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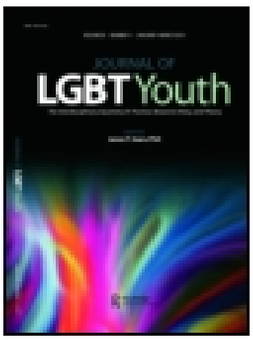

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School sex education: Teachers' and young adults' perceptions of relevance for LGBT students

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ABSTRACT

LGBT inclusive sex education is one way to address health disparities that exist between students who identify as LGBT and those who identify as heterosexual and cisgender. This study examined the inclusivity of sex education in Montana's high schools and the challenges faced by teachers in providing sex education that is relevant for LGBT youth. Data were collected via electronic questionnaires from 237 young adult alumni of Montana's high schools, about half of whom identified as LGBT, and 64 health enhancement teachers tasked with teaching sex education. Nearly 90% of respondents rated the nine sex education topics listed on the questionnaire as "somewhat or very important." While the importance of sex education was affirmed by most of the young adults and teachers represented in this study, fewer than 30% recalled topics related to LGBT sexual health being "fully covered." Lack of teacher training was the most salient factor related to the paucity of coverage. Meeting the needs of all students in Montana's schools requires professional training and development for teachers that includes a focus on delivering inclusive, comprehensive sex education.

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Sex education; students LGBT; sexual minority; gender minority

In the United States, lesbian, gay, bisexual and transgender (LGBT) youth face a number of unique health challenges. Specifically, physical and sexual violence, HIV infection, sexually transmitted infections (STIs), and pregnancy occur more frequently among LGB youth than among non-sexual minority youth (Hirsch et al., 2017). Similar risks are reported among transgender youth who were represented in the national Youth Risk Behavior Survey (YRBS) data for the first time in 2017 (Johns, Poteat, et al., 2019). Students who identified as transgender were more likely than their cisgender counterparts to report sexual and physical dating violence, forced intercourse, and bullying both at school and electronically. Furthermore, LGBT youth report rates of depression that are exponentially

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higher than their heterosexual, cisgender peers (Johns, Poteat, et al., 2019). Even more alarming is the fact that LGBT youth in grades 9 through 12 reported suicide attempts at approximtely three times the rate of their heterosexual peers (Johns, Poteat, et al., 2019; Kann et al., 2016). Stigma, operating at both individual and institutional levels, represents a fundamental cause of health disparties among LGBT youth. Specifically, unequal distribution of health-protective resources, including knowledge, prestige, power, and supportive social connections contribute to the inequities (Bränström et al., 2016).

Given the proportion of time that LGBT students spend in school, school based programs are one means of addressing these disparities (Johns, Poteat, et al., 2019). Researchers have suggested that overall school climate is improved once LGBT inclusive and supportive curricula reach a critical mass within a school. In other words, students feel safer and report less bullying when the school level of inclusiveness and supportive curricula is higher, (Goodenow et al., 2006; Kosciw et al., 2013; Snapp et al., 2015; Weaver et al., 2005). Providing a sex positive learning environment that promotes an open, tolerant, and progressive attitude toward sex and sexuality, has been shown to enhance young people's ability to take action to protect themselves from the potential harms of sexual activity (Kosciw et al., 2013; Toomey et al., 2012). Of particular importance in improving school climate are school health education/sexuality classes. The importance of comprehensive sex education classes was confirmed in a multi-country study by Weaver et al. (2005) in their investigation of the relationship between school-based sex education policies and sexual health statistics in the United States and four developed countries. Comprehensive sex education was found to be one of the most effective means of empowering youth against the negative consequences of sexual activity such as unwanted pregnancy and STI infection (Weaver et al., 2005). The potential for comprehesive sex education to improve the sexual health of young people has been demonstrated in multiple studies (Chin et al, 2011; Kirby, 2002, 2008; Waxman, 2004).

Clearly, sex education should be implemented by trained and qualified educators. Professional preparation enhances teachers' confidence and comfort in teaching sex education and improves student achievement (Future of Sex Education Initiative, 2020). Multiple studies have identified teacher training as the most important indicator in determining the quality of sex education instruction (Hammig et al., 2011; Price et al., 2003; Rhodes et al., 2013), and in determining the probability of a classroom instructor covering topics associated with sex education (Herr et al., 2012).

The sex education needs of high school students in most parts of the U.S. are met through health education classes. In many cases, individuals whose professional preparation includes a teaching endorsement in physical

education only or professional preparation in both physical education and health education (median across states:13.4% and 48.5% respectively) are responsible for teaching these classes (Centers for Disease Control and Prevention, 2019). This is particularly true in Montana (MT) where in the late 1980s, as a part of a school reform effort, the Board of Public Education combined the traditional disciplines of health education and physical education into a single program named health enhancement. The intent was to focus on the health needs of students by reinforcing concepts learned in the classroom in the gymnasium and vice versa (Montana Office of Public Instruction, 2016c). Merging of the two disciplines provided schools with a means to combine health education and physical education instruction into a single course.

