ONTARIO ELEMENTARY TEACHERS’ PREPAREDNESS TO ADMINISTER
COMPREHENSIVE, LGBTQ-INCLUSIVE SEX EDUCATION

by

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In 2015, Ontario introduced an updated, LGBTQ-inclusive sexual health curriculum for all grades, which inspired opposition from some conservative religious groups. This study explored the experiences and preparedness of elementary teachers covering this curriculum using a survey. Researchers predicted that: (1) teachers would feel least prepared to cover the controversial topics, (2) low levels of engagement in the reform and encountering complaints would predict lower preparedness, and (3) teachers in religious schools would encounter more obstacles than those in secular schools. The majority of participants felt comfortable, knowledgeable, effective and motivated to teach the curriculum. Participants felt least prepared to teach four of the most controversial topics. Support for LGBTQ-inclusive education, positive student reactions, and less fear of parent complaints predicted greater preparedness to teach sex education. There were few differences between religious and secular teachers. Respondents desired more training, teaching resources, support from administration and time to teach health.
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Ontario Elementary Teachers’ Preparedness to Administer Comprehensive, LGBTQ-Inclusive Sex Education

Sexual health education (SHE) is generally thought to involve the teaching of a broad range of topics pertaining to sex and sexuality, related values and beliefs, and the learning of skills and motivation necessary to have safe and healthy relationships with oneself and others (Planned Parenthood, 2017). SHE can include topics such as human development (e.g. puberty, sexual orientation, gender identity, reproduction, etc.), relationships (romantic, sexual, and friend relationships), skills for effective communication and decision making, sexual health and behaviour, and societal/cultural discussions. There is growing recognition that access to sexual health education is crucial in promoting the overall well-being of individuals, families, communities and society at large (World Association for Sexual Health, 2008). In Canada, SHE is generally taught as a separate module within province-based health and physical education curricula; from grades one through eight, when subjects are commonly taught by a single, generalist teacher this means that sex education is often provided by those without specialized qualifications (McKay & Barrett, 1999). As a result of this arrangement, many teachers responsible for providing SHE lack specific training on sexual health topics and related teaching methods. Due to the sensitive and value-laden nature of this material, teaching sexual health presents unique challenges for teachers when compared with more benign subjects (Donovan, 1998; Cohen, Byers & Sears, 2012; Cohen, Byers, Sears & Weaver, 2004; Eisenberg, Madsen, Oliphant & Resnick, 2011). This challenge is heightened for elementary teachers currently working in Ontario, since recent updates to the Province’s health curriculum inspired considerable protest from some parent and religious groups.
over the appropriateness of its content and the underlying values it promotes (The Canadian Press, 2015a). Few would argue with the notion that providing comprehensive, inclusive sex education while maintaining appropriate student-teacher boundaries and respecting diverse cultural and religious backgrounds poses a unique, complex and often daunting pedagogical challenge for teachers. While the 2015 Health & Physical Education curriculum update advanced SHE in Ontario to current standards as measured against other provincial mandates, it remains unclear whether teachers feel sufficiently prepared or motivated to deliver the material in the face of this controversy. The primary goal of the current study was to determine the preparedness of grade five to eight teachers to cover the updated curriculum using an online survey. The secondary goal was to explore whether teachers’ preparedness to provide SHE could be reliably predicted by their personal attributes or factors in their environment, which has the potential to improve efforts to prepare and support teachers in their SHE provision, subsequently increasing the quality of SHE delivered across the province.

Review of the Literature

Sexual Health Education in Ontario

**History of sex education in Ontario.** Since the Ontario government first introduced SHE in public schools in 1905, establishing an agreed upon curriculum has been a heated site of contestation (Prentice, 1994; Bliss, 1970). As demonstrated in minutes from Ontario Education Association (OEA) conferences in the early 20th century, the debate surrounding public instruction on topics related to “sexual hygiene” and “morality” in schools was already a salient issue in the minds of educators. In a lecture titled “The Training of Teachers in Hygiene” delivered in 1906, one educator argued that
parents could not be relied on for educating their children about “sexual hygiene” and that teachers should act as “loco parentis to the rising generation” in order to preserve students “from evil habits” and help them “cultivate a pure and temperate life, and establish their feet in the paths of virtue.” (Ontario Educational Association, 1906, p. 390). Another lecture delivered in 1912 asserted that “boys and girls...must be educated in the duties and responsibilities of fatherhood and motherhood; they must be grounded in the principles of sexual hygiene, and have the degree of doctor of manhood and womanhood stamped upon their characters.” (Ontario Educational Association, 1912, p. 411). These quotes illustrate some of the motivations behind early sex education advocates in Ontario. By mandating education on sexual hygiene, leaders in the Province sought to instill a specific set of values regarding sexuality and gender in Ontario’s youth (e.g. chastity, marriage, traditional gender roles, heterosexuality, parenthood, etc.). In this way, sexual health education was first conceived in part as a tool for propagating the dominant Anglo-Saxon Protestant values of the time period and establishing widespread norms for thinking and behaving that aligned with those standards.

**Modern attitudes toward sex education.** Although terms like sexual morality and hygiene have fallen out of use, the controversy that continues to surround SHE in schools still stems from the topic’s inextricable entrenchment within political, religious and cultural perspectives (Kendall, 2013; Luker, 2007). Because SHE is provided within the public education system, exposure to these curricula is widespread, reaching the majority of children across Ontario. As such, they play an important role in establishing societal norms and accepted practices surrounding sex, sexual identity and gender. Thus they are thought to have the potential to exert considerable influence over the attitudes
and behaviours of the Province’s youth. This power is recognized by a variety of stakeholders, including parents, teachers, administrators and political leaders, and continues to fuel the controversy that surrounds SHE in the public education system (Luker, 2007).

Despite diverse views regarding SHE and the topics it should include, research on attitudes toward sex education across Canada suggests that a majority of teachers, parents and students support its presence in schools. A significant majority of parents agreed or strongly agreed (87%) with its inclusion in a recent, large-scale \( n = 1002 \) survey in Ontario (McKay, Byers, Voyer, Humphreys & Markham, 2014). Surveys of Canadian teachers also demonstrated that 93% strongly support school-based SHE, which they rated as very important on average (Cohen et al., 2004; Cohen et al., 2012). This finding is generally consistent across studies and provinces (McKay, 1996; McKay, Pietrusiak & Holowaty, 1998; Weaver, Byers, Sears, Cohen & Randall, 2002). The considerable media coverage of Ontario’s curriculum controversy (“Ontario’s Sex-Ed Debate”, 2015; The Canadian Press, 2015b; Csanady, 2016) has likely inflated Ontarians’ perceptions of the lack of support for comprehensive, school-based SHE among parents. Notably, the large percentage of Ontario parents who indicated they supported school-based SHE in the midst of the province’s curricular controversy (McKay et al., 2014) suggests that those opposed to the updates likely belong to a vocal minority, as their concerns were not reflected by the majority of respondents.

Students also value the presence of SHE in schools, with as many as 92% expressing their support in Canadian studies and many rating school as their preferred source of sexual health information (Byers et al., 2001; DiCenso, Borthwick, & Creatura,
2001; McKay & Holowaty, 1997). Despite this support, an Ontario-based survey conducted before the curriculum was updated found that 45% of students felt their sexual education did not address the topics they were most interested in (Ontario Student Trustees’ Association, 2011). Similarly, more than half of students who completed a survey conducted by Byers and colleagues (2001) rated the quality of their SHE as only fair or poor and a sizeable portion indicated that their most recent SHE teacher did not appear comfortable discussing all portions of the curriculum. More recently, this observation has been confirmed in research with elementary and middle school teachers who indicated that on average they felt only somewhat knowledgeable about sexual health topics and less than somewhat comfortable discussing more sensitive topics with their students (Cohen et al., 2004; Cohen et al., 2012). Therefore, while it appears that a majority of Canadians support the presence of SHE in schools, curricula do not always address the interests and concerns of students. Furthermore, students and teachers alike recognize that its teaching is often accompanied by feelings of discomfort and a lack of sufficient specialized knowledge to address all sexual health topics equally and effectively in the classroom.

The current debate. Given the long and contentious history of sex education in schools, it follows that the updated 2015 curriculum, first introduced in 2010 and then quickly revoked after considerable public backlash, has inspired such heated debate (The Canadian Press, 2015a). The new curriculum represents the province’s first Health & Physical Education (H&PE) update since 1998. Those against the curriculum have raised concerns about its content and the age at which certain topics are introduced (Csanady, 2016). In the Ontario H&PE curriculum for grades one through eight, the proper names
of genitalia are covered in grade one, family structures, including those with same-sex parents, are discussed in grade three, puberty is introduced in grade four and discussions about reproduction begin in grade five. Topics such as consent, gender identity, sexual orientation, sexual behaviour, contraception and online safety are also included to varying degrees in the elementary curriculum (Ontario Ministry of Education, 2015a). The inclusion of LGBTQ identities and information has inspired particularly strong opposition (“Parents protest controversial sex education”, 2015). However, according to Ontario’s Ministry of Education (hereafter referred to as the Ministry), these updates were made to reflect evolving Canadian society, the earlier age at which students are entering puberty and the view that students should possess information before they are faced with situations in which it will be needed for healthy decision-making (Ensslen & Ursel, 2015).

Since its initial introduction in 2010, Ontario’s curriculum has sparked numerous protests by parents and disapproval from certain religious and political communities (The Canadian Press, 2015a; Hammer & Howlett, 2010). Three days following its release, the curriculum was put on hold by the provincial government, who claimed they would review the material and give further consideration to Ontario’s diverse religious and multicultural needs (“Sex Ed Opponents Claim Victory”, 2010). Since 2010, the curriculum has been used by political leaders as a point of electoral leverage and has garnered heavy media coverage (The Canadian Press, 2015b). Many opposing the curriculum argue that its content encroaches on their parental rights and religious freedom as Canadian citizens, citing concerns about its in-depth nature and its inclusion of topics such as same-sex relationships and gender identity (“Ontario’s sex-ed dispute”,
2015; “Ontario’s Radical Sex Ed Curriculum”, n.d.). For example, the Campaign Life Coalition, a vocal opponent to the curriculum, calls the document “radical” on its website, positing that it promotes the “gay agenda” of Ontario’s liberal party, encourages children to engage in risky sexual behaviour outside of love or marriage, and risks causing “serious sexual confusion in the minds of children” by covering topics such as gender identity and same-sex attraction (“Ontario’s Radical Sex Ed Curriculum,” n.d.). The curriculum has since been formally reinstated after undergoing review and further consultation (Ontario Ministry of Education, 2015b). With the curriculum now formally in place for its second year, the impact this debate has had on those required to teach the contentious material remains to be explored.

**Sexual and gender diversity in the curriculum.** One of the most debated additions to the health curriculum was the document’s LGBTQ-inclusive content and language (Rushowy, 2015). Many advocates for LGBTQ rights have applauded the updated curriculum for including more sexual and gender diversity and covering forms of discrimination such as homophobia, biphobia and transphobia (Kennedy, 2015; Zamon, 2015). Heteronormativity refers to the belief that heterosexuality is the only normal, natural expression of sexuality (Heteronormative, n.d.) and cis-normativity is an attitude which presumes all individuals’ gender identity matches that which they were assigned at birth (Jónsson, 2012). Proponents have argued that including this information in official school curricula will begin to reduce the amount of hetero- and cis-normativity reinforced in schools, thus improving the safety and psychological well-being of LGBTQ youth (Kosciw, Greytak, Palmer & Boesen, 2014; Taylor et al., 2015; Toomey, McGuire, & Russell, 2012). Research has demonstrated that when curricula do not explicitly
incorporate topics pertaining to sexual or gender diversity, teachers are far less likely to cover this material, which can prevent students who do not conform to society’s hetero- and gender-normative ideals from developing a sense of belonging and safety (Cossman, 2009; Shipley, 2013). A recent survey demonstrated that while the majority of Canadian teachers support LGBTQ-inclusive education in principle (84.9%), far fewer had translated that belief into action by taking steps to integrate LGBTQ content such as inclusive language (48.9%), LGBTQ human rights discussions (38.2%) or coverage of LGBTQ historical figures (18.1%) (Kosciw et al., 2014). Excluding these topics can reinforce “socially acceptable heteronormative identity destinations for youth” and has been linked to a myriad of mental health and physical risks for those who find themselves outside of the “norm” (Kosciw et al., 2014; Shipley, 2013). As such, the inclusive nature of Ontario’s H&PE curriculum could help to broaden concepts of acceptable sexual and/or gender identities, which many view as an important step in combatting the heteronormativity and constrictive gender norms deeply entrenched in the Canadian education system.

Unfortunately, mandating that something be taught through official curricula does not guarantee that those topics will be covered in classrooms. Implementation fidelity with any curriculum naturally varies across individual teachers, schools and regions for numerous reasons. This variation may be exaggerated for sex-related topics. Tappe and colleagues (1995) demonstrated that 84% of teachers omitted at least one of the modules from their SHE program and LaChausse, Clark and Chapple (2014) found that fidelity to their sexual health program varied significantly between teachers. In the latter study, those teachers with specialized health credentials reported significantly higher levels of
comfort and self-efficacy regarding sex-related instruction, and these two factors significantly predicted fidelity to the curriculum. Those who were less comfortable and felt less confident in their ability to teach SHE tended not to adhere to the curriculum as closely and gave lower quality SHE lessons overall. Given the controversy surrounding the curriculum experienced in different communities, it is likely that some teachers are experiencing lower comfort and confidence levels pertaining to this curriculum, especially regarding topics such as gender identity and sexual orientation. The H&PE curriculum’s newness also poses a challenge, as teachers must adapt their approaches and familiarize themselves with novel information and teaching expectations. Furthermore, teachers’ individual opinions regarding LGBTQ-inclusive education may also be influencing their comfort and effectiveness covering those topics in the curriculum. Thus, while the update to the curriculum and its inclusive nature appears to be a positive step toward combatting hetero- and cis-normativity in schools, it is important to explore how curricula such as Ontario’s H&PE document are being received. It is especially important to study content delivery by teachers and, consequently, how it is received by students to better understand the impact this reform is likely to have on young generations.

**Successful Educational Reform**

The development and installment of new curricula is one technique commonly used in education to create widespread change in the ways and information students are taught (Van den Akker, 2004). Over the past half century, researchers in education have identified a number of factors which influence the reception and successful implementation of a given educational reform initiative (Fullan & Miles, 1992; Sarason, 1990). Insights generated by this research may be able to shed some light on Ontario’s
sex education reform process. Of particular interest to theorists in this field has been the issue of teacher engagement in the reform process. Research shows that educational reforms, especially those using a top-down approach in which changes are mandated at a federal or provincial level, will generally fail unless teachers feel engaged in the process and sufficiently motivated to implement the change in their classrooms (Gitlin & Margonis, 1995; Havelock, 1973; Sarason, 1990). When teachers do not feel motivated to implement the change or feel that their needs are being overlooked, attempts at reform can create a push-pull effect where those outside the school pressure for change and teachers resist (Fullan, 1993; Huberman & Miles, 2013; McLaughlin, 1992; Sarason, 1990). As Sarason (1996; 2002) explained, the top-down, imposed nature of reforms such as curricular updates tend to create a distance between those initiating (the Ministry of Education) and those directly affected by the change (teachers and students), which can undermine a reform’s success regardless of the curriculum’s content or its intrinsic value to students. Teachers often openly admit that they will ‘comply’ with a new initiative without actually applying it unless they feel it will improve learning or outcomes in students (Grantmakers for Education, 2012). As such, it is vital to explore whether teachers feel Ontario’s H&PE reform to be relevant and worthy of the time and resources they are being asked to dedicate to it.

Although most modern research has focused on the issue of engagement, early school change literature focused on the psychological attributes of teachers that caused them to resist these changes (e.g. short-term thinking, conservatism, individualism; Lortie, 1975). As Gitlin and Margonis (1995) point out, it is important to view teacher resistance as occurring with good reason, rather than equating it with apathy or
defensiveness. Using several American case studies, they argued that it is vital to explore the reasons behind resistance and the experiences of teachers if successful change is to occur. As noted by Zimmerman in his historical account of the SHE movement around the world (2015), teachers play the role of the "foot soldiers on the firing line of sex education", since they are generally the most directly affected by curricular changes and the ensuing backlash. Applying this logic, the current study looked at the ways Ontario’s SHE reform is being understood and experienced by teachers. It assessed both personal attributes that might influence teachers’ motivation to implement the reform, as well as the overall sense of engagement teachers are experiencing during the reform process. Finally, it investigated what factors may be impeding the adoption of the curriculum using both qualitative and quantitative data in order to garner a more nuanced understanding of the processes affecting this SHE reform at the teacher level.

Effective Sexual Health Education

Researchers and educators have theorized about what constitutes the ideal sex education program and have identified a number of optimal health and social outcomes. The characteristics of programs that successfully generate those outcomes have also been studied and isolated. In Canada, the primary goal of SHE is generally understood to be the provision of “information, motivation and behavioural skills needed to enhance sexual health and avoid negative health outcomes” (Public Health Agency of Canada, 2008). Health Canada’s Guidelines for Sex Education also emphasize that effective SHE is age-appropriate, non-discriminatory, respectful of individual beliefs, and sensitive to the needs of individuals irrespective of age, race, ethnicity, gender identity, sexual orientation, socioeconomic background, physical/cognitive abilities and religion (Public
Health Agency of Canada, 2008). Across North America, there is considerable variation in the breadth of content that is covered in public SHE and attitudes toward SHE more generally. For instance, abstinence-only programs, favoured in some states throughout the United States, include only heteronormative content and emphasize delaying sexual activity until marriage, as opposed to more comprehensive programs that include information necessary for healthy decision-making if sexual activity does occur. Programs designated as comprehensive also more often include information on a broad range of sexual and gender identities. Health Canada and most sexual health experts advocate for comprehensive forms of sex education, as there is significant evidence to suggest they are more effective at reducing negative health outcomes such as teen pregnancy and infection transmission (Kohler, Manhard & Lafferty, 2008; Public Health Agency of Canada, 2008; Stanger-Hall & Hall, 2011; Starkman & Rajani, 2002).

Ontario’s updated health curriculum was developed with these health-related goals in mind and is considered comprehensive by the standards established by most experts in the field.

