

Sexual Orientation and Gender Identity in Youth Suicide Victims: An Exploratory Study

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Objective: Our study was designed to explore additional outcome variables of a suicide case–control study to determine the association between sexual orientation and gender identity in suicide completion in children and adolescents.

Method: Fifty-five child and adolescent suicide victims and 55 community control subjects were assessed using semi-structured, proxy-based interviews and questionnaires regarding sexual orientation and gender issues, psychopathological diagnoses, and service use.

Results: In our sample, no significant differences between suicide victims and control subjects were found regarding same-sex sexual orientation nor intimidation related to same-sex sexual orientation. Suicide victims with same-sex sexual orientation were more likely than suicide victims without same-sex sexual orientation, to meet criteria for anxiety disorders. Within the month preceding their deaths, these youth were more likely to have consulted a health professional, a psychiatrist, as well as having been hospitalized, and were more likely to have consulted a psychiatrist in the last year.

Conclusions: In our sample, same-sex sexual orientation and gender identity issues do not appear to be more prevalent among youth who die by suicide, compared with youth recruited from the general population, nor for same-sex sexual-related intimidation. While exhibiting comparable levels of general psychopathological diagnoses associated with suicide, suicide victims with same-sex sexual orientation were more likely to meet criteria for anxiety disorders and to have consulted mental health professionals before their deaths.

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Clinical Implications

- Our study suggests that suicide victims with same-sex sexual orientation present with higher rates of anxiety disorders, compared with suicide victims without same-sex sexual orientation.
- Our study also suggests that most suicide victims with same-sex sexual orientation had consulted in the month and year prior to suicide, and that these time intervals might be considered important for suicide prevention in this high-risk group.

Limitations

- Our study is exploratory and based on a small sample size.
- Our study has a cross-sectional design.

Key Words: *children, adolescents, suicide, same-sex sexual orientation, gender identity*

Suicide is one of the leading causes of death in children and adolescents. The annual rates of suicide per 100 000 inhabitants were 0.5 for females and 0.9 for males aged 5 to 14 years, and 12.0 for females and 14.2 for males aged 15 to 24 years, respectively.¹ Quebec has one of the highest rates of suicide among children and adolescents in the country and compared with other industrialized nations. This rate increased markedly from the 1980s through the 1990s (that is, from 11.1 per 100 000 in 1980 to 20.5 per 100 000 in 1996).²

While a substantial body of literature supports increased risk for suicide associated with the presence of Axis I disorders, it is important to identify additional risk factors to better understand the etiology of suicide and, consequently, more effectively prevent its occurrence.³

As in many other areas involving suicide research, there is a disparity between attention paid by researchers to at-risk populations in adults and children, and very little research has been done addressing suicide in youths with same-sex sexual orientation. Most studies have focused on identifying suicidality and the risk factors associated with it. Russell and Joyner⁴ reported that homosexual youth are at least 2 times more likely than heterosexuals to attempt suicide. Further, a comparative study between homosexual or bisexual and heterosexual youth reported a greater than 7-fold increase in odds of a suicide attempt associated with bisexuality or homosexuality.⁵ Recently, it has been suggested that it is the experience of harassment rather than the sexuality status per se that is predictive of suicidal behaviour.⁶

Mixed findings have emerged from studies examining sexual orientation in its relation to youth suicide. One study examining the sexual orientation of youth who completed suicide has made the controversial statement that gay, lesbian, and bisexual youth might be 2 to 3 times more likely to attempt suicide, and that such youth may account for up to 30% of the total adolescent suicides.⁷ From an older group where suicides by younger people were heavily represented (aged 21 to 30 years), Rich et al⁸ found that 13 out of 119 young men aged 21 and older (11%) who died from suicide in San Diego from 1981 to 1983 were known to be homosexuals, although none of the women were found to be lesbians. Conversely, Shaffer et al⁹ conducted a study on teenagers who had committed suicide, and found only 2.5% of the victims were reported to have had homosexual experiences. That study did not find any association between same-sex orientation and suicide, nor stigmatization related to same-sex sexual orientation and suicide.

A theoretical framework has been proposed regarding the influence of gender identity disorder in suicide attempts or completion has been proposed by Cohen,¹⁰ where suicide could be motivated by factors related to problems in the formation of gender identity. However, we did not find studies that empirically test the association between this important subject and suicide.

Our study explores, as a secondary outcome, the association between sexual orientation and gender identity, intimidation related to same-sexual orientation, and suicide in adolescents by using a case-control design. Based on previous studies,⁷⁻⁹ we expect that homosexual orientation will not be more prevalent among youth suicide victims, but that intimidation related to same-sex orientation might be more prevalent when compared with youth control subjects. Moreover, we propose to test Cohen's gender identity framework in its association with suicide, and expect an increased prevalence of gender identity issues among suicide victims than control subjects.