The academic preparation of health enhancement teachers necessitates educating and training pre-service teachers in components of both the traditional health education and physical education disciplines - kindergarten through 12th grade - all while attempting to stay within the credit-limit confines of a teacher preparation program designed to prepare individuals for endorsement in one discipline. Unfortunately, nearly 10 years after the creation of health enhancement, researchers found that teacher preparation in physical education overshadowed health education, and teachers felt ill prepared to teach all of the content areas that are a part of a comprehensive health education curriculum. In fact, when asked to rank their level of preparation to teach a variety of health education content areas on scale of 1 to 5 with 1 being "not prepared" and 5 being "well-prepared," teachers ranked their preparation in sex education as 1.8. (Sondag & Burns, 1998).

The relationship between teacher training and what is taught in the classroom is highly relevant for health enhancement teachers tasked with teaching sex education in MT. Only 19% of MT high school health teachers report receiving professional development in teaching human sexuality, while 73% of teachers report they would like to receive professional development in this area. When asked about professional development related to teaching students of different sexual orientations or gender identities, only 12% reported receiving professional development in this area, while 61% of teachers reported wanting to receive professional development in this area (Montana Office of Public Instruction, 2016b).

Little is known about the scope and practice of sex education in MT. A recent report by the Guttmacher Institute indicated that while the state of MT mandates age appropriate sex and HIV education, there were no mandates related to content (Guttmacher Institute, 2020). Decisions about the content of the human sexuality component of the health enhancement curriculum are left up to local schools. The Montana Office of Public Instruction only dictates that content reflect the values of the community

(Montana Office of Public Instruction, n.d.). The ambiguous nature of state standards allows each school district to design its own sex education curriculum and makes it difficult to determine the comprehensiveness and range of topics included in sex education courses across the state. School health education standards, updated in 2015, are vague when it comes to describing what should be covered in sex education in the public schools. At the end of grade 12, students are expected to "develop personal health-enhancing strategies that encompass substance abuse, nutrition, exercise, sexual activities, injury/disease prevention, including HIV/AIDS prevention, and stress management" (Montana Office of Public Instruction, 2016b).

The intent of this study was to explore the current state of sex education in MT's public high schools from the perspective of young adults who attended those high schools and the teachers who are tasked with teaching sex education. Specifically, this study examined young adults' and teachers' perceptions of the degree to which sex education was inclusive of LGBT sexual health issues, as well as the level of comfort teachers felt in addressing a variety of sex education topics. Sexual health challenges faced by young adults while in high school and challenges encountered by health enhancement teachers in providing relevant sex education also were explored.

Methods

Participants

This study took place in 2015 and 2016. Two distinct populations were targeted in two phases. In the first phase, questionnaires were dissemintated to young adults (ages 18 to 24) who graduated from MT high schools. Participants were recruited via social media outlets such as Facebook and Twitter. While the questionnaire was open to all graduates of MT's high schools between the ages of 18 and 24, additional steps were taken to reach LGBT young adults by posting a link to the questionnaire on sites frequently visited by people who identify as a sexual or gender minority (i.e. Tumblr, Google+, The Gender Expansion Project, Montana Gay Men's Task Force website). A Facebook page, containing a description of the study and the questionnaire link, was developed specifically for the project. Snowball sampling was employed by asking questionnaire participants to forward the questionnaire link to other sexual and/or gender minority young adult graduates of MT public schools.

In the second phase of the study MT Health Enhancement teachers were asked about their experience of teaching sex education. Three recruitment methods were undertaken to gather teacher pespectives. First, the president of the Montana Society for Health and Physical Education (SHAPE) sent

emails containing a link to the online questionnaire to all teachers who were members of the state organization. Second, a link to the questionnaire and an invitation to complete it was posted on various social media platforms frequently visited by health enhancement and other teachers, including Facebook and Twitter. Finally, researchers searched the websites of all MT high schools and gathered as many health enhancement teacher e-mail addresses as were available.

Instrument development

Researchers relied on the National Sex Education Standards to guide questionnaire development, since MT Health Enhancement standards do not specify human sexuality topics for public schools. National standards provided a particularly relevant framework for this study because they were designed to confront the challenges faced by LGBT students within the school environment (Future of Sex Education Initiative, 2012). Standards deemed most relevant to sexual and gender minority youth were selected for inclusion in the questionnaires. Specifically, standards that referenced any of the following expressions were included; sexual orientation, gender identity, gay, lesbian, bisexual, bullying, sexual harrassment and/or safe environments. Additionally, several standards, not specific to LGBT youth, but related to STD/HIV prevention and sexual consent were included. The questionnaires for both young adults and teachers were similar in that both included demographic questions and questions about the importance of various sex education topics, including perceptions of how well the topics were covered. Specific to young adults were questions related to their greatest challenges and sources of support regarding their sexual health. Specific to teachers were questions about their comfort level and challenges/barriers to teaching sex education classes in MT.