**Benefits of comprehensive SHE.** When students are provided with access to accurate, non-discriminatory and up-to-date information about their bodies and sexual health, research shows that they benefit from a range of psychological and health benefits (Collins, Alagiri, Summers & Morin, 2002; Thato, Jenkins & Dusitsin, 2008; Starkman & Rajani, 2002; McCaffree & Matlack, 2001). One common measure of SHE outcomes is teen-pregnancy rates, the assumption being that these pregnancies are generally unintended and, as such, decreased rates may indicate higher quality SHE through its promotion of contraceptive use, access to reproductive health services, and greater
exercise of reproductive choice among young woman (McKay & Barrett, 2010). Research conducted in the U.S. has linked comprehensive SHE to lower teen pregnancy rates compared to regions where no formal SHE or abstinence-only SHE is provided (Collins et al., 2002; Kohler et al., 2008; Stanger-Hall & Hall, 2011). STI acquisition, including the rate of human immunodeficiency virus (HIV) infection, is another common measure of SHE efficacy since the promotion of proper contraceptive and condom use is generally associated with reduced spread of infection through sexual contact (Kirby, 2008; Starkman & Rajani, 2002). Other potential health-related outcomes of comprehensive SHE include delayed initiation of sexual activity among youth, reductions in numbers of sexual partners, and reductions in engagement in high-risk sexual behaviours, among others (Kirby, 2008; Reis, Ramiro, de Matos & Diniz, 2011).

There is also evidence to suggest that comprehensive sex education can promote significant social and psychological benefits for students. Using a case study, Ashcraft (2008) argued that their comprehensive, community-based sex education program had helped teens become leaders and increased their academic skills in addition to the more obvious health benefits of the program. Comprehensive SHE programs also tend to cover a range of issues including the emotional and social aspects of development, which aim to improve students’ self-concepts and offset the negative influence of inaccurate messages and stereotypes students are frequently exposed to (Planned Parenthood, n.d.). For example, Wight and colleagues (2002) found that high school students who participated in their comprehensive SHE program demonstrated similar sexual activity levels to those assigned to receive conventional sex education, but experienced less regret of first sexual intercourse with their current partners. This finding suggests that although
students in both conventional and comprehensive SHE often still choose to engage in sexual activity, those who encounter comprehensive SHE programs are more prepared, on an emotional and practical level, to make decisions pertaining to their sexuality and behaviour.

Ontario’s updated curriculum was designed to equip students with the knowledge and motivation to make informed decisions related to sexual health and foster agency among youth; specifically, the curriculum emphasizes the process of consent and one’s right to abstain from sexual contact, how to advocate for oneself, encouraging respect for others, reducing bullying and encouraging safer behaviour online, among other goals. Thus, if delivered effectively, the curriculum has the potential to promote a range of social and psychological benefits above and beyond the positive health outcomes generally attributed to sex education.

LGBTQ-inclusive sex curricula such as Ontario’s revised H&PE document are associated with additional social and emotional benefits (Kosciw, Greytak, Bartkiewicz, Boesen & Palmer, 2012; Greytak, Kosciw & Boesen, 2013). In general, inclusive and culturally relevant approaches in education have been shown to reduce rates of discrimination against marginalized populations and promote more equitable education for young people (Nieto, 2000; Sleeter, 2011). Inclusive curricula can help foster safer environments for LGBTQ-identified youth, in turn improving their treatment, success and well-being in the school system. With regard to SHE specifically, McCarty-Caplan (2013) illustrated the ways that sex education has traditionally contributed to the marginalization of sexual minority groups, and argues that taking steps to make schools and curricula fully inclusive is necessary to develop equitable and safe school
environments. Supporting this view, in schools that lack comprehensive and inclusive SHE, LGBTQ-identified students report higher victimization over their sexual and/or gender identities and feel less comfortable talking to school personnel about these issues (Fisher, 2009; Kosciw, Gretyak & Diaz, 2009). Thus, the social benefits of curricula such as Ontario’s revised H&PE document, especially for students who do not fit the hetero- and cis-normative identities conventionally represented in sex education programs, are potentially far-reaching and only beginning to be understood as LGBTQ-inclusive education becomes more widely accepted and studied.

Measuring preparedness to teach SHE. Despite wide-ranging potential benefits of Ontario’s new SHE curriculum, this initiative’s success depends largely on how well the program is delivered by teachers (Kolbe & Iverson, 1981). Sexual health researchers have attempted to identify the necessary ingredients for effective delivery of SHE programs that, when present, best promote the social and health benefits listed above. The Society of Obstetricians and Gynecologists of Canada (SOGC) identified teachers’ motivation to provide SHE and the amount of training a teacher has received in sex-related instruction as two of the three most influential determinants of whether sexual education is delivered effectively (2004). Supporting this view, the Public Health Agency of Canada suggests that SHE is most effective when delivered by “confident, well-trained, knowledgeable and nonjudgmental individuals who receive strong administrative support” (2008). As such, the current study’s primary goal was to determine how prepared teachers feel to cover the revised curriculum. In order to do so, it measured four indicators of teacher preparedness: their comfort discussing SHE-related topics, their
knowledge of those topics, their sense of self-efficacy when providing SHE and their motivation to do so.

**Comfort.** Feeling comfortable discussing sex-related topics can predict how well teachers adhere to a SHE curriculum and the quality of their SHE lessons (LaChausse et al., 2014). Feelings of discomfort have been shown to impede a teacher’s ability to provide effective, high-quality SHE (Kolbe & Iverson, 1981). Research suggests that students are sensitive to these qualities in their teachers, rating their SHE more positively when they perceive their teachers as more comfortable discussing the material at hand (Byers, Sears & Foster, 2013). Teacher comfort can also vary by topic; for instance, a recent survey of Canadian teachers revealed that only 73% reported feeling comfortable discussing LGBTQ-related subjects with their students (Taylor et al., 2015). As such, this study will have participants’ report how comfortable they feel covering each of thirteen topic categories included in the curriculum. It is likely that novel nature of the updated SHE content, in combination with the range of impassioned reactions toward the curriculum in certain communities, have had an impact on the comfort levels of those required to cover this content.

**Motivation.** Educators’ motivation to provide SHE is another quality that has been shown to influence one’s overall level of preparedness and lesson quality. This finding is supported by research on educational change, which highlights the importance of motivation and teacher buy-in to the success of any educational reform initiative. Regardless of an initiative’s inherent value to students, its success has been shown to depend largely on the motivation of teachers to integrate the new material or teaching methods in their classrooms (Gitlin & Margonis, 1995; Havelock, 1973; Sarason, 1990).
According to the SOGC (2004), teacher motivation is one of the three most important determinants of the quality of SHE delivery. In addition to varying between individual teachers, motivation to provide SHE has also been shown to vary by topic. For instance, Cohen and colleagues (2012) found that teachers felt the least motivated to address more sensitive, behaviour-related topics such as masturbation, sexual pleasure and orgasm.

Given the broadened range of themes included in Ontario’s curriculum and the sensitive nature of many of those topics, it is important to explore teachers’ motivation levels by topic in order to better understand how prepared they feel to provide this information to students.

**Self-Efficacy.** Possessing a higher sense of self-efficacy in the instruction of sex-related topics has also been demonstrated to predict higher quality SHE lessons (LaChausse et al., 2014). As mentioned earlier, the Public Health Agency of Canada (2008) lists confidence as a vital quality in effective SHE providers. Some research demonstrates that teachers with more experience providing SHE and more training have more opportunities to develop their sense of self-efficacy through these experiences and rate this as an important influence on their teaching ability (Buston, Wight, Hart & Scott, 2002; Cohen et al., 2012; Ninomiya, 2010). Teachers have also been shown to spend less time covering or to skip over topics which they feel less competent teaching (LaChausse et al., 2014; McCall et al., 1999; SIECUS, 1993). In Ontario, preliminary pilot data collected for this study suggested that some teachers feel less confident in their ability to consistently use the appropriate terms and labels or to answer students’ LGBTQ-related questions. This lowered sense of self-efficacy may impact how well these topics are taught and the amount of time allotted to these topics. As such, the current study will
investigate Ontario teachers’ sense of self-efficacy in administering the updated curriculum and all its topics as an indicator of how prepared they are to provide comprehensive SHE.

**Knowledge.** A teacher’s level of knowledge about SHE topics can also influence their preparedness to administer SHE. Feeling more knowledgeable about the full range of topics included in a SHE curriculum can increase a teacher’s readiness to answer student questions and engage the class in more interactive, discussion-based SHE lessons (Kirby, Laris & Rolleri, 2006). Teachers who learn about SHE-related topics while obtaining their teaching certificates tend to cover a wider range of topics in their lessons (Yarber, Torabi & Haffner, 1997), and those who rate themselves as more knowledgeable about SHE indicate that they are more willing to teach it (Cohen et al., 2012). Additionally, when students feel their teachers were knowledgeable and capable of answering their questions, they rate the quality of their SHE more highly (Byers et al., 2013). Given the novelty of some of the information included in the updated curriculum, it is important to investigate whether teachers feel they possess the knowledge necessary to effectively cover this increased range of topics.

**Predicting preparedness.** The secondary goal of the current study was to assess whether individual teachers’ preparedness levels could be predicted by certain personal attributes or factors in their environment. The isolation of personal attributes that are associated with lower preparedness has implications for the catered provision of support for those who may be struggling most to provide effective SHE. Determining what environmental factors influence teachers’ readiness to provide SHE can also increase our understanding of the obstacles impeding SHE delivery and how they can be overcome to
ensure this curriculum is delivered effectively to all students. Figure 1 displays the full list of variables measured and assessed for their relationship with preparedness to provide SHE in the current study.

**Teachers’ personal characteristics.** Teachers’ personal attitudes and attributes have been shown to exert some influence over their preparedness to teach SHE (Meyer, Taylor & Peter, 2015; LaChausse et al., 2014). Kirby (2002) argued that one of the most influential determinants of whether a sex education program will be delivered effectively is whether teachers believe in the importance and effectiveness of the program they are asked to implement. This link between personal support for SHE programs and higher quality SHE delivery has been demonstrated in past research (Stein & Wang, 1988). Indeed, Cohen and colleagues (2012) demonstrated that teachers who felt SHE was more important indicated that they were more willing to teach it; thus, it is apparent that personal attitudes toward SHE and specific SHE curricula can influence how prepared a teacher feels to provide them.

In addition to these attitudinal variables, a number of sociodemographic variables such as religiosity, political preference, age, gender and social proximity to gender/sexual minorities were included to explore their relationships with preparedness. In one study, younger teachers were significantly more likely to include a broader range of topics when teaching SHE (Yarber et al., 1997). Religiosity has been shown to be associated with lower preparedness to cover LGBTQ-related topics with students; a small number of Canadian teachers in a recent wide-spread survey indicated that their religious beliefs impacted their willingness to cover LGBTQ-relevant information with their students, with more Catholic educators than public sector teachers endorsing this issue (5% vs. 1%,
respectively, of 3319 Canadian educators; Taylor et al., 2015). In the same study, teachers indicated that a number of their personal attributes, such as their sexual identity, age, and gender expression, impacted their teaching effectiveness when covering LGBTQ topics. The majority listed these qualities as either an advantage or both advantageous and disadvantageous. The authors posited that this variation reflects the fact that certain attributes are helpful in some SHE-related situations and problematic in others (e.g. being a female teacher might help you feel prepared to teach about menstruation but cause feelings of discomfort when discussing male-relevant topics such as ejaculation, making gender both an advantage and disadvantage depending on the situation). Although the link has not been demonstrated in past research, this study will also explore whether having close friends or immediate family members who identify as LGBTQ increases one’s motivation to provide LGBTQ-inclusive curricula.

Regarding political preference, Kantor and Levitz (2017) found that although both parents who identified as Republicans and Democrats in the United States supported the inclusion of a broad range of topics in school-based SHE, parents who identified as Democrats advocated for the inclusion of more topics including sexual orientation after controlling for key demographic factors. Levenson-Gingiss and Hamilton (1989) also demonstrated that more conservative teachers felt less comfortable teaching SHE and expected administration, parents and their communities to be less supportive. Furthermore, Bleakley, Hennessy and Fishbein (2010) demonstrated that religiosity and political preference were key characteristics in explaining one’s preference for comprehensive or other forms of school-based SHE. Given the curriculum’s politicized nature, the current study measured participants’ political preferences to determine
whether this trend is reflected among Canadian teachers, where having more liberal political values is associated with increased readiness to teach the broad range of SHE topics in the curriculum.

Finally, professional characteristics such as years of teaching experience, amount of training in SHE and engagement in the reform process were tested to establish whether they impact teachers’ comfort, knowledge, self-efficacy or motivation. Research has shown that both pre-service and in-service training serve to increase teachers’ feelings of self-efficacy and comfort covering sex-related topics and fidelity to SHE programs (Cohen et al., 2012; Lokanc-Diluzio, Cobb, Harrison & Nelson, 2007; Yarber et al., 1997). Having more experience may also serve to increase one’s sense of preparedness to discuss sensitive topics with students. Finally, school change research has suggested that engagement in the curriculum update should lead to improvements in teachers’ implementation of the material (Gitlin & Margonis, 1995; Havelock, 1973; Sarason, 1990). For a full list of the characteristic variables assessed, see Figure 1.

School and community climate. Factors occurring in teachers’ schools and communities can also influence their readiness to teach sex education. Some influences examined in past research include whether resources are available, the amount of support from administration, community attitudes toward SHE, reactions from parents and students, and the amount of time schools allocate to the provision of SHE (Cohen et al., 2004; Cohen et al., 2012; Haignere, Culhane, Balsley & Legos, 1996; Milton, 2003; SOGC, 2004; Walker & Milton, 2006). Especially relevant to the current study is whether reactions among parents and communities to the curriculum, particularly in regions where protests occurred, have had a negative impact on teachers’ experiences and attitudes.
Anticipating negative reactions from parents has been shown to reduce teachers’ willingness to teach SHE and the quality of their SHE lessons (Cohen et al., 2012; Gillis, MacDonnell, Fast & Rogojanski, under review; Taylor et al., 2015). This study examined whether there is a link between encountering increased opposition to the curriculum among parents or in the community and a teacher’s preparedness to provide SHE.

The level of support teachers receive from their administration has also been shown to impact their provision of SHE (Taylor et al., 2015; Yarber et al., 1997). This factor may be more intensely experienced when addressing controversial topics such as LGBTQ-relevant information. In one study, of those teachers who had made efforts to foster LGBTQ-inclusivity in their schools but received complaints from parents, only 72.3% felt they had the support of their administration (Meyer et al., 2015). In another, teachers reported that they would feel more comfortable discussing LGBTQ-related topics in their classrooms if they had explicit support in doing so from their administration and colleagues (Komidar & Mandeljc, 2009). Thus, especially concerning LGBTQ-related topics, it appears that administrative support is an important factor that can either empower teachers or act as a barrier as they cover SHE-related topics with their students.

Cohen and colleagues (2012) found that while some teachers experienced these factors as decreasing their willingness to provide SHE, others reported that the same elements had a motivating effect. As such, the current study treated each factor as a potential obstacle and a means of support in order to garner a more nuanced understanding of how these environmental factors are influencing teachers. For example, participants were asked to rate how supported they felt by their administration on a scale
from “completely unsupported” to “completely supported”. Next, respondents were given
the opportunity to indicate whether they experienced a lack of support from
administration as an obstacle to teaching SHE, or if their supportive administration had a
positive impact on their SHE adoption. This, in addition to open-ended questions,
allowed teachers to express exactly how they experience these environmental factors as
impacting their readiness to provide SHE.

**Religious vs. secular schools.** The religious-affiliation of a school may also
influence the type and severity of factors teachers experience as influencing their
provision of sex education. In Ontario, both Catholic and public schools are publicly
funded and administer the same H&PE curriculum. In a recent survey, most teacher
participants working in both secular and Catholic schools across Canada approved of
LGBTQ-inclusive education; Catholic educators were only slightly more likely to report
opposition, but only 57% reported being comfortable discussing these topics as opposed
to 76% in secular schools (Taylor et al., 2015). The same survey showed that Catholic
educators were much more likely than those working in secular schools to experience
barriers such as insufficient training and opposition from religious groups, parents,
trustees, and school administration when covering LGBTQ-inclusive material. These
statistics illustrate the dilemma experienced by some Catholic educators, who must find a
way to provide comprehensive, LGBTQ-inclusive sex education within a Catholic
framework. As such, this study explored the curriculum’s reception by teachers in both
secular and religious schools in order to gain a better understanding of the differential
experiences, concerns and obstacles encountered in teaching SHE across school boards.
Supporting SHE teachers. Focus groups with teachers revealed that those delivering SHE experienced a myriad of demands above and beyond those associated with teaching standard health education, such as interacting with parents and administration, being able to address students’ personal concerns, and managing sensitive information in the classroom (Eisenberg et al., 2011). As such, there is a strong need for concerted efforts to assist teachers in overcoming those obstacles if SHE is to be delivered effectively (James-Traore, Finger, Ruland & Savariaud, 2004; Yarber & McCabe, 1981). Cohen and colleagues (2012) determined that those who had received training in SHE, felt more knowledgeable about sexual health and viewed SHE as more important tended to be significantly more willing to teach the subject to their students. Based on this finding, increasing training opportunities that prepare and motivate teachers to provide Ontario’s updated H&PE curriculum could help counteract the impact of the numerous obstacles that threaten its effectiveness.

Problematically, some research has found that there are a limited number of opportunities available for pre-service teachers to access training that would serve to increase their SHE-related comfort, knowledge and motivation as they prepare to begin their careers. In east coast schools, 65% of a sample of elementary and middle school teachers reported having received no pre-service training in SHE (n = 336, Cohen et al., 2004), while in another, no participant had received pre-service training, although 81% expressed interest in receiving training (n = 31, Ninomiya, 2010). This study explored what proportion of sampled teachers had encountered SHE training in their teacher certification programs and how useful they found these experiences.
Ongoing professional development opportunities in SHE are also important given the evolving nature of our understanding, cultural views and needs pertaining to sexual health. For example, consider the recent dramatic increase in sexual image sharing using cellular devices among youth and the implications this can have for students (Health Canada, 2003); professional development can help ensure all teachers are up-to-date on the information and relevant teaching methods to properly address these concerns with students. More specifically, comprehensive in-service training has been shown to increase teacher comfort and knowledge in teaching sexual health topics (Ahmed et al., 2006; Levenson-Gingiss & Hamilton, 1989; Lokanc-Diluzio et al., 2007). Specific to LGBTQ-inclusive education, in a recent survey of Canadian teachers, 33% indicated that a lack of training and/or resources prevented them covering these topics (Taylor et al., 2015). In this same study, 61% of teachers indicated that they were aware of professional development training opportunities on these topics offered in their area, but only 32% had attended, and 13% were invited but chose not to attend. It appears that although some training opportunities do exist, not all teachers have the opportunity or are interested in participating. This survey also explored participants’ past in-service training experiences to better understand what options are currently available to teachers working in Ontario and their perceived effectiveness.

