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## Stigma management? The links between enacted stigma and teen pregnancy trends among gay, lesbian, and bisexual students in British Columbia

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### Abstract

Over the past decade, several large-scale school-based studies of adolescents in Canada and the U.S. have documented health disparities for lesbian, gay and bisexual teens compared to their heterosexual peers, such as higher rates of suicide attempts, homelessness, and substance use. Many of these disparities have been linked to “enacted stigma,” or the higher rates of harassment, discrimination, and sexual or physical violence that sexual minority youth experience at home, at school, and in the community. An unexpected health disparity for lesbian, gay and bisexual youth is their significantly higher risk of teen pregnancy involvement (between two and seven times the rate of their heterosexual peers), especially in light of declining trends in teen pregnancy across North America since the early 1990s. What is behind this higher risk? Is it getting better or worse? Using the province-wide cluster-stratified *British Columbia Adolescent Health Surveys* from 1992, 1998, and 2003, this paper explores the trends in pregnancy involvement, related sexual behaviours, and exposure to forms of enacted stigma that may help explain this particular health disparity for gay, lesbian and bisexual youth in Canada.

### Introduction

Adolescence is a critical period in sexual development: from the physical changes of puberty (Patton & Viner, 2007), to the awakening of sexual attractions and awareness of sexual orientation (Rosario et al., 1996), to first romantic relationships, and decisions about initiating various sexual behaviours (Boyce, Doherty, Fortin, & MacKinnon, 2003; Maticka-Tyndale, 2001; Wellings et al., 2007) these milestones most often occur during the teen years. However, for a significant minority of teens, this critical time period may also include other experiences that can affect their sexual development and long-term sexual health. Sexual debut may be coerced, for example, a result of sexual abuse or sexual assault, or sexual violence may occur after a youth is already sexually active. Either experience can lead to a variety of negative sexual health issues (Saewyc, Magee, & Pettingell, 2004). Depending on the population, as many as one in three teens may experience sexual violence before reaching adulthood (Saewyc, Pettingell, & Magee, 2003; Saewyc et al., 2006; Tonkin, Murphy, Lee, Saewyc, & the McCreary Centre Society, 2005). Unprotected sexual behaviours may result in sexually transmitted infections (Maticka-Tyndale, 2001), which can affect future fertility, or even life expectancy. Similarly, unprotected sexual intercourse with opposite-sex partners can result in

teen pregnancy, requiring subsequent decisions for abortion or birth (Statistics Canada, 2007), adoption or parenthood. Each year since 2000, around 1.5% of Canadian females between the ages of 15 and 19 years have given birth (Statistics Canada), suggesting nearly 10% of girls will give birth at some point during their teens; some provincial population-based surveys suggest a slightly smaller percent of adolescent boys are also involved in pregnancy and parenthood (Tonkin et al., 2005).

A sexual orientation that does not match the expectations or norms in a young person's social and familial environments may be stigmatized, creating issues around disclosure, acceptance or rejection, and personal safety that other adolescents may not need to negotiate as part of their sexual development (D'Augelli, Hershberger, & Pilkington, 1998). For lesbian, gay, bisexual, Two Spirit and questioning (LGBTQ) youth, all of the listed issues affecting sexual development may be particularly salient. Despite improvements in status for LGBTQ populations in Canada over the past several years (such as legal recognition for same-gender marriages), non-heterosexual identities are still stigmatized in many social settings, especially for adolescents (Saewyc, Skay, et al., 2006; Saewyc, Poon, et al., 2007). Disclosure of LGBTQ identity—even suspicion of LGBTQ identity without disclosure—can evoke a variety of negative reactions, such as exclusion, harassment, discrimination, and even violence (Reis & Saewyc, 1999; Saewyc, Singh, Reis & Flynn, 2000; Saewyc, Skay, et al., 2006). These reactions, which can also be considered *enacted stigma*, are thought to contribute to a number of health disparities that have been observed for sexual minority youth, such as distress and suicide attempts, problem substance use, and other risks (Bagley & Tremblay, 2000; Hershberger, Pilkington & D'Augelli, 1997; Marshal et al., 2008; Robin et al., 2002; Russell & Joyner, 2001; Saewyc, 2007). In Seattle during the 1990s, for example, LGB youth in high school were more likely than heterosexual peers to report they had been harassed due to their race or ethnicity, their gender, or their sexual orientation; however, students who had experienced harassment, regardless of orientation, were more likely to report skipping school, suicide attempts, and other health disparities, including teen pregnancy (Saewyc et al., 2000; Smyser & Reis, 2002). In Seattle and British Columbia, LGB youth were more likely to report HIV risk behaviours than heterosexual teens their same age, but higher prevalence of sexual abuse among LGB youth explained far more of the variance in risk behaviours than sexual orientation alone (Saewyc, Richens et al., 2006). Preliminary results of recent studies among youth in Canada, the U.S., and New Zealand suggest that exposure to sexual violence and other forms of enacted stigma may help explain higher rates of risky sexual behaviours and problem substance use (Meininger et al., 2007; Poon, Saewyc, Skay, Homma, & Barney, 2006; Saewyc, Clark, et al., 2006).

### Teen pregnancy among sexual minority youth

A number of population-based surveys of youth in Canada and the U.S. in the past two decades have documented higher rates of teen pregnancy involvement among sexual minority youth compared to heterosexual peers, often 2 to 10 times higher (Blake et al., 2001; Saewyc, Bearinger, Blum & Resnick, 1999; Saewyc, Pettingell, & Skay, 2004). The reports of such observations have some limitations; some are focused on girls only (Saewyc et al., 1999), for whom pregnancy involvement is generally less easily concealed and more readily measured, since it does not require being informed by one's partner. Indeed, one study of AIDS-related sexual risk behaviours focused on gay and bisexual males from 3 cohorts of students in Massachusetts (Goodenow, Netherland & Szalacha, 2002) did not report pregnancy involvement, although the question was asked on the survey, and pregnancy could be considered fairly strong evidence of unprotected sex. Other studies have combined boys and girls in reporting (Blake et al., 2001), despite a large body of evidence for gender differences in sexual behaviours among teens. Further, the studies by Blake and colleagues (2001) and Saewyc and colleagues (1999) combined gay and bisexual teens, which may not be appropriate,

since a number of studies have identified differences in sexual risk behaviours and other health disparities when gay, lesbian and bisexual youth are disaggregated by gender and orientation (Rosario, Meyer-Bahlburg, Hunter, & Gwadz, 1999; Russell, 2005). One study has explored teen pregnancy rates by gender and sexual orientation among youth, in 6 school-based cohorts from three regions of North America (Saewyc, Pettingell & Skay, 2004). Though the surveys used differing measures of orientation, bisexual and lesbian or gay teens were more likely in each region to report pregnancy involvement than heterosexual peers their age. Only one study has reported any information related to teen parenting among LGB youth (Forrest & Saewyc, 2004); among Minnesota 9<sup>th</sup> and 12<sup>th</sup> graders in 1998 who were teen parents, 1 in 3 teen fathers reported same- or both-gender sexual partners in the past year, as did 1 in 8 teen mothers.