LGBT young adults and educators were involved in the development of questionnaire items and scales. Early questionnaire drafts for both young adults and health enhancement teachers were subjected to expert review by university faculty and gate keepers in the sexual and gender minority community. Feedback from the expert review led to questionnaire revisions with subsequent reviews by members of the priority population using focus group methodology. Two focus groups were conducted with LGBT young adults ($n = 15$), and one focus group was conducted with health enhancement teachers ($n = 8$). All participants discussed each item on the questionniare and also provided suggestions for its distribution. Following the focus groups the questionnaires were pilot-tested with a small group of individuals from each of the the priority populations prior to dissemination.

Procedure

Young adults who visited one of the designated social media sites and/or websites were invited to participate in the sex education study by clicking on a link to the questionnaire. Ten $25.00 Amazon gift certificates were offered in a drawing as incentive. Upon clicking on the link, additional information about the study, an informed consent and the questionnaire were provided. Health enhancement teachers followed a similar protocol upon receiving an invitation to complete the questionnaire. After clicking the link provided through a social media site or in an e-mail, further information about the study, an informed consent and the questionnaire became available. A $10.00 Amazon gift card incentive was offered to all teachers who participated in the questionnaire. Questionnaires took an average of 15 to 20 minutes to complete. Once completed, the responses were recorded directly into the Qualtrics database. Participants' identities remained anonymous.

Data analysis

Data from the Qualtrics platform were downloaded into the SPSS (IMB Version 22) statistical package. Basic descriptive statistics were used to determine teacher and young adults perceptions of which sex education topics were being covered in class, how important respondents thought it was to cover these topics, and how comfortable teachers felt in teaching each topic. Challenges to LGBT young adults' sexual health and teachers' barriers to teaching inclusive sex education were reported using frequency and percent. Chi-square measures of association were used to examine the relation between LGBT responses and their heterosexual/cisgender classmates' responses, including perceptions of how thoroughly topics were covered, and the perceived importance of each topic.

Results

Demographic characteristics of teachers and young adults

Teachers

The questionnaire link was emailed to 168 MT health and physical education teachers. Six were returned as undeliverable. Sixty-four teachers responded, representing a 38% return rate. Similar to the 2017 state census (U.S. Census Bureau, 2017), the overwhelming majority of respondents identified as White (90.4%). Approximately half of the respondents taught grades 9-12 (54%), with a small number teaching only grade 9 (11%). One-third reported teaching elementary or middle school in addition to grades 9-12. Most respondents received degrees from colleges or universities in Montana (86.4%), with approximately 70% receiving a degree in Health enhancement

which qualified them for an endorsement to teach both health and physical education. Years of teaching experience ranged from .75 to 37 years, with a mean of 7 and a median of 12 years. Slightly more males than females participated in the study; 52.4% and 47.5% respectively. None of the respondents identified as transgender while only one participant (1.6%) identified as lesbian, and the remaining respondents identified as heterosexual and cisgender. The rural, sparsely populated nature of the state is evident in the fact that approximately two-thirds (67.7%) of respondents reported teaching in a community with fewer than 10,000 inhabitants.

Young adults

Three hundred and fifty-nine individuals across MT accessed the questionnaire site. Authors excluded questionnaires from participants whose reported demographic variables did not meet inclusion criteria (e.g., younger than 18), as well as those with 50% or more blank responses. After data cleaning, 237 total participants contributed to the study. The vast majority of the participants were Caucasian non-Hispanic (94.4%) and graduated from a high school in one of the two most populous regions of the state (74.4%). All participants graduated from high school between 2008 and 2015; approximately half (45.2%) attended a high school with a student body of 500 or less. In response to questions asking participants'-about their sexual orientation and gender identity, 47.4% identified as a sexual and/or gender minority. Of the 47.4% identifying as a sexual and/or gender minority, 27% did not identify with a specific LGBT label. These participants were placed into a sexual or gender minority category based on the description they provided. For example, participants who responded to the question regarding gender by describing themselves as non-binary were placed in the gender minority category, while individuals who responded to the question regarding sexual orientation by describing themselves as pansexual were placed in the sexual minority category (Table 1).

Table 1. Sexual orientation and gender identity.