Additional sources of support for teachers include that which is provided by school administration, supportive comments from parents and the community, access to up-to-date teaching resources, access to community-based sexual health resources, increased class time to cover SHE content, and positive reactions from students. The current study explored the extent to which teachers experience these sources of support
and examined the impact they have on the teachers’ experiences and feelings of preparedness.

The Current Study

According to school change literature, the success of educational reforms depends largely on how engaged teachers are in the process (Gitlin & Margonis, 1995; Havelock, 1973; Sarason, 1990). As such, this study sought to determine Ontario teachers’ feelings of engagement in the province’s SHE reform, their reactions to the curriculum, and how prepared they feel to deliver comprehensive SHE according the updated document. It also assessed for a number of additional environmental factors, such as support from administration and parents’ reactions, which were hypothesized to influence SHE teachers’ experiences or demonstrated to do so in past research (Cohen et al, 2012; Taylor et al., 2015).

To gather this information, an online survey was circulated among teachers of grades five to eight across Ontario. The survey asked participants to reflect on the past two years since the updated curriculum was first instated when responding. Comfort, knowledge, self-efficacy and motivation were of particular interest because each has been identified as a determinant of how effectively and faithfully teachers administer sex education curricula (Buston et al., 2002; Kirby et al., 2006; LaChausse et al., 2014; SOGC, 2004). The survey included a scale examining attitudes toward LGBTQ-inclusive education and items assessing attitudes toward school-based SHE in order to determine the impact teachers’ attitudes have on their readiness to cover the updated curriculum and its LGBTQ content. A measure of engagement in the curriculum reform process was included to determine whether feeling informed and included in the curriculum update
has impacted teachers’ readiness and motivation to adhere to its teaching expectations. Finally, this study assessed what obstacles are currently impacting SHE provision in Ontario and gathered information on how teachers wish to be supported moving forward.

**Research Questions and Hypotheses**

This study endeavoured to answer several related but distinct research questions regarding teachers, the provision of sex education to grade five through eight students and the current climate in elementary schools across Ontario as they relate to the revised H&PE curriculum:

1) **How has the revised curriculum been received by teachers and how prepared do they feel to cover both the traditionally included and newly added topics?**

   **Hypothesis 1.** Teachers will feel less prepared to cover the topics that have been newly added to the curriculum and garnered the most controversy as defined by coverage in the media and opposition by some conservative religious groups and parents (i.e. sexual orientation, gender identity, and desire/pleasure/masturbation) than other topics in the curriculum.

2) **What factors influence the degree to which teachers feel prepared to deliver the revised curriculum to their students?**

   **Hypothesis 2.** The presence of certain personal and professional characteristics (age, sexual orientation, political preference, social proximity to GSM, support for LGBTQ-inclusive education and SHE, training in SHE, religiosity and engagement in the curricular reform) will predict how prepared teachers feel to provide SHE (Cohen et al., 2012; Kantor & Levitz, 2017; Kirby, 2002; Sarason, 1990; Taylor et al., 2015).
**Hypothesis 3.** Endorsing obstacles will predict lower preparedness to provide SHE among participants. Community protests opposing the curriculum and negative parent reactions will exert the most influence over teachers’ preparedness given the previously demonstrated link between perceptions of parental support and teachers’ willingness to provide SHE (Cohen et al., 2012; Taylor et al., 2015).

**Hypothesis 4.** Access to supports will predict increased preparedness to provide SHE. Encountering parents who support the curriculum and having supportive administration will exert the most influence over teachers’ preparedness given the empowering effect this backing has been shown to have in past research (Cohen et al., 2012; Taylor et al., 2015).

3) **What factors influence the degree to which teachers feel prepared to deliver the LGBTQ-related topics in the curriculum specifically?**

**Hypothesis 5.** Based on previous research findings, certain teacher attributes (i.e. support for LGBTQ-inclusive education, social proximity to GSM, liberalism, younger age, and more SHE training) will predict higher levels of preparedness to cover the LGBTQ-related topics in the curriculum (Cohen et al., 2012; Taylor et al., 2015).

4) **How does the experience of providing sex education according to the revised curriculum differ in public and Catholic schools?**

**Hypothesis 6.** Catholic teachers will demonstrate less preparedness, encounter more obstacles and have access to fewer supports than public school teachers, based on past research findings on LGTBQ-inclusive education (Taylor et al., 2015).
Hypothesis 7. Catholic teachers will endorse the following obstacles more frequently than public school teachers: (1) negative reactions among parents and the community, (2) lack of teaching resources, (3) unsupportive administration, (4) less community support for LGBTQ-inclusive education, and (5) feeling the curriculum is not age-appropriate (Taylor et al., 2015).

5) What are the biggest obstacles and most influential supports that affect teachers’ ability to provide sex education according to the revised curriculum?

Hypothesis 8. Teachers will most frequently endorse a fear of negative parent reactions as negatively influencing their provision of SHE due to the considerable media coverage of those who opposed the curriculum (Cohen et al., 2012).

Hypothesis 9. Feeling supported by one’s administration will be most frequently endorsed as the most helpful factor when providing SHE, given the potential for this to counteract fears of encountering negative parent reactions (Taylor et al., 2015).

Methodology

Participants

A total of 146 teachers of grades five through eight from across Ontario were recruited for participation in the online survey. Teachers of this grade range were targeted for two main reasons: (1) the topics included in the elementary curriculum beginning in grade five garnered the most negative attention from curriculum opponents, and (2) the subjects covered beginning in grade five are markedly more sensitive and sexually explicit in nature than those covered with younger grades and, as such, likely present a greater challenge for teachers. Potential participants were contacted through the survey’s
Procedure

This study employed a mixed method design, collecting both quantitative and qualitative data through the use of an online survey. A page dedicated to recruitment for the survey was created on the social networking website Facebook titled *Teaching Health in Ontario*. Facebook posts were circulated and advertisements were run in order to reach a larger audience (see Appendix A). Viewers were encouraged to share the advertising posts with their contacts, circulating the page among more website members.

Additionally, contacts at the home university’s education department and alumni association agreed to forward a recruitment email (see Appendix B) to teacher graduates and colleagues that met the inclusion criteria. Finally, representatives at the Elementary Teachers’ Federation of Ontario (ETFO) and Ontario English Catholic Teachers’ Association (OECTA) assisted in circulating the recruitment email among some of their members.

Those interested in participating followed the link provided in emails or the social media page, opening the information and consent page of the survey in a separate window of their internet browser. The survey was powered by *Google Forms*, an online platform used for developing and analyzing questionnaires. Collected data was unidentifiable and stored securely in password-protected, encrypted format. The information and consent page included a brief description of the study, an overview of research ethics principles, the study’s risks, the right to withdraw by closing the browser window, and guarantee that information would remain anonymous and confidential (see
Appendix C). Participants indicated that they read and understood the information and consent document and met the inclusion criteria by clicking ‘Continue’, beginning the survey. Consenting respondents then responded to a series of closed- and open-ended questions, taking approximately 20 minutes to complete. At the beginning and end of the survey, respondents were given instructions on how to enter themselves in a draw for a $100 gift card through email. This ensured that even those who withdrew before completing the survey could still enter the draw if they desired, and protected participants’ identities since their emails were not associated with their responses.

Measures

Demographic information. The survey included a series of items assessing personal and professional variables including: age, gender identity, religiosity, sexual orientation, social proximity to gender and sexual minorities (GSM), teaching experience, school board type, and grades taught (see Appendix D). To assess participants’ religiosity, an item assessing frequency of religious service attendance was included as it is considered a useful indication of religiosity (Idler et al., 2003). An item exploring participants’ attitudes toward same-sex marriage and the stance taken on same-sex marriage by their religion was also included as an exploratory measure. To measure social proximity to GSM, respondents were asked to indicate whether they had any close friends or immediate family members who identify as sexual or gender minorities. For the item assessing location population, a large proportion of teachers misunderstood the item wording, responding with their school population rather than the population of their town or city. As a result, data derived from this item was deemed invalid and discarded.
Training in SHE. Multiple items explored the amount and quality of both pre-service training, which refers to training received in the context of a teaching program before becoming certified, and in-service training, which is offered to active teachers throughout the school year as a form of professional development (e.g. workshops, curriculum update training, staff presentations, etc.) in SHE. Respondents were given the option to report on up to three distinct in-service training experiences, including what type of training it was (e.g. brief workshop, guest presentation, Additional Qualification course, etc.), which SHE topics were covered during the training and how useful they found the experience.

Political preference. A 3-item scale adopted from research by Kim and Tidwell (2014) was used to briefly explore participants’ political attitudes on a 7-point Likert-type scale from very liberal (1) to very conservative (7). The scale had participants rate their overall political party preference, their preference with respect to social issues and their preference with respect to economic issues. Higher scores on the scale indicated agreement with politically liberal orientation, and the midpoint of the scale (4) was labeled moderate. This scale was included in order to explore the relationship between political preferences and preparedness to teach the updated sexual health curriculum. The scale demonstrated a high level of internal consistency, as reflected by a Cronbach’s alpha of 0.90 in past research (Kim & Tidwell, 2014) and 0.889 in the present study.

Sex education in schools. Several items were developed by the researchers in order to explore participants’ attitudes toward the inclusion of sex education in schools. Responses to each statement were provided on a 5-point Likert-type scale ranging from strongly agree to strongly disagree. Upon analysis, one item was removed due to
concerns about interpretation, leaving two items to reflect attitudes toward school-based SHE more generally (“Sex education should be taught in schools” and “Access to sex education contributes to the health and well-being of my students”). As a result, it was decided to treat each item as individual variables rather than create a scale from two items. Finally, an additional item, “The revisions to the Ontario H&PE curriculum (sexual health component) were positive”, assessed respondents’ degree of personal support for the updated curriculum specifically.

**LGBTQ-inclusive education.** A scale consisting of a subset of items first developed and used by Taylor and colleagues (2015) was included to assess participants’ attitudes toward the inclusion of LGBTQ topics and students in schools. The resulting scale included items such as, “I feel comfortable discussing LGBTQ issues with my students,” and “All school staff have a responsibility to ensure a supportive learning environment for all students including LGBTQ.” Responses were provided on a 5-point Likert-type scale ranging from *strongly agree* to *strongly disagree*. One item, “Teachers should be able to opt out of LGBTQ-inclusive education if it is against their religion,” was reverse scored before the scale total was summed. The scale had a high level of internal consistency, as demonstrated by a Cronbach’s alpha of 0.885 in the current study.

**Engagement in curricular reform.** As researchers in education have identified teacher engagement as a vital component of successful educational reform efforts, a brief scale from a resource on teacher engagement was adapted for use in the current study to assess the degree to which participants felt engaged and that their needs were being considered during Ontario’s H&PE reform (Grantmakers for Education, 2012). Items included, “I was given the opportunity to contribute knowledge or opinions during the
development of the revised H&PE curriculum,” and “I have gained new information relevant to teaching the revised H&PE curriculum.” Although reliability information was not available from prior applications given the scales adapted nature, it demonstrated an acceptable level of internal consistency in the current study, as determined by a Cronbach’s alpha of 0.736.

**School and community climate.** A series of items were developed by the researchers to assess various situational factors that could potentially influence a teacher’s experience providing SHE. These factors included reactions to the curriculum from parents, reactions in the broader community, access to teaching resources, access to community sexual health resources, level of support from administration, community support for LGBTQ-inclusive education, amount of class time for SHE, student reactions to the curriculum and how age-appropriate teachers rated content based on their students’ maturity levels. Responses were provided on a 5-point Likert-type scale, allowing participants to fill-in-the-blank and complete each sentence to accurately represent each participant’s situation. For example, on the item “My community __________ LGBTQ-inclusive education,” responses ranged from *rejects* (1) to *embraces* (5), and on the item “I feel __________ by my administration in teaching this curriculum,” responses ranged from *completely unsupported* (1) to *completely supported* (5). When necessary, items were reverse coded so that in each instance, lower scores represented an absence or negative response and higher scores reflected positive, SHE-supportive factors.

**Comfort, knowledge, efficacy and motivation.** A list of 13 overarching concepts was compiled summarizing the content of the *Human Development and Sexual Health* portion of the grade five to eight curriculum. A list of topics is displayed in Table
3. For each, participants were asked to indicate how comfortable they felt teaching that topic, how knowledgeable they are about that topic, how effective they felt teaching that topic and how motivated they were to cover that topic with their students. Responses were provided on a five-point Likert-type scale ranging from not at all to extremely. Grade five and six teachers who had not been required to cover some of the topics that are found exclusively in the grade seven and eight expectations (i.e. delaying vaginal/anal intercourse and oral-genital contact, STI and pregnancy prevention, sexual harassment, exploitation and violence) were asked to imagine how they would feel teaching those topics to grade-appropriate students and respond accordingly. A list of curricular topics and reliability information can be found in Appendix D.

**Obstacles to teaching SHE.** A list of obstacles that, if present, might negatively interfere with the provision of SHE was compiled from previous research and adapted in order to reflect the circumstances surrounding the new curriculum in Ontario. Participants were asked to place a checkmark next to all of the obstacles they had encountered which negatively impacted their teaching of SHE. The number of obstacles endorsed was summed and used in subsequent analyses. Next, participants were asked to describe the top three obstacles that had the most negative impact on their teaching of the new curriculum. Responses were provided in long-answer format, allowing teachers to cite barriers not included in the prepared list of obstacles. Written responses were coded based on the theme of their complaint, and categorized.

**Sources of support in teaching SHE.** A list of potential supports that could positively influence participants’ preparedness to teach SHE was also created by reversing the list of obstacles and referencing past research. Participants indicated which
factors in the list they felt positively influenced their teaching of SHE. The number of supports endorsed by each participant was summed and used in subsequent analyses. Respondents were then asked to describe the top three factors that helped them in their SHE provision. These written responses were coded based on identifiable themes and descriptive statistics were calculated.
Figure 1. Flowchart illustrating the variables assessed for their predictive value in determining teachers’ preparedness to teach sex education and their proposed relationships.
Qualitative data. The final portion of the survey consisted of two open-ended questions asking participants to describe their biggest challenge in covering the revised curriculum and what they would find most helpful to their SHE provision moving forward. A space was also provided for participants to describe additional thoughts or concerns. Participants were given unlimited space to type their responses. The resulting data was examined using an inductive, thematic analysis method as outlined by Braun and Clarke (2006). Participants’ descriptions were initially coded and organized based on their content into a list of categories. These categories were continually refined, combined and adjusted when necessary through multiple reviews of the dataset. This process was conducted with constant reference back to participants’ written responses to ensure that categories accurately represented teachers’ responses (Lyons & Coyle, 2007). Overarching themes that succinctly captured teachers’ responses were eventually isolated, and data was recoded according to this final thematic map. The resulting themes were examined and interpreted within the context of extant research and theory (Patton, 1990) and are discussed in the Results section. Quotes exemplifying each theme were also included in order to better illustrate participants’ concerns and requests.

Results

Participant Socio-Demographics

Participants ranged in age from 24 to 62 years old (M= 38.05, SD= 8.93, 6 missing responses). In terms of gender identity, 92.5% of respondents were female and 7.5% were male. No participant self-identified as a gender minority (e.g. transgender, two-spirit, agender, gender fluid, etc.). Although male teachers were slightly underrepresented, the sample’s gender ratio was reasonably reflective of the ratio among elementary teachers
across Canada (84% female; Statistics Canada, 2011). Regarding sexual orientation, 4.1% of participants indicated that they identified as a sexual minority (e.g. gay, lesbian, bisexual, pansexual, etc.). Ninety-five percent of respondents reported that they knew someone who openly identified as a sexual minority, while 60% indicated that they had one or more close non-heterosexual friends and 24.8% had at least one immediate family member who fit this description. Additionally, 51.7% of the sample reported knowing someone who openly identified as a gender minority, 16% had one or more close friends who were not cisgender, and 6.9% had at least one immediate family member.

The largest proportion of respondents (32.9%) indicated they never attend religious services, 17.1% rarely attend, 28.1% attend once or twice a year, 13.0% attend once a month, 6.8% attend once a week, 1.4% attend more than once a week on average, and one respondent left the item blank. Of the total sample, 48.3% described themselves as having some degree of affiliation with an organized religion. Among religious respondents, 45.7% reported that their religion opposed same-sex marriage, 41.4% described their religion as divided on the topic, and 12.9% felt their religion was supportive of same-sex marriage. On a personal level, 94.5% of all respondents indicated that they supported same-sex marriage, and 5.5% opposed it.

Regarding attitudes toward sex education, the majority of participants (93.8%) responded positively to the question “Sex education should be taught in schools”, while 4.8% felt neither positively or negatively, and 1.4% felt SHE should not be taught in schools. On the item “Access to sex education contributes to the health and well-being of my students,” 95.2% agreed with this statement, 3.4% neither agreed nor disagreed, and 1.4% felt that SHE was not beneficial to their students. In terms of LGBTQ-inclusive
education, participants tended to be supportive of LGBTQ-inclusive education, with 87.1% selecting supportive responses on average, 11.2% responding in a neutral manner, and 1.7% indicating a lack of support (0.7% did not complete the scale).

**Professional characteristics.** Among the sample, years of teaching experience ranged from less than 1 year to 35 years with a mean of 11.38 years. \((M=11.38, SD=7.58)\). Experience teaching sexual health education was lower on average than general teaching experience and ranged from less than 1 to 25 years, averaging 5.83 years \((SD=5.46)\). The median year for having acquired teaching certification was 2006 (ranging from 1976 to 2016). The majority of respondents were currently employed by public school boards (80.8%), 13.0% were working in Catholic boards, and 4.8% worked in private schools which had implemented the 2015 Ontario Health & Physical Education curriculum. Two participants left the item blank. According to Ministry statistics on enrollment, approximately 69% of teachers work in public schools and 31% in Catholic (Government of Ontario, 2015), meaning that Catholic teachers were underrepresented in the sample. The distribution of teachers across grades five through eight was relatively equal; 52.8% had taught SHE to grade five students, 51.4% to grade six, 53.5% to grade seven and 60.4% to students in grade eight. Most teachers had taught sex education to more than one grade in this range, resulting in the overlap between categories.