### **Possible explanations for higher teen pregnancy rates among sexual minority youth**

Why teen pregnancy—especially higher rates of teen pregnancy—for LGB youth? As with other health disparities, before identifying unique reasons related to sexual orientation, we should first consider factors linked to teen pregnancy in the general population, and explore whether LGB youth are more likely to have those risks in their lives (Saewyc, 2005). In order for teen pregnancy to occur, unprotected opposite-sex intercourse between sexually mature, fertile young people at or near ovulation is required, since assistive reproductive technologies such as *in vitro* fertilization are generally not offered to adolescents. The risk of pregnancy increases with earlier sexual debut, more frequent sexual intercourse, more sexual partners, and ineffective methods of contraception, including withdrawal, no method, and inaccurate or sporadic use of effective methods (Klein & the Committee on Adolescence, 2005). Sexually abused adolescents are more likely to report all of these risk behaviours (Saewyc, Magee & Pettingell 2004); similarly, runaway and homeless youth are at higher risk for teen pregnancy, in part because survival sex or sexual exploitation can increase the frequency of sex and make it difficult to negotiate contraception (Warf et al., in press). A number of studies have documented that LGB youth have equal or higher rates of these risk factors for teen pregnancy compared to their heterosexual peers (Saewyc, 2005). They are more likely to be sexually-experienced (Blake et al., 2001; Goodenow et al., 2002; Rosario et al., 1999), for example, and more likely to report early sexual initiation, before age 14 (Robin et al., 2002; Saewyc, Richens et al., 2006; Saewyc, Skay et al., 2006), as well as higher rates of sexual abuse and coerced sex (Blake et al., 2001; Saewyc, Skay et al., 2006). In some studies, they report similar frequency of intercourse as heterosexual teens (Rotheram-Borus, Marelich & Srinivasan, 1999; Saewyc et al., 1999), and in most but not all studies, lower contraceptive use (Goodenow et al., 2002; Robin et al., 2002; Saewyc, Richens et al., 2006). LGB youth are disproportionately represented among runaway, homeless, and street-involved youth (Saewyc, 2005; Smith et al., 2007), and in some studies, report higher rates of sexual exploitation or survival sex (Saewyc et al., 1999; Saewyc, MacKay, Anderson & Drozda, 2008).

Beyond higher risk for these common factors of pregnancy involvement, LGB youth may also have factors specific to their experiences and stigmatized identity. Goffman's theory of stigma management (1968) asserts people may engage in a number of strategies to either avoid or to cope with stigma. For LGB youth this may include avoiding disclosure, and simultaneously engaging in heterosexual dating and sexual behaviours as a form of “camouflage,” to avoid being identified as LGB and targeted for enacted stigma (Saewyc et al., 1999). Those who experience harassment and discrimination may choose pregnancy involvement as a way to deny their orientation, to prevent further enacted stigma. Increased substance use and abuse as a way of coping with stigma (Marshal et al., 2008; Poon et al., 2006) can also lead to unintended, and often unprotected, sexual behaviour. Alternately, if sexual education programs ignore LGB youth sexual health issues, they may conclude that the information is irrelevant to their lives, and “tune out” important information about contraception and safer sexual practices. As a

result, they may be unprepared for healthy decision-making when engaging in opposite-gender sexual behaviour.

Teen pregnancy rates have been falling among youth in both Canada and the U.S. since the early 1990s (McKay, 2006). Birth rates have also declined, although more recent news reports suggest birth rates rose in 2006 among adolescents in the U.S. for the first time in 14 years (Reinberg, 2007). Data for 2006 are not yet available in Canada, but birth rates in 2005 among Canadian girls age 15–19 continued their downward trend (Statistics Canada, 2007). The declines in teen pregnancy and birth rates in the U.S. have been attributed to both delay in initiating sexual intercourse and improved contraception use among sexually active teens (Santelli et al., 2004). At the same time, national studies in the U.S. have documented significant declines in substantiated sexual abuse cases and self-reported sexual victimization rates among youth, which may have further contributed to the drop in teen pregnancy rates (Finkelhor & Jones, 2004). Similar studies have not been undertaken in Canada; indeed, there are no recurring national studies of adolescent sexual behaviour or sexual victimization available to help document these trends, along with national statistics for births and sexually transmitted infections, although one province's adolescent health surveys have asked about sexual behaviour and pregnancy involvement and have noted similar declines in risky sexual behaviours, improvements in contraceptive practices, and declines in reported experiences of sexual abuse among adolescents since the early 1990s (Saewyc, Taylor, Homma & Ogilvie, 2008).

Have these declining pregnancy trends also occurred among LGB youth? Some preliminary evidence from the U.S. and Canada from the 1990s has suggested LGB youth may actually have increasing trends (Saewyc, Pettingell & Skay, 2004), possibly linked to experiences of sexual violence and enacted stigma. However, the studies from the U.S. did not include 3 full time points, to document true trends, and did not assess concurrent trends in risk exposures among LGB youth, to help identify factors that might help explain the results. Only one regularly occurring population-based survey of youth has been monitoring sexual health and risk behaviours among Canadian youth since the early 1990s that also includes measures of sexual orientation: McCreary Centre Society's province-wide *BC Adolescent Health Survey*, which has been conducted every 5–6 years in British Columbia schools since 1992 (Saewyc, Taylor et al., 2008).