Young adults	n	%
Sexual minority only	40	23.4
Gender minority only	18	10.5
Both sexual and gender minority	23	13.5
Heterosexual/Cisgender	90	52.6

Coverage and importance of selected sex education topics

Teachers' perceptions of coverage

Teachers were asked how well they covered the nine sex education topics listed on the questionnaire. Over one-half of the teachers rated all nine topics as being "partially or fully" covered. Only two topics, however, were

reported as being "fully" covered by over 50% of the teachers. These topics were related to sexual consent and its implications for decision making (64.4%), and how to access medically-accurate STD/HIIV prevention information (61.0%). The topic regarding the differences between biological sex, sexual orientation, sexual behavior, gender identity and expression was reported as being fully covered by the smallest number of teachers with only 11.9% reporting they fully covered this topic.

Teachers' perceptions of importance

Teachers indicated their perceived importance of the nine selected sex education topics. Over 95% of respondents rated all topics as "somewhat or very important." Topics that were rated as "very important" by the largest number of teachers included sexual consent and its implications for decision making (95.0%), and types of situations and behaviors that may be considered sexual harassment, sexual abuse, assault, incest, rape and dating violence (93.3%). Two topics, both related to sexual orientation and gender identity and expression, were rated as "very important" by less than half of the teachers (see Table 2).

Young adults' perceptions of coverage

Ratings by young adults regarding topics that were "partially or fully" covered by their teachers ranged widely, from a low of 15.6% reporting their teacher partially or fully covered the topic of ways to address being bullied, teased, harassed because someone thought you or a friend were gay, lesbian, or bisexual, to 66.1% reporting partial or full coverage of types of situations and behaviors that may be considered sexual harassment, sexual abuse, assault, incest, rape and dating violence. None of the nine topics was reported as being "fully" covered by more than one-fourth of the respondents. The topic regarding ways to address being bullied, teased, harassed because someone thought you or a friend were gay, lesbian, or bisexual was was reported as being fully covered by the smallest number of young adults with only 4.7% reporting their teachers fully covered this topic.

A chi square test of independence was performed to examine the relation between young adults who identified as a sexual and/or gender minority and those who identifed as heterosexual and cisgender in regard to how well topics were covered. No significant relation was found between the two groups of participants.

Young adults' perceptions of importance

When asked about perceived importance, over 85% of young adult respondents indicated that all nine sex education topics were "somewhat or

Table 2. Teachers' perceptions of the importance and coverage of selected topics.

Topic	Importance			Extent of coverage		
		n	%		n	%
1. The differences between biological sex, sexual orientation, sexual behavior, and gender identity and expression	Not	2	3.4	Not at all	28	47.5
	Somewhat	32	54.2	Partially	24	40.7
	Very	25	42.4	Fully	7	11.9
2. How friends, family, media, society and culture influence the expression of gender, sexual orientation and identity	Not	2	3.4	Not at all	20	34.5
	Somewhat	32	54.2	Partially	29	50.0
	Very	25	42.4	Fully	9	15.5
3. How to advocate for school policies and programs that promote safe environments, dignity and respect for all students	Not	1	1.8	Not at all	22	37.9
	Somewhat	24	42.1	Partially	27	46.6
	Very	32	56.1	Fully	9	15.5
4. Ways to address being bullied, teased, harassed because someone thought you or a friend were gay, lesbian, or bisexual	Not	1	1.7	Not at all	12	20.7
	Somewhat	13	22.0	Partially	30	51.7
	Very	45	76.3	Fully	16	27.6
5. Skills to communicate with a partner about STD and HIV prevention and testing	Not	0	0.0	Not at all	10	16.9
	Somewhat	13	21.7	Partially	27	45.8
	Very	47	78.3	Fully	22	37.3
6. How to access medically-accurate prevention information about STDs, including HIV	Not	0	0.0	Not at all	2	3.4
	Somewhat	7	11.7	Partially	21	36.6
	Very	53	88.3	Fully	36	61.0
7. The potential impacts of power differences (e.g. age, status or position) within sexual relationships	Not	1	1.7	Not at all	21	35.6
	Somewhat	23	39.7	Partially	22	37.3
	Very	34	58.6	Fully	16	27.1
8. Types of situations and behaviors that may be considered sexual harassment, sexual abuse, assault, incest, rape and dating violence	Not	0	0.0	Not at all	5	8.5
	Somewhat	4	6.7	Partially	32	54.2
	Very	56	93.3	Fully	22	37.3
9. Sexual consent and its implications for decision-making about sex	Not	0	0.0	Not at all	2	3.4
	Somewhat	3	5.0	Partially	19	32.2
	Very	57	95.0	Fully	38	64.4

very important." Topics that were rated as "very important" by the largest number of young adults included sexual consent and its implications for decision making (91.8%), and types of situations and behaviors that may be considered sexual harassment, sexual abuse, assault, incest, rape and dating violence (90.2%). Two topics, both related to sexual orientation and gender identity and expression, were rated "very important" by the smallest number of young adults with less than two-thirds reporting these topics as very important (see Table 3).