Method

Participants

In our study, 55 youth suicide victims (adjudicated by coroners of the Province of Quebec) aged 11 to 18 years were matched to 55 living youths for age (within 2 years), gender (43 males; 12 females), and geographic area.¹¹ Our primarily Caucasian samples originated from the Province of Quebec, and were recruited from January 2000 to May 2003.

Procedures

Recruitment and psychopathology assessment procedures are explained in detail in a previous communication.¹¹

For both groups, a key respondent best acquainted with the participant in question was interviewed by clinicians using a 13-item questionnaire with questions related to sexual orientation and gender identity. This questionnaire is available on request and is based on Shaffer et al.⁹ We used 6 questions related to same-sex sexual orientation, ascertaining whether they had been known to have had a same-sex sexual experience, to have declared that they had a same-sex sexual orientation, and were concerned about their sexual orientation. Among the 5 questions about gender identity, we asked, for instance, about the desire to be of an opposite sex, the preference for activities associated with the opposite sex, and the preference for clothing typical of the opposite sex. If any of these identity questions were answered affirmatively, 2 additional questions about attitudes toward genitalia and desire for body changes were asked.

Our project was approved by our local institutional review board (Centre Hospitalier Universitaire Sainte-Justine), and the families of the suicide victims, comparison subjects, and informants signed written informed consents.

For each suicide victim and control subject, the following information regarding services use was collected from the acquainted informant: presence of contacts with a general practitioner, a mental health professional, a psychiatrist or with a professional from the youth protection services; use of antidepressant medication; and, history of hospitalization. For each health care contact determined to be present, the respective medical and (or) social records were reviewed to survey, among other things, subjects' compliance with treatment. The presence of a service contact before the suicide

Table 1 Sexual orientation and gender identity in youth suicide victims (n = 55) and control subjects (n = 55)

Study variable	Suicide victims n = 55, n	Control subjects n = 55, n	Fisher exact test	χ^2	OR (95% CI)
Sexual orientation					
Same-sex sexual experience	2	0	0.252	—	—
Same-sex sexual self-description	1	0	0.505	—	—
Concern about sexual orientation	1	0	0.505	—	—
At least 1 of the above 3 questions positive	4	0	0.061	—	—
Same-sex sexually oriented friends	4	8	—	1.58 ^a	0.45 ^b (0.12 to 1.59)
Teased for being effeminate or excessively masculine	5	2	—	1.31 ^a	2.6 ^b (0.48 to 14.02)
Effeminate or excessively masculine behaviour	1	0	0.505	—	—
Gender identity					
Desire to be of the opposite sex	1	2	—	0.36 ^a	0.48 ^b (0.04 to 5.47)
Preference to wear opposite sex clothing	0	0	—	—	—
Preference for opposite sex activities	0	0	—	—	—
Preference for play partners of an opposite sex	0	0	—	—	—
Preference for an opposite sex role	0	0	—	—	—
Desire for a body change	1	0	0.505	—	—
Belief of being born with the wrong sex	1	0	0.505	—	—
^a df = 1; ^b P < 0.05 — = not applicable					

(victims) or the interview (living control subjects) was classified as lifetime, during the past year, and (or) during the past month.

Statistical Analysis

Statistical analyses in our study were performed with SPSS version 11.5 (SPSS Inc, Chicago, IL). For the study of dichotomous variables, we employed chi-square analyses and odds ratios (with the exact limit test to evaluate the 95% confidence intervals), or Fisher exact test (1-tailed).

Same-Sex Sexual Orientation

Within the suicide victims, 4 people were found to have had a same-sex sexual experience, described themselves as having same-sex sexual orientation, or expressed concern regarding their sexual orientation (3 males and 1 female). Taken individually, comparisons with control subjects, for which no informant endorsed these criteria, were nonsignificant ($P > 0.2$) (Table 1).

Friends With Same-Sex Sexual Orientation, Effeminacy, or Gender Identity. Four suicide victims were known to have friends with same-sex sexual orientation, and 1 additional female was reported to behave in an excessively masculine way. We also found that 5 suicide victims were teased because they were effeminate or excessively masculine, all but one of whom was male, while 2 control subjects were teased because they were excessively masculine (2 females). Two out of 5 suicide victims were found to have also had a same-sex sexual experience, described themselves as having same-sex sexual orientation, or expressed concerns regarding their sexual orientation.