### Purposes of the present study

As part of an ongoing series of studies exploring risk exposures and health disparities among sexual minority youth across North America, the purposes of this particular study were to:

1. Identify the disparities in teen pregnancy involvement between heterosexual, bisexual, and gay or lesbian adolescents among 3 cohorts of BC youth in school;
2. Document any disparities in potential risk factors for teen pregnancy, such as exposure to sexual violence, or risky sexual behaviours, between heterosexual and sexual minority teens of the same gender and age; and
3. Explore trends in pregnancy involvement among each of the orientation and gender groups, and concurrent changing trends in risk exposures that may help explain the findings.

Based on preliminary work in other youth health surveys, we hypothesized that bisexual youth would be at higher risk for teen pregnancy involvement than their heterosexual peers, as would gay and lesbian teens, but there would not necessarily be significant differences between gay and bisexual males or lesbian and bisexual females. We also expected sexual minority adolescents would generally report higher levels of common risk factors for teen pregnancy

involvement, and that trends in teen pregnancy would mirror trends in those risk factors, as well as trends in exposure to discrimination and other forms of enacted stigma.

## Methods

### Sample and procedures

This secondary analysis explored the *BC Adolescent Health Surveys (BC AHS)* of 1992, 1998, and 2003. The BC AHS is a cluster-stratified random survey of classrooms of students in grades 7 through 12 in public schools across the province, with an overall participation rate of about 72–76%. Detailed description of the survey sampling and administration methods are described elsewhere (Saewyc, Taylor et al., 2008). In all, more than 70,000 youth have participated in the BC AHS since 1992.

The pencil-and-paper questionnaire of health and risk behaviours was administered by public health nurses and nursing students in each year. After survey completion, the data were weighted by Statistics Canada consultants to adjust for differential probability of sampling and differential response rates, then scaled to the provincial enrolment. For these analyses, the final weighted sample for each year included only those youth who indicated gender, age, and sexual orientation (less than 10% of youth were excluded from each year's sample due to key missing data; see Table 1 for weighted sample size and demographic information for each year).

### Measures

For this analysis, measures include demographic variables such as gender and age, as well as items assessing sexual orientation, specific sexual behaviours, exposures to other key correlates of teen pregnancy such as sexual victimisation and teen pregnancy involvement. Sexual orientation was a measure of self-labelling defined by attraction, with categories ranging from “100% heterosexual,” “mostly heterosexual,” “bisexual,” “mostly homosexual,” “100% homosexual; gay/lesbian,” and “not sure.” Based on extensive measurement evaluation and power issues (Saewyc, Bauer et al., 2004), the “mostly homosexual” and “100% homosexual” youth were combined into a single group (i.e., gay/lesbian, Table 1). The “not sure” were excluded from analyses because the wide variety of those selecting that option renders it unclear how they are answering, i.e., whether they are not sure of their sexual orientation, or not sure what the question was asking. The “mostly heterosexual” were included in analyses, despite the heterogeneity of the group (a significant number were younger students or recent immigrants who spoke a language other than English most of the time at home), but their results were seldom significantly different from 100% heterosexual youth, and so their data are not shown. Specific sexual behaviours from items on the survey were recoded to represent specific risks for pregnancy involvement; for example, age of first sexual intercourse was dichotomized to be <14 years, or 14 years and older. Pregnancy involvement was originally asked as number of times pregnant, but for this analysis, was dichotomized to ever/never pregnant. Eight different measures of victimization and discrimination in the 2003 BC AHS were incorporated into an *enacted stigma* composite measure that included, for the past year: discrimination on the basis of race, physical appearance, or sexual orientation; being excluded by others at school, being insulted or teased, being physically assaulted; or verbal or physical sexual harassment. Lifetime sexual abuse was not included in this measure. The *enacted stigma* composite score showed good reliability across various groups of students in 2003, and has been reported elsewhere (Meininger et al., 2007; Poon et al., 2006; Saewyc, Clark et al., 2006; Saewyc, Poon, et al., 2007).

### Analysis

All analyses were conducted separately by gender. Analyses included *chi*-square tests of the prevalence of pregnancy involvement and various risk factors within each orientation group,

to test trends over time between 1992 and 2003, and 1998 and 2003 (Fleiss, 1981). Because the rates of sexual experience differ among the orientation groups, and can in part contribute to trends, we report trends for prevalence of pregnancy both as a rate among all youth by orientation group, then for sexually-experienced youth only. Similarly, the prevalence of sexual behaviours is prone to maturational effects (Saewyc, Taylor et al., 2008), and the sexual orientation groups were significantly different in age, with gay and lesbian youth older on average than heterosexual teens. Therefore, in testing disparities between heterosexual teens and their gay, lesbian, bisexual or mostly heterosexual peers we controlled for age, using multivariable logistic regressions to calculate age-adjusted odds ratios of pregnancy and common risk factors for pregnancy.

The complex stratified sampling of classrooms in the BC AHS design would usually suggest the need for statistical procedures to compensate for potential clustering effects, using software such as SUDAAN or SPSS Complex Samples. However, an extensive analysis of the sample's distribution of the small percentages of lesbian, gay, and bisexual adolescents throughout the province indicated there were no design effects: clustering effects cannot occur with only one or two students in a classroom, and the LGB youth appeared to be randomly distributed across the province. Therefore, for these analyses, SPSS 15.0 was used without adjustment for the complex sampling method, save for incorporating the weights. Given the large sample size for each cohort, to reduce the risk of Type I error, we set *alpha* to  $<.01$  for comparisons between orientation groups; however, for tests of trends within bisexual and lesbian or gay groups, we set *alpha* to  $<.05$  for these smaller samples.

## Results

### Disparities in pregnancy involvement and related risk behaviours for gay and bisexual male students

Table 2 shows the age-adjusted odds ratios and 95% confidence intervals comparing pregnancy involvement and related risk behaviours for the gay and bisexual male students vs. their heterosexual peers in each survey year. In all years, gay and bisexual male youth were more likely than heterosexual youth their age to have ever had sexual intercourse. Among the male youth who ever had sexual intercourse, gay and bisexual youth had higher age-adjusted odds (3.53–7.49) of having participated in a pregnancy than heterosexual male teens. With respect to risk factors for pregnancy involvement, gay and bisexual youth were more likely than age-matched male heterosexual peers to have had first intercourse before age 14 and to have had two or more sexual partners. Similar differences also applied for lack of condom use at last intercourse (with the exception that gay males in 2003 did not differ from heterosexual peers in this respect) and in substance use before last intercourse (with the exception that bisexual males did not differ from heterosexual peers in this respect,  $p = 0.89$ ).