In terms of training in SHE, 71% of respondents reported receiving no pre-service training, 16.6% recalled having very limited training, 6.9% received some training, 3.4% described themselves as having been well trained in SHE before beginning teaching, and 2.1% could not remember. Of the 45 participants who underwent some degree of training in SHE while in teachers’ college, approximately half of them listed that training as
compulsory, while the other half described their training as an elective portion of their teaching degree. Across the total sample, only 16.4% completed teacher training programs with compulsory pre-service training in SHE.

Regarding in-service SHE training experiences, 67.8% had not participated in any training since becoming a teacher, 26.6% reported one training experience, and 6.2% reported having had two separate in-service training experiences. Of the different forms of in-service training, brief workshops (under 2 hours in duration) were most common, accounting for 40.4% of all in-service training experiences listed, followed by curriculum update training (19.3%), extensive workshops over 2 hours in duration (17.5%), and presentations by guest speakers/staff/board members (10.5%). Of the total sample, 7.5% reported experiencing curriculum update training. Participants less commonly reported participating in Additional Qualification courses with SHE content, equity conferences, and personal research or learning ventures. Among those who had in-service training, 52.6% rated those experiences poorly, describing them as not at all or slightly useful, 28.1% of experiences were described as useful, and 9.3% were rated as very or extremely useful.

Overall, participants did not respond in ways reflective of feeling engaged in the curriculum update process. Eighty-four percent indicated that they were not given the opportunity to contribute knowledge or opinions as the curriculum was being developed, 25.3% indicated they had developed new skills and 41.8% had gained new information relevant to teaching the updated curriculum. In terms of the Ministry’s efforts in the reform, 67.8% of participants felt it had made insufficient effort to support teachers
during the transition to the revised curriculum, 20.5% neither agreed nor disagreed, and 11.7% felt the Ministry’s efforts had been sufficient.

**School and community climate.** Table 1 summarizes participants’ responses as they described the current environmental factors that could influence SHE provision.

Table 1

*Participants’ Ratings of Environmental Factors that May Influence the Provision of Sexual Health Education*

<table>
<thead>
<tr>
<th>Variable</th>
<th>% Strongly Negative</th>
<th>% Negative</th>
<th>% Neutral</th>
<th>% Positive</th>
<th>% Strongly Positive</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents reactions to the curriculum</td>
<td>4.8</td>
<td>12.3</td>
<td>53.4</td>
<td>23.3</td>
<td>6.2</td>
<td>146</td>
</tr>
<tr>
<td>Community reactions to the curriculum</td>
<td>7.5</td>
<td>20.5</td>
<td>46.6</td>
<td>20.5</td>
<td>4.8</td>
<td>146</td>
</tr>
<tr>
<td>Access to teaching resources</td>
<td>11.6</td>
<td>23.3</td>
<td>28.8</td>
<td>22.6</td>
<td>13</td>
<td>145</td>
</tr>
<tr>
<td>Support from administration</td>
<td>4.8</td>
<td>15.2</td>
<td>22.8</td>
<td>23.4</td>
<td>33.8</td>
<td>145</td>
</tr>
<tr>
<td>Access to community sexual health resources</td>
<td>8.9</td>
<td>20.5</td>
<td>34.9</td>
<td>23.3</td>
<td>12.3</td>
<td>146</td>
</tr>
<tr>
<td>Community attitudes toward LGBTQ[^1^]</td>
<td>5.5</td>
<td>21.9</td>
<td>41.8</td>
<td>23.2</td>
<td>6.8</td>
<td>145</td>
</tr>
<tr>
<td>Amount of training in SHE</td>
<td>40.4</td>
<td>17.8</td>
<td>26.7</td>
<td>12.3</td>
<td>2.7</td>
<td>146</td>
</tr>
<tr>
<td>Amount of class time</td>
<td>4.8</td>
<td>32.2</td>
<td>34.9</td>
<td>15.1</td>
<td>13</td>
<td>146</td>
</tr>
<tr>
<td>Student Reactions</td>
<td>1.4</td>
<td>0.7</td>
<td>21.2</td>
<td>38.4</td>
<td>38.4</td>
<td>146</td>
</tr>
<tr>
<td>Age-appropriateness given student maturity</td>
<td>2.1</td>
<td>4.8</td>
<td>27.4</td>
<td>50</td>
<td>15.8</td>
<td>146</td>
</tr>
</tbody>
</table>

Preliminary Analyses

Summary scores were computed for the political preference, attitudes toward LGBTQ-inclusive education, and teacher engagement scales. Overall political preference was computed by calculating the average of the three political scale items. The attitudes toward LGBTQ-inclusive education variable was computed by computing the average of the scale items after reverse scoring item seven. Teacher engagement scores were computed by averaging all items in the engagement scale. The number of obstacles and the number of supports endorsed were summed in order to produce a count of how many obstacles and supports were experienced by each participant. Descriptive statistics for the variables listed above are depicted in Table 2, including means, medians, standard deviations and range for the total sample \((n = 146)\).

Principal Components factor analyses were performed to ensure that each of the 13 curricular topics could be treated as a single, cohesive variable and that intra-topic measures of comfort, knowledge, self-efficacy and motivation loaded relatively equally onto a single factor per topic. Variance within each of the 13 topics was shown to be best accounted for by a single factor, statistically justifying the treatment of each topic as a unique variable. Factor analysis results and internal consistency ratings are displayed in the table found in Appendix E.

Subsequently, Principal Components factor analyses were performed to ensure that measures of comfort, knowledge, efficacy and motivation could justifiably be collapsed across the 13 topics, resulting in total Comfort, Knowledge, Self-Efficacy and Motivation scores, by assessing that they loaded relatively effectively onto a single factor. Factor analysis confirmed that each could be treated as a singular variable. Next, all four factors
were entered into a single analysis to determine whether they could be combined, averaged and expressed by a single, overarching variable. A single factor was revealed, and this overarching variable was termed *Preparedness* based on research suggesting that comfort, knowledge, efficacy and motivation all contribute to a teacher’s overall preparedness to provide high-quality SHE. For each analysis, correlation matrices, Kaiser-Meyer-Olkin (KMO) statistics, and Bartlett’s Test of Sphericity statistics were examined to determine the appropriateness of each calculation. Important test statistics including measures of internal consistency are listed in Appendix E.

Table 2
*Descriptive Statistics for Study Scales (n=146)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>Mdn</th>
<th>SD</th>
<th>Scale Range</th>
<th>Observed Range</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Preference</td>
<td>5.24</td>
<td>5.33</td>
<td>1.22</td>
<td>1 - 7</td>
<td>5.33</td>
<td>.889</td>
</tr>
<tr>
<td>Teacher Engagement</td>
<td>-.72</td>
<td>-.75</td>
<td>.885</td>
<td>-2 – 2</td>
<td>4.00</td>
<td>.736</td>
</tr>
<tr>
<td>Total Comfort</td>
<td>4.04</td>
<td>4.31</td>
<td>.841</td>
<td>1 - 5</td>
<td>3.92</td>
<td>.967</td>
</tr>
<tr>
<td>Total Knowledge</td>
<td>3.93</td>
<td>4.08</td>
<td>.778</td>
<td>1 - 5</td>
<td>3.69</td>
<td>.957</td>
</tr>
<tr>
<td>Total Effectiveness</td>
<td>3.82</td>
<td>4.00</td>
<td>.839</td>
<td>1 - 5</td>
<td>3.85</td>
<td>.964</td>
</tr>
<tr>
<td>Total Motivation</td>
<td>4.05</td>
<td>4.31</td>
<td>.862</td>
<td>1 - 5</td>
<td>3.85</td>
<td>.968</td>
</tr>
<tr>
<td>Overall Preparedness</td>
<td>3.96</td>
<td>4.21</td>
<td>.803</td>
<td>1 - 5</td>
<td>3.83</td>
<td>.977</td>
</tr>
<tr>
<td>Number of Obstacles</td>
<td>3.51</td>
<td>3</td>
<td>2.32</td>
<td>0 and up</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Number of Supports</td>
<td>2.49</td>
<td>2</td>
<td>1.72</td>
<td>0 and up</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

*Calculated using n=145 due to missing response*

**Teachers’ Opinions of the Curriculum**

Generally, teachers responded in ways that reflected support for the updated curriculum and its content, raising few objections to the topics included. Eighty-seven percent of respondents indicated that they felt the changes to the curriculum were positive, 9.6% felt
they were neither positive nor negative, and 3.5% did not feel the changes were improvements. When asked to what degree the curriculum was embraced by their schools, 64.1% felt their schools had embraced the curriculum, 26.9% replied in a neutral manner, and 8.4% indicated that their schools had not embraced the update. One participant left the item blank.

**Open-ended responses to SHE topics.** Respondents were given the opportunity to voice concerns about particular topics or indicate that if they felt it should not be included in the curriculum. Only one participant felt that a topic (sexual orientation) should not be included but did not provide a reason why. Another teacher explained, “I fear [sexual orientation] being taught in the curriculum because of the message many teachers send. Their bias will be projected, and I have seen this.”

Concerning gender roles, identity and expression, one response asserted that the topic should be covered by professionals rather than classroom teachers, and another explained that although the participant approved of its inclusion, they required more training and resources to teach it properly. A third respondent wrote, “I am religious, and although most of this goes against my religion, I want to see more research on this topic. This topic is real for some students and shouldn’t’ be ignored, but I’ve heard it could be a mental health disorder and am confused.” Still another teacher explained that, “I am comfortable addressing questions about gender roles and issues, but I feel that I lack accurate information about transgender concerns and issues.”

Some participants expressed the view that the community that their school resided in provided an obstacle to teaching LGBTQ content. For example, one participant explained that their biggest challenge in covering the new curriculum related to “teaching
about sexual orientation in a community that doesn’t support or acknowledge LGBTQ rights,” while another wrote “…admin leaves me feeling nervous about whether they’d support me if there was a complaint, especially since there’s some anti-LGBTQ attitudes in the community.” These responses suggest that for some, covering the LGBTQ-related topics in the curriculum is accompanied by additional concerns, confusion, and a need for more support than what exists presently.

Regarding the topic of desire, pleasure and masturbation, one participant admitted that they do not discuss this unless students ask. A second respondent explained that it was a challenge to feel “legally safe in discussing topics I would never discuss with students outside of this context, and defining boundaries for questions, etc. based on fairly vague expectations in the curriculum.” Two others referenced concerns about differing maturity levels between the students in their classes, explaining that they felt some were ready to learn about these topics while others were not. Notably, these comments suggest that teachers form their own judgments about the maturity of students in a given classroom and that this influences their willingness to cover certain topics in the curriculum, regardless of whether those topics are mandated for certain grade levels.

Finally, regarding sexual harassment, exploitation and violence, one teacher explained that they found it difficult to cover with students who had been abused and might be emotionally triggered by the content, and explained that there was little support for teachers in how to deal with this eventuality.
Preparedness to Teach Sex Education by Topic

On average, respondents responded in ways that indicated they feel adequately prepared to teach SHE. The mean overall Preparedness score, as calculated by averaging Comfort, Knowledge, Motivation and Self-Efficacy scores across topics, was $M=3.96$ ($SD=.803$), falling approximately in the very prepared category. Figure 2 through 7 depict the distribution of Comfort, Knowledge, Effectiveness and Motivation, and Preparedness scores.

*Figure 2.* Frequency distribution of teachers’ comfort in teaching sex education (score of 1 indicates ‘not at all comfortable’, score of 5 indicates ‘extremely comfortable’).
Figure 3. Frequency distribution of teachers’ knowledge of sex education topics (score of 1 indicates ‘not at all knowledgeable’, score of 5 indicates ‘extremely knowledgeable’).

Figure 4. Frequency distribution of teachers’ self-rated effectiveness in teaching sex education (score of 1 indicates ‘not at all effective’, score of 5 indicates ‘extremely effective’).
**Figure 5.** Frequency distribution of teachers’ motivation to teach sex education (scores of 1 indicates ‘not at all motivated’, score of 5 indicates ‘extremely motivated’).

**Figure 6.** Frequency distribution of overall preparedness to teach sex education (score of 1 indicates ‘not at all prepared’, score of 5 indicates ‘extremely prepared’).
It was hypothesized that participants would feel less prepared to cover the topics that have been newly added to the curriculum and garnered the most controversy (Hypothesis #1). Table 3 displays the descriptive statistics for Preparedness by each topic included in the revised curriculum in ascending order. Examination of Preparedness means revealed that of the 13 topics included, four consistently demonstrated the lowest scores across Comfort, Knowledge, Effectiveness and Motivation scores: (1) Sexual orientation (including homophobia/biphobia), (2) Delaying vaginal/anal intercourse and oral-genital contact, (3) Gender roles, identity and expression (including transphobia), and (4) Desire, pleasure and masturbation. Broadly speaking, these topics were new additions not covered in the former 1998 Ontario H&PE curriculum. They also garnered some of the heaviest media attention and controversy among opponents of the curriculum. In general, this trend was in line with the hypothesis that teachers would feel least prepared to cover the newly added, controversial topics.

To test this hypothesis more explicitly, scores on these four topics were averaged, and the remaining 9 topics were averaged in order to create two summary variables representing mean Preparedness to teach the four more challenging topics (\(Mdn = 3.69\)) and nine less challenging topics (\(Mdn = 4.39\)). Subsequently, a related-samples Wilcoxon Signed Rank test (Wilcoxon, 1945) was performed to test whether median Preparedness differed within participants between these two groups of topics. Median Preparedness scores for the more challenging topics were significantly lower than for the less challenging topics, \(z = 9.97, p < .001\). Thus, it appears that teachers feel measurably less prepared to teach the four challenging topics, confirming the first hypothesis.
Predicting Preparedness

Examination of the Preparedness scores revealed that approximately 75% of respondents fell in the very or extremely categories, but that 25% of respondents fell in the not at all, slightly or somewhat prepared categories. A graph depicting the distribution of Preparedness scores can be found in Figure 2. A cluster analysis reinforced this finding, such that two distinct clusters were produced when Preparedness scores were examined.

It was hypothesized that certain personal attributes (age, sexual orientation, political preference, social proximity to GSM, support for LGBTQ-inclusive education

<table>
<thead>
<tr>
<th>Topic</th>
<th>M</th>
<th>Min.</th>
<th>Max.</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy relationships (e.g. friendships, romantic/sexual attraction)</td>
<td>4.27</td>
<td>1</td>
<td>5</td>
<td>.87</td>
</tr>
<tr>
<td>Self-concept and body image</td>
<td>4.26</td>
<td>1</td>
<td>5</td>
<td>.83</td>
</tr>
<tr>
<td>Changes during puberty</td>
<td>4.25</td>
<td>1</td>
<td>5</td>
<td>.88</td>
</tr>
<tr>
<td>Consent and sexual decision-making</td>
<td>4.19</td>
<td>1</td>
<td>5</td>
<td>.96</td>
</tr>
<tr>
<td>Reproduction</td>
<td>4.19</td>
<td>1</td>
<td>5</td>
<td>.88</td>
</tr>
<tr>
<td>Online interactions (incl. ‘sexting’, image sharing, cyberbullying)</td>
<td>4.11</td>
<td>1.5</td>
<td>5</td>
<td>.90</td>
</tr>
<tr>
<td>Menstruation and spermatogenesis</td>
<td>4.11</td>
<td>1</td>
<td>5</td>
<td>.90</td>
</tr>
<tr>
<td>STI (incl. HIV/AIDS) and pregnancy prevention</td>
<td>4.09</td>
<td>1.25</td>
<td>5</td>
<td>.94</td>
</tr>
<tr>
<td>Sexual harassment, exploitation and violence</td>
<td>4.00</td>
<td>1.25</td>
<td>5</td>
<td>.90</td>
</tr>
<tr>
<td>Sexual orientation (incl. homophobia/biphobia)</td>
<td>3.67</td>
<td>1</td>
<td>5</td>
<td>.89</td>
</tr>
<tr>
<td>Delaying vaginal/anal intercourse and oral-genital contact</td>
<td>3.66</td>
<td>1</td>
<td>5</td>
<td>1.08</td>
</tr>
<tr>
<td>Gender roles, identity and expression (incl. transphobia)</td>
<td>3.50</td>
<td>1</td>
<td>5</td>
<td>1.01</td>
</tr>
<tr>
<td>Desire, pleasure and masturbation</td>
<td>3.20</td>
<td>1</td>
<td>5</td>
<td>1.03</td>
</tr>
</tbody>
</table>

*Shaded topics consistently ranked in the bottom four across Comfort, Knowledge, Efficacy, Motivation and overall Preparedness scales.
and SHE, training in SHE, religiosity and engagement in the curricular reform) possessed by teachers would predict how prepared they felt to provide SHE (Hypothesis #2). In order to test what factors predicted Preparedness, the sample was divided into a more prepared (n= 117) and less prepared (n= 29) group based on the results of the cluster analysis. Those belonging to the less prepared group demonstrated overall Preparedness scores lower than 3.45. Point-biserial correlations and chi-square tests were examined, and all teacher characteristics demonstrating significant correlations with membership in the more vs. less prepared groups were selected for entry into the first logistic regression. The variables that correlated significantly with group membership were support for LGBTQ-Inclusive Education, Political Preference, being a strong supporter of SHE, and having pre-service SHE training. The logistic regression model was statistically significant, $\chi^2(9) = 19.96, p < .005$. The model explained 20.9% (Nagelkerke $R^2$) of the variance in Preparedness and correctly classified 80.9% of cases. Sensitivity was 17.9%, specificity was 96.5%, positive predictive value was 55.5% and negative predictive value was 82.5%. Of the four predictors, only one added statistically significantly to the model: support for LGBTQ-inclusive education (as shown in Table 4). Increases in support for LGBTQ-inclusive education were associated with an increased likelihood of membership in the more prepared group over the less prepared group.

Second, it was hypothesized that the endorsement of obstacles would predict lower preparedness to provide SHE among participants, and that encountering community protests opposing the curriculum and negative parent reactions would exert the most influence over teachers’ Preparedness scores (Hypothesis #3). In the second logistic regression, the list of nine obstacles was entered as predictor variables. The
regression model was statistically significant, $\chi^2(9) = 33.128$, $p < .0005$. The model explained 32.7% (Nagelkerke $R^2$) of the variance in Preparedness and correctly classified 83.4% of cases. Sensitivity was 35.7%, specificity was 94.9%, positive predictive value was 62.5% and negative predictive value was 86.1%. Of the nine predictor variables only one was statistically significant: fear of negative parent reactions (as shown in Table 5). Less prepared teachers had 3.34 times higher odds of reporting being fearful of negative parent reactions than more prepared teachers.