A chi square test of independence was performed to examine the relation between young adults who identified as a sexual and/or gender minority and those who identifed as heterosexual and cisgender in regard to the importance of the topics. The analysis revealed that young sexual and gender minority adults were significantly more likely than young heterosexual and cisgender adults to rate the following topics as important: the differences between biological sex, sexual orientation, sexual behavior, and gender

Table 3. Young adults' perceptions of the importance and coverage of selected topics.

Topic	Importance			Extent of coverage		
		n	%		n	%
1. The differences between biological sex, sexual orientation, sexual behavior, and gender identity and expression	Not	28	12.0	Not at all	166	71.2
	Somewhat	64	27.5	Partially	56	24.0
	Very	141	60.5	Fully	11	4.7
2. How friends, family, media, society and culture influence the expression of gender, sexual orientation and identity	Not	29	13.0	Not at all	157	70.4
	Somewhat	60	26.9	Partially	55	24.7
	Very	134	60.1	Fully	11	4.9
3. How to advocate for school policies and programs that promote safe environments, dignity and respect for all students	Not	12	5.6	Not at all	129	60.0
	Somewhat	49	22.8	Partially	67	31.2
	Very	154	71.6	Fully	9	8.8
4. Ways to address being bullied, teased, harassed because someone thought you or a friend were gay, lesbian, or bisexual	Not	8	4.3	Not at all	157	84.4
	Somewhat	28	15.1	Partially	20	10.8
	Very	150	80.6	Fully	9	4.8
5. Skills to communicate with a partner about STD and HIV prevention and testing	Not	7	3.6	Not at all	115	58.7
	Somewhat	49	25.0	Partially	59	30.1
	Very	140	71.4	Fully	22	11.2
6. How to access medically-accurate prevention information about STDs, including HIV	Not	9	4.6	Not at all	73	37.1
	Somewhat	40	20.3	Partially	94	47.7
	Very	148	75.1	Fully	30	15.2
7. The potential impacts of power differences (e.g. age, status or position) within sexual relationships	Not	8	4.5	Not at all	135	75.8
	Somewhat	56	31.6	Partially	34	19.1
	Very	113	63.8	Fully	9	5.1
8. Types of situations and behaviors that may be considered sexual harassment, sexual abuse, assault, incest, rape and dating violence	Not	2	1.1	Not at all	62	33.9
	Somewhat	16	8.7	Partially	89	48.6
	Very	165	90.2	Fully	32	17.5
9. Sexual consent and its implications for decision-making about sex	Not	3	1.6	Not at all	71	38.6
	Somewhat	12	6.5	Partially	73	39.7
	Very	169	91.8	Fully	40	21.7

identity and expression [X^2 (2, $N = 172$) = 9.6, $p = .010$]; how friends, family, media, society and culture influence the expression of gender, sexual orientation and identity [X^2 (2, $N = 172$) = 10.7, $p = .005$]; ways to address being bullied, teased, or harassed because someone thought you or a friend were gay, lesbian or bisexual [X^2 (2, $N = 172$) = 8.3, $p = .016$].

Teachers' comfort level in teaching selected sex education topics

Teachers were asked to rate their comfort level in teaching the nine selected topics. As was the case when rating coverage and importance, teachers' comfort related to topics associated with LGBT issues was less frequently rated as "very comfortable" when compared to their comfort level teaching topics not specific to LGBT issues. Teachers reported feeling most comfortable teaching about how to access medically-accurate STD/HIV prevention information (65.0%) and least comfortable teaching about the differences between biological sex, sexual orientation, sexual behavior and gender identity and expression (26.7%). Figure 1 shows the frequency with which each topic was rated "very comfortable."

