabeeha explained, “I mean I had a student start crying, he felt really stressed in class, and I didn’t really know how to approach the situation. There’s this way of … the stereotypical way of if you’re a girl and I am a girl, I can relate to you” (Nabeeha). Nabeeha did not know how to handle the situation of a boy crying in her classroom because of the dominant gender belief that boys are tough and aggressive compared to girls who are emotional, shy, and passive.

Some of the teachers in the sample used current research to challenge and deconstruct notions of femininity and masculinity. For example, Jane challenged the notion that boys are stronger in STEM compared to girls by encouraging her girls to participate in workshops that build self confidence in STEM. She said:

I think [workshops] will be a really good way for the girls to establish that confidence because even in an environment where it’s only girls, some of them kind of doubt their ability because they are girls, especially the kids who have come from co-ed schools, they kind of have this engraved in them already. (Jane)

Similarly, Patrick tried to be more involved with gender equity activism by participating in professional development workshops to deepen his knowledge about dealing with gender. Patrick said:

I helped work with a team to bring that into the school. The white ribbon campaign, the last couple of years… I think it is necessary. I think especially being in that kind of environment, it’s easy for the boys to lose perspective. Ultimately, they are going to enter society, they are going to have to respect gender and sex differences and that may not…because the girls are not there they don’t always have that issue in front of them. (Patrick)

With Kevin being the only teacher who has not read any research concerning sex-based differences in learning and gender, all teachers have some (sometimes more than others) knowledge about the importance of gender in terms of influencing teaching practices and students’ learning experiences.

**Research Question 2: To what extent and in what ways do teachers’ beliefs about gender differences in single-sex schooling shape their pedagogy?**
All teachers except Kevin expressed an interest in learning more about gender and how to implement the concept into their teaching practice. Patrick explained that although teachers receive additional training on dealing with gender in his school, teachers and students still struggle to fully comprehend the concept of gender:

So, we talked about healthy masculinities, we’ve talked about the man box, we’ve talked about social expectations for what a man is supposed to be, we talked about consent culture, we’ve talked a lot about that. At this stage, they’re just starting to transition to make a mandatory program for all staff and students. I think they have a way to go with it but it’s a cultural shift and it’s going to take some time to make that happen. (Patrick)

Similarly, Nabeeha shared how she has challenges with some parents who believe in maintaining the gendered status quo; which in turn can limit her approach to gender inclusive practices:

So if there is, for example, behavioral challenges a parent would automatically say ‘well you are dealing with a boy so you should expect this’. It's an automatic characteristic of ‘okay, well boys behave badly or girls are going to be like saints’. It’s just that automatic assumption of what gender should be and that you are supposed to act accordingly to the judge. So I do think that there are certain things that you are expected to know when you are teaching a particular gendered school (Nabeeha).

Likewise, Morris believed that it is not possible to implement gender equity at all in his classroom and implies that it can only be employed in a classroom with both boys and girls:

We try really hard to ensure that our boys are interacting with as much of an equal mix female/male created content as much as possible…So in terms of like being able to deliver on gender equity in the classroom it’s not possible but in terms of talking about gender equity in the wider world I think it’s a really important part of what we do. (Morris)

It is evident that implementing gender inclusive practices in a single-sex classroom is challenging and difficult for all teachers to achieve. Chandra and especially Kevin struggled to understand the concept. Kevin says:

I’m hard pressed to answer any questions about pedagogy because I don’t think it’s a… I don’t think it makes any difference. But single-sex boys I think…I don’t think it makes a difference (Kevin).

Chandra believed that teacher’s college cannot prepare a teacher to deal with femininities and masculinities in the classroom:

You know girls’ personalities are different from boys’ personalities. Boys may brush off issues where girls may fester them. So I think… but I don’t think you know that teacher’s college could prepare you to teach in that classroom either (Chandra).