### Disparities in pregnancy involvement and related risk behaviours for lesbian and bisexual female students

Table 3 shows the age-adjusted odds ratios and 95% confidence intervals comparing having been pregnant and related risk behaviours for the lesbian and bisexual female adolescents to their heterosexual peers in each survey year. In all years (except for bisexual females in 1992), lesbian and bisexual female students were more likely than heterosexual female students their age to have ever had sexual intercourse. Among female students who ever had sexual intercourse, lesbian and bisexual females had higher age-adjusted odds (1.8–3.4) of having been pregnant compared to heterosexual female teens. With respect to risk factors for ever having been pregnant, lesbian and bisexual female students were more likely than age-matched heterosexual peers to have had first intercourse before age 14 (with the exception of lesbian youth in 1992) and to have had two or more sexual partners (with the exception of lesbian

youth in 1998,  $p = 0.15$ ). In all years, lesbian and bisexual female students were more likely than heterosexual female peers to report lack of condom use at last intercourse and in substance use before last intercourse (with the exception that bisexual females in 2003 did not differ from heterosexual peers in this latter respect,  $p = 0.82$ ).

### Trends in pregnancy involvement and related risk behaviours by orientation

Trends in pregnancy involvement for males (Fig. 1) and experience of having been pregnant for females (Fig. 2) in each orientation group for the entire sample show an overall decline from 1992 to 2003. Only heterosexual teens of both sexes and gay males show a continuous decline from 1992, with gay males showing a steeper decline between 1992 and 1998. For bisexual males (Fig. 1) and for lesbian and bisexual females (Fig. 2), the prevalence of pregnancy involvement increased from 1992 to 1998 before declining significantly in 2003.

What might help explain these trends in teen pregnancy? Table 4 reports trends for the total sample in each sexual orientation group for having had sexual intercourse and having experienced sexual abuse. Data only for youth in these groups who have ever had sexual intercourse is also presented for pregnancy involvement, first intercourse before age 14, multiple lifetime partners, substance use before last intercourse, and lack of condom use at last intercourse.

**Heterosexual youth trends**—For both sexes, one of the most obvious changes between 1992 and 2003 is a decline in prevalence of sexual abuse, particularly among heterosexual females, for whom it was reduced by half. Among heterosexual teens who have ever had intercourse, this reduction in sexual victimization likely helps to explain the reduction in early age of first sexual intercourse as well. Another decline that may help explain lower heterosexual teen pregnancy is in sexual experience overall, as both sexes reported lower prevalence of ever having sexual intercourse in 2003 compared to previous years. This contribution to the declines is further suggested when we look only at youth who have ever had intercourse: among sexually-experienced heterosexual males, teen pregnancy involvement did not actually decline significantly between 1992 and 1998, but only between 1998 and 2003. Another improvement was in condom use at last intercourse, where the percentage of heterosexual teens reporting they did not use condoms last time was lower overall, although almost all of that decrease occurred between 1998 and 2003.

In contrast to these overall declining trends, two risk behaviours among heterosexual youth who had ever had intercourse showed periods of increasing trends. For example, heterosexual male reports of two or more lifetime sexual partners declined overall from 1992 to 2003 but, in fact, rose between 1998 and 2003 (in contrast to a continued decrease among heterosexual females). Substance use before last intercourse increased for both sexes between 1992 and 2003 but did so in both cases with a rise between 1992 and 1998 and a slight decrease between 1998 and 2003 (Table 4).

**Bisexual youth trends**—The trends for the total sample of bisexual teens of both genders look quite different from those of their heterosexual peers. The percentage of bisexual males who had ever had sexual intercourse increased somewhat from 1992 to 2003, and doubled for bisexual females during that period. Similarly, the prevalence of sexual abuse among bisexual females increased between 1998 and 2003, rather than decreased, while prevalence of sexual abuse among bisexual males increased in 1998, then dropped in 2003 back to the 1992 prevalence. A number of risk factors showed a similar peak in 1998, for both males and females, which may help explain their increases in teen pregnancy rates during that year, before declining in 2003. For example, early sexual debut was not significantly different in 1998, but then significantly declined for both males and females in 2003. Multiple sexual partners and

substance use before last sex both peaked in 1998, dropping in 2003. Unlike bisexual youth in general, or among sexually-experienced bisexual males, among sexually-experienced bisexual females, teen pregnancy rates actually declined, and condom use at last intercourse significantly improved: lack of condom use at last intercourse dropped by nearly half between 1992 and 2003. These counteracting trends may help explain the differences between pregnancy involvement overall for bisexual female students.

**Lesbian and gay youth trends**—For lesbian teens, the trends in risk exposures are also quite different from heterosexual peers, and show different patterns even from bisexual female peers. For example, while rates of ever having sexual intercourse increased between 1992 and 1998, they declined sharply by 2003. In contrast, sexual abuse rates declined between 1992 and 1998, then began increasing again between 1998 and 2003. That same decline-then-increase pattern was also found for lesbian students' trends in number of lifetime partners, and substance use before last intercourse, although the opposite pattern was reported for initiation of sexual intercourse before age 14. Condom use at last sex was relatively unchanged across years, as was teen pregnancy among sexually-experienced lesbian students; it appeared to decline, but differences were not significant. The extent to which these different trends contribute to teen pregnancy may be harder to assess for lesbian teens; for example, the increasing rates of multiple sexual partners, substance use with sex and lack of condom use may not be relevant if lesbians were reporting mostly same-gender sexual partners, but gender of sexual partners was only asked on the *BC AHS* in 2003.

Unlike the other sexual minority groups, gay male students overall showed a marked and consistent decline in teen pregnancy involvement, and this was supported by declines in every risk exposure measured. The rate of gay students reporting ever having intercourse dropped by half between 1992 and 2003, while sexual abuse history declined by nearly 75%. These two declines clearly contributed to the decline in early sexual experience among gay males. Among sexually-experienced gay students, teen pregnancy also declined between 1992 and 2003, fuelled perhaps in part by strong improvements in condom use with sexual intercourse, and declines in substance use before sex.