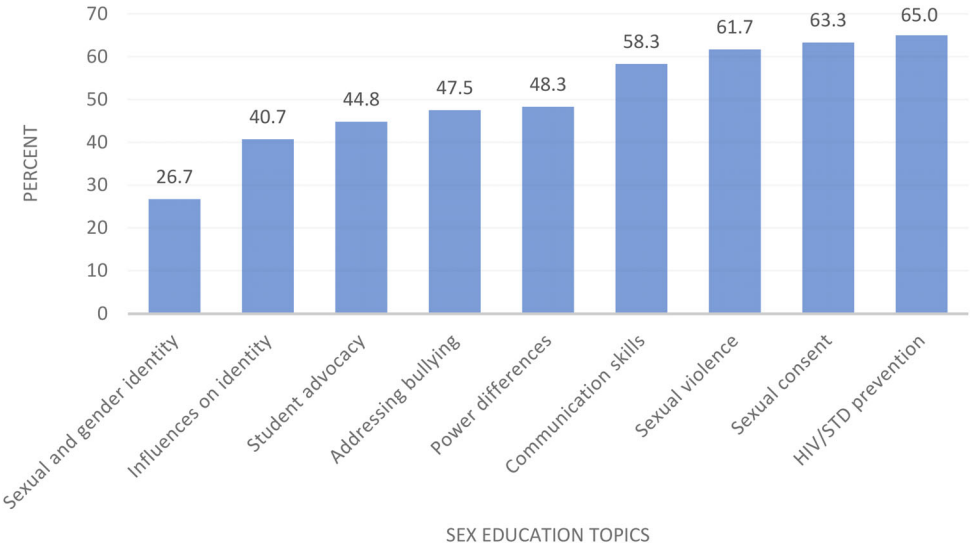

Figure 1. Teachers' reported comfort level by topic.

Relevance

Most Health Enhancement teachers believed the sex education taught in their schools to be somewhat or very relevant to heterosexual and cisgender students (83.1%). Slightly less than two-thirds (64.6%) believed the sex education taught in their schools to be somewhat or very relevant to LGBT students. In contrast, only about one-quarter (25.8%) of young adults indicated the sex education they received was very or somewhat useful. The remaining three-quarters (74.1%) said that their sex education was somewhat or very useless. A chi square test of independence was performed to examine the relation between young adults who identified as a sexual and/or gender minority and those who identifed as heterosexual and cisgender in regard to the usefulness of sex education. No significant relation was found between the two groups of participants.

Challenges and resources

When presented with a list of potential challenges, including the opportunity to write-in the challenges they experienced in high school, nearly one-fourth (23.4%) of LGBT respondents reported no challenges regarding their sexuality. The remaining three-quarters of LGBT respondents reported the following top five challenges: not having anyone else to relate to (e.g. other LGBT friends) (38.3%); not being able to accept myself (33.3%); keeping my sexual orientation and/or gender identity a secret from family (32.1%); not knowing why I was different (27.2%); and not identifying with a

specific label (27.2%). When asked about the most helpful resources regarding sexuality issues in high school, the majority of LGBT respondents indicated that finding information on the internet was most helpful (47.6%), followed by friends (39.3%) and parents/guardian (31.6%). Teachers (7.1%) and school counselors (3.0%) were the least frequently chosen among the list of helpful resources related to sexuality.

Lack of training appeared to be teachers' most significant challenge in providing sex education. The top five challenges to teaching comprehensive sex education included: (1) no training in how to teach LGBT sex education (60.8%); (2) lack of experience with LGBT content (47.1%); (3) lack of resources or materials (35.3%); (4) community/parental disapproval (35.3%); and (5) lack of school district policy (31.4%).

Discussion

Positive teacher–student relationships may be one of the most important variables that protect LGBT students from unwelcoming and/or hostile school environments (Mudrey & Medina-Adams, 2006; Johns, Poteat, et al., 2019). In particular, seeing and interacting with successful LGBT adults is a powerful way that sexual and gender minority youth can receive support, validation and information (Higa et al., 2014). Although it is difficult to estimate the share of the U.S. population that is LGBT, a 2018 Gallup poll indicated about 4% of all adults and 8% of adults ages 18 to 36 identified as LGBT (Gallup, 2018). In the current study, only one teacher identified as a sexual minority, making up just over 1% of the sample population. No teachers identified as belonging to a gender minority. Furthermore, 70% of health teachers in this study reported also teaching physical education. This finding is relevant given the results from the 2008 Preventing School Harassment Survey which revealed that LGBTQ inclusion was least common in physical education classes, and when included, most likely to be unsupportive (Snapp et al., 2015). Similar conclusions were drawn from the results of the 2017 School Health Climate Questionnaire. Data from this questionnaire revealed that the school spaces associated with sports, such as locker rooms, physical education/gym class, and athletic fields/facilities, were some of the spaces most commonly avoided by LGBT students. When asked with whom they felt comfortable talking about LGBT issues, students reported feeling least comfortable discussing topics related to sexuality with physical education teachers, athletic coaches and school safety officers (Kosciw et al., 2018). It is possible that the lack of LGBT-identified teachers, combined with the high percentage of teachers who serve in both a physical education and health education role, contribute to creating a school environment in which over one-third of LGBT respondents reported

their biggest challenges in high school were not having anyone else to whom they could relate, and not being able to accept themselves.

Findings from the current study indicate that high school teachers tasked with teaching sex education in MT report less thoroughly covering topics related to sexual orientation and gender identity than topics such as HIV/STD prevention and sexual consent and decision making. Teachers also perceive topics related to sexual orientation and gender identity as less important components of sex education, and report feeling less comfortable teaching such topics.

