Stigma, Stress, and Stories: Refining our Understanding of Suicidal Behavior among Adult Gay, Bisexual, and other Sexual Minority Men

by

Travis James Salway

A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy in Epidemiology
Dalla Lana School of Public Health
University of Toronto

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Abstract

Background: Sexual minority men are approximately four times more likely than heterosexual men to have attempted suicide. Epidemiologic evidence of this disparity is robust; however, research exploring how and why this disparity persists is sparse.

Objective: To refine our understanding of suicidal behavior in adult sexual minority men, with the goal of improving relevant public health strategies to prevent suicide.

Methods and aims: Data were drawn from adult sexual minority men who participated in: the population-based Canadian Community Health Survey (N=4675), a gay men’s community-based national online survey (N=7872), and in-depth interviews with men who attempted suicide (N=7). Quantitative bias analysis was used to estimate the degree of misclassification of sexual orientation and associated bias in estimates of suicidal ideation among sexual minority men in general population-based surveys (Aim 1). Structural equation modeling was used to identify specific psychosocial challenges that mediate relationships between constructs of sexual stigma and recent suicide attempts (Aim 2). Dialogical narrative analysis was used to construct life narratives used by sexual minority men with histories of suicide attempts (Aim 3).
**Results:** Disparities in suicidal ideation comparing bisexual (odds ratio [OR] = 4.91) and gay (OR = 3.63) to heterosexual men persisted after adjustment for misclassification bias but were attenuated, with greater attenuation for bisexual (adjusted OR = 3.53) than for gay (adjusted OR = 3.52) men. Three measured constructs of sexual stigma (enacted stigma, anticipated prejudice, and sexuality concealment) were associated with suicide attempts ($p < 0.05$), though distinct psychosocial variables mediated the associations, suggesting a multitude of pathways to suicide attempts. For example, concealment had an inverse association with suicide attempts as mediated by depression but was also positively associated with suicide attempts when mediated through social isolation. Gay suicide narratives extended beyond dominant and popular narratives and offered diverse ways of coping with suicidal ideation, often through maintaining threatened identities, with variation by generational experiences of interviewees.

**Conclusions:** Epidemiologic patterns, causal pathways, and narratives of suicide-related outcomes differ across sub-groups of sexual minority men but consistently relate to a stigmatized or hidden identity. Accordingly, suicide prevention programs need to be multi-faceted and tailored to unique of experiences of sexual minority stigma.
Acknowledgments

First, I wish to thank my supervisory committee: Dionne Gesink, Anne Rhodes, and David Brennan. My advisors repeatedly invigorated me through our discussions and exchanges, patiently provided many rounds of feedback, and offered invaluable encouragement as I found my way through often challenging research topics and methods. I am particularly grateful to Dionne for persuading me to enter a research field that was entirely new to me and for always knowing just what to say when I was feeling uncertain or overwhelmed.

My classmates have remained a constant source of support, even when I was working thousands of kilometers away. Thank you especially to my cohort: Ariel, Chantel, Laura, Linda, Nandita, and Sarah. I have learned much from all of you, not only about epidemiology but also about being a confidant who knows when to console, when to cheerlead, and when to celebrate.

This thesis is a community-based research project. As such, I have relied heavily upon many community leaders devoted to the health of sexual minorities. Sarah Chown, Darren Usher, Aaron Purdie, Brian O’Neill, and Daniel Pugh have offered their advice and expertise to me countless times, and have helped me to ensure that the results of this thesis will create meaningful change in suicide prevention work in our communities. I was fortunate to join the community of volunteers at the Crisis Centre of British Columbia while completing my PhD. I am grateful to all of the staff and volunteers at the Crisis Centre, especially Liz James and Kristen Carlson, who taught me new and effective ways of listening to others.

The Sex Now survey is revised and relaunched every few years thanks to the epic work of a small band of staff and volunteers at the Community-Based Research Centre for Gay Men’s Health. The survey is funded by the Vancouver Foundation. The young Investigaytors have been a sounding board, incubating laboratory, and animating team for many aspects of my study. Analysis of the Canadian Community Health Survey was conducted through the Canadian Research Data Centre Network with funds from the Social Sciences and Humanities Research Council, the Canadian Institute for Health Research, the Canadian Foundation for Innovation, and Statistics Canada. Staff at the Research Data Centre at the University of British Columbia provided analytic support to me for study 1. My analysis was based on data from Statistics Canada; however, the opinions expressed in this thesis do not represent the views of Statistics Canada. My PhD studies were supported by a Vanier Canada Research Scholarship.
I pursued and completed this PhD thanks to the inspiration provided by my role models and mentors. Danuta Skowronski showed me the value of rigorous, detail-oriented applications of epidemiology to evaluate public health programs and the need to critically appraise evidence as stewards of the public’s health. Terry Trussler opened my eyes to narrative methods and urged me to consider the fundamental impact of historical generations on contemporary patterns of sexual minority health. Mark Gilbert inspired me with his creative approaches to public health interventions and his unwavering confidence in me as a researcher.

I am thankful to Craig Barron for convincing me to try my hand at creative non-fiction writing as a way to explore my position in my research, and for keeping me stocked with an ever-renewed supply of gay literature. I am also thankful to Martin Plöderl, whose research on the topic of sexual minority suicide has been singularly influential to my studies, and to Daniel Grace and Hannah Kia, who provided advice about my qualitative study.