Third, it was hypothesized that access to supports would predict increased preparedness to provide SHE and that encountering parents who support the curriculum and having supportive administration would exert the most influence over teachers’ Preparedness scores (Hypothesis #4). In the final logistic regression, the list of nine supports was entered as predictor variables. The logistic regression model was statistically significant, $\chi^2(9) = 25.09$, $p < .005$. The model explained 25% (Nagelkerke $R^2$; Nagelkerke, 1991) of the variance in Preparedness and correctly classified 80.8% of cases. Sensitivity was 10.3%, specificity was 98.3%, positive predictive value was 60% and negative predictive value was 81.6%. Of the nine predictor variables only one was statistically significant: positive student reactions (as shown in Table 6). Less prepared teachers had 3.58 times lower odds of reporting positive student reactions than more prepared teachers. Figure 3 summarizes the findings of all three logistic regressions and highlights those variables that proved predictive of overall preparedness.
<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI for Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>Support for LGBTQ-inclusive education*</td>
<td>-.940</td>
<td>.399</td>
<td>5.559</td>
<td>1</td>
<td>.018</td>
<td>.391</td>
<td>.179</td>
</tr>
<tr>
<td>Political preference</td>
<td>-.154</td>
<td>.205</td>
<td>.567</td>
<td>1</td>
<td>.452</td>
<td>.857</td>
<td>.574</td>
</tr>
<tr>
<td>Being a strong supporter of SHE</td>
<td>-.135</td>
<td>.613</td>
<td>.048</td>
<td>1</td>
<td>.826</td>
<td>.874</td>
<td>.263</td>
</tr>
<tr>
<td>Having pre-service training in SHE</td>
<td>-19.45</td>
<td>10646.98</td>
<td>.000</td>
<td>1</td>
<td>.999</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Constant</td>
<td>1.016</td>
<td>.956</td>
<td>1.130</td>
<td>1</td>
<td>.288</td>
<td>2.762</td>
<td></td>
</tr>
</tbody>
</table>

Note. *p < .05
Table 5
Logistic Regression Predicting Likelihood of Belonging to the Less Prepared Group based on Obstacles Endorsed (n= 145)

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI for Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of negative parent reactions*</td>
<td>1.21</td>
<td>.546</td>
<td>4.88</td>
<td>1</td>
<td>.027</td>
<td>3.34</td>
<td>1.15-9.74</td>
</tr>
<tr>
<td>Negative reactions among parents/community</td>
<td>.11</td>
<td>.602</td>
<td>.034</td>
<td>1</td>
<td>.853</td>
<td>1.12</td>
<td>.344-3.63</td>
</tr>
<tr>
<td>Lack of teaching resources</td>
<td>-.61</td>
<td>.545</td>
<td>1.25</td>
<td>1</td>
<td>.263</td>
<td>.544</td>
<td>.19-1.58</td>
</tr>
<tr>
<td>Unsupportive administration</td>
<td></td>
<td>9201.1</td>
<td>.000</td>
<td>1</td>
<td>.998</td>
<td>.000</td>
<td>.000- -</td>
</tr>
<tr>
<td>Limited access to community sexual health resources</td>
<td>.985</td>
<td>.568</td>
<td>3.01</td>
<td>1</td>
<td>.083</td>
<td>2.68</td>
<td>.88-8.15</td>
</tr>
<tr>
<td>Lack of community support for LGBTQ-inclusive education</td>
<td>.335</td>
<td>.616</td>
<td>.296</td>
<td>1</td>
<td>.587</td>
<td>1.398</td>
<td>.42-4.67</td>
</tr>
<tr>
<td>Insufficient class time</td>
<td>.033</td>
<td>.509</td>
<td>.004</td>
<td>1</td>
<td>.948</td>
<td>1.03</td>
<td>.38-2.81</td>
</tr>
<tr>
<td>Negative student reactions</td>
<td>1.00</td>
<td>.741</td>
<td>1.838</td>
<td>1</td>
<td>.175</td>
<td>2.73</td>
<td>.64-11.67</td>
</tr>
<tr>
<td>Material not appropriate given student maturity</td>
<td>1.12</td>
<td>.576</td>
<td>3.767</td>
<td>1</td>
<td>.052</td>
<td>3.06</td>
<td>.99-9.47</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td>.526</td>
<td>22.07</td>
<td>1</td>
<td>.000</td>
<td>.083</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .05
Table 6

*Logistic Regression Predicting Likelihood of Belonging to the Less Prepared Group based on Supports Endorsed (n= 146)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Odds Ratio</th>
<th>95% CI for Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipating positive parent reactions</td>
<td>-19.644</td>
<td>12659.48</td>
<td>.000</td>
<td>1</td>
<td>.999</td>
<td>.000</td>
<td>.000 -</td>
</tr>
<tr>
<td>Positive reactions among parents/community</td>
<td>-.015</td>
<td>.611</td>
<td>.001</td>
<td>1</td>
<td>.981</td>
<td>.985</td>
<td>.297 3.263</td>
</tr>
<tr>
<td>Access to teaching resources</td>
<td>.270</td>
<td>.710</td>
<td>.145</td>
<td>1</td>
<td>.703</td>
<td>1.310</td>
<td>.326 5.265</td>
</tr>
<tr>
<td>Supportive administration</td>
<td>.559</td>
<td>.473</td>
<td>1.397</td>
<td>1</td>
<td>.237</td>
<td>1.750</td>
<td>.692 4.425</td>
</tr>
<tr>
<td>Access to community sexual health resources</td>
<td>-1.573</td>
<td>1.175</td>
<td>1.793</td>
<td>1</td>
<td>.181</td>
<td>.207</td>
<td>.021 2.075</td>
</tr>
<tr>
<td>Community support for LGBTQ-inclusive education</td>
<td>.649</td>
<td>.611</td>
<td>1.130</td>
<td>1</td>
<td>.288</td>
<td>1.914</td>
<td>.578 6.334</td>
</tr>
<tr>
<td>Sufficient class time</td>
<td>-.409</td>
<td>.652</td>
<td>.394</td>
<td>1</td>
<td>.530</td>
<td>.664</td>
<td>.185 2.383</td>
</tr>
<tr>
<td><strong>Positive student reactions</strong>*</td>
<td><strong>-1.275</strong></td>
<td><strong>.531</strong></td>
<td><strong>5.759</strong></td>
<td><strong>1</strong></td>
<td><strong>.016</strong></td>
<td><strong>.279</strong></td>
<td><strong>.099 .762</strong></td>
</tr>
<tr>
<td>Material appropriate given student maturity</td>
<td>-.967</td>
<td>.614</td>
<td>2.485</td>
<td>1</td>
<td>.115</td>
<td>.380</td>
<td>.114 1.266</td>
</tr>
<tr>
<td>Constant</td>
<td>-.694</td>
<td>.383</td>
<td>3.290</td>
<td>1</td>
<td>.070</td>
<td>.500</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .05
Figure 7. Flowchart highlighting the variables found to be predictive of teachers’ preparedness to teach sex education and their proposed relationships.
**Preparedness to Teach LGBTQ-Inclusive Content**

It was hypothesized that certain teacher attributes (i.e. support for LGBTQ-inclusive education, social proximity to GSM, liberalism, younger age, and more SHE training) would predict higher levels of preparedness to cover the LGBTQ-related topics in the curriculum (Hypothesis #5). In order to investigate which variables predict readiness to cover LGBTQ content, Preparedness scores pertaining to the gender identity and sexual orientation topics were averaged into an overall LGBTQ Preparedness score. Next, a multiple regression was conducted to explore whether variation in preparedness to teach LGBTQ topics was influenced by the presence of any teacher characteristics. The seven characteristic variables found to correlate significantly with this new outcome variable were entered into the model as predictors: support for LGBTQ-inclusive education, political liberalism, being a strong supporter of SHE, having pre-service training in SHE, engagement in the reform process, religiosity, and social proximity to GSM. The multiple regression model statistically significantly predicted preparedness, $F(7, 130) = 7.254, p < .001, \text{adj. } R^2 = .242$. Two of the eight variables (political liberalism and support for LGBTQ-inclusive education) added statistically significantly to the prediction model, $p < .05$. Regression coefficients and standard errors can be found in Table 7 below.
Table 7

**Summary of Multiple Regression Analysis: Predicting Preparedness to Teach LGBTQ Topics** *(n = 138)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE_B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.595</td>
<td>.064</td>
<td></td>
</tr>
<tr>
<td>Support for LGBTQ-inclusive ed.*</td>
<td>-.062</td>
<td>.027</td>
<td>-.239</td>
</tr>
<tr>
<td>Political liberalism*</td>
<td>-.025</td>
<td>.012</td>
<td>-.185</td>
</tr>
<tr>
<td>Strong supporter of SHE</td>
<td>-.039</td>
<td>.038</td>
<td>-.094</td>
</tr>
<tr>
<td>Pre-service training in SHE</td>
<td>-.049</td>
<td>.042</td>
<td>-.091</td>
</tr>
<tr>
<td>Engagement in curricular reform</td>
<td>-.020</td>
<td>.015</td>
<td>-.108</td>
</tr>
<tr>
<td>Religiosity</td>
<td>.034</td>
<td>.027</td>
<td>.103</td>
</tr>
<tr>
<td>Social proximity to GSM</td>
<td>-.011</td>
<td>.027</td>
<td>-.032</td>
</tr>
</tbody>
</table>

*Note.* *p* < .05; B = unstandardized regression coefficient; SE_B = standard error of the coefficient; β = standardized coefficient

**Comparing Public and Catholic Schools**

It was hypothesized that Catholic teachers would demonstrate lower Preparedness scores, encounter more obstacles and have access to fewer supports than public school teachers (Hypothesis #6). For this portion of analyses, only participants who indicated that they work in a public or Catholic school were included, resulting in *n* = 137. In order to investigate the differences between those teaching in public schools versus Catholic settings, a one-way multivariate analysis of variance was conducted to determine the effect of school board type on the three main outcome variables (Preparedness, number of obstacles and number of supports endorsed). The differences between the school types on the combined dependent variables was not statistically significant, *F*(3, 133) = 1.436, *p* = .235; *Wilks’ Λ* = .969; *partial η*² = .031. Public teachers (*M* = 3.95, *SD* = .789) did not report being significantly more prepared than Catholic teachers (*M* = 3.81, *SD* = .944) and did not experience significantly fewer obstacles (Public *M* = 3.56; Catholic *M* = 3.84) or more supports (public *M* = 2.49; Catholic *M* = 1.68).
It was also hypothesized that Catholic teachers would endorse the following obstacles more frequently than public school teachers: (1) negative reactions among parents or the community, (2) a lack of teaching resources, (3) unsupportive administration, (4) less community support for LGBTQ-inclusive education, and (5) feeling the curriculum is not age-appropriate (Hypothesis #7). A series of tests of two proportions (chi-square test of homogeneity) were performed comparing Catholic and public teachers to test this hypothesis. There were no significant differences except for in the proportions of Catholic and public teachers who endorsed feeling that the curriculum is not age-appropriate given their students’ maturity levels as a problem. Due to small sample sizes, Fisher's exact test was run, revealing a difference in proportions of .254, \( p = .023 \). Catholic teachers endorsed this obstacle significantly more often compared to public teachers.

Catholic and public teachers did differ significantly in how engaged they felt in the curriculum reform process, with public teachers (\( Mdn = -.75 \)) reporting feeling more engaged than Catholic teachers (\( Mdn = -1.25 \)), \( U = 731, z = -2.446, p = .014 \). Additionally, they differed in levels of support for LGBTQ-inclusive education, with public teachers (\( Mdn = 1.86 \)) responding in ways that indicated significantly more support than Catholic teachers (\( Mdn = 1.14 \)), \( U = 612.5, z = -3.24, p = .001 \). Finally, Catholic teachers agreed significantly less with the statement “the curriculum has been embraced by my school”, (Catholic \( Mdn = 1 \), Public \( Mdn = 0 \), \( U = 704, z = -2.67, p = .007 \)).
Table 8  
Comparing the Proportions of Catholic and Public teachers who Endorse Experiencing Certain Obstacles when Teaching Sexual Health Education (n=137)

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>% Public</th>
<th>% Catholic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative reactions among parents or community</td>
<td>38.1%</td>
<td>36.8%</td>
<td>.914</td>
</tr>
<tr>
<td>Lack of teaching resources</td>
<td>60.2%</td>
<td>52.6%</td>
<td>.535</td>
</tr>
<tr>
<td>Lack of support from administration</td>
<td>11.9%</td>
<td>21.2%</td>
<td>.222</td>
</tr>
<tr>
<td>Negative community attitudes toward LGBTQ-inclusive education</td>
<td>27.1%</td>
<td>42.1%</td>
<td>.182</td>
</tr>
<tr>
<td>Curriculum not age-appropriate given students’ maturity levels</td>
<td>22%</td>
<td>47.45%</td>
<td>.023*</td>
</tr>
</tbody>
</table>

Note. * p < .05, all p-values determined by Pearson chi-square statistic, with the exception of obstacles marked with a, whose small sample sizes necessitated the use of Fisher’s Exact Test.

Obstacles to Providing SHE

It was hypothesized that participants would most frequently endorse the fear of negative parent reactions as negatively influencing their SHE provision (Hypothesis #8). In fact, the most frequently endorsed obstacle was a lack of SHE-related teaching resources (57.5%), followed by fear of negative parent reactions (52%), lack of training in SHE and insufficient class time (both 43.2%). Frequencies are presented in order from most to least negatively impactful in Table 9.

Regarding participants’ descriptions of their most problematic obstacle in teaching SHE, the most frequently cited top obstacle had to do with a lack of teaching resources, endorsed by 23.6% of respondents who completed this question (n = 101). Responses described a need for more up-to-date, engaging SHE resources that were age-appropriate. Some felt that their only option was to provide the material in a lecture.
format that was not interesting or optimal for learning. Another explained that they felt added pressure to find appropriate resources more than in other subjects, since they could not have students conduct their own research on the topics using the internet.

The second most frequently cited top obstacle pertained to concerns about parents’ reactions (15.1%). This included an anticipatory fear of negative reactions as well as actual negative comments and experiences of parents disapproving of the material. Several reported worrying about how students interpret and process SHE class discussions, and then later discuss them with their parents. Others explained that although they had never had a parent complain, they still worried about the possibility and what they might do if it were to occur. Additionally, several participants described challenges associated with accommodating students whose parents had opted out of sexual health classes.

The third most frequently cited top obstacle related to concerns about having sufficient class time to cover all of the expectations presented in the curriculum (12.6%). Concerns were raised about covering all expectations within the time allotted to health classes given the importance and sensitivity of some of the sexual health topics. In general, teachers expressed desires to teach the topics in a thorough manner, and worried that time constraints would impact their ability to do so. Interestingly, some felt that their colleagues used a lack of time as an excuse not to cover certain portions of the curriculum, raising concerns about the impact this selective coverage might have on their students.

A number of obstacles were described in this section that were not included in the original list of obstacles and deserve mentioning. They included: (a) having multiple-
grade classrooms and struggling to cover grade-appropriate material with only a subsection of students, (b) balancing the obligation to teach the curriculum with being sensitive to the religious backgrounds of students and their parents, (c) possessing personal beliefs that conflict with portions of the curriculum, (d) dealing with parents who have been misinformed about the content of the curriculum, (e) dealing with students whose parents have asked to have them withdrawn from sexual health lessons, (f) worrying that they could encounter negative repercussions if classroom conversations become inappropriate, (g) dealing with colleagues’ who do not comply with the curriculum or project harmful biases when teaching it, and (h) feeling they lack sufficient knowledge about some of the topics included. Regarding the difficulties or teaching SHE to multiple grades, one teacher wrote the following, demonstrating the additional challenges associated with teaching multiple grades:

I needed activities and worksheets for one group to do when I work with another [grade]. This was really lacking. There is so much terminology for these kids to know, I have to be there to help them say it and understand it. But if I’m in a split class I’m already trying to be in two places at once.

This was a notable finding given that the majority of respondents reported teaching SHE to multiple grades and may also have experienced similar challenges in managing the needs of their students.
Table 9

*Obstacles Endorsed as Negatively Influencing Participants’ Provision of Sexual Health Education*

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of teaching resources</td>
<td>84</td>
<td>57.5</td>
</tr>
<tr>
<td>Fear of negative reactions from parents</td>
<td>70</td>
<td>52</td>
</tr>
<tr>
<td>Lack of training in sex education</td>
<td>63</td>
<td>43.2</td>
</tr>
<tr>
<td>Insufficient class time</td>
<td>63</td>
<td>43.2</td>
</tr>
<tr>
<td>Actual complaints from parents</td>
<td>47</td>
<td>32.2</td>
</tr>
<tr>
<td>Negative community attitudes toward LGBTQ-inclusive education</td>
<td>41</td>
<td>28.1</td>
</tr>
<tr>
<td>Limited community sexual health resources</td>
<td>39</td>
<td>26.7</td>
</tr>
<tr>
<td>Complaints or protests about the curriculum in my community</td>
<td>37</td>
<td>25.3</td>
</tr>
<tr>
<td>Feeling the material is not age-appropriate given student maturity levels</td>
<td>35</td>
<td>24</td>
</tr>
<tr>
<td>Lack of support from administration</td>
<td>18</td>
<td>12.3</td>
</tr>
<tr>
<td>Negative student reactions</td>
<td>16</td>
<td>11</td>
</tr>
</tbody>
</table>

*Note. n = 146*

**Supporting SHE Teachers**

It was hypothesized that support from administration would be most impactful support for teachers providing SHE (Hypothesis #9). In reality, students’ positive reactions to the curriculum material were the most frequently endorsed supportive factor (58.9%), followed by having a supportive administration (46.6%) and feeling students were mature enough to learn the information (42.5%). Results are displayed in Table 10.

Thirty-seven percent of respondents referred to their students’ positive reactions to the material as having the most positive impact on their teaching of the curriculum. Participants described experiences where students showed genuine interest in the topics
covered, leading to engaging and fruitful class discussions. Others remarked that their students demonstrated more respect and openness to the subject matter than they had anticipated. Several respondents explained that when their students reacted positively to the information, this reinforced their belief that the content was important and beneficial to students.