These findings corroborate previous research assessing barriers to teaching specific sex education topics, which found that sexual orientation was one of the least covered topics in high school sex education curriculum (Eisenberg et al., 2013). While teachers in a previous study cited lack of time as a major barrier to teaching certain sex education topics (Lindberg et al., 2016), in this study, teachers ranked lack of time relatively low compared with other barriers. Instead, current respondents identified lack of training in how to teach LGBT topics, and lack of experience with LGBT content, as the greatest barriers to providing inclusive sex education.

Quite clearly teachers see the need for professional development, and while this study did not explore the content or delivery of professional development, the fact that approximately three-quarters of all young adult respondents found their sex education classes to be "somewhat or very useless" underscores the importance of these issues. Professional development that focuses on an abstinence only approach to sex education does not prepare teachers to address sexuality issues specific to LGBT youth. Elias and Eliason (2010) place sex education programs on a continuum ranging from no formal education to a broad, comprehensive, anti-oppressive approach. In this continuum, abstinence-based models, while acknowledging the existence of LGBTQ people, perpetuate a heteronormative focus. Moving up the continuum are the more progressive, comprehensive models. These models not only include LGBTQ people, but also promote respect for diversity, and in their ultimate form, promote an orientation toward social justice (Elias & Eliason, 2010). Justice-oriented sex education may help shift the view of the teacher as the "one who knows" and is in control of the classroom to one that is a facilitator of learning that transcends the usual transmission of facts and information (Sanjakdar et al., 2015). The importance of moving beyond the simple transmission of facts was affirmed in two separate recall studies. Black et al. (2005) assessed young people's recall of school-based sexual health education. Researchers in this study highlighted the fact that students are more likely to recall information that is delivered via video or discussion (Black et al., 2005), while Walcott et al. (2011) found that effective programs teach skills such

as negotiation, communication, and peer pressure refusal. Interactive, discussion-based learning invites students to engage in a deeper analysis of social structures and social phenomenon that shape our views of sex and gender (Sanjakdar et al., 2015).

The fact that 27% of gender and sexual minority participants in this study did not identify with a specific LGBT label supports an emerging taxonomy of gender and sexuality in which hundreds of new labels or categories of sexuality and gender identity are created, including such terms as heteroflexible, non-binary and transcurious, to name a few (Cover, 2018). Experimenting with many different identities and forms of expression is part of the developmental process for young people and sexual identity is not exempt from this type of exploration. While most youth will eventually identify themselves with a gender identity and a sexual orientation, some may not. It is important, therefore, that the adults in young people's lives respect the language and terms they use to identify themselves (Future of Sex Education Initiative, 2020). The idea that digital media has enabled young people to engage in defining their own sense of identity (Cover, 2018) also is supported in the current study where 48% of participants preferred the internet as their source of information. Relevant on-line sources of information and alternative ways of describing and thinking about sexuality and gender as fluid, unstructured and changeable must be acknowledged, reinforced and integrated into the training and professional development of individuals assigned to teach sex education (Cover, 2018).

Worth noting is the fact that only a small percentage of teachers believed it was not at all important to cover topics related to sexual orientation and gender identity. However, those topics were rated lower in terms of perceived importance when compared to other more general sex education topics like STD/HIV prevention. In addition, sexuality education was perceived by teachers to be more relevant for their heterosexual and cisgender identified students than their LGBT-identified students. These results are not surprising given the rural environment and conservative socio-political climate in Montana. A 2017 Gallup daily tracking poll listed Montana in the top 10 conservative states with self-identified conservatives outnumbering self-identified liberals by more than 26 percentage points (Newport, 2017). The rural nature of the state is evident in the fact that approximately two-thirds of respondents reported teaching in a community with fewer than 10,000 inhabitants. Unfortunately, LGBT youth in rural communities may face particularly hostile school climates (Kosciw et al., 2009). O'Connell et al. (2010), found that teachers in rural schools responded less favorably toward sexual minority students. They speculate that this may be due to a lack of comfort in dealing with issues of sexuality in school or a perceived lack of knowledge regarding issues associated with being a sexual

minority. Furthermore, most educators in rural schools indicated that there was an overall lack of available school-based resources and supports for LGBTQ students and even less available for their parents (O'Connell et al., 2010).

Limitations

The results of this study should be interpreted with limitations in mind. First, the samples of young adults and teachers were nonrandom. Results cannot be generalized to the entire population of 18 to 24 year old MT high school graduates, nor to the entire population of Health Enhancement teachers. Furthermore, because young adults were not matched with teachers in regard to school attended, direct comparisons cannot be made between the sample of teachers and the sample of young adults on questions that appear on both questionnaires.