Concerning the gender identity questions, only one of the informants reported that a female suicide victim expressed the desire to be of the opposite sex and she openly declared herself as same-sex orientated. The same victim expressed the desire to be more masculine and thought that she was born with the wrong sex.

Table 2 Association of sexual orientation and gender identity with psychopathology within the suicide group

Psychiatric diagnosis	With same-sex sexual orientation <i>n</i> = 4, <i>n</i>	Without same-sex sexual orientation <i>n</i> = 51, <i>n</i>	Fisher exact test	χ^2	OR (95% CI)
Major depression and depression NOS	3	23	—	1.33 ^a	3.65 ^b (0.35 to 37.51)
Bipolar disorder	0	4	0.733	—	—
Dysthymia	0	3	0.794	—	—
Alcohol abuse	0	6	0.621	—	—
Drug abuse	1	9	—	0.13 ^a	1.55 ^b (0.14 to 16.72)
Anxiety disorder	3	10	—	6.3 ^a	12.3 ^c (1.15 to 131.1)
Brief reactive psychosis	0	2	0.859	—	—
Disruptive disorders	2	18	—	0.34 ^a	1.83 ^b (0.23 to 14.13)

NOS = not otherwise specified; — = not applicable
^a *df* = 1; ^b *P* > 0.05; ^c *P* < 0.05

Among the control group, 8 reported that they had friends with same-sex sexual orientation, while no person making up the control group was reported to behave in an excessively masculine or effeminate way. Two subjects within the control group expressed the desire to be of an opposite sex. Overall, there were no statistically significant differences between subjects and control subjects concerning the above-mentioned variables ($P > 1.31$).

Association With Psychopathology Within the Suicide Group. To better understand whether same-sex sexual orientation in suicide is foreshadowed by specific psychopathological characteristics, we examined within the suicide group the associations between psychopathological diagnoses and the pooled same-sex orientation variable. Suicide completers with same-sex sexual orientation ($n = 4$) were more likely to meet criteria for anxiety disorders (OR 12.30, 95% CI 1.15 to 131.10, $P < 0.05$). We found no statistically significant differences regarding major depression and depression not otherwise specified, substance abuse, brief reactive psychosis, and disruptive disorders (Table 2).

Association With Health Services Use Within the Suicide Group. Analyses revealed that suicide with the superordinate same-sex orientation dimension were significantly more likely to have consulted a psychiatrist in the year preceding suicide (OR 12.30, 95% CI 1.15 to 131.10, $P < 0.05$). Moreover, within the month preceding their deaths, these youth were more likely to have consulted a health professional (OR 16.12, 95% CI 1.48 to 175.22, $P < 0.01$), a psychiatrist (OR 9.20, 95% CI 1.05 to 80.28, $P < 0.05$), as well as having been hospitalized (OR 16.66, 95% CI 0.82 to 337.00, $P < 0.05$). To determine whether this was simply a function of their increased likelihood to meet criteria for anxiety disorders, we repeated analyses controlling for this possibility. After controlling for anxiety disorders we found that the adolescents were still marginally more likely to have consulted a

psychiatrist in the year preceding their deaths, and significantly more likely to have consulted a health professional in the month preceding their suicides (AOR 14.90, 95% CI 1.15 to 191.70, $P < 0.05$) (Table 3).

Discussion

In our study, we compared, on an exploratory basis, sexual orientation, gender identity, and intimidation related to those between youth suicide victims and healthy living control subjects. The informants of 4 of the 55 suicide victims endorsed an item indicating same-sex sexual orientation or self-suspected same-sex sexual orientation. While the rarity of these characteristics and reduced statistical power limit the findings that same-sex sexual orientation is more prevalent among youth who die by suicide, the rates of same-sex sexual orientation in our sample are slightly higher than the prevalence rates reported in Shaffer et al.⁹ This can be an effect of current sociocultural changes, at least in parents reporting these characteristics of their children.¹²

As we expected, analyses examining the clinical presentation of the suicide victims, whose proxies endorsed questions addressing same-sex sexual orientation, did not reveal large deviations from the psychopathological factors associated with suicide. However, what was unexpected was the greater prevalence of anxiety disorders among youth suicides with same-sex sexual orientation, and these appear to be the cause of consultation with mental health services shortly before the person's death.