### The link between enacted stigma and pregnancy involvement

Although not available for all years of the *BC AHS*, the *enacted stigma* measure provides another measure of exclusion or marginalization that may be salient in explaining the disparities in teen pregnancy involvement for sexual minority youth, as does the individual item about sexual orientation discrimination. Table 5 compares the percentage of bisexual, lesbian or gay teens who reported experiencing sexual orientation discrimination for those who have been involved in pregnancy vs. those who have not. Similarly, the table displays the mean enacted stigma scores and t-test results between those who have been involved in pregnancy and those who have not.

For lesbian and bisexual female students, and for bisexual male students, those who had been involved in pregnancy were more than twice as likely to report experiencing discrimination in the past year due to their sexual orientation. Those involved in pregnancy also reported a significantly greater number of types of harassment and discrimination, as shown by higher enacted stigma scores. However, gay students reported opposite results: those who had ever been involved in pregnancy were nearly two-thirds less likely to report discrimination in the past year because of their sexual orientation, and those who had caused a pregnancy showed no difference in experiences of enacted stigma than those who had not.

## Discussion

Within these three cohorts of BC high school students more than a decade apart, the evidence is clear: lesbian, gay, and bisexual teens in British Columbia are at significantly higher risk for pregnancy involvement during their teen years than their heterosexual peers, with odds of 2 to 7 times the rate of heterosexual students' pregnancy involvement. This is similar to disparities in teen pregnancy involvement for sexual minority youth that have been documented in other population-based surveys in the U.S. (Blake et al., 2001; Saewyc et al., 1999; Saewyc, Pettingell, & Skay, 2004). What explains this higher risk among BC students? It appears in great part due to disparities in risk factors for teen pregnancy compared to heterosexual teens, such as higher rates of ever having sexual intercourse, and higher odds of early sexual intercourse initiation (often in the context of sexual abuse), multiple lifetime partners, substance use before sex, and lack of condom use or other effective contraception. These disparities have also been noted in other school-based studies of sexual minority youth in the U.S. and elsewhere. In addition to these common teen pregnancy risk factors, teen pregnancy involvement for lesbian and bisexual teens was also significantly associated with discrimination due to sexual orientation and more experiences of exclusion, harassment, and violence (enacted stigma). Lesbian and bisexual teens who reported pregnancy involvement were significantly more likely to report discrimination and harassment than teens of their same orientation who have never been pregnant—which suggests that there may be some unique risk factors for sexual minority youth related to issues of societal stigma and social exclusion.

The good news is that teen pregnancy rates declined among all orientation groups between 1992 and 2003, although the strength of those declines among sexual minority youth varied by group, with most groups reporting an increase in 1998 before declining in 2003. For heterosexual students, trends in related risk factors appear to closely mirror the trends in pregnancy involvement, with declines in sexual abuse, youth waiting longer to begin having sex, and, among those who are sexually active, engaging in fewer risky behaviours and improved contraception.

In contrast, trends in teen pregnancy and related risk behaviours are far less consistent for sexual minority teens over the course of the same decade. For bisexual female students, competing trends—increasing numbers who were sexually-experienced, plus rising rates of sexual abuse, substance use with sex, and multiple partners, set against lower rates of early initiation of intercourse and increased rates of condom use with last intercourse—may help explain the increase then decline in teen pregnancy rates for bisexual females over that decade. Lesbian students show somewhat different competing trends, but they too help explain the increase, then decline, in teen pregnancy rates overall. Similarly, for bisexual male students, the trends in both sexual experience and sexual risk behaviours, with many rates peaking in 1998 before beginning to decline, strongly mirror their pattern of pregnancy involvement. Thus, for sexual minority youth in general, higher rates of teen pregnancy involvement may well be mostly due to higher rates of risks related to pregnancy in the general population, although enacted stigma and discrimination also appear to play a role in teen pregnancy involvement for these youth.

Documenting the higher risks and changing trends is important, but does not completely address the question of *why* LGB youth are facing these disparities—why are they engaging in riskier sexual behaviours, at earlier ages? While the surveys themselves do not ask why, so cannot provide definite answers, the results do suggest some potential reasons. The higher rates of sexual abuse among LGB youth may be one key. Sexual violence is a potent predictor of risky sexual behaviours and teen pregnancy involvement in general (Saewyc, Magee & Pettingell 2004); a reason for this is that the trauma-inducing nature of sexual abuse also engenders shame and stigma, altered perceptions about sexual behaviours, and difficulty

negotiating condom use or other self-care practices in sexual relationships (Finkelhor & Brown, 1985). Indeed, maltreatment of any sort during childhood and adolescence causes a cascade of physiological and psychological changes during development, and these stressors subsequently induce a variety of negative coping responses (DeBellis, 2001). The combined stigma of sexual orientation status, and sexual victimization, along with the stress of ongoing enacted stigma experiences, may both increase the distress among LGB youth and precipitate risky coping behaviours that can lead to pregnancy. It should be noted that the timing of the sexual abuse, the enacted stigma, and the pregnancy involvement are not clear from the questions asked, so we cannot be sure which came first, and whether the pregnancy involvement was unintended, or an attempt at stigma management. Pregnancy involvement may be intentional, as a way of changing status and reaching for a more positive identity of parenthood, as has been suggested in other studies. The *BC AHS* cannot help determine this, because it does not include such questions.

Among sexual minority teens, gay males stand out as an anomaly. Like heterosexual teens, their rates of teen pregnancy involvement decline steadily over the decade, as do their rates of sexual experience, exposure to sexual abuse and early sexual initiation, and all the other risk behaviours, which provides further support to the proposed reasons for the higher risk. Unlike the other sexual minority groups, gay males who have been involved in pregnancy were less likely to report anti-gay discrimination, or were no more likely to experience enacted stigma than their gay peers who had not been involved in pregnancy. There are no specific other studies that appear to help explain this difference for gay males, but it warrants further examination, both in future *BC* cohorts and in school-based surveys in other regions that include sexual orientation questions and teen pregnancy involvement.

Beyond overt stigma and hostility, another possible contributor to higher rates of teen pregnancy involvement is a disparity in the levels of supportive resources or protective factors in the lives of lesbian, gay, and bisexual youth. Protective factors such as connectedness to family or school have been linked to lower rates of pregnancy involvement among adolescents in the U.S. and in British Columbia (Kirby, Lepore, & Ryan, 2005; Saewyc, Taylor et al., 2008), yet many sexual minority youth feel less connected to family or school than their heterosexual peers (Saewyc et al., in press). To the extent they have fewer supportive resources to draw upon, LGB youth may be more motivated to reach for those caring connections through parenthood.