This thesis also belongs to my friends and family. I thrived thanks to heartwarming telephone check-ins with my dear friend Katie. Tom wrote with me in solidarity, and commiserated about writer’s block and the perils of writing as gay men, about gay men. Fayyaz reminded me to look after my own mental health, and provided much-needed diversions from thesis work. Olivier was my constant muse, and showed me how to be courageous in research and activism. My mother has been my biggest fan, through all of the turns in my career. My husband Trevor patiently gauged my emotions every day and reminded me to take things one step at a time. He supported me even when I improbably decided to move cities for this degree; I am grateful for his sacrifice and love.

Finally, I wish to thank the thousands of participants who shared personal and sometimes painful details about their lives so that I may learn why some gay and bisexual men turn to suicide. This thesis is dedicated to them.
# Table of Contents

Abstract ............................................................................................................................................... ii

Acknowledgments ................................................................................................................................. iv

Table of Contents .................................................................................................................................... vi

List of Tables .......................................................................................................................................... xi

List of Figures .......................................................................................................................................... xiii

List of Appendices .................................................................................................................................... xv

Chapter 1 Introduction and Objectives ................................................................................................. 1

1 Introduction and Objectives .............................................................................................................. 2
   1.1 Sexual stigma as a fundamental cause .............................................................................................. 2
   1.2 Objective and aims ........................................................................................................................... 2
   1.3 Thesis structure ............................................................................................................................... 3
   1.4 References ...................................................................................................................................... 4

Chapter 2 Background and Rationale .................................................................................................... 7

2 Background and Rationale .................................................................................................................... 8
   2.1 Context ........................................................................................................................................... 8
      2.1.1 Sexual stigma and heterosexism in Canada, historical and present ........................................ 8
      2.1.2 Sexual minority health .............................................................................................................. 9
   2.2 Epidemiology .................................................................................................................................. 10
      2.2.1 Social patterning of suicide ...................................................................................................... 10
      2.2.2 Suicide in sexual minorities ..................................................................................................... 11
      2.2.3 Age-related patterns of suicide in sexual minorities ................................................................. 12
      2.2.4 Sub-groups of sexual minorities at higher risk of suicidal behavior ...................................... 14
   2.3 Theoretical frameworks .................................................................................................................. 14
      2.3.1 Models of adoption, expression, and concealment of sexual identities .................................... 14
      2.3.2 Minority stress ......................................................................................................................... 15
      2.3.3 Theories of suicide .................................................................................................................. 16
   2.4 Causes of sexual minority suicide .................................................................................................... 17
      2.4.1 Pathways to suicidal behavior in sexual minority youth ......................................................... 17
2.4.2 Pathways to suicidal behavior in sexual minority adults ................................................. 18

2.5 Gaps and rationale for thesis research ..................................................................................... 20
2.5.1 Sexuality concealment and its effects on studies of suicidal behavior ............................. 20
2.5.2 Mediating and intervening variables in pathways to sexual minority suicide................. 21
2.5.3 Collective understandings of why adult sexual minority men attempt suicide ............... 21

2.6 References .......................................................................................................................... 23

Chapter 3 Methods ...................................................................................................................... 44

3 Methods .................................................................................................................................. 45
3.1 Research design .................................................................................................................... 45
3.2 Situating myself .................................................................................................................... 46
3.2.1 Role of student ................................................................................................................ 46
3.2.2 Reflexivity and subjectivity ............................................................................................ 47
3.3 Community participation ..................................................................................................... 49
3.4 Data sources ........................................................................................................................ 51
3.4.1 Canadian Community Health Survey ............................................................................. 51
3.4.2 Sex Now survey ............................................................................................................. 51
3.4.3 Fieldwork and interviews ............................................................................................... 52
3.5 Measurement ....................................................................................................................... 53
3.6 Limitations .......................................................................................................................... 54
3.7 Ethical considerations .......................................................................................................... 56
3.8 References ........................................................................................................................... 57

Chapter 4 Study 1 ......................................................................................................................... 64

4 Concealment of sexual minority identities in interviewer-administered government surveys and its impact on estimates of suicide ideation among bisexual and gay men ........ 64

4.1 Abstract ................................................................................................................................. 65
4.2 Introduction ........................................................................................................................... 66
4.2.1 Bisexuality and minority stress ....................................................................................... 66
4.2.2 Sexual identity concealment ........................................................................................... 67
4.2.3 Study aims ....................................................................................................................... 68

4.3 Methods ............................................................................................................................... 69
4.3.1 Samples ........................................................................................................................... 69
4.3.2 Measures and data restrictions ....................................................................................... 69
4.3.3 Analysis ........................................................................................................................... 70

vii
7.5.3 Community-level interventions ................................................................. 174
7.5.4 Structural-level interventions ...................................................................... 174
7.5.5 Healthcare interventions ............................................................................. 175

7.6 Conclusion ........................................................................................................ 176
7.7 References ....................................................................................................... 177

Appendices ............................................................................................................ 195
List of Tables

Table 1-1 Overview of aims, rationale, data-sets, and methods used in a multimethod thesis of suicidal behavior among adult sexual minority men ................................................................. 5

Table 4-1. Socio-demographic characteristics, health behaviors, and suicide ideation across two national Canadian samples of bisexual men, 18-59 yoa: Sex Now 2011 (SN) and Canadian Community Health Survey 2003-2014 (CCHS) ........................................................................................................ 90