While it is unclear whether youth with same-sex sexual orientation or distress related to intimidation in context of same-sexual orientation typically consult with mental health services outside of the context of suicide, this nevertheless presents an important opportunity for prevention as they are significantly more likely than their opposite-sex sexual orientation counterparts to have sought professional care in the

Table 3 Association of sexual orientation and gender identity with health services use within the suicide group

Service used by time period	Same-sex sexual orientation <i>n</i> = 4, <i>n</i>	No same-sex sexual orientation <i>n</i> = 51, <i>n</i>	χ^2	OR (95% CI)	AOR ^a (95% CI)
Last month					
Psychiatry	2	5	5.39 ^b	9.20 ^c (1.05 to 80.28)	6.98 ^d (0.65 to 74.61)
Health professional	3	8	8.15 ^b	16.12 ^e (1.48 to 175.22)	14.90 ^c (1.15 to 191.70)
Hospitalization	1	1	5.61 ^b	16.66 ^c (0.82 to 337.00)	4.50 ^d (0.19 to 106.82)
Last year					
Psychiatry	3	10	6.30 ^b	12.30 ^c (1.15 to 131.10)	9.47 ^f (0.79 to 113.12)
Health professional	3	20	1.95 ^b	4.65 ^d (0.45 to 47.88)	4.87 ^d (0.41 to 56.93)
Hospitalization	1	9	0.13 ^b	1.55 ^d (0.14 to 16.72)	0.89 ^d (0.07 to 11.48)
Previous suicide attempt	1	8	0.23 ^b	1.79 ^d (0.16 to 19.46)	0.66 ^d (0.04 to 8.89)

^a Controlling for anxiety disorders
^b *df* = 1; ^c *P* < 0.05; ^d *P* > 0.05; ^e *P* < 0.01; ^f *P* = 0.08

month preceding their deaths. Moreover, our results highlight the need that teenagers receiving mental health services systematically add, in a sensitive way, systematic questions about sexual orientation and gender. This appears to be particularly the case among youth consulting for reasons relating to anxiety. This is supported by 2 adult surveys in the general adult population that found that service use was more frequent among those of minority sexual orientation,^{13,14} as well as greater prevalence of higher levels of anxiety disorders than in the heterosexual population.¹³ This is also in line with findings from the National Longitudinal Study of Adolescent Health, which revealed that drug use and depression were associated with adverse outcomes among heterosexual respondents but not lesbian, gay, and bisexual respondents, the latter reporting higher rates of suicidal ideation and suicidal attempts.¹⁵

Our study suggests that sexual orientation and its relation to youth suicide completion should continue to be studied in larger samples, as the literature shows that even after controlling for other potential risk factors, the odds for suicidal behaviours were not reduced.^{16,17}

While we did not specifically address this issue, another risk factor that has been taken into consideration is victimization. One study has shown that boys are more likely to report victimization experiences than girls, and that it was more frequently reported by same-sex sexual orientation youths than heterosexuals.⁴ Such findings appear to indicate that same-sex sexual orientation in youth is associated with an increased load of life stressors, potentially eliciting pre-existing vulnerabilities to suicide.

Limitations

Some of the limitations associated with the methods employed in our study are inherent to post-mortem investigations involving proxy-based interviews. While no study has validated the proxy assessment of sexual orientation, the absence of a systematic bias was assured by the fact that we used proxy-based interviews in both groups. Additionally, our sample size is small, and this prevents any firm conclusions. Yet, our exploratory findings are in agreement with the current literature on suicide in adolescents. Nevertheless, our choice of community rather than psychiatric control subjects limits our ability in our study to draw fine-grained conclusions regarding which patterns of health services use are inherent to suicidal behaviour (as opposed to mental disorders in general). We also need to take into consideration the possible underreporting due to the unwillingness to report painful memories as well as the possibility that they did not disclose their sexual orientation and gender identity to the informants. Additional studies using a larger sample are necessary to address these important questions.

Conclusion

Our sample did not find same-sex sexual orientation and gender identity issues to be more prevalent among youth who die by suicide, nor did intimidation related to same-sex orientation, when compared with youth recruited from the general population. Comparable levels of psychopathological diagnoses were observed among youth with opposite-sex sexual orientations where broad risk factors for suicide are concerned, yet people with same-sex sexual orientation were more likely to meet criteria for anxiety disorders. They are also more likely to be hospitalized, and consult psychiatrists and mental health professionals in the month preceding suicide.