The second most commonly cited top positive influence related to supportive administration (18.5%). Numerous respondents explained that knowing that their administration was supportive of the curriculum and would defend them in the situation that parents complained increased their comfort levels and improved their overall experience providing SHE. Others commented that without this support, they did not feel safe or comfortable discussing the topics in depth.

The third most common top support was feeling that the curriculum content was suited to their students’ maturity levels. Several respondents explained that although their students’ maturity levels varied from year to year, knowing that students were ready to learn about the information and that it was relevant to them in their stage of development motivated them in their teaching of SHE. As one teacher explained, “my students have really shown a genuine interest in this curriculum. We actually have amazing discussions with lots of questions.” Some explained that their students go out of their way to ask questions and request more information, which helps them to feel that the curriculum content is relevant and important.

Supports that were described in this section that were not included in the list of potential supports included: (a) having students who openly identify as LGBTQ in their classrooms, (b) having colleagues who openly identify as LGBTQ on staff who could
provide support and answer questions, (c) feeling motivated to prepare students with the information, (d) having supportive colleagues more generally, (e) having personal experience, knowledge or values that reinforced the importance of SHE, (f) having access to guest speakers to supplement teaching, and (g) having a positive learning environment in the classroom.

Table 10

Supports Endorsed as Positively Influencing Participants’ Provision of Sexual Health Education

<table>
<thead>
<tr>
<th>Support</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive student reactions</td>
<td>86</td>
<td>58.9</td>
</tr>
<tr>
<td>Support from administration</td>
<td>68</td>
<td>46.6</td>
</tr>
<tr>
<td>Feeling the material is age-appropriate given students’ maturity levels</td>
<td>62</td>
<td>42.5</td>
</tr>
<tr>
<td>Actual supportive comments from parents</td>
<td>37</td>
<td>25.3</td>
</tr>
<tr>
<td>Having sufficient class time to cover curriculum</td>
<td>31</td>
<td>21.2</td>
</tr>
<tr>
<td>Positive attitudes toward LGBTQ-inclusive education in my community</td>
<td>30</td>
<td>20.5</td>
</tr>
<tr>
<td>Access to teaching resources</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Access to community sexual health resources</td>
<td>13</td>
<td>8.9</td>
</tr>
<tr>
<td>Expecting positive reactions from parents</td>
<td>9</td>
<td>6.2</td>
</tr>
<tr>
<td>Public support of the curriculum in my community</td>
<td>8</td>
<td>5.5</td>
</tr>
<tr>
<td>Ample training in sex education</td>
<td>1</td>
<td>0.7</td>
</tr>
</tbody>
</table>

*Note. n = 146*

Qualitative Responses

**Teachers’ greatest challenges in SHE provision.** Of 146 participants, 111 responded to the long-answer question exploring teachers’ greatest challenge in teaching SHE. By conducting an inductive, systematic thematic analysis, the researcher isolated and refined three distinct themes present across respondents’ descriptions (Braun &
Clarke, 2006). Within each of these broader themes, subthemes were also identified and are described below to better encapsulate the range of teachers’ experiences and concerns referenced in long-answer format.

(1) Feeling unprepared. Numerous challenges described by respondents related to underlying concerns about a lack of preparation to teach comprehensive SHE according to the updated curriculum. Four distinct subthemes were identified that helped describe the related but distinct challenges described by respondents which related to feeling ill-prepared.

Lacking Resources. A large proportion of responses referred to the difficulty of finding up-to-date and engaging lesson plans, activities, worksheets and online resources. Several teachers working in French-speaking schools raised specific concerns around the absence of resources available in French. Some referenced the resources available through the OPHEA website with varying levels of satisfaction, while others felt they needed more than what was available through OPHEA. Without resources, teachers explained that they felt forced to rely too heavily on the limited prompts provided in the curriculum, and to provide this information in a less engaging lecture format.

Lacking Training. Lacking training in SHE was frequently cited among teachers’ descriptions. Multiple teachers explained that they felt they needed more training in order to deal with the sensitive situations that arise when teaching SHE. Several participants explained that they lacked sufficient knowledge on certain topics, including gender identity, while another explained their lack of training impeded their ability to field spontaneous student questions. A lack of training often appeared in conjunction with a
lack of resources in participants’ responses as they described the most challenging aspect of teaching SHE.

*Psychological Burden.* Numerous responses referenced feelings of fear, anxiety, discomfort and stress pertaining to the provision of SHE, demonstrating the psychological burden this subject can have on teachers. One response explained that the most challenging aspect of teaching SHE was the time it took to “mentally prepare” for the difficult class conversations. Others cited the stress caused by interactions with dissenting and/or misinformed parents as highly taxing. One participant wrote, “if we say something that isn’t explicitly in the curriculum, I’m always nervous of what may happen.” Several others echoed these concerns, describing uncertainty about what was “legally safe” for them to discuss with students. Several others described feeling fearful of the chance that parents might complain. Another explained that the “public scrutiny” inspired by the updated curriculum added to their stress and made teaching SHE more challenging. Based on these responses, it would appear that many teachers experience nervousness, increased stress and feelings of discomfort when teaching SHE which negatively impacts their experience.

*Classroom Management Concerns.* Several responses suggested that teachers felt they did not possess adequate classroom management techniques to overcome the challenges associated with SHE and ensure that the curriculum was delivered in a sensitive and effective manner. Some responses referred to the challenge of building sufficient rapport with students to ensure that sensitive, SHE-related conversations were well-received and comfortable for all involved. Others referenced the challenge of dealing with negative student reactions and ensuring that all students were respectful and
attentive during lessons. Still more described the challenge of addressing the topics in the curriculum with students from diverse religious and cultural backgrounds in a way that was sensitive to their and their parents’ beliefs. On a logistical level, some referenced the challenge of accommodating students whose parents had withdrawn them from SHE classes, while others explained that they struggled to provide age-appropriate information to subgroups of students in multi-grade classrooms.

(2) Feeling unsupported. A large subset of responses described a lack of support as their predominant challenge when teaching SHE. This lack of support extended to parents, communities, administration and educational or religious leaders, demonstrating the importance of support from outside the classroom in empowering teachers to provide comprehensive SHE.

Administration and educational leaders. Numerous participants explained that they did not feel supported by their principals and/or school board in their adoption of the curriculum and when dealing with parents’ complaints. One teacher described that their greatest challenge was the fact that “admin leaves me feeling nervous about whether they’d support me if there was a complaint, especially since there’s some anti-LGBT attitude in the community,” while another wrote, “admin not up-to-date and who prefer to support parents’ backwards attitudes vs. me.” While some descriptions depicted administration who would quickly side with parents against their teachers, others referenced a lack of action and clear stance taken by their school leaders, leaving them feeling uncertain about whether they were supported and what would happen if complaints were raised.
Parents and the community. Several respondents described themselves as fearing parents’ negative reactions, while others described actual negative responses among parents and in the community when discussing their greatest challenge. Some referenced dealing with the “negative fallout among families”, while another referenced, “dealing with parents who have very strong opinions about what will be covered in the curriculum - most of it being misinformation and assuming that their children will be learning about things that aren't true/they will be learning about in high school vs. elementary.” A lack of support at the community level was also problematic for several respondents, especially those in certain regions. For example, one respondent wrote “my First Nations community is fairly conservative – do not believe in abortion/birth control.” Another explained that their biggest challenge was “presenting differing world views in a conservative rural religious area.” Thus, it appears that one’s location and the attitudes of parents and the broader community can have considerable impact on teachers providing SHE.

(3) Concerns about the curriculum. The third theme of complaint regarded specific concerns related to the curriculum, including how it was written, how much time is allotted to sexual health, and specific topics included in the document.

Curriculum Structure. Lacking sufficient time was a frequently cited concern among respondents. Several expressed desires for SHE topics to be integrated across subjects rather than compacted into a few, brief health lessons. One teacher wrote that they wished they were “allowed to teach it when I feel necessary and not having to send notes home with exact times that it will be covered.” Many listed that their biggest challenge in teaching SHE were time constraints, one explaining “I only have 1 hour
every 10 days,” while another had “less than 50 minutes per week.” Another wrote that their biggest challenge was both “timing and resources” and explained that “a clear message from school board would be helpful.”

*Curriculum Content.* Some teachers’ responses reflected poor reception of the curriculum content. One teacher commented, “the gender theory portions of the curriculum is included as fact when it’s just a theory. Kids aren’t ready to ‘pick their own gender’.” Another explained that the most challenging part of providing SHE is “teaching the newer portions that are not medically based facts and are all personal opinion/decision based.” Indeed, one teacher admitted that as a result of the mixed messages and a lack of clear guidance on how to integrate the new curriculum with Catholic teachings, they had not yet incorporated the curriculum into their lessons.

**Supporting teachers of comprehensive SHE.** One hundred and two teachers also provided varied and insightful responses when asked what would assist them most in making the transition to the updated, comprehensive curriculum. A systematic analysis of the themes underlying participants’ responses revealed four distinct types of requests: (1) Training/Professional Development, (2) Resources, (3) Approval/Support, and (4) Curriculum Changes. Several subthemes were also identified and are discussed below with key quotations. A number of the themes identified reflect and reinforce the findings discussed previously pertaining to teachers’ greatest challenges when providing SHE.

**(1) Training/professional development.** Training in SHE was a very common request among participants’ responses. Importantly, several requests clarified that the cost of professional development opportunities needed to be covered by school boards, the Ministry, or other sources rather than by individual school’s budget, since their schools
were not able to afford the cost of training. Several participants felt that workshops focused on specific areas of the curriculum would be beneficial, such as on the technology and online safety components of the curriculum. One response expressed a desire for training to include conversations with experts in the field qualified to answer their questions. Several participants felt that workshops focused on specific areas of the curriculum would help prepare them to provide higher quality SHE. One participant also requested that the in-service training be provided directly to teachers rather than to principals under the assumption that the information will get effectively transmitted to teachers.

(2) Resources. The most requested source of support among respondents was for a variety of resources to supplement and support their provision of SHE according to the updated curriculum. Resources requested included those designed to facilitate SHE lessons, community-based resources such as access to public health nurses, and resources to provide to parents.

Teaching resources. Numerous participants explained that they desired board-approved resources and lesson plans/materials to support their provision of the curriculum. Some asked for appropriate but accurate resources compatible for use on classroom Smart Boards. Resources in French designed for both French as a first- and second-language were also requested, since the reading level required for the limited existing French materials was described as too advanced for French learners. Another common request was for a list of board-sanctioned websites that have age-appropriate content in line with the curriculum expectations.
Community-based resources. Several participants explained that access to community-based organizations for support would be the most helpful. A number of responses requested access to public health nurses to visit their classrooms as guest speakers and teach more challenging or sensitive portions of the curriculum. Another response requested funding to pay for organizations like Girls Inc. to conduct workshops with students about topics in the curriculum such as gender. Some responses indicated that they desired further training, but if that was not possible, then access to guest speakers to supplement their teaching would be beneficial.

Resources for parents. A subset of responses described a desire for handouts or websites to provide to parents that outline exactly what is included in the updated curriculum. Participants explained that parent resources might help dispel myths and misinformation that inspire opposition among parents and to reduce the burden placed on teachers when dealing with this opposition.

(3) Approval/support. Often, participants’ written responses described a desire for more approval and support in teaching SHE from a variety of stakeholders, including peers, parents, school administration, school boards and society. Two participants felt that time and a space to join with other teachers, discuss the curriculum, share resources and learn from each other would be most beneficially to them moving forward. Several other comments expressed the desire for more explicit support from the parents of their students. Others felt that if their school administration and boards were to adopt an attitude of clear support for the curriculum, that this would support their SHE provision. Finally, two additional participants wished that society as a whole would adopt a more accepting, open attitude toward sexual health and related education.
(4) Changes to the curriculum. Several responses expressed a desire to change aspects of the updated curriculum, both in structure and in content. The majority of responses falling under this category cited a desire for more time to cover the expected content and have these sensitive discussions with students. Others referenced a desire for more flexibility in their SHE provision, wishing that they were able to discuss these topics when they arose organically rather during pre-established health class periods. Finally, two responses referenced changes to the curriculum content, with one participant requesting “more content geared towards First Nations - they are the highest growing population in our area of Ontario, with more teen pregnancies,” and the other requesting different content but not elaborating on their response.

Discussion

The purpose of this study was to document the experiences and challenges faced by Ontario’s elementary educators as they transition to teaching the province’s updated sexual health curriculum in order to explore how comprehensive SHE programs are received by teachers and factors that influence their delivery. According to school change theorists, the degree to which teachers feel engaged in an educational reform such as Ontario’s 2015 H&PE curriculum will determine how successfully it is implemented (Fullan, 1993; Huberman & Miles, 2013; McLaughlin, 1992; Sarason, 1990). Using an online survey, this study gathered information from 146 teachers of grades five to eight from across Ontario, evaluating their sense of engagement in the reform, their attitudes, experiences and challenges they’ve faced when delivering SHE, focusing on the two school years since the curriculum was instated.

Indicators of Preparedness
Overall, the results suggest that although the majority of teachers did not feel engaged in the H&PE reform process, they support the new curriculum, feel that SHE is valuable to their students, and support the curriculum’s addition of LGBTQ-inclusive information. Thus, despite the change and the challenges that accompany it, teachers’ attitudes toward SHE remain largely positive, confirming and updating the findings of previous research (McKay et al., 2014; Cohen et al., 2012; Taylor et al., 2015). In this study, engagement in the reform did not predict whether teachers felt more or less prepared to provide SHE. Assuming that participants responded in a forthright and honest manner, this information would appear to conflict with the idea that low levels of engagement are associated with less readiness to comply with educational reform mandates (Gitlin & Margonis, 1995; Havelock, 1973; Sarason, 1990). Given that 87% of participants felt the curriculum update was positive and 93.8% felt SHE belongs in schools, a potential explanation for this finding is that support for the curriculum update among participants was strong enough to compensate for the demotivating effect feeling overlooked by those initiating the reform can have. Indeed, respondents’ motivation to provide SHE measured highest of the four indicators of preparedness, falling in the very motivated range on average. Additionally, the sample displayed a liberal bias in other domains, as measured by the politicism scale and in their strong support for LGBTQ-inclusive education and same-sex marriage. Liberalism has traditionally been associated with increased support for comprehensive SHE (Irvine, 2004; Bleakley et al., 2010), which might also contribute this sample’s high level of preparedness to provide comprehensive SHE despite apparent shortcomings in the curriculum’s implementation. This would suggest that when teachers
believe in the importance of an educational reform, their engagement in the reform process is less important in determining whether the changes are adopted successfully.

In 2004, Cohen and colleagues found that Canadian teachers felt only somewhat comfortable teaching most topics included in comprehensive SHE; however, in the current study, participants felt very or extremely comfortable and prepared to teach the topics included in the updated curriculum on average. This difference in findings could have a number of explanations. Given that over a decade has passed since the earlier study, this may reflect Canadian teachers’ evolving attitudes and comfort levels pertaining to SHE delivery and LGBTQ-inclusive education over time. Indeed, participants’ written responses often reflected a strong desire to support their students on both a practical and emotional level as they enter adolescence through the implementation of SHE. Based on this high level of support and preparedness, if the controversy and media attention surrounding Ontario’s curriculum has had a negative effect on teachers, overall it has not been impactful enough to significantly reduce teachers’ sense of preparedness to provide sex education to their students.

Although teachers’ comfort levels, knowledge, teaching effectiveness and motivation to cover the curriculum indicated high levels of preparedness on average, this readiness did vary based on topic. This finding is significant given the important role these factors play in determining the quality of one’s delivery of SHE (Cohen et al., 2012; Kirby et al., 2006; LaChausse et al., 2014; Taylor et al., 2015); when teachers feel less comfortable, knowledgeable, effective or motivated, these topics are less likely to be covered effectively or at all. Respondents felt significantly less prepared to teach four of the thirteen topics studied: (1) Desire, pleasure and masturbation, (2) Gender roles,
identity and expression (incl. transphobia), (3) Delaying vaginal/anal intercourse and oral-genital contact, and (4) Sexual orientation (incl. homophobia/biphobia). This is consistent with observations from past research in which teachers felt least comfortable and willing to teach topics that were more sensitive, behaviour-related and/or controversial in nature (Cohen et al., 2004; Cohen et al., 2012; Yarber et al., 1997). These topics also include large amounts of information not formally included in the previous curriculum. Furthermore, two of these four topics involve LGBTQ content, the teaching of which involves additional challenges and anxieties as demonstrated by the results of this and past studies (Taylor et al., 2015). This study cannot conclusively determine whether these topics garnered the lowest preparedness scores due to their sensitive nature, the controversy that surrounded their inclusion, their novelty, a combination of these factors or another unidentified reason. Respondents described a range of concerns and challenges related to these topics, as outlined under Teachers’ Opinions of the Curriculum in the Results section, but their reasoning was varied and did not provide a singular explanation.

Preparedness to teach SHE also varied between teachers. Although the majority of teachers felt very or extremely prepared, approximately 25% of those surveyed fell in the somewhat, limited or not at all categories. This finding highlights an important potential roadblock to the effective delivery of Ontario’s SHE curriculum and suggests that there is still significant work to be done to ensure that all teachers feel equipped and motivated to meet the curriculum’s teaching expectations. LaChausse and colleagues (2014) proposed a specially devised teacher training program sequence to increase teacher self-efficacy, comfort and buy-in and subsequently improve SHE curriculum implementation fidelity.
Ideally, they suggested that training involve an initial two-day training session, an online training component, a follow-up skills building session and ongoing technical assistance such as lesson observations and collaborative coaching. This proposal was recommended after it was found that their original two-day training session was insufficient to prepare teachers for the unique challenges associated with teaching comprehensive SHE. Given that many participants had received no training, that the most common form of training was workshops under two hours, and the high demand for training across participants’ written responses, this begs the question of whether sufficient effort and resources are being dedicated to preparing teachers in SHE. Additionally, a subset of teachers’ written responses suggested that they would benefit from exposure to information about LGBTQ rights and related issues and sensitivity training to combat negative biases that might impede the provision of these topics specifically.