Table 4-2. Socio-demographic characteristics, health behaviors, and suicide ideation across two national Canadian samples of gay men, 18-59 yoa: Sex Now 2011 (SN) and Canadian Community Health Survey 2003-2014 (CCHS) ........................................................................................................ 91

Table 4-3. Likelihood of disclosure of sexual identity to Statistics Canada, by dichotomized socio-demographic characteristics, among bisexual and gay respondents to Sex Now 2011 .... 92

Table 4-4. Prevalence of suicide ideation by sexual identity, and prevalence odds ratios (OR) comparing bisexual and gay males to heterosexual males, before and after re-classification, CCHS 2003-2014 ........................................................................................................ 93

Table 5-1. Characteristics of sample of sexual minority men used for structural equation modeling of minority stress and suicide attempts, N=7872 ........................................................................ 119

Table 5-2. Structural equation model path coefficients for direct, indirect, and total associations between three latent sexual minority stress constructs (factors) and recent suicide attempts, N=7872 ........................................................................................................ 120

Table 5-3. Structural equation model path coefficients for direct, indirect, and total associations between three latent sexual minority stress constructs (factors) and recent suicide attempts, stratified by sexual identity and history of suicide attempt sub-groups .............................................. 121

Table 5-4. Structural equation model path coefficients for direct, indirect, and total associations between three latent sexual minority stress constructs (factors) and recent suicide attempts, stratified by age sub-groups .................................................................................................... 122

Table 6-1. Characteristics of storytellers in a qualitative study of gay suicide attempts ........ 155
Table 6-2. Narratives discussed in interviews with seven adult gay, bisexual, and queer men. 156

Table 7-1. Policy, program, and practice recommendations for suicide prevention in adult gay and bisexual men. 193
List of Figures

Figure 1-1 Conceptual model for multimethod research of suicidal behavior among adult sexual minority men. ................................................................. 6

Figure 2-1 Age-related patterns of self-inflicted injuries and suicide deaths among males ....... 39

Figure 2-2 Temporal trends in proportions of heterosexual and sexual minority respondents to population surveys reporting lifetime suicide attempts, 1985-2008................................. 40

Figure 2-3 Suicide attempts, last 12 months, by age, gay and bisexual male respondents to Canadian Sex Now survey, 2011-12 (N=8382)................................................................. 41

Figure 2-4 Conceptual diagrams illustrating three distinct mechanisms by which sexual minority status may increase risk of suicide ideation/attempts; A: sexual minority status increases rates of common causes (e.g., depression, substance use); B: sexual minority status produces unique (group-specific) causes of suicide ideation/attempts; C: sexual minority status modifies (increases) the effects of common causes on suicide ideation/attempts ..................................... 42

Figure 2-5 Lifetime prevalence of suicide attempts by sexual identity and sample type; from a systematic review and meta-analysis published in the American Journal of Public Health 18 ..... 43

Figure 4-1. Comparison of select characteristics between 3 samples of bisexual men: all Sex Now (SN) respondents (N=2291), Sex Now respondents willing to disclose their sexual identity to Statistics Canada (N=906), and Canadian Community Health Survey (CCHS) respondents (N=1470). Note. Ratio of differences, [% with characteristic in SN (disclose) - % with characteristic in SN (all)] / [% with characteristic in CCHS - % with characteristic in SN (all)], is shown in labels above bars, where positive. ................................................................. 94

Figure 4-2. Comparison of select characteristics between 3 samples of gay men: all Sex Now (SN) respondents (N=4767), Sex Now respondents willing to disclose their sexual identity to Statistics Canada (N=4112), and Canadian Community Health Survey (CCHS) respondents (N=3205). Note. Ratio of differences, [% with characteristic in SN (disclose) - % with characteristic in SN (all)] / [% with characteristic in CCHS - % with characteristic in SN (all)], is shown in labels above bars, where positive. ............................................................................. 95
Figure 4-3. Trends in responses to sexual identity question, CCHS 2003-2014. Note. Question wording: Do you consider yourself to be … Heterosexual? (sexual relations with people of the opposite sex); Homosexual, that is lesbian or gay? (sexual relations with people of your own sex); Bisexual? (sexual relations with people of both sexes); DK (don’t know); R (refuse). Beginning in 2007, question was preceded by a ‘buffer’ statement: “Now one additional background question which will help us compare the health of people in Canada.” ........................... 96

Figure 5-1. Analytical model of hypothesized relationships between three latent sexual minority stress constructs (F1, F2, F3), traditional psychosocial mediators (M1, M2, M3), and recent suicide attempts, among sexual minority men. Note. Direct pathways illustrated with bold arrows; indirect pathways illustrated with black arrows; sociodemographic covariate relationships illustrated with grey arrows; residual arrows annotated by “e” represent error terms (omitted variables and measurement error) for all endogenous/dependent variables. ........................... 123

Figure 5-2. Probability of suicide attempt in last 12 months (with 95% confidence interval), as predicted by a structural equation model including measures of sexual minority stress and social characteristics, N=7872. Note. Threshold = probability based on intercept (threshold) of probit model (holding all latent variables at mean values, and binary covariates at referent group); all other probabilities reflect change in variable indicated while fixing all latent variables at mean values and binary covariates at referent group; SD=standard deviation. ........................... 124

Figure 6-1. Historical context of suicide attempts described by seven gay, bisexual, and queer men. ........................... 157

Figure 7-1. Krieger’s ecosocial theory of disease distribution26. ........................... 190