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References

- Pelkonen M, Marttunen M. Child and adolescent suicide: epidemiology, risk factors, and approaches to prevention. *Paediatr Drugs*. 2003;5(4):243–265.
- St-Laurent D, Gagné M. Surveillance de la mortalité par suicide au Québec [Internet]. Québec (QC): Institut national de santé publique du Québec; 2008. Available from: <http://www.aqps.info/activ/sps/2008>.
- Brent DA, Johnson BA, Perper J, et al. Personality disorder, personality traits, impulsive violence, and completed suicide in adolescents. *J Am Acad Child Adolesc Psychiatry*. 1994;33(8):1080–1086.
- Russell ST, Joyner K. Adolescent sexual orientation and suicide risk: evidence from a national study. *Am J Public Health*. 2001;91(8):1276–1281.
- Remafedi G, French S, Story M, et al. The relationship between suicide risk and sexual orientation: results of a population-based study. *Am J Public Health*. 1998;88(1):57–60.
- Montoro R. Suicide and harassment based on being perceived as gay: results from the Quebec youth risk behaviour survey. Paper presented at the 7th Meeting of the International Society for Adolescent Psychiatry and Psychology; 2007; Montreal (QC). p 80.
- Gibson P. Gay male and lesbian youth suicide. Rockville (MD): US Department of Health and Human Services; 1989.
- Rich CL, Young D, Fowler RC. San Diego suicide study. I. Young vs old subjects. *Arch Gen Psychiatry*. 1986;43(6):577–582.
- Shaffer D, Fisher P, Hicks RH, et al. Sexual orientation in adolescents who commit suicide. *Suicide Life Threat Behav*. 1995;25(Suppl):64–71.
- Cohen Y. Gender identity conflicts in adolescents as motivation for suicide. *Adolescence*. 1991;26(101):19–29.
- Renaud J, Berlim MT, McGirr A, et al. Current psychiatric morbidity, aggression/impulsivity, and personality dimensions in child and adolescent suicide: a case-control study. *J Affect Disord*. 2008;105(1–3):221–228.
- Andersen R, Fetner T. Cohort differences in tolerance of homosexuality. Attitudinal change in Canada and the United States, 1981–2000. *Curr Opin Q*. 2008;72:311–330.
- Cochran SD, Mays VM, Sullivan JG. Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *J Consult Clin Psychol*. 2003;71(1):53–61.
- Tjepkema M. Health care use among gay, lesbian and bisexual Canadians. *Health Rep*. 2008;19(1):53–64.
- Silenzio VM, Pena JB, Duberstein PR, et al. Sexual orientation and risk factors for suicidal ideation and suicide attempts among adolescents and young adults. *Am J Public Health*. 2007;97(11):2017–2019.
- Wichstrom L, Hegna K. Sexual orientation and suicide attempt: a longitudinal study of the general Norwegian adolescent population. *J Abnorm Psychol*. 2003;112(1):144–151.
- Herrell R, Goldberg J, True WR, et al. Sexual orientation and suicidality: a co-twin control study in adult men. *Arch Gen Psychiatry*. 1999;56(10):867–874.

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Résumé : L'orientation et l'identité sexuelles chez les jeunes victimes de suicide : une étude exploratoire

Objectif : Notre étude a été conçue pour explorer les variables additionnelles des résultats d'une étude cas-témoin sur le suicide, afin de déterminer l'association entre l'orientation sexuelle et l'identité sexuelle dans le suicide complété chez les enfants et les adolescents.

Méthode : Cinquante-cinq enfants et adolescents victimes de suicide et 55 sujets témoins de la collectivité ont été évalués à l'aide d'entrevues et de questionnaires semi-structurés menés auprès de tiers sur des questions d'orientation sexuelle et d'identité sexuelle, de diagnostics psychopathologiques et d'utilisation des services.

Résultats : Dans notre échantillon, aucune différence significative n'a été observée entre les victimes de suicides et les sujets témoins à l'égard de l'orientation sexuelle de même sexe ou de l'intimidation liée à l'orientation sexuelle de même sexe. Les victimes de suicides ayant une orientation sexuelle de même sexe étaient plus susceptibles que les autres qui en étaient exempts de répondre aux critères des troubles anxieux. Dans le mois précédant leur décès, ces jeunes étaient plus susceptibles d'avoir consulté un professionnel de la santé, un psychiatre, et d'avoir été hospitalisés, et ils étaient plus susceptibles d'avoir consulté un psychiatre dans l'année précédente.

Conclusions : Dans notre échantillon, l'orientation sexuelle de même sexe et les questions d'identité sexuelle ne semblent pas être plus prévalentes chez les jeunes qui décèdent par suicide, lorsqu'on les compare avec des jeunes recrutés dans la population générale, pas plus que l'intimidation liée à l'orientation sexuelle de même sexe. Bien qu'elles présentent des niveaux comparables de diagnostics psychopathologiques généraux associés au suicide, les victimes de suicide ayant une orientation sexuelle de même sexe étaient plus susceptibles de répondre aux critères des troubles anxieux et d'avoir consulté un professionnel de la santé mentale avant leur décès.