Teachers in my sample could or would not take a firm stance on whether they thought they should engage in gender exploitive or gender transformative pedagogical strategies. For example, Kevin and Morris believed that gender inclusive practice cannot be implemented in a
single-sex classroom because it doesn’t make a “difference” or “is not possible”. Nevertheless, Jane is an example of how extensive training, professional development, and support from school staff can encourage teachers to challenge femininities and masculinities in a single-sex classroom; which promotes gender inclusive practices. She shared:

So a lot of the work that we’ve done around gender is looking at different gender identities, sexualities, pronouns, things like that and also a lot of the work that we do is talk about those things in age appropriate levels. You know when they get to middle school/ high school; we might be talking about like the wage gap or violence against women and things like that. The kindergarten/ grade 1 level we might be looking at you know, these are what people say are girl toys and these are what people say are boy toys but you can play with whichever one you want. It’s definitely structured kind of differently around that. I think we have had some professional development, like from Trans authors bringing literature and resources about genders other than male or female into the classroom (Jane). Although Morris believed that implementing gender inclusive practices in his classroom is not possible, he does not realize that his engagement in diversifying his lessons to focus on women contributes to gender inclusivity:

The boys are learning how to write speeches in humanities right now, like yesterday, our teacher, the humanities teacher for grade 6 showed them a video about a speech that Angelina Jolie delivered and a speech that Michelle Obama delivered; as well as a speech that a male speaker may have delivered. So we try and really diversify that content and talk a lot about this idea that just because we are in a boy’s school doesn’t mean that we’re all about a boy’s world right?

Teachers in this study have contradicting beliefs about gender and are finding it challenging to comprehend what is defined as gender inclusive. Teachers find that referring to current research helps to eliminate some taboos concerning gender but at the same time contributes to their confusion on how to specifically implement it in their own classrooms.

Summary of the Study

This study finds that teachers’ beliefs about gender in single-sex schools are variable and contradictory depending on an individual’s experiences and knowledge about sex-based differences in learning, gender, as well as their teaching environment (Pahlke, Bigler, & Patterson, 2014). Current research has determined that variables such as social context, stakeholder pressures, years of teaching experience, administrative support, and student needs shape how teachers understand and respond to issues concerning gender in their professional practice (DeLuca, 2013; Maher and Tetreault, 1993; McGhie-Richmond et al., 2013; Lee et al., 1994; Richards and Edwards, 2002; Martino & Frank, 2006). Teachers, except Kevin, in this
study were open to implementing gender inclusive practices if these are perceived as meeting the needs of students and do not explicitly challenge the status quo. For example, Morris promoted discussion about gender equity in his classroom but did not believe that gender inclusive practices can be implemented in his practice because he teaches one sex. Jane’s teaching environment promotes gender equity within a framework based on feminist theory to encourage girls to build self-confidence, especially in STEM. Patrick also has support from his administration (e.g., school’s involvement in the White Ribbon Campaign) but he still finds it difficult to implement gender inclusive practices in the classroom because of his students’ disinterest in challenging social constructions surrounding gender, with their focus tending to be on achieving high marks instead.

Although there were different challenges unique to each teacher, there were also some similarities within their experiences. For example, while five out of six teachers expressed some skepticism about the accuracy and usefulness of the literature on biological or sex-based differences in learning, they did not completely dismiss this work within their teaching practice. Teachers utilize biological or sex-based theories within their classroom practices to meet assumed biological needs that categorize girls’ and boys’ behavior, for example, Nabeeha who helped boys avoid embarrassment when they cried in front of their peers. Another example is when Morris created math lessons that forced his boys to compete with each other, an approach associated with masculine behavior and activity, such as playing sports, being aggressive, dominating, and authoritative. But, at the same time teachers apply biological or sex-based theories by encouraging students to participate in non-gender normative activities such as girls in STEM and boys performing as women in plays or drama class (Briskin, 1990; Weiler, 2001; Breunig, 2009). Not all participating teachers emphasized the importance of using gender-related resources to develop their pedagogy, but current research suggests that it is needed to incorporate gender inclusive practices (Deer, 2013). Furthermore, based on the results of this study, future research needs to consider the importance of resources and how teachers can implement them in their classroom to have a more gender inclusive effective learning environment. In the next section of this chapter, I address implications that can help to address some of the challenges that teachers face on a micro and macro-level perspective.
Implications for Ministry of Education

Although, Canadian public and private schools are required to abide human rights codes, examples of gender inequalities still exist in classrooms (Bauer, 2000; Bowers and Lopez, 2013). For example, text books continue to depict stereotypical masculine and feminine stereotypes that define a man or a woman’s behavior and characteristics (Bauer, 2000). Teachers can still be influenced by books that historically marginalize groups of people that do not conform to the norms of a patriarchal and gender conforming society. Currently, Canadian Premier Doug Ford’s policy of bringing back the 1998 sexual health curriculum maintains static traditional ideologies that contribute to the lack of progress in identifying gender oppression and discrimination; and as a result, bullying, harassment, and suicide cases are not yet addressed in terms of creating any policy changes to protect students. For example, Johnson and Gastic (2014) argue that private schools that maintain traditional masculine socialization can create a harmful environment that enables negative experiences, including violence and marginalization, in academics and personal well-being for boys of non-conforming gender identities. Dei 2010 suggests that Canadian public-school policies should address:

Disadvantaged students while also working with broad principles for educational delivery (that is, the structures and processes for teaching, learning and administration of education). We need education to place the learner [their histories, experiences, cultures and knowledge] at the centre of her/his education. Schooling must highlight the centrality of culture to knowledge production (pedagogy) and emphasize the importance of reaffirming and reinforcing the myriad identities of youth (p. 123)

Dei (2010) views educational issues with a micro-level perspective to implement inclusive practices and to address students’ individual social experiences. An implication for ministry level change is to review educational issues at a micro, on-the-ground level to investigate barriers, challenges, and obstacles related to gender. As a result, policy changes can occur if policy makers and ministry leaders visit school sites to understand day-to-day challenges of teachers and students and gain new perspectives from those who deal with stereotyping, discrimination, and harassment caused by gender norms.

Implications for Faculty of Education

Some research has found that teachers feel unsure about how to challenge gender issues in classrooms because they have not been equipped to practice gender inclusivity in classrooms
A need for research to look into the effectiveness of professional development workshops or pre-service teacher training courses in gender inclusivity is important in supporting teachers in their understanding of gender in classrooms (Kearns et al., 2017). One policy change recommended in current literature is to have teachers take mandatory gender inclusivity workshops to deconstruct gender binaries and challenge oppressive gender norms in their professional practice. For example, girls in single-sex schooling experience less harassment when teachers take professional development courses about gender inclusive practices (Rayside, 2014). Such workshops can help raise teachers’ awareness of their own understandings, beliefs, and behaviours—an important step to help teachers create a more inclusive learning environment. Although it is important to consider empirical data that reveals differences among boys and girls, teachers must consider other social factors such as school context, race, socio-economic status, or learning disabilities which may contribute to students’ lack of academic achievement in a certain subject area (DeLuca, 2013). Children often face challenges of expressing their identity based on their gender and when teachers do not recognize gender, gender discrimination, sexism, and gendered stereotypes in their classroom, “children who are perceived as gender nonconforming may be seen as a threat to group cohesion and homogeneity” (Drury et al., 2012, p. 443). Addressing issues around gender identity is crucial in avoiding discriminatory experiences from students who face bullying and harassment from their peers and teachers. Teachers who approach their practice with inclusivity establish an environment where students can recognize gender identities and its meaning in society.

Recommendations for future research

Suggestions for future research include exploring how resources that support gender inclusivity and gender transformation can help improve teachers’ pedagogical styles and student achievement; teachers’ understanding and beliefs about resources; and how school culture shapes teaching and learning processes in relation to gender and other intersecting categories. A look into the effectiveness of professional development courses or workshops and micro-level policy changes is needed to understand challenges that teachers face day-to-day in implementing gender inclusive and transformative practices in their classroom.
Conclusion

Gender is an important topic that needs to be addressed in schools and it is often dismissed in a single-sex school because gender is not seen as an issue in such spaces. Teachers in this study did not completely disregard gender when there appeared to be alignment with the beliefs, values, and interest of students, such as talking about sports in an all-boy classroom. Additional research is required to look at the importance of teachers’ knowledge about gender inclusivity, administrative support for gender inclusive practice, and professional development workshops. Teachers may face challenges related to meeting the interests and needs of students as well as external influences such as parents and administrators. While most teachers were supportive of creating an equitable environment for their students, they did not understand how to create a gender inclusive environment in a single-sex setting. Teachers have their own pedagogical styles and their experiences that shape their teaching instruction and their beliefs do shape their approach about the way students should succeed. Whether or not teachers implement gender inclusive practices in their classroom is determined by their beliefs about gender and its importance in shaping their pedagogy. Variables such as teaching experience and teaching environment contribute to systemic as well as micro-level oppression rooted in gender discrimination and stereotypes that affect a teacher’s pedagogy. Social and biological perspectives need to be further problematized in education to analyze how teachers approach their pedagogy based on their beliefs about biological or sex-based differences in learning or their beliefs about challenging the way society views constructions of gender. By developing research focused on the importance of teachers' beliefs about gender in single-sex classrooms, social issues such as patriarchy, harassment, and discrimination, can be addressed to benefit teachers and students in overcoming barriers that categorize and limit learning abilities.