Figure 7-2. Self-reported suicide attempts (12 months) by sexual identity and partnership status, Sex Now 2011-12 survey (credit: O Ferlatte, Hottes TS, Marchand R, Trussler T, manuscript under review, American Journal of Men’s Health, 2016) ........................... 191

Figure 7-3. Disparity in suicide attempts between sexual minority and heterosexual men, and potential causal explanations ........................... 192
List of Appendices

Appendix 1: Sex Now 2014-2015 questionnaire (relevant excerpts) ........................................ 195

Appendix 2: Consent form, interview guide, and questionnaire for interviews (study 3) .... 202

Appendix 3: Question wording for corresponding analytical variables across two Canadian national surveys measuring the health status of bisexual and gay men: Sex Now (SN) and the Canadian Community Health Survey (CCHS) ......................................................... 206

Appendix 4: University of Toronto Research Ethics Certificates ........................................ 211

Appendix 5: Exploration and confirmation of minority stress measurement model ............ 213

Appendix 6: Path coefficients for direct, indirect, and total associations between latent sexual minority stress constructs (factors) and recent suicide attempts, tested in separate (univariate) models for each factor, N=7872 .................................................................................................................. 218

Appendix 7: Knowledge translation framework .................................................................... 219
Chapter 1
Introduction and Objectives

Travis: Part of the premise of the study that I’m doing is looking at... a statistical relationship, if you will, between sexuality and suicide. We see in lots of different surveys and other types of data that there seem to be more suicide attempts in gay and bisexual men than in straight men, and part of what I’m trying to listen for in the interviews is how do gay men themselves make that connection, if they do at all. … So I guess I’m curious to know, do you see then a relationship?

Christopher: Can you think about withholding? … I’m not going to answer you with a question back. I’m withholding a big major secret. Ok. There’s a stress there. And then I’m withholding a secret of being gay. And that’s layered by, I’m withholding a secret about my career, my profession, another layer is that I’m withholding my secret about being bipolar—it’s called stigma. And I’m really attempting to get away from that stigma. But being gay was really, I stop and think, and if I was, twenty-twenty hindsight, if I was comfortable being gay at an earlier age, would all this would have happened? You know, I’ll never know, but invariably I’m inclined toward saying everything else would not have happened because it’s living my life truthful. You know, so, sexuality and having the shame of having that being gay in a straight society, and you think about other places in which homosexuality is still a crime…. Does that answer your question because sexuality is first and foremost. Because if I don’t complete that piece about who I am and what I do, you know, everything else, it falls into place. But if I accept myself about who I am and what I do, everything comes more from a position of confidence rather than a position of lack.

Epigraph 1
1 Introduction and Objectives

1.1 Sexual stigma as a fundamental cause

The premise of my doctoral research is that sexual stigma* is a fundamental cause of health inequities among sexual minorities† (Epigraph 1). Sexual minority identities are threatened, managed, hidden, and creatively reimagined in the context of pervasive societal sexual stigma. This has implications for both the resultant burden of disease (i.e., substantive concerns) and our ability to study this burden (methodological concerns). Sexual stigma and corresponding health inequities are not inevitable. By investigating the mechanisms that mediate relationships between sexual stigma and health outcomes1, and by chronicling the stories used to make sense of ill health and distress in the context of stigmatized identities2, we may sharpen and expand the tools we use to promote the health of sexual minority populations. In this thesis, I pursue a series of inquiries stemming from these presuppositions, with a substantive focus on suicidal ideation and attempts among adult sexual minority men.

1.2 Objective and aims

The overall objective of this thesis is to refine our understanding of suicidal behavior in adult sexual minority men, with the ultimate goal of improving relevant public health strategies to prevent suicide. The specific aims (Table 1-1, Figure 1-1) are to:

1. Quantify the degree of misclassification of sexual orientation and associated bias in estimates of suicidal ideation among sexual minority men in general population-based surveys (study 1);

---

* Herek defines sexual stigma as “shared knowledge of society’s negative regard for any non-heterosexual behavior, identity, relationship, or community”. I use this term in lieu of “homophobia” or “biphobia” because it allows for forms of antigay prejudice that are not based on fear and constructs sexual stigma as a broad social phenomenon rather than one rooted in the psychology of specific homophobic/biphobic individuals.

† I use the term sexual minority to be inclusive of anyone whose non-heterosexual identity, orientation, attractions, or behaviors make them part of a minority group subjected to sexual stigma, acknowledging that not all of these individuals will assume a gay or bisexual or queer (or otherwise non-heterosexual) identity. When referring to those with a self-described sexual identity, I use the terms gay, bisexual, etc. See section 3.5 for further discussion.
2. Identify specific psychosocial challenges that mediate relationships between multiple constructs of sexual stigma and recent suicide attempts (study 2); and,

3. Construct and expand life narratives used by sexual minority men with histories of suicide attempts (study 3).

1.3 Thesis structure

This thesis includes three stand-alone manuscripts for publication in peer-reviewed academic journals (Chapters 4-6), and four ancillary chapters (Chapters 1-3, 7). Chapter 2 provides a summary of extant literature on the topic of suicide among sexual minorities, outlines the theoretical framework for my thesis, and highlights gaps in our understanding of suicidal behavior in adult sexual minority men. In Chapter 3, I explain the multimethod design of my thesis, reflexively position myself as a researcher, introduce specific data-sets and methods used for the three aims, and inventory limitations that broadly apply to this thesis.