Second, young adult participants were asked to recall the content of their high school sex education classes. Discrepancies are likely to exist between what participants recall and what was actually covered in those classes. Additionally, some teachers, may have been inclined to respond to the questions in socially desirable ways. And finally, young adults and teachers who responded to the questionnarie may have been more interested in and more comfortable sharing their thoughts about sex education than individuals who chose not to respond.

Implications for practice

A seemingly simple, but potentially powerful, first step in assuring that sex education is relevant for LGBT students would be to include questions regarding sexual orientation and gender identity on Montana's YRBS. In 2015, the CDC added to the standard YRBS used by states and large urban school districts, a question to ascertain sexual orientation and a question to ascertain sex of sexual contacts. Following CDC's lead, 25 states and 19 urban school districts included these questions on their 2015 YRBS (Kann et al., 2016). In 2017, ten states and 9 urban areas included a question about gender identity on the YRBS (Johns, Lowry, et al., 2019). Adding questions about sexual orientation and gender identity to MT's biennial survey could serve to enhance awareness among education and public health officials regarding the multitude of health inequities associated with sexual and gender minority status.

Since teachers in this study identified lack of training as the biggest barrier to providing comprehensive sex education, it seems critical that the Office of Public Instruction and relevant nonprofit organizations consider

offering current health enhancement teachers, 73% of whom would like professional development in regard to teaching sex education (Montana Office of Public Instruction, 2016a), professional development opportunities. These opportunities should be designed to provide teachers with information and skills they need to be knowledgeable and feel comfortable teaching sex education that is inclusive of LGBT students. However, offering teachers facts and information that can then be delivered to students is not sufficient. Professional development must incorporate respect for diversity and promote an orientation toward social justice. Teachers should be encouraged to view themselves as facilitators who invite students to interact and engage in a critical analysis of the ways our views of sexuality and gender are shaped by personal, interpersonal, institutional and cultural factors.

Finally, findings suggest a careful review of Montana's practice of preparing "health enhancement" teachers. The practice of combining both health education and physical education in post-secondary teacher preparation programs appears to produce teachers who do not feel as confident in teaching health education as they do physical education. Each discipline requires teachers to be prepared in distinct bodies of knowledge and distinct pedagogical skills. Teachers who possess confidence and expertise for teaching sport and physical fitness may not possess the same motivation, confidence and expertise for teaching about adolescent sexuality. Offering pre-service teachers the opportunity to choose distinct professional preparation tracks in health education and/or physical education could be an important step in ensuring that teachers who are tasked with teaching sex education are motivated to seek out, and eager to engage in, opportunities that provide the knowledge, skills and confidence necessary for the delivery of inclusive, justice oriented, progressive sexual health instruction to all students regardless of their sexual orientation or gender identity.

Conclusion

Since many states have added a question to the YRBS about sexual orientation and gender identity we have learned that approximately 11% of students responding to the questionnaire identify as LGB (Kann et al., 2016), and another 1.8% identify as transgender (Johns, Lowry, et al., 2019). These sexual and gender minority youth are particularly susceptible to HIV infection, STIs, pregnancy, and depression. Furthermore, they are more likely to experience bullying and other forms of violence that can lead to mental distress and disparities in suicide risk, substance use, and sexual health (Johns, Poteat, et al., 2019; Kann et al., 2016). One way to address these disparities is by providing school-based sex education that is comprehensive, inclusive and oriented toward social justice. Unfortunately, many U.S.

teens are not receiving formal sex education, and fewer teens now than in the past are exposed to important and timely information about a range of sex education topics (Kann et al., 2016; Lindberg et al., 2016; Santelle et al., 2017). The lack of relevant sex education was supported in this study where nearly three-quarters of the young adult participants reported that their sex education classes were either "somewhat" or "very useless". Despite the perception that sex education classes were useless, the vast majority of young adults and teachers believed sex education, inclusive of LGBT issues, is "somewhat" or "very important." The perception of importance did not, however, appear to be reflected in sex education classes. Few young adults recalled the topics related to LGBT sexual health being "fully covered" and few teachers reported "fully covering" those topics in their classes. Lack of training and professional development was cited most frequently as a major barrier. Entities offering professional development to teachers in rural, conservative states like MT must address interpersonal, institutional, and internalized biases that lead to overt and covert discrimination of youth who identify as members of a sexual or gender minority. Offering progressive sex education, taught by teachers who are knowledgeable and comfortable discussing the multitude of issues surrounding adolescent sexuality, has the potential to not only enhance the sexual health of our youth, but also may improve the quality of life for many of the LGBT participants in this study who reported they had no one to whom they could relate and were fearful that others would discover their sexual and/or gender minority status.

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