### Strengths and limitations

There are both strengths and limitations to this study that should be considered in weighing the evidence it offers. First, the *BC AHS* cohorts are provincially-representative surveys, conducted with fidelity of methods over the decade between 1992 and 2003. Indeed, they are some of the largest province-wide adolescent health surveys conducted in Canada, and the only population-based surveys that have incorporated measures of sexual orientation, teen pregnancy, and related risk behaviours in each cohort since 1992. As a result, they tap a large enough sample of LGB youth throughout the province to adequately explore health disparities and related risk exposures. However, this is not longitudinal data, but cross-sectional surveys of new cohorts across time. Many of the items measured are lifetime exposures, and do not allow us to determine causal directions for the relationships that were identified. Similarly, sexual orientation unfolds over adolescence; it is possible that some youth who identify as heterosexual will eventually identify as LGB, some youth who identify as gay may subsequently identify as bisexual, and vice versa. It should be noted, though, older youth who subsequently identify as LGB after high school will not have done so in time for teen pregnancy involvement, and so are unlikely to alter the existing disparities. This study represents youth in school; LGB youth are disproportionately likely to be homeless or street-involved, and

therefore less likely to be in school (Saewyc, 2005). Homeless youth are even more likely to become teen parents than youth in school (Smith et al., 2007), so LGB homeless youth who are out of school may have even higher odds of pregnancy involvement than their peers attending school.

In this study, we were unable to tease out whether a lack of LGB content in sexual education in schools might be contributing to these trends, as there are no questions on the *BC AHS* related to sex education, and the variation in curriculum used (if any) in schools is impossible to document so many years later. One study of youth in Massachusetts (Blake et al., 2001) found that the level of gay-sensitive HIV-related instruction was associated with lower sexual risk behaviours, and LGB youth in schools that had minimal or no gay-sensitive sexual education had higher rates of teen pregnancy involvement than heterosexual teens and other LGB teens in schools with moderate to high levels of gay-sensitive education. Another study, also using the Massachusetts school-based data, found lower rates of harassment in schools with supportive staff and specific policies about anti-gay bullying, as well as lower rates of suicide attempts in those schools (Goodenow, Szalacha, & Westheimer, 2006). This demonstrates a link between reduced rates of violence in school and lowered distress for LGB youth, similar to the link between rates of sexual abuse, enacted stigma and teen pregnancy that we found among youth in BC.

The results of our study suggest that reducing rates of teen pregnancy among LGB youth will require a focus on reducing levels of stigma and sexual violence towards them. This may in part require interventions in the wider community, but efforts to create friendlier, more supportive atmospheres within schools, and interventions to reduce sexual harassment and sexual violence in adolescent relationships in general, may both have an effect on sexual violence and harassment directed toward LGB youth within the school setting. Sexual health education topics should include discussion of sexual abuse as well as healthy relationships, with the awareness that such content may elicit disclosure of abuse, so health educators should be prepared to address that disclosure as well as their duty to report. Sexual health curriculum should also include nonjudgmental, factual information about sexual orientation development, and LGB-related sexual health issues, in order to engage the awareness of even closeted LGB youth about their risks for pregnancy involvement. Finally, interventions to foster positive family and school connectedness for LGB youth may be an additional approach to reducing the distress, improving sexual health behaviours, and reducing unintended teen pregnancy.

These findings also suggest directions for further research. First, it is important to document whether these disparities and trends continue in BC, and whether they exist among LGB youth in other regions of Canada. This can only be done by incorporating measures of sexual orientation, teen pregnancy involvement, sexual health behaviours, and sexual victimization into other regularly recurring population-focused surveys of youth health and risk behaviours, whether in other provinces in Canada, or in national surveys. To our knowledge, only the Atlantic provincial youth drug use surveys have recently included a measure of sexual orientation, and have some of the measures of sexual risk behaviour, but do not include questions about teen pregnancy involvement or experiences of sexual violence (Poulin & Elliott, 2007). The 2008 *BC AHS* is currently under way, and includes most of the same measures as previous surveys, allowing us to eventually document whether the trends continue or alter.

Second, beyond documenting the disparities and trends, it is important to learn *why*, and that requires in-depth qualitative exploration of the meanings of sexual behaviour, intentions, pregnancy experiences and pregnancy decisions among lesbian, gay, and bisexual adolescents who have been involved in a pregnancy. This will help identify potential other factors associated with pregnancy involvement, test and refine theories around this particular health

disparity for LGB youth, and the specific perspectives and reasons identified by young people themselves.

Third, we need to know more about the hidden phenomenon of LGB teen parenting. Not all teen pregnancies among LGB youth end in abortion; what are their experiences in deciding to give birth, involvement in maternity care, and involvement in subsequent parenting? What supports can they draw upon as young parents? Both qualitative studies with LGB teen parents, as well as including items about teen parenting on large-scale population-based surveys of youth, will help us better identify this elusive population.

Fourth, we need to conduct with Canadian datasets studies replicating the Massachusetts analyses around supportive sexual health education (Blake et al., 2001) and supportive school environments (Goodenow et al., 2006) and their influence on health disparities for LGB youth. This will help document such effects within the Canadian contexts, to guide policy and practice in schools. Finally, research should include intervention studies to assess the effectiveness of programs to address stigma reduction, sexual violence prevention, fostering healthy sexual decision making, and reducing unintended pregnancy involvement for LGB youth.

Lesbian, gay, and bisexual teens are at higher risk for teen pregnancy involvement than their heterosexual peers, and higher rates of sexual violence and enacted stigma help explain this disparity. The declining rates of pregnancy for heterosexual teens since the early 1990s are also found among gay males, but rates for lesbian and bisexual teens have only begun to decline in the later 1990s. Of even greater concern, some of the most potent risk factors for teen pregnancy—sexual abuse and early sexual experience—have increasing trends for lesbian and bisexual female students, which suggests the declines in teen pregnancy in 2003 may not continue in future cohorts. Reducing stigma for LGBTQ youth, and preventing the harassment and sexual violence they may be targeted for, could be important strategies for preventing unwanted teen pregnancies.