Each manuscript corresponds to one of the aims listed in section 1.2 above. In manuscript 1 (Chapter 4; published in the Journal of Bisexuality), I use quantitative bias analysis to derive adjusted estimates of prevalence of suicide ideation among gay and bisexual men, based on empirical data on willingness of sexual minority men to disclose identities to government surveys. In manuscript 2 (Chapter 5; under review by Archives of Sexual Behavior), I use structural equation modeling to estimate relationships between multiple constructs of sexual minority stigma and suicide attempts among adult gay and bisexual men, and to measure the proportion of these relationships that are mediated by specific psychosocial challenges. Finally, in manuscript 3 (Chapter 6; prepared for submission to American Journal of Community Psychology) I use dialogical narrative analysis to build a tentative typology of gay suicide narratives, collected through in-depth one-on-one interviews with adult gay and bisexual men who have attempted suicide.

I conclude this thesis (Chapter 7) by interpreting the aggregated results of the three manuscripts and discussing how the thesis contributes to the bodies of literature concerning sexual minority health research methods, generally, and suicide in sexual minority men, specifically. Finally, I offer a series of recommendations extending from this thesis, with particular attention to researchers, public health administrators, policy makers, practitioners, and sexual minority community organizations.
1.4 References


### Table 1-1 Overview of aims, rationale, data-sets, and methods used in a multimethod thesis of suicidal behavior among adult sexual minority men

<table>
<thead>
<tr>
<th>Thesis chapter</th>
<th>Aim/Study</th>
<th>Rationale</th>
<th>Data-set(s)</th>
<th>Method</th>
<th>Presentations, Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>(1) Quantify the degree of misclassification of sexual orientation and associated bias in estimates of suicidal ideation among sexual minority men in general population-based surveys</td>
<td>Some general population survey respondents underreport (conceal) sexual minority identities; the effects of this misclassification are unknown</td>
<td><em>Sex Now</em> 2011-12; <em>CCHS</em> 2003-2014</td>
<td>Quantitative bias analysis</td>
<td>Accepted for publication, <em>Journal of Bisexuality</em></td>
</tr>
<tr>
<td>5</td>
<td>(2) Identify specific psychosocial challenges that mediate relationships between multiple constructs of sexual stigma and recent suicide attempts</td>
<td>Stigma is consistently associated with suicidal behavior, but specific pathways (including mediating and intervening variables) are unknown</td>
<td><em>Sex Now</em> 2014-15 (questions added for thesis project)</td>
<td>Structural equation modeling</td>
<td>European Symposium on Suicide and Suicidal Behavior, 2016; under review, <em>Archives of Sexual Behavior</em></td>
</tr>
<tr>
<td>6</td>
<td>(3) Construct and expand life narratives used by sexual minority men with histories of suicide attempts</td>
<td>Deductive studies of suicide or minority stress theories constrain our understanding of causes of suicide; few studies have listened to stories of sexual minorities making sense of their own suicide attempts</td>
<td>In-depth unstructured interviews with adult gay and bisexual men who attempted suicide</td>
<td>Dialogical narrative analysis</td>
<td>European Symposium on Suicide and Suicidal Behavior, 2016</td>
</tr>
</tbody>
</table>

Note. *CCHS*=Canadian Community Health Survey.
Figure 1-1 Conceptual model for multimethod research of suicidal behavior among adult sexual minority men

- **Sexual identity** (gay, bisexual, etc.)
- **Minority stress**
- **Intersecting social conditions and circumstances**
  - Age/birth cohort
  - Place of residence
  - Income
  - Education
  - Aboriginal and ethnoracial minority identities
  - HIV positive status
- **Psychosocial mediators**
  - Social isolation
  - Depression
  - Substance use
- **Suicide attempt**

**AIMS:**
1. Misclassification of sexual minority identities and associated bias in estimates of suicidal ideation
2. Mediating pathways between sexual stigma constructs and recent suicide attempts
   * minority stress process further conceptualized in Figure 5-1
3. Life narratives used by sexual minority men with histories of suicide attempts
**Travis:** I wonder if you can start just by telling me why you wanted to participate in this study?

**Eddie:** Well I think it might help others. I mean, it doesn’t go unnoticed that there’s a whole younger generation of me. And I see a lot of, you know, a lot of young women walking down the street holding hands. Sometimes I see men. In my generation you’re asking for a fight if you did something like that. I mean, at the very least defend yourself from attack. … A lot of things I did, to myself, or I worried about too much, in hindsight really wasn’t necessary. It’s not necessary to do that to yourself, to worry too much. You know, just be yourself, go where you’re welcome.

**Epigraph 2**

**Gerry:** You know, I’m a keen observer of public culture and where the gay community is moving, and … I went to see a play on Saturday night, *The Gay Heritage Project*, and it was wonderful!

**Travis:** I’ve just seen it a couple weeks ago.

**Gerry:** It was wonderful, right?

**Travis:** Yah, it sat with me for a long time.

**Gerry:** Yah, it did. And as they were running “what is heritage?” at the beginning, I even went on Amherst College’s webpage to copy and paste that: “Heritage is the full range of our inherited traditions, monuments, objects, and culture. Most important, it is the range of contemporary activities, meanings, and behaviors that we draw from them.”