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Appendices

Appendix A

Teachers’ Beliefs About Gender Difference in Single-Sex Classrooms

Supervisor: Dr. Caroline Manion Ph.D. (Professor)
Ms. Linda Hanceroglu (Master of Education Student)
Ontario Institute for Studies in Education
Department of Leadership, Higher, and Adult Education
Leadership and Policy

Interview Questionnaire for Teachers on Gender Differences in Single-Sex Classrooms

Note Taker: ________________________ Date: _______________________

Indicate whether you teach all-boy or all-girl students: _________________________

Teacher name(s): ____________________________________________________________
____________________________________________________________________________

Teacher’s gender identification: __________________________

Grade level: _____________

1. Do you believe that single-sex schooling is effective for achieving successful learning outcomes?
   a. Why do you believe that single-sex schooling is effective?
   b. Why do you believe that single-sex schooling is not effective?

2. Do you believe that there are biological/sex-based differences that impact how different students learn?

3. Do you believe that single-sex classrooms offer more benefits for students compared to co-ed classrooms? Please, explain your response.

4. In general, what types of instructional strategies do you apply in your teaching in a single-sex to classroom?
   a. Do you utilize specific strategies based on the subject you teach?

5. How do you prepare for each of your classes?

6. Prior to being hired at the school, how prepared did you feel to teach in a single-sex classroom? Please, explain.
7. What are some of the resources that you use to teach in a single-sex classroom?  
   a. How do you see these resources helping your work?  
   b. What advantages or disadvantages do you see these resources as having?  
8. Do you believe that teaching instruction should be structured around sex differences?  
   Please, explain.  
9. Do you believe that research around differences in learning between male and female students is credible in determining the academic potential of male or female students?  
   Please, explain.  
10. Do you receive any administrative support for your pedagogical approach?  
11. Have you received any professional development around implementing gender equity in the classroom? If so, what did you learn? If not do you believe it should be a requirement for all teachers who enter single-sex schools? Explain.  
12. What advice would you give, to a new teacher, about teaching in a single-sex classroom?  
13. What are some of the misconceptions about teaching single-sex classrooms that you would like to be emphasized in future research?  
15. Do you believe that you have to perform a certain way to meet the needs of your students, parents, or school administrators’ interests? Explain.  
16. What pedagogical approaches do you take to understand a student’s learning needs?  
   a. Are they successful? Explain.  
17. Do you modify your pedagogical approach to meet the needs of how your students learn?  
   a. What strategies help you understand your students’ learning needs?
Appendix B

Teachers’ Beliefs About Gender Difference in Single-Sex Classrooms
Supervisor: Dr. Caroline Manion Ph.D. (Professor)
Ms. Linda Hanceroglu (Master of Education Student)
Ontario Institute for Studies in Education
Department of Leadership, Higher, and Adult Education Leadership and Policy

Attention Educators!

Congratulations on another year of teaching! I’m writing to invite your participation in my study that is exploring the beliefs and experiences of teachers working in single-sex educational settings. Your participation involves an interview session which will ask you about your beliefs on gender differences in single-sex classrooms and you will be asked to share your pedagogical practices and the challenges that you have encountered along the way. The interview will last for about an hour to an hour and a half depending on the length of answers given.

Individualized results will not be available, but all participants will receive and executive summary of the main findings from the study via your email or regular mail. Please see the attached informed consent form for more detailed information about this study. Participants have the right to omit questions or withdraw from the interview at any time. Participants will be entered in a raffle to win a gift card for participating in the study! If you would like to have more information about this study, please contact me at lindahanceroglu@gmail.com.

Thank you very much! Without your support, this research would not be possible. I greatly appreciate your time and interest.

Sincerely,

Ms. Linda Hanceroglu
Ontario Institute for Studies in Education
Teachers’ Beliefs About Gender Difference in Single-Sex Classrooms

Supervisor: Dr. Caroline Manion Ph.D. (Professor) Ms. Linda Hanceroglu (Master of Education Student) Ontario Institute for Studies in Education Department of Leadership, Higher, and Adult Education Leadership and Policy

Attention Teachers! You are invited to participate in a research study. The purpose is to gain insightful information on the beliefs that teachers have on gender differences in single-sex classrooms and the pedagogical challenges you face along the way.