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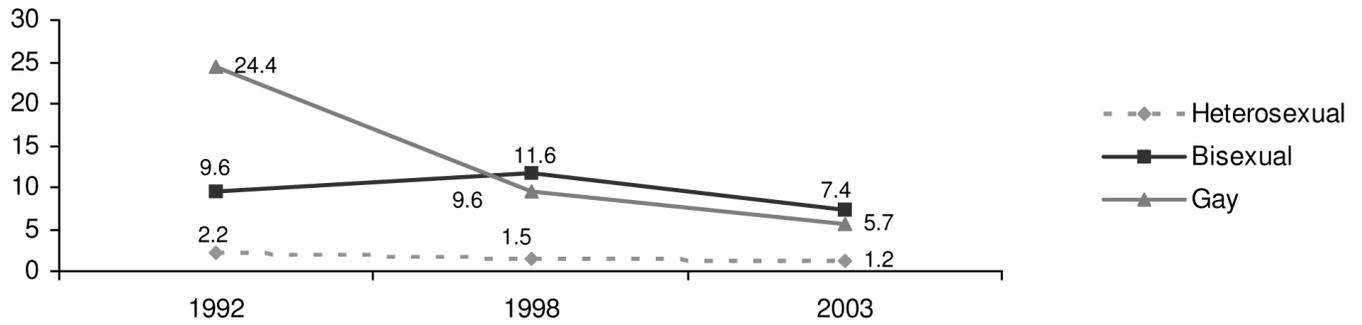
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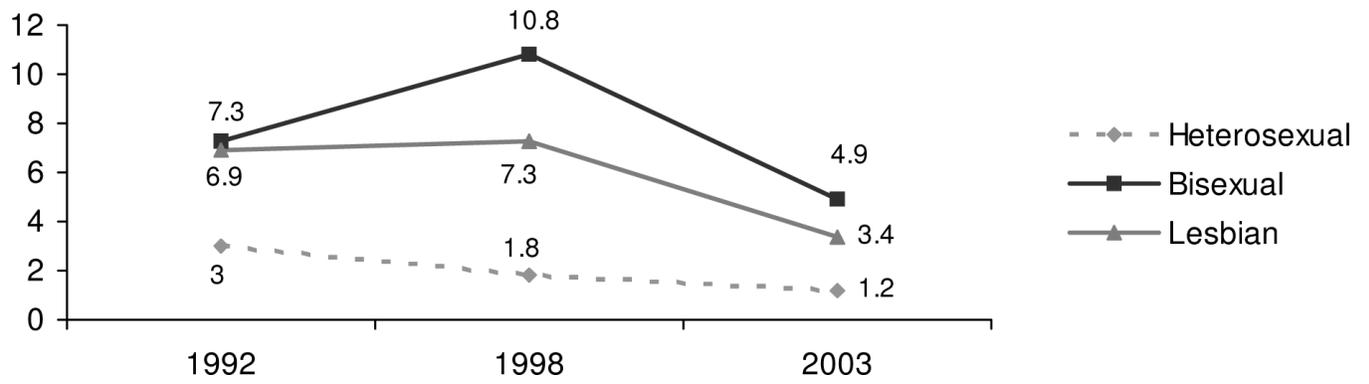
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**Figure 1.**  
Trends in pregnancy involvement among heterosexual, bisexual and gay male students in the BC AHS 1992, 1998 and 2003.\*

\* % of all male youth in each group who reported having ever caused a pregnancy.



**Figure 2.** Trends in pregnancy involvement among heterosexual, bisexual and lesbian female students in the *BC AHS* 1992, 1998 and 2003.\*  
\* % of all female students in each group who reported having ever been pregnant.

**Table 1**  
Demographics for those indicating sexual orientation in the BC AHS, by year

	1992	1998	2003	1992	1998	2003
<b>weighted N</b>	<b>121,100</b>	<b>148,009</b>	<b>133,539</b>	<b>118,924</b>	<b>133,567</b>	<b>131,593</b>
% female each year	50.5%	52.6%	50.4%			
Sexual orientation, %						
100% heterosexual	91.4	89.8	86.6	93.6	93.7	95.0
mostly heterosexual*	6.7	8.0	9.8	4.3	4.3	3.4
bisexual	1.8	1.9	3.2	1.6	1.2	0.9
gay/lesbian	0.2	0.3	0.3	0.5	0.9	0.7

\* Specific results for "mostly heterosexual" youth not shown in subsequent tables

Table 2

Age-adjusted odds ratios (AOR) comparing pregnancy involvement and related risk behaviours among gay, bisexual, and heterosexual male students in *BC AHS* 1992, 1998, and 2003

	1992		1998		2003	
	AOR	(95% CI)	AOR	(95% CI)	AOR	(95% CI)
<b>Male</b>						
<b>Ever had sexual intercourse</b>						
Bisexual	1.31	(1.19–1.45)	2.42	(2.17–2.70)	2.44	(2.16–2.76)
Gay	6.18	(5.05–7.57)	4.02	(3.55–4.55)	1.28	(1.10–1.48)
<b>Pregnancy involvement<sup>d</sup></b>						
Bisexual	4.66	(3.94–5.52)	6.02	(5.02–7.22)	3.61	(2.86–4.56)
Gay	7.39	(5.96–9.16)	3.52	(2.81–4.42)	3.56	(2.58–4.92)
<b>Early first intercourse (before age 14)<sup>d</sup></b>						
Bisexual	1.58	(1.34–1.87)	2.24	(1.86–2.70)	2.23	(1.84–2.69)
Gay	5.09	(3.88–6.68)	1.90	(1.57–2.30)	2.57	(1.95–3.37)
<b>2 or more lifetime sexual partners<sup>d</sup></b>						
Bisexual	1.24	(1.07–1.45)	7.53	(5.68–9.97)	1.47	(1.23–1.76)
Gay	3.24	(2.49–4.21)	4.63	(3.68–5.82)	1.67	(1.30–2.15)
<b>Substance use before last intercourse<sup>d</sup></b>						
Bisexual	1.80	(1.56–2.07)	1.42	(1.20–1.66)	NS	(0.84–1.22)
Gay	4.84	(3.93–5.97)	1.49	(1.27–1.75)	0.35	(0.25–0.49)
<b>Lack of condom use at last intercourse<sup>d</sup></b>						
Bisexual	2.12	(1.83–2.44)	1.74	(1.48–2.05)	3.47	(2.92–4.12)
Gay	2.03	(1.66–2.48)	1.51	(1.29–1.77)	NS	(0.77–1.32)