**Epigraph 3**
2 Background and Rationale

This chapter includes five sections. In section 2.1, I provide the general context for my thesis, including a discussion of the pervasive nature of sexual stigma in Canada, a review of sexual minority health disparities, and a justification for my particular focus on suicide in sexual minority adults. In section 2.2, I review the epidemiology of suicide generally (with a focus on social status), and among sexual minorities specifically. Section 2.3 outlines three major theoretical frameworks that inform my thesis. Section 2.4 categorizes and cites empirically established correlates (presumed causes) of suicidal behaviors in sexual minorities. Finally, I conclude the chapter (section 2.5) by pointing to three particular gaps that motivate each of the three stand-alone manuscripts that constitute this thesis (Chapters 4-6).

2.1 Context

2.1.1 Sexual stigma and heterosexism in Canada, historical and present

This chapter begins with a brief summary of the history of legal and institutional marginalization of sexual minorities and an acknowledgment of the enduring nature of sexual stigma and heterosexism in Canada. This review is most relevant to the qualitative study described in Chapter 6 (Epigraph 2, Epigraph 3), though the themes exposed here undergird all aspects of my doctoral thesis, including the two quantitative chapters. The principal message is the following: while tremendous progress has been made in achieving legal equality for gay and lesbian Canadians, the legacy of sexual stigma is profound. This is particularly true for older generations of sexual minorities, though sexual stigma may have a significant impact on the health and wellbeing of any individual, regardless of generation. Furthermore, sexual stigma can affect an individual’s wellbeing and health, whether it is directly experienced, witnessed, or felt.

European colonial attitudes about sexuality have persisted in Canada for centuries. Homosexuality was a crime from the time of colonization until the passage of Bill C-150 (1969), which de-criminalized homosexual acts between men over the age of 21. During the Cold War, homosexuals were branded as security threats, and screening measures were used to bar them from employment in the Canadian federal government. Meanwhile, psychiatrists and psychologists treated homosexuality as an illness, categorically until the 1970s and selectively (by a minority of the discipline) thereafter. Even after homosexuality was decriminalized in
federal statutes, local police carried out raids of gay bars and bathhouses, arresting hundreds of homosexuals in Toronto, Montreal, and other cities, throughout the 1970s and 1980s.\textsuperscript{7,8}

The police raids gave rise to a Canadian gay liberation movement, which in turn has produced stepwise changes in the legal status of gay, lesbian, and bisexual people, including prohibition of discrimination on the basis of sexual orientation, in 1995\textsuperscript{9}, and the legalization of same-sex marriage, in 2005\textsuperscript{10}. Sexual minorities continue to face pervasive stigma today, despite these important gains. A stark example of this is the rate of violent assault experienced by lesbian, gay, and bisexual (LGB) Canadians, which is 2.5 times the rate of heterosexuals.\textsuperscript{11} The number of police-reported hate crimes motivated by sexual orientation has remained steady in recent years, with approximately two-thirds of these crimes involving violence.\textsuperscript{12,13}

### 2.1.2 Sexual minority health

In this context, it is not surprising that sexual minorities experience numerous health disparities relative to heterosexual people; in addition to violence, these include mental health outcomes (depression, anxiety, suicidal behavior)\textsuperscript{14–19}, problematic substance use\textsuperscript{20,21}, and sexually transmitted infections (STI), including HIV\textsuperscript{22,23}. Sexual minority status was not measured in any national Canadian health survey prior to 2003; thus, it is only in recent years that researchers have begun to appreciate the depth and breadth of these disparities in Canada.\textsuperscript{24} Analysis of Canadian Community Health Survey (CCHS) data has subsequently revealed that, compared with heterosexual men, gay and bisexual Canadian men have higher rates of mood and anxiety disorders, suicidal ideation, and STI.\textsuperscript{19,25} Data from Sex Now, the largest community-recruited sample of gay and bisexual men in Canada, similarly depict elevated prevalence rates\textsuperscript{26} of depression (11\%, last 12 months), anxiety (13\%), suicide ideation (17\%), sexual risk (30\%, condomless anal sex with an unknown HIV-status partner), and HIV (8\%), as well as smoking (25\%) and suicide attempts (2-4\%).\textsuperscript{27}

Several of the findings from my doctoral thesis apply broadly, across this spectrum of health outcomes that disproportionately affect sexual minorities. For example, concealment of sexual minority identities (study 1/Chapter 4) and the resulting misclassification of sexual minority status may bias estimates of the burden of a number of health outcomes.\textsuperscript{18,28–30} Likewise, the challenges in measuring multiple, distinct constructs of sexual stigma (study 2/Chapter 5) are relevant to other outcomes implicated by the minority stress model.\textsuperscript{2,16,31} The focus of my present
thesis, however, is suicidal behavior. I have chosen to specifically research suicidal behavior for
(at least) two reasons. First, suicide attempts may represent an acute individual response to the
stress associated with experiences of sexual stigma\textsuperscript{32,33}, making it a particularly compelling
outcome for investigating aspects of the minority stress process. Second, suicide has been under-
studied relative to other sexual minority health issues, such as HIV: between 2003 and 2012,
indexed biomedical and social science research publications pertaining to suicide among gay and
bisexual men were ten to fifty times fewer than those for HIV.\textsuperscript{34,35}

My thesis is furthermore focused on sexual minority men. Though some of the findings from this
thesis may be generalizable to sexual minority women or transgender populations—who notably
also experience elevated rates of suicidal behavior\textsuperscript{18,36}—I chose at the outset to limit the present
thesis to men, due to my own experience with, and access to, data from gay and bisexual men
(discussed further in section 3.2.2), as well as gender-specific patterns of both sexual stigma\textsuperscript{37,38}
and suicidal behaviors\textsuperscript{39–43}. I should note, however, that as my thesis research progressed, I
began to question some problematic aspects of a gender-stratified or restricted study, particularly
as it relates to the (possible) exclusion of transgender or non-gender-binary-identified
individuals\textsuperscript{44} (further discussed in Chapters 6 and 7).