INFORMATION

You are invited to participate in an interview session because you either teach in an all-girl classroom or an all-boy classroom. The interview will last for 1-1.5 hours and will require you to share your insights on your instructional practices in your classroom and pedagogical challenges you face teaching in a single-sex educational setting. In addition, the interview will require you to share your beliefs on sex differences in the classroom and how they inform your classroom pedagogy.

CONDITIONS FOR PARTICIPATING

Participation in this study is voluntary; you may decline to participate or withdraw from the study at any time without penalty. All interview questions and answers will be audio recorded. If you choose to end your participation before the interview is completed, we will immediately stop data collection and destroy all method of data already collected. Participants have the right to omit any question(s)/procedure(s) they choose without penalty. Participants have the right to withdraw from the study and all information collected will be terminated.

RISKS

The Research Ethics Board at the University of Toronto defines minimal risk as:

The interview contains minimal risks and there are no physical, harmful, or emotional risks involved in your participation.

BENEFITS

Possible benefits from this study can include giving participants time and space to personally reflect on their pedagogy in single-sex classrooms. In addition, it may potentially encourage participants to develop a discussion on gender equity with other colleagues. An insight on a teacher’s perspective in this study will offer awareness for readers and academics to the pedagogical challenges and experiences of teachers in single-sex classrooms. As a teacher, you will able provide a reflection of your experiences of teaching in a single-sex educational environment and reflect on pedagogical challenges that you face. In addition, your reflection will hopefully give you a chance to think about how you approach your teaching practice and to challenge the way you currently deal with a single-sex educational environment.
CONFIDENTIALITY

Only Ms. Linda Hanceroglu will have access to the data (i.e.: the interview sessions and audio recordings). The audio files of the interview session will be stored on a password-protected computer. participants to be no greater than those encountered by the subject in those aspects of his or her everyday “The probability and magnitude of possible harms implied by participation in the research can reasonably be expected by life that relate to the research, or during the performance of routine physical or psychological examinations or tests.”

Once the questionnaires have been coded by the researcher, all identifying information will be replaced with pseudonyms (e.g., names). The responses will then become numerical data with no identifying information attached. The computers on which the electronic data are stored are password protected. Informed Consent forms will be stored in a locked cabinet separate from the data files. All forms of personally-identifiable data, including consent forms and audio files, will be destroyed by Ms. Linda Hanceroglu one year after publication date (December 2018); data with no personally-identifiable information about participants will be retained indefinitely.

The research study you are participating in may be reviewed for quality assurance to make sure that the required laws and guidelines are followed. If chosen, (a) representative(s) of the Human Research Ethics Program (HREP) may access study-related data and/or consent materials as part of the review. All information accessed by the HREP will be upheld to the same level of confidentiality that has been stated by the research team.

FEEDBACK AND PUBLICATION
Individual results will not be available, but we will provide you with a summary of what we found by (Date TBA). You may choose to receive feedback via e-mail or regular mail. Findings from this study will be included in Ms. Linda Hanceroglu’s Masters thesis and/or in academic conferences and journals. Any identifying audio will be deleted once the study is completed by early 2018.

CONTACT
If you have questions at any time about the study or the procedures you may contact Ms. Linda Hanceroglu (linda.hanceroglu@mail.utoronto.ca). This project has been approved by the University of Toronto Research Ethics Board. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, contact Human Research Ethics Program at ethics.review@utoronto.ca or 416-946-3237

CONSENT
I have read and understand the above information. I have received a copy of this form. I agree to participate in this study.

I would like to receive feedback by (circle one):
- Email Address: ______________________________________
- Regular Mail Mailing Address: ______________________________________

Participant’s signature____________________ Researcher’s signature____________________
Date _______________ Date _______________
Appendix C

Teachers’ Beliefs About Gender Difference in Single-Sex Classrooms Supervisor: Dr. Caroline Manion Ph.D. (Professor)
Ms. Linda Hanceroglu (Master of Education Student)
Ontario Institute for Studies in Education
Department of Leadership, Higher, and Adult Education Leadership and Policy

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Thank you very much! I greatly appreciate your time and interest. Sincerely,

[Signature]