Note: 100% heterosexual = reference group, all AOR  $p < .01$  except where noted

<sup>d</sup> Among male youth who have ever had sexual intercourse

Table 3

Age-adjusted odds ratios (AOR) comparing pregnancy experience and related risk behaviours among lesbian, bisexual, and heterosexual female students in *BC AHS* 1992, 1998, and 2003

	1992		1998		2003	
	AOR	(95% CI)	AOR	(95% CI)	AOR	(95% CI)
<b>Female</b>						
<b>Ever had sexual intercourse</b>						
Bisexual	0.74	(0.67–0.83)	3.55	(3.26–3.87)	3.96	(3.70–4.24)
Lesbian	2.42	(1.76–3.32)	5.37	(4.34–6.64)	1.36	(1.09–1.70)
<b>Pregnancy experience<sup>d</sup></b>						
Bisexual	3.40	(2.81–4.11)	2.93	(2.56–3.36)	1.81	(1.55–2.10)
Lesbian	2.38	(1.32–4.30)	2.37	(1.60–3.50)	2.63	(1.55–4.44)
<b>Early first intercourse (before age 14)<sup>d</sup></b>						
Bisexual	2.81	(2.23–3.55)	3.22	(2.83–3.66)	2.25	(2.01–2.53)
Lesbian	NS	(0.82–2.80)	7.45	(5.23–10.60)	11.76	(7.67–18.03)
<b>2 or more lifetime sexual partners<sup>d</sup></b>						
Bisexual	1.76	(1.45–2.14)	2.93	(2.59–3.31)	2.29	(2.10–2.49)
Lesbian	— <sup>b</sup>		NS	(0.61–1.08)	7.80	(4.94–12.32)
<b>Substance use before last intercourse<sup>d</sup></b>						
Bisexual	NS	(0.94–1.37)	1.67	(1.49–1.86)	1.39	(1.27–1.52)
Lesbian	7.25	(4.52–11.64)	0.46	(0.32–0.66)	NS	(0.70–1.56)
<b>Lack of condom use at last intercourse<sup>d</sup></b>						
Bisexual	3.86	(3.15–4.72)	1.75	(1.57–1.96)	1.28	(1.17–1.40)
Lesbian	2.69	(1.70–4.28)	1.49	(1.12–1.98)	2.94	(2.02–4.28)

Note: 100% heterosexual = reference group, all AOR  $p < .01$  except where noted (NS)

<sup>a</sup> Among female teens who have ever had intercourse

<sup>b</sup> All lesbian students reported two or more lifetime sexual partners

**Table 4**  
Trends in prevalence of pregnancy involvement and related risk exposures by orientation in BC AHS 1992, 1998, and 2003

	Male %			Female %		
	1992	1998	2003	1992	1998	2003
<b>Heterosexual teens</b>						
Ever had sexual intercourse	35.1	25.1	23.8	30.0	22.4	22.2
Sexual abuse history	3.2	2.6	2.0	21.0	14.3	10.8
Pregnancy <sup>a</sup>	6.2	6.4	5.3	10.2	8.0	5.3
Early sexual debut (<14 years) <sup>a</sup>	41.4	33.4	23.9	29.4	21.5	13.8
2+ sexual partners in lifetime <sup>a</sup>	62.8	57.5	58.8	55.0	49.8	47.8
Substance use before last sex <sup>a</sup>	27.4	37.2	32.3	22.8	28.7	26.2
No condom at last sex <sup>a</sup>	35.5	35.5	25.6	47.2	46.9	34.2
<b>Bisexual teens</b>						
Ever had sexual intercourse	41.0	40.6	44.7	27.4	53.3	55.7
Sexual abuse history	14.9	21.9	14.8	34.8	31.9	36.2
Pregnancy <sup>a</sup>	23.4	28.9	16.8	26.7	20.4	8.8
Early sexual debut (<14 years) <sup>a</sup>	56.4	59.7	42.7	44.1	39.6	26.0
2+ sexual partners in lifetime <sup>a</sup>	66.5	91.1	66.7	68.0	74.4	68.6
Substance use before last sex <sup>a</sup>	38.9	45.2	31.8	25.3	39.7	33.9
No condom at last sex <sup>a</sup>	52.5	47.1	53.5	75.5	60.6	38.1
<b>Gay or lesbian teens</b>						
Ever had sexual intercourse	75.6	56.3	37.5	40.4	51.3	27.4
Sexual abuse history	22.5	22.7	6.3	43.4	22.8	29.1
Pregnancy <sup>a</sup>	32.7	19.2	16.8	17.3	14.6	12.6
Early sexual debut (<14 years) <sup>a</sup>	76.0	54.8	41.7	64.6	67.9	48.4
2+ sexual partners in lifetime <sup>a</sup>	83.5	86.3	69.2	100.0	42.9	87.9
Substance use before last sex <sup>a</sup>	62.6	46.6	14.0	69.5	17.9	27.4
No condom at last sex <sup>a</sup>	51.3	43.8	25.3	61.7	52.5	60.5

All p-values for chi-square tests of trends <0.05 to <0.01, except where noted in the text.

<sup>a</sup> Among sexually-experienced youth

**Table 5**  
Relationships between pregnancy involvement and enacted stigma among bisexual and gay/lesbian youth (2003 BC AHS)

	Pregnancy involvement	% Discriminated against in past year due to sexual orientation	$p^a$	Mean enacted stigma score, range 0–8 (SD)	$p^b$
<b>Male</b>					
Bisexual	No	32.4%	<0.001	2.90 (2.09)	<0.001
	Yes	84.3%		4.09 (1.60)	
Gay	No	60.4%	<0.001	3.10 (1.92)	0.959
	Yes	18.4%		3.08 (2.34)	
<b>Female</b>					
Bisexual	No	26.7	<0.001	3.01 (1.95)	<0.001
	Yes	48.3		4.43 (2.26)	
Lesbian	No	42.7	<0.001	3.48 (2.25)	<0.001
	Yes	100.0		7.00 (0.00)	

<sup>a</sup> Chi-square tests

<sup>b</sup> Independent sample t-tests