2.2 Epidemiology

2.2.1 Social patterning of suicide

Suicide is a major cause of premature mortality, and the ninth leading cause of death overall,
responsible for approximately 8\% of the total potential years of life lost in Canada.\textsuperscript{45–47} In
contrast with other leading causes of death, effective public health strategies for suicide
prevention remain limited\textsuperscript{48} and largely focused on tertiary (e.g., treatment for suicidal behavior)
rather than primary or secondary levels of prevention.\textsuperscript{49} While self-reported suicide attempts and
hospital presentations for self-harm are more common during adolescence\textsuperscript{43}, suicide mortality
increases with age (Figure 2-1) and becomes considerably higher in men than in women.\textsuperscript{42,47}

Although the causes of individual suicides are often indeterminate\textsuperscript{50}, population-level
epidemiological surveys, starting with Durkheim’s seminal study in the 19th century\textsuperscript{51}, have
consistently exposed a social patterning of suicide and suicidal behavior. In Canada and other
comparable high-income Western countries, rates of suicide are higher among Aboriginal
persons, particular occupational groups (e.g., manual laborers, agricultural workers), those with lower educational attainment or who are unemployed, and single, divorced, or widowed persons. All of these groups have experienced social disruption, marginalization, or separation in the context of modern, high-income political economies, such as Canada’s. For some, e.g., those who have lost a job or a spouse, this disruption is acute; for others, it is chronic—such as the intergenerational loss of traditional cultures and social networks, in the case of Aboriginal people.

Particularly relevant to the above discussion of increasing legal equality for sexual minorities (section 2.1.1) is a body of Durkheimian suicide research that has investigated an ‘equality paradox’, whereby higher rates of suicide have been observed in regions or countries with greater income equality; similar ecologic studies have found a correlation between aggregate measures of happiness and suicide. These studies are ecologic in design, and are not conclusive; however, they serve as a reminder of the potential, paradoxical effects of social ‘progress’ on rates of suicide. Durkheim’s theory (and others) notably predicts greater rates of suicide specifically for those sub-groups of individuals who cannot or do not socially integrate in times and places where others are integrating swimmingly; a classic example is the higher rates of female suicide that were observed as women’s participation in the labor force increased during the latter half of the twentieth century.

2.2.2 Suicide in sexual minorities

In 1970, Bell and Weinberg conducted the first population-based study of suicide risk in sexual minorities: among 470 gay men, 18% had attempted suicide at least once, a prevalence six times higher than that in heterosexual men. In the subsequent 45 years, more than fifty additional studies of sexual minorities from North America, Europe, Australia, and New Zealand, have confirmed that sexual minorities are at increased risk of suicidal behavior relative to heterosexual comparators. These studies have included a number of rigorous observational designs, including co-twin control studies and prospective cohort studies. Notably, few studies have had sufficient sample size to reliably estimate risk of suicide mortality in sexual minorities; thus, suicide attempts are often used as a best-available proxy.

In 2008, a meta-analysis pooled data from several of these studies, finding that 9% of adult sexual minority men had attempted suicide during their lifetime, resulting in a pooled increased
risk (RR) of 4.28 (95% CI 2.32, 7.88), relative to heterosexual men.\textsuperscript{14} A subsequent meta-analysis restricted to youth, found a comparable effect estimate for sexual minority youth, as compared with heterosexual youth (OR = 3.18).\textsuperscript{17} Both of these studies excluded LGB community-based samples; thus, in 2015 I conducted a follow-up meta-analysis and found that the lifetime prevalence of suicide attempts in sexual minority adults was 17%, after pooling data from 30 studies, with 21,201 individuals, inclusive of LGB community surveys.\textsuperscript{18} There was a notably large difference in the estimated prevalence between general population surveys (11%, 95% CI 8%, 15%) and LGB community surveys (20%, 95% CI 18%, 22%), which may explain the discrepancy between the estimate derived from the 2008 review and my more recent meta-analysis.\textsuperscript{18}

Surveys of suicidal behavior in sexual minorities demonstrate variability by place\textsuperscript{63} and time\textsuperscript{18}, a finding which is both common in studies of social disparities in health and predicted by the ecosocial theory of disease distribution\textsuperscript{64}. In my 2015 meta-analysis, I found a temporal decrease in self-reported lifetime suicide attempts among sexual minorities between 1985 and 2008, on average -0.5% per year (95% CI -1.0%, -0.1%); however, even in the most recent surveys the prevalence in sexual minorities remained greater than that in heterosexual adults (Figure 2-2). This suggests that suicidal behavior among sexual minorities is context-dependent and therefore may be amenable to change—albeit slow and uneven—through improved societal conditions (e.g., policies)\textsuperscript{65}, and affirms the importance of continued research about suicidal behavior among sexual minorities today.