**Catholic vs. Public Teachers**

Despite relatively little pre-existing research comparing Catholic and public teachers’ experiences providing SHE, this study found that in general, both groups of teachers felt similarly prepared, encountered the same number of obstacles and had access to similar numbers of supports. However, given the small proportion of Catholic teachers who completed the survey, these results should be interpreted with caution. In terms of differences, Catholic teachers were significantly more likely than public teachers to feel that their students lacked the maturity to learn about the topics in the curriculum and indicate that this presented a challenge when teaching SHE. Public teachers felt more engaged by the Ministry of Education in the curricular reform process than Catholic teachers. Additionally, Catholic teachers felt that the curriculum had been embraced by
their school to a lesser degree than public teachers. Thus, the experience of teaching elementary-level SHE in Ontario does appear to differ between public and Catholic settings in some subtle ways. Importantly, some Catholic teachers’ written responses raised concerns about integrating the curriculum content in a Catholic setting. As such, many teachers would likely benefit if Catholic and education leaders collaborated to establish clear guidelines on how this curriculum can be taught in harmony with the church’s religious stance, especially on key topics such as sexual orientation, gender and the use of contraceptives. Future research should also seek to confirm these findings in a larger sample of Catholic school educators.

**Predicting Preparedness**

Three logistic regression models generated by this study helped to isolate what factors impede, what helps and which teachers might be struggling the most to provide SHE. The most strongly predictive model used the presence of obstacles to predict teacher preparedness. This model accounted for approximately 32.7% of the variance in preparedness and could correctly classify 83.4% of cases in either the more or less prepared teacher group based on the presence of certain obstacles. This demonstrates the powerful influence obstacles can have on a teachers’ preparedness to provide SHE. Fearing negative reactions from parents proved to be the most influential obstacle entered in the model, with less prepared teachers demonstrating 3.34 times higher odds being fearful than more prepared teachers. This is congruent with past research suggesting that perceptions of parental support play an important role in determining how comfortable and willing teachers feel to provide SHE (Levenson-Gingiss & Hamilton, 1989; Cohen et al. 2012). Interestingly, this study found that the fear of parents’ reactions was more
impactful for teachers than encountering actual negative reactions among parents or the community. This finding suggests that familiarizing teachers with statistics on the large degree of support for comprehensive SHE among parents (see McKay et al., 2014) could have an empowering effect and help to offset the potentially damaging influence of negatively skewed media coverage of the curriculum debates. Those developing training programs should consider including education on the wide parental support for comprehensive SHE in order to increase how teachers’ readiness to provide SHE.

In 2012, Cohen and colleagues found that they could predict 59% of the variance in teachers’ willingness to teach SHE based on seven teacher characteristics, all which added uniquely to their model (gender, teaching experience, teaching level, training in SHE, experience teaching SHE, knowledge of SHE topics, and attitudes toward SHE). However, in the current study, teachers’ characteristics could only account for 20.9% of the variance in preparedness to teach SHE, and only one characteristic, support for LGBTQ-inclusive education, added significantly to the model. This difference in findings might be attributed to the fact that the former study looked only at teachers’ willingness to provide SHE while the current study combined four factors that affect SHE into one overarching preparedness variable. By combining these four factors, the pure effect teachers’ personal characteristics have on those component factors may have been weakened and even washed out in the analysis. Future research using this dataset will examine the four variables individually to test the unique impact these variables have on teachers’ comfort levels, knowledge, feelings of self-efficacy and motivation to provide SHE to clarify their relationships. Still, this study contributes the finding that teachers’ support for LGBTQ-inclusive education is an important determinant of how prepared
they feel to provide comprehensive, inclusive SHE programs. This has implications for the identification of teachers who may require additional support and training in order to teach comprehensive SHE programs effectively. SHE training programs should also consider including a component that builds awareness, sensitivity and support for LGBTQ issues, which in turn will better prepare teachers to provide all SHE topics.

Finally, the regression model that predicted preparedness based on the presence of key supportive factors found that more prepared teachers had 3.58 times greater odds of reporting positive student reactions than less prepared teachers. This suggests that teachers are highly responsive to their students’ reactions to SHE content. Teaching does not occur within a vacuum to passive recipients of information, but rather within the dynamic context of the teacher-student relationship and a given classroom environment. When students respond positively to the material presented, this finding suggests that this has a reciprocal effect on teachers, who then feel more prepared to teach the sexual health topics. This finding was further reinforced by teachers’ written responses, which frequently cited the powerful impact students’ positive comments and reactions can have. As such, research on what students look for and appreciate in their sex education is vital in ensuring that students are receptive to SHE lessons (see Forrest, Strange, Oakley & Ripple Study Team, 2004; Byers et al., 2003). It would appear that when SHE curricula are designed with students’ needs and desires in mind and include up-to-date, relevant information, teachers and students alike will benefit, corroborating conclusions made in past research (Cohen et al., 2004; Byers et al., 2001; DiCenso et al., 2001; McKay & Holowaty, 1997). Given that 76.8% of teachers surveyed described their students’ reactions positively and only 2.1% their reactions were negative, it seems that Ontario’s
updated curriculum includes information that students’ find relevant, important and meets their evolving needs.

**Teaching LGBTQ topics.** Teachers with greater support for LGBTQ-inclusive education and who are more liberal politically were found to be more prepared to discuss sexual orientation and gender identity with their students. Interestingly, certain attributes, such as identifying personally as a gender or sexual minority or having a close friend or family member who does, were not uniquely associated with higher preparedness to teach LGBTQ topics. This finding might be explained by Taylor et al. (2015), who found that LGBTQ educators were more likely than their heterosexual, cisgender colleagues to view their sexual orientation or gender expression as a disadvantage when teaching LGBTQ topics. They proposed that this may be related to fears of being accused of “recruiting” or only caring about these topics because of their own identity. Thus, although those who are politically conservative or reject LGBTQ-inclusive education were demonstrably less prepared to teach LGBTQ topics, other attributes were not uniquely predictive of this preparedness, reinforcing the idea that certain attributes can serve as both an advantage and disadvantage when depending on the educational situation (Taylor et al., 2015).

**Obstacles and Teachers’ Recommendations**

When asked to describe their greatest challenge in covering the updated curriculum, teachers’ responses generally related to feeling unprepared, feeling unsupported, and concerns specific to the curriculum. Teachers who felt unprepared cited their lack of training, of resources, the psychological burden associated with teaching SHE and concerns about classroom management. A perceived lack of support from parents, communities and educational leaders also presented a challenge for many
respondents. Finally, several concerns were raised about the content and structure of the curriculum. Reflecting these challenges, teachers’ requests for support generally referenced more access to training, more teaching and community-based resources, resources for parents, explicit support from parents, school leaders and school boards, and changes to the ways SHE is taught and the curriculum’s content.

This study demonstrated that despite the province’s increased emphasis on SHE and teachers’ strong desires for SHE training, the number of training opportunities available does not reflect this growing demand. Of those sampled, only 29% had specific training in sex education and only 7.5% encountered some form of curriculum update training after the revised curriculum was instated. Of the in-service experiences listed, 53% were described as not at all or slightly useful. Finally, 43% of the sample indicated that their lack of training in SHE had a negative impact on their provision of SHE. This expands on previous findings regarding teacher training in SHE and its importance (Cohen et al., 2012; Milton, 2003; Veiga, Teixeira, Martins, & Meliço-Silvestre, 2006). Teachers’ dissatisfaction with the quality of their training opportunities is a notable contribution of this study and suggests that in addition to more broadly available and affordable training programs, an evaluation of the effectiveness of existing programs is another important area of future research to help ensure that resources dedicated to teacher preparation are spent as effectively as possible.

Access to resources was also a commonly cited complaint and area of recommendation. Overall, many responses suggested that existing teaching resources are limited, or if resources are available, large numbers of teachers are not aware of their existence. The development of Ministry-approved lesson plans and materials may be a
cost-effective avenue to explore to better support teachers in their provision of SHE and ensure the content of the updated curriculum is being discussed in all Ontario classrooms. Furthermore, several participants expressed desire support from agencies outside of schools, such as access to public health nurses or sexual health organization for guest presentations. Committing funding for accessing community-based SHE resources may be an effective strategy to help ensure that all students, even those taught by the subset of teachers who do not feel adequately prepared to provide comprehensive SHE, receive high-quality SHE lessons in accordance with the updated curriculum.

This study also discovered that many Ontario teachers feel they have inadequate time and flexibility to cover all of the curriculum’s expectations. Participants attributed this to the way that SHE is currently structured as a subcomponent of health and physical education classes with relatively little time allotted to it, and the obligation to send notes home to parents in advance to allow for the withdrawal of students from SHE lessons. In the province of Quebec, schools have been testing an integrated approach where SHE topics are presented when relevant within the context of all subjects rather than being treated as its own unique subject taught under the umbrella of Health & Physical Education. Several teachers’ comments could be seen as favouring a similar integrated approach, which could allow for a more organic, less constrained exploration with students. However, without an explicit sexual health curriculum mandating the discussion of these topics, all recommended topics might not be covered unless they came up in class discussion or teachers felt they were sufficiently important (Tappe et al, 1995; LaChausse et al., 2014). Regardless, given the current format applied by Ontario elementary schools, these teachers’ concerns would suggest that changes need to be made
regarding how much time is allotted for the coverage of these sensitive, often complicated and challenging topics to ensure they are being taught in an effective, high-quality manner.

A concerted effort on the parts of school administrators and school boards to openly support school-based SHE would also appear to make a noticeable difference for teachers. This study found that for many teachers, a firm backing from school leaders increases their comfort covering all SHE topics without fear of repercussions. This confirms assertions made in extant research about the important impact administrative support has on the provision of SHE (Cohen et al., 2012). As a result, aiming at increasing principals’ buy-in and ability to support their teachers might be a useful, cost-effective technique for improving the majority of teachers’ experiences and the quality of SHE delivery across the province. The release of clear statements from school boards regarding their support for the content of the updated curriculum and those teaching it may also serve to boost teachers’ confidence and reduce fears of encountering repercussions if complaints are raised.

Research Implications

The findings of this study have implications for a wide range of organizations and individuals. On a research level, this study expands our understanding of how comprehensive, LGBTQ-inclusive sex education curricula are received by teachers, the factors that influence their readiness to implement those curricula in their classrooms, and the obstacles that threaten to derail this type of educational reform. Contributing to the body of research on school change, this study helps to clarify the reasons why some Ontario teachers are motivated to manifest the curriculum change in their classrooms.
while others appear more resistant to the reform. Additionally, participants’ written responses provided a more cohesive picture of the current teaching climate in Ontario, the challenges they face and their needs moving forward.

On a practical level, information about the specific needs and challenges teachers face could inform university teacher training programs as they adjust their programming to meet the growing demand to prepare pre-service teachers for SHE instruction. The results are also important feedback for Ontario’s Ministry of Education on how their reform is being received and implemented at the classroom level and what their teachers need to ensure the curriculum is adopted and administered successfully. Individual school boards, principals and other educational leaders could benefit from developing a better understanding of how they can support their teachers, such as through the provision of improved training opportunities or support in the face of parent complaints. Community health organizations concerned with SHE provision can also benefit from learning where their services can supplement and support teachers (for example, through the provision of guest speakers, donations of supplies or resources, the creation of community-based training opportunities catered to teachers, etc.). As past research has demonstrated, ensuring that all teachers feel adequately prepared and supported as they face the challenges associated with SHE can improve the quality of SHE received by students. In turn, this will increase the chance that Ontario’s coming generations will reap the emotional, physical and psychological benefits afforded by comprehensive sex education programs such as the province’s updated H&PE curriculum.
Limitations and Future Directions

Although the current study generated a number of important findings, there are several limitations to its conclusions. One limitation was the relatively small sample of Catholic educators who completed the survey in comparison to public school teachers. The sample’s proportion of Catholic to public educators was approximately half of that found across the province according to data provided by the Ontario Ministry of Education (2016). This means that the conclusions made above regarding the differences between public and Catholic teachers are based on the experiences of a relatively small group of Catholic educators and should, therefore, be interpreted with caution. Future research should endeavour to obtain a more representative sample in order to clarify the differences and similarities between these populations to be able to draw more sound conclusions regarding their differential needs moving forward.

Another limitation involved the use of convenience sampling when reaching out to prospective participants. While online advertisements through social media did serve to diversify the sample to a certain degree, many participants were those directly connected or one degree of separation from the researchers. This may have contributed to the apparent liberal bias in the sample and influenced the conclusions drawn above. Future research should apply probability sampling methods to ensure that the sample is as representative of all teachers in the province, improving the accuracy and applicability of subsequent conclusions.

Another limitation resulted when the survey item intended to assess participants’ location population was invalidated. This made it impossible to determine whether participants worked in rural or urban settings and therefore to compare whether different
obstacles had differential impacts on teachers dependent on their location (e.g. do teachers in rural locations encounter less tolerance of LGBTQ-inclusive education? Were teachers in urban settings more impacted by protests against the curriculum?). Future research should clarify the relationship between rurality and the challenges encountered when providing SHE so that efforts to support teachers can be catered to their needs based on location.

Additionally, the survey relied on self-report, which can be influenced by a number of conscious and subconscious biases in respondents. In an attempt to reduce the likelihood that these biases would have undue influence over its findings, the survey’s anonymity was emphasized multiple times in advertisements and the information letter; knowing that responses could not be identified likely increased participants’ honesty in responding, but this cannot be reliably assessed. Furthermore, there is the possibility that perceptions of one’s own preparedness to teach sexual education (especially regarding amount of knowledge or sense of one’s teaching effectiveness), may be inaccurate; some teachers could have overestimated their preparedness simply due to a lack of familiarity with the specifics of the curriculum or a lack of self-awareness regarding the limits of one’s own knowledge. Conversely, some respondents may have underestimated their effectiveness or the extent of their knowledge as a result of insecurities associated with teaching this challenging curriculum. Ideally, future research should evaluate the true extent of participants’ knowledge or the quality of their SHE lessons, including ratings from impartial observers and/or students, in order to derive more accurate measures of these variables. However, given the scope of this study and its exploratory nature, self-
report was deemed a sufficient method of assessing teachers’ preparedness to provide SHE.

This study also raised some questions that should be explored in more detail in future research. Given the contradictory results surrounding participants’ low engagement in the reform process and their high motivation and preparation, it would be beneficial to further elucidate the relationship between engagement, teacher buy-in and the successful adoption of educational reforms in order to inform future efforts at updating SHE and educational reforms more generally. Additionally, it is important to explore what it is about the LGBTQ and controversial SHE topics that teachers find more challenging to discuss so that those concerns can be addressed and teachers better supported in providing the full range of topics included in comprehensive SHE curricula.

**Conclusion**

This study achieved its goal of compiling a snapshot of the current climate in elementary schools surrounding sex education and determining what factors influence teachers’ preparedness to provide comprehensive sex education, including personal characteristics and influences found in the broader school and community environment. By exploring what supports teachers find most beneficial in their coverage of the curriculum, this study built on past research by further isolating concrete, applicable solutions that could help improve teachers’ preparedness to provide the revised curriculum, in turn improving the quality of SHE and increase the physical and psychological well-being of Ontario’s future generations.
The results of this study update and expand on past findings, suggesting that although a majority of teachers feel relatively motivated and prepared to provide sex education and support the revised curriculum content, there is much that could be done to ensure that all those charged with transmitting this information to students feel sufficiently prepared and supported in doing so. Ontario’s new curriculum has much to offer in terms of its forward-thinking, comprehensive and inclusive content. However, past research has demonstrated the importance of engaging teachers in the reform process and of fostering sufficient motivation and preparation to ensure that these province-mandated changes are actually implemented in classrooms and reach students in a meaningful and effective manner. Given the backlash that met the curriculum and range of parental opinions regarding its content, elementary teachers have been placed in a uniquely challenging situation with little access to tools and support to fall back on.

Importantly, a strong majority of respondents indicated that their students have responded positively to the curriculum, showing sensitivity, openness and genuine curiosity to its content. However, positive student responses are likely not enough to offset the challenges associated with being respectful to parents’ rights and concerns, balancing the religious rights of students, dealing with misinformation surrounding curriculum content, and teaching sensitive, evolving topics such as gender identity and sexual orientation to students.

Based on this study’s findings, further efforts need to be made to provide teachers with resources, guidance, and support in the provision of this document. Additionally, school administration, board leaders and the Ontario government need to take a more unified, supportive stance and continue to work to create more safety for the teachers as
they attempt to overcome the vast and unique challenges associated with teaching this sensitive, value-laden topic. Finally, although the intentions of the curriculum are positive and seek to include as many students’ experiences as possible, the importance of ensuring that parents feel heard and respected has been made clear through the controversy that this curriculum has sparked. This study has highlighted the strong detrimental impact fearing parents’ reactions can have on teachers’ preparedness to provide SHE, speaking to the importance of striving for a unified, respectful collaboration between educators and parents in ensuring that all youth receive the highest quality sexual health education possible.
References


lesbian, gay, bisexual, and transgender youth. *Journal of Youth and Adolescence, 38*(7), 976-988.


Appendices

Appendix A

Recruitment Facebook Page and Graphics

Page Title: Teach SexEd Ontario
Page URL: www.facebook.com/TeachHealthOntario
Page Appearance:

Page Description: Seeking Ontario teachers of grades 5-8 for an online survey exploring their experiences providing sex education according to the revised H&PE curriculum

Post: Call for participants! Seeking TEACHERS of GRADES 5 to 8 in ONTARIO who have administered the revised 2015 health curriculum to complete our survey. We want to hear about your experiences covering the sexual health portion of the revised curriculum, any challenges you’ve faced and how you feel about the topics that have been included.

The survey takes approximately 20 minutes to complete and you will be entered in a draw to win a $100 Amazon gift card for participating!

To learn more or to complete the survey, follow the link below.
https://goo.gl/forms/z6egA8CvdBMeZjEt1

We want to hear from teachers all across on Ontario and from both public and Catholic schools – share this post with friends and colleagues and help spread the word!

Uploaded images:
Are you a teacher of grades 5-8?

Researchers at OISE want to hear about your experiences teaching sex education according to Ontario’s revised health curriculum.

Chance to win $100 Gift Card!

Call for participants! Do you:

✓ Teach students in grades 5 to 8 in Ontario
✓ Work for a public or Catholic school board
✓ Teach the sexual health component of the revised Ontario H&PE curriculum

We want to hear from you! To learn more or complete the survey, visit the link below.
Hello!

My name is Jennifer Rigby and I'm completing my master’s thesis research at the Ontario Institute for Studies in Education (OISE) on the experiences of teachers who have administered the revised Ontario health curriculum to students in grades 5 to 8. If this describes you, I'm interested in hearing about your experiences covering the sexual health strand, any challenges you’ve faced and how supported you’ve felt in this process.

I would deeply appreciate if you would consider completing this online survey. The survey takes about 20 minutes, your responses will be completely confidential and anonymous and you will have the option to enter yourself in a draw to win a $100 Amazon.ca gift card for participating.

If you know other teachers who work with students in grades 5 to 8 in Ontario, it would be greatly appreciated if you could forward this email to those individuals if you feel comfortable doing so.

**To complete the survey:** [https://goo.gl/forms/z6egA8CvdBMeZjEt1](https://goo.gl/forms/z6egA8CvdBMeZjEt1)

To learn more or share with others, visit: [www.facebook.com/TeachHealthOntario](http://www.facebook.com/TeachHealthOntario)

The research supervisor, Dr. J. Roy Gillis, may also be contacted with questions at roy.gillis@utoronto.ca or by calling (416) 978-0679.

Thank you for taking the time to read this email and consider participating in this important research.

Sincerely,

Jennifer Rigby  
M.A. Student  
Ontario Institute for Studies in Education, University of Toronto  
252 Bloor Street West, Toronto  
(416) 978-0671 ext.7
Appendix C

Informed Consent Form

Thank you for your interest in participating in this study. My name is Jennifer Rigby and I am a Master’s student completing my thesis research at the Ontario Institute for Studies in Education (OISE) under the supervision of Dr. J. Roy Gillis. My research is exploring the experiences and opinions of Ontario teachers who have taught the sexual health portion of the revised health curriculum to students in grades 5-8. The survey examines the challenges associated with teaching sex ed as well as how prepared teachers feel to address all of the topics now included in the curriculum. It also includes more general questions about sex education, religion, politics, LGBTQ* issues and some demographic information.

Completing the survey should take about 20 minutes of your time. All of your responses will be completely confidential and anonymous. In recognition of your time, you will have the option to be entered into a draw to win a $100 Amazon.ca gift card. To maintain confidentiality of your survey responses, email addresses will be gathered separately for the draw.

Because the survey is about sex education, it includes questions about sexual health that could make some feel uncomfortable, although most terms are borrowed directly from the curriculum. We recommend completing this survey in a private location to make sure you feel comfortable and free to respond as honestly as possible. On written questions, we ask that you refrain from using names of schools or individuals so that your responses remain anonymous. If you have additional questions or concerns about the curriculum, you can contact your school board’s Curriculum or Human Resources Department for support.

Participation in this study is voluntary. You can skip any question or withdraw at any time by exiting the window before you complete the survey. However, once you have completed the survey and clicked submit, your responses will be impossible to withdraw since the information is unidentifiable. The results of this study will be used for scholarly purposes, including publications and presentations.

Only those directly involved in Dr. J. Roy Gillis’ psychology lab will have access to the collected data, which will be stored in encrypted, password-protected, electronic format for five years after its use. Additionally, the university's Human Research Ethics Program may access to the data for quality assurance purposes. When we analyze and report data, we will always look at group averages; if written responses are included, any identifying information contained in your response will be removed first, so nothing can be linked back to you.
The results of this study will contribute to our understanding of the challenges elementary
teachers face in providing sex education, and what supports best assist them in this
process. This information could inform the improvement and development of training,
resources and other supports to assist teachers across Ontario.

If you have any questions about the research study, please contact:

Jennifer Rigby – jenny.rigby@mail.utoronto.ca - (416) 978-0671 ext. 7

Dr. Joseph Roy Gillis – roy.gillis@utoronto.ca – (416) 978-0679

If you have any concerns about your rights as a participant, you can contact the Research
Oversight and Compliance Office – Human Research Ethics Program, at
ethics.review@utoronto.ca or (416) 946-3273.

Thank you for considering participating in this study.

Before proceeding, please confirm that you:

● were an active teacher in the 2015-16 and/or 2016-17 school year(s)
● were employed by a public or Catholic school board in Ontario, or a private
  school that follows that official Ontario curriculum
● administered the Human Development and Sexual Health portion of the 2015
  Health and Physical Education curriculum to students in grade(s) 5-8

Clicking on the "next" button below indicates that you agree to participate in this survey.

If you do not wish to participate in this research study, please decline participation
by closing this window.
Appendix D
Survey Questions

1) Is your school part of a public or Catholic school board? Public/Catholic

2) What is the population where your school is located? <100, 100-999 / 1,000-19,999 / 20,000-99,999 / 100,000-299,999 / 300,000–999,999 / >1,000,000

3) Years of teaching experience: ________

4) Years of experience teaching sexual health education to students grade 5 and older: ________

5) In 2015-16, which of the following grade(s) did you teach the Human Development and Sexual Health component of Health & Physical Education (check all that apply): 5/6/7/8

6) What year did you obtain your teaching certificate? ________

7) Do you know anyone who openly identifies as a sexual minority (e.g. gay, lesbian, bisexual, pansexual, etc.)? Y/N

8) Do you have any close friends or immediate family members who openly identify as a sexual minority? (check all that apply) No / Yes, close friend(s) / Yes, immediate family member(s)

9) Approximately how often do you attend religious services? Never / Rarely / Once or twice a year / Once a month / Once a week / More than once a week

10) Overall, which of the following options best describes your personal and/or religion’s stance on same-sex marriage?

I am not religious - I support same-sex marriage
I am not religious - I do not support same-sex marriage
My religion is divided on the topic of same-sex marriage - I support same-sex marriage
My religion is divided on the topic of same-sex marriage - I do not support same-sex marriage
My religion is against same-sex marriage - I support same-sex marriage
My religion is against same-sex marriage - I do not support same-sex marriage

11) Do you know anyone who openly identifies as a gender minority (e.g. transgender, two-spirit, agender, gender fluid, etc.)? Y/N

12) Do you have any close friends or immediate family members who openly identify as a gender minority? (check all that apply) No / Yes, close friend(s) / Yes, immediate family member(s)
13) What is your age? ______

14) Which of the following best describes your gender identity? Male / Female / Trans male / Trans female / Genderqueer/Gender non-conforming / Other: __________

15) Do you identify as a sexual minority (e.g. gay, lesbian, bisexual, pansexual, etc.)? Y/N

16) a. Did you receive any pre-service training to teach sexual health education?

   No, I was not trained in sexual health education before beginning teaching.
   Yes, I received very limited training in sexual health education before beginning teaching.
   Yes, I received some training in sexual health education before beginning teaching.
   Yes, I was well trained in sexual health education before beginning teaching.
   Can’t remember

   b. If yes, was that training compulsory in your program or elective?

   Compulsory/Elective

17) Have you received any in-service training for sexual health education (e.g. workshops, presentations, Additional Qualification courses, etc.)? Yes / No

   [If participants indicate “yes”, the survey branches to Sex Education Training: Experience 1 section. Participants can complete up to 3 separate Training Experience sections. If they indicate “no”, the survey will skip to the Political Views section]

   Sex Education Training: Experience 1

   Please complete one section for each individual training experience you have had.

   For example: If you have attended TWO workshops on sex education, consider only the first one when completing this section. Then click ‘yes’ to add an additional section and describe your second experience.

   You can describe a maximum of three individual training experiences.

   a) What was the nature of this in-service training opportunity?

   Brief workshop (< 2 hours)
   Extensive workshop (>2 hours)
   Additional Qualification course
   Presentation by guest speaker/staff/board member
   Coaching or mentoring
Curriculum update training
Webinar
Personal research or learning ventures
Other: ________________

b) What topics were included in this training experience? (check all that apply or none if you cannot remember)

Sexual orientation (including homophobia/biphobia)
Gender roles, identity and expression (including transphobia)
Reproduction
Changes during puberty
Menstruation and spermatogenesis
Self-concept and body image
Healthy relationships (e.g. friendship, romantic and sexual attraction, etc.)
Online interactions (including ‘sexting’, image sharing, cyber bullying)
Desire, pleasure and masturbation
Delaying vaginal/anal intercourse and oral-genital contact
Consent and sexual decision-making
Sexually transmitted infections (including HIV/AIDS) and pregnancy prevention
Sexual harassment, exploitation and violence
Other: ________________

c) Overall, how useful did you find this training experience? Not at all useful / Slightly useful / Useful / Very useful / Extremely useful

Add additional training experience? Y/N

---------------------------------------------------------------------------------------------------------------------

Political Views

Attitudes toward sexual health education are sometimes related to political preference. For the following questions, please indicate your response on the scale provided.

Very conservative (1) – Very liberal (7)

How would you describe your political party preference?
How would you describe your political outlook with respect to economic issues?
How would you describe your political outlook with respect to social issues?

---------------------------------------------------------------------------------------------------------------------

Sex Education in Schools
For each of the following statements, please indicate the degree to which you agree or disagree on the scale provided.

**Strongly Disagree (1) – Strongly Agree (5)**

Sex education should be taught in schools.

Parents rather than teachers should be the primary providers of sexual health education for their children.

Access to sex education contributes to the health and well-being of my students.

The revisions to the Ontario H&PE curriculum (sexual health component) were positive.

The revised H&PE curriculum (sexual health component) has been embraced by my school.

The revised H&PE curriculum (sexual health component) has been embraced by my community.

---------------------------------------------------------------

**Sexual and Gender Diversity in Schools**

For each of the following statements, please indicate the degree to which you agree or disagree on the scale provided.

**Strongly Disagree (1) – Strongly Agree (5)**

I support the addition of LGBTQ-inclusive information in the H&PE curriculum.

I feel comfortable discussing LGBTQ issues with my students.

I approve of LGBTQ-inclusive education.

Students should be allowed to express their gender any way they like.

LGBTQ rights are human rights.

All school staff have a responsibility to ensure a supportive learning environment for all students including LGBTQ.

Teachers should be able to opt out of LGBTQ-inclusive education if it is against their religion.

---------------------------------------------------------------

**Transitioning to the New Curriculum**

For each of the following statements, please indicate the degree to which you agree or disagree on the scale provided.
**Strongly Disagree (1) – Strongly Agree (5)**

I was given the opportunity to contribute knowledge or opinions during the development of the revised H&PE curriculum.

I have learned new skills relevant to teaching the revised H&PE curriculum.

I have gained new information relevant to teaching the revised H&PE curriculum.

The Ministry of Education has made sufficient effort to support teachers as they transition to the revised H&PE curriculum.

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**Topics in the Revised Curriculum**

The following are 13 general topics that appear in Ontario’s revised H&PE curriculum for grades 5 through 8. For each please indicate:

- How comfortable you feel teaching this topic to your students
- How knowledgeable you feel about this topic
- How effective you feel you are at teaching this topic to your students
- How motivated you feel to cover this topic with your students

When responding, think back to your personal experiences teaching these topics. If a topic is not covered with the grades that you teach, imagine how you would feel covering this topic.

For example, if you teach grade 5 and, as a result, have never discussed sexually transmitted infections with your students, imagine how you might feel if you had to cover this topic with students in grades 7 and 8, and respond accordingly.

- Sexual orientation (including homophobia/biphobia)
- Gender roles, identity and expression (including transphobia)
- Reproduction
- Changes during puberty
- Menstruation and spermatogenesis
- Self-concept and body image
- Healthy relationships (e.g. friendship, romantic and sexual attraction, etc.)
- Online interactions (including ‘sexting’, image sharing, cyber bullying)
• Desire, pleasure and masturbation
• Delaying vaginal/anal intercourse and oral-genital contact
• Consent and sexual decision-making
• Sexually transmitted infections (including HIV/AIDS) and pregnancy prevention
• Sexual harassment, exploitation and violence

[Presented after each topic] If you do not feel this topic should be included in the curriculum or wish to elaborate on your response, explain here: ________________________

Screenshot capture demonstrated response options for topic section

Teaching Sex Education

Fill in the following blanks by thinking about your experiences and feelings administering the revised H&PE curriculum, Human Development and Sexual Health component.

There has been _________ toward the curriculum among the parents of my students.

Significant opposition (1) - Significant support (5)

There has been _________ toward the curriculum in my community.

Significant opposition (1) - Significant support (5)

I have ___ access to teaching resources for the curriculum.
I feel _____ by my administration in teaching this curriculum.

**Completely unsupported (1) – Completely supported (5)**

I have _______ access to community-based sexual health resources to supplement my teaching of this curriculum.

**No (1) – Ample (5)**

My community ______ LGBTQ-inclusive education.

**Rejects (1) – Embraces (5)**

I have __________ specific training in how to teach sexual education.

**No (1) – Ample (5)**

I have ______ class time to cover the required material.

**No (1) – Ample (5)**

In general, my students have reacted ____________ to the material in the revised curriculum.

**Negatively (1) – Positively (5)**

So far, _______ of my students were mature enough to learn about the topics intended for their grade.

**None (1) – All (5)**

Since transitioning to the revised health curriculum, have any of the following factors NEGATIVELY impacted your experience providing sex education? (check all that apply)

- Fear of negative reactions from parents
- Actual complaints from parents of my students
- Complaints or protests about the curriculum in my community
- Lack of teaching resources
- Lack of support from administration
- Limited sexual health resources in my community
- Negative attitudes toward LGBTQ-inclusive education in my community
- Lack of training in sex education
- Insufficient class time to cover the curriculum
- Negative student reactions
Feeling students are not mature enough to learn the material

Which would you rate as MOST problematic for you personally? ______
Second most problematic? ______
Third most problematic? ______

---------------------------------------------------------------------------------------------------------------------

Since transitioning to the revised health curriculum, have any of the following factors POSITIVELY impacted your experience providing sex education? (check all that apply)

* Expecting positive reactions from parents
* Actual supportive comments from the parents of my students
* Public support of the curriculum in my community
* Access to teaching resources
* Support from administration
* Access to sexual health resources in my community
* Positive attitudes toward LGBTQ-inclusive education in my community
* Ample training in sex education
* Having class time to cover the curriculum
* Positive student reactions
* Feeling students are mature enough to learn about the material

Which would you rate as MOST helpful to you personally? ______
Second most helpful? ______
Third most helpful? ______

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Final Thoughts

For the following questions, please omit information that could be used to identify you, others or your school (use pseudonyms if necessary).

What have you found to be the most challenging aspect of teaching the revised health curriculum, Human Development and Sexual Health component? ____________

What would assist you most in making the transition to the revised curriculum and feeling prepared to cover the updated material? _______________

Is there anything else that we haven’t covered in this survey that you’d like to comment on? __________
Appendix E

Results of Principal Components Analyses for Outcome Measures

Results of Principal Components Analyses for each of 13 topics, Comfort, Knowledge, Efficacy, Motivation and Preparedness

<table>
<thead>
<tr>
<th>Variable</th>
<th>Lowest inter-item correlation</th>
<th>KMO</th>
<th>Lowest item KMO</th>
<th>Sphericity test p-value</th>
<th>Variance explained single factor</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy relationships</td>
<td>.815</td>
<td>.835</td>
<td>.822</td>
<td>&lt; .0005</td>
<td>89.52%</td>
<td>.961</td>
</tr>
<tr>
<td>Self-concept/body image</td>
<td>.723</td>
<td>.816</td>
<td>.794</td>
<td>&lt; .0005</td>
<td>87.54%</td>
<td>.951</td>
</tr>
<tr>
<td>Puberty</td>
<td>.830</td>
<td>.864</td>
<td>.841</td>
<td>&lt; .0005</td>
<td>89.93%</td>
<td>.962</td>
</tr>
<tr>
<td>Consent</td>
<td>.807</td>
<td>.777</td>
<td>.742</td>
<td>&lt; .0005</td>
<td>88.86%</td>
<td>.957</td>
</tr>
<tr>
<td>Reproduction</td>
<td>.810</td>
<td>.873</td>
<td>.842</td>
<td>&lt; .0005</td>
<td>89.24%</td>
<td>.960</td>
</tr>
<tr>
<td>Online interactions</td>
<td>.704</td>
<td>.784</td>
<td>.762</td>
<td>&lt; .0005</td>
<td>84.53%</td>
<td>.939</td>
</tr>
<tr>
<td>Menstruation/spermatogenesis</td>
<td>.842</td>
<td>.848</td>
<td>.813</td>
<td>&lt; .0005</td>
<td>90.19%</td>
<td>.963</td>
</tr>
<tr>
<td>STI/pregnancy prevention</td>
<td>.861</td>
<td>.820</td>
<td>.793</td>
<td>&lt; .0005</td>
<td>89.60%</td>
<td>.963</td>
</tr>
<tr>
<td>Sexual harassment, exploitation, violence</td>
<td>.788</td>
<td>.839</td>
<td>.799</td>
<td>&lt; .0005</td>
<td>86.71%</td>
<td>.949</td>
</tr>
<tr>
<td>Sexual orientation</td>
<td>.657</td>
<td>.783</td>
<td>.763</td>
<td>&lt; .0005</td>
<td>81.44%</td>
<td>.921</td>
</tr>
<tr>
<td>Delaying sexual intercourse/contact</td>
<td>.854</td>
<td>.874</td>
<td>.867</td>
<td>&lt; .0005</td>
<td>90.94%</td>
<td>.966</td>
</tr>
<tr>
<td>Gender identity</td>
<td>.716</td>
<td>.778</td>
<td>.744</td>
<td>&lt; .0005</td>
<td>84.03%</td>
<td>.936</td>
</tr>
<tr>
<td>Desire, pleasure, masturbation</td>
<td>.720</td>
<td>.856</td>
<td>.825</td>
<td>&lt; .0005</td>
<td>84.54%</td>
<td>.938</td>
</tr>
<tr>
<td>Comfort</td>
<td>.489</td>
<td>.94</td>
<td>.912</td>
<td>&lt; .0005</td>
<td>72.75%</td>
<td>.967</td>
</tr>
<tr>
<td>Knowledge</td>
<td>.493</td>
<td>.92</td>
<td>.884</td>
<td>&lt; .0005</td>
<td>66.90%</td>
<td>.957</td>
</tr>
<tr>
<td>Efficacy</td>
<td>.501</td>
<td>.94</td>
<td>.904</td>
<td>&lt; .0005</td>
<td>70.66%</td>
<td>.964</td>
</tr>
<tr>
<td>Motivation</td>
<td>.444</td>
<td>.94</td>
<td>.893</td>
<td>&lt; .0005</td>
<td>73.97%</td>
<td>.968</td>
</tr>
<tr>
<td>Overall Preparedness</td>
<td>.889</td>
<td>.83</td>
<td>.808</td>
<td>&lt; .0005</td>
<td>93.68%</td>
<td>.977</td>
</tr>
</tbody>
</table>

**Note.** All KMO sampling adequacy scores classified as meritorious or marvelous based on Kaiser’s guidelines (1974). Significant tests of sphericity indicate data was factorizable in all cases. Visual inspection of scree plots supported one-component solutions. All Cronbach’s alpha excellent according to Kline (2000).