\textbf{2.2.3 Age-related patterns of suicide in sexual minorities}

Research on the epidemiology of and pathways to suicidal behavior in sexual minorities has predominantly focused on youth; 93 out of 145 of the full texts reviewed for inclusion in the above-referenced meta-analysis were restricted to youth.\textsuperscript{15,18} This may at least partially be attributed to popular media attention to LGB youth suicides. In 2010 a series of queer youth suicides led to an internet-based video campaign, \textit{It Gets Better}, which aims to persuade LGBTQ youth considering suicide to hold out for a day when things will get better.\textsuperscript{66,67} Implicit in this campaign is the notion that sexual minority suicide is primarily a phenomenon of adolescence, after which exposure to sexual stigma and/or its resultant mental health outcomes (including suicidal behavior) diminish.\textsuperscript{68} Advocacy organizations, such as the Canadian Association for
Suicide Prevention and Egale (Canadian LGBTQ rights organization) websites likewise draw attention to LGBTQ suicide only in relation to youth.\textsuperscript{69,70}

Some epidemiological studies that have investigated age-related patterns among sexual minorities suggest that the risk of suicide ideation and attempts relative to heterosexual persons diminishes with increasing age.\textsuperscript{71,72} For example, analyses of the US National Longitudinal Study of Adolescent Health at waves I (ages 12-18) and IV (ages 24-33) found that suicide attempts among both heterosexual and sexual minority males decreased with age (as expected based on patterns shown in Figure 2-1), and with these decreases the relative risk (RR) comparing the two groups also diminished, though notably remained positive (RR>1).\textsuperscript{71,72} While these studies support the assumption that the social stress associated with sexual minority status has its greatest effect on suicidal behavior during adolescence, further research is needed to examine patterns of suicidal behavior, and its severity, across the entire life course (>33 years of age), and across different birth cohorts, in sexual minorities.\textsuperscript{15}

A more recent US population health study found that the average age at first suicide attempt among sexual minority men was 25.1 years, suggesting that more than half of first suicide attempts among sexual minority men occur in adulthood.\textsuperscript{73} In the Canadian Sex Now 2011-12 survey, rates of self-reported suicide attempts in the last 12 months among men aged 16 years and greater decreased with age until 35-39 years, after which rates increased (Figure 2-3). (It bears noting, however, that Sex Now is cross-sectional in design; thus, these patterns may more accurately reflect birth cohort/generational experiences than experiences related to ageing.) Furthermore, even if the RR comparing suicidal behavior between sexual minorities and heterosexuals decreases with age, any increased risk of suicide mortality (RR>1) later in life would likely translate to a larger proportionate share of total sexual minority suicide deaths among adults, as compared to youth, given that 95% of male suicide deaths occur after the age of 20.\textsuperscript{74} In light of this complex age-related epidemiologic profile, the relative dearth of suicide research on sexual minority adults\textsuperscript{18}, and recommendations that suicide research should generally account for differences between adolescent and adult suicidal behavior\textsuperscript{75}, this thesis is primarily interested in suicide among sexual minority adults, and issues specific to youth are identified as such (e.g., section 2.4.1 below).
2.2.4 Sub-groups of sexual minorities at higher risk of suicidal behavior

Intersectionality scholars suggest that social variations in health should be understood in the context of multiple, intersecting influences of privilege, oppression, and social position. By extension, the social determinants of suicide outlined in section 2.2.1 above should be considered as interacting with, rather than in isolation from, sexual stigma. Indeed, empirical studies of sexual minority suicide have suggested a number of intersecting sub-groups at higher risk of ideation or attempts, including: Aboriginal people, racialized minorities, HIV positive persons, bisexual persons, transgender individuals, and those with low income. I did not explicitly use an intersectionality framework for this doctoral thesis (the questions posed were not intersectional in nature); however, I have emphasized the intersectional nature of sociodemographic variables—which are traditionally considered ‘confounders’—in my conceptual diagram (Figure 1-1), and I account for these variables, where sensible, in analyses of all three studies.

2.3 Theoretical frameworks

2.3.1 Models of adoption, expression, and concealment of sexual identities

Models of lesbian, gay, and bisexual identity development have traditionally assumed a linear progression through a series of stages, starting with a feeling of differentness (awareness of same-gender attraction) and ending with integration of sexuality with one’s other identities. While undoubtedly useful in historical characterizations of sexual identity formation, the linear nature of these models is challenged by social constructivist perspectives that conceive of sexual identities as being negotiated and re-negotiated through interactions with a continually changing social environment. This conceptualization allows for a more diverse collection of trajectories; as just two examples relevant to a study of sexual minority men: one, a man who has sex with other men but identifies as heterosexual at work and in social situations for fear of harassment on the basis of sexuality; two, someone who comes out as gay early in life but later as bisexual after meeting friends who share such an identity. In other words, sexuality is context- and audience-dependent.

A related theoretical model stemming from the presupposition that ‘coming out’ to assume a gay or bisexual identity is neither linear nor unidirectional, is Pachankis’s cognitive-affective-
behavioral model concerning the effects of concealing a stigmatized sexual minority identity.\textsuperscript{87} Pachankis’s model integrates the context-dependent nature of social constructivist models of identity with internal reactions (such as anxiety, shame, and vigilance) that may in turn have psychological implications. This concealment theory is further discussed in chapter 4 (study 1).

Together these theories inform not only our understanding of the relationships between sexual minority identities and health outcomes such as suicide, but also the methods we use to research sexual identity/health associations. For example, someone who reports his identity as gay in one survey may describe himself as heterosexual in another. (See section 2.5.1 for further discussion.)

\subsection*{2.3.2 Minority stress}

The excess social stressors to which members of a stigmatized minority group are exposed is referred to as minority stress. Minority stress theory stems from the broader stress process theory, which links sources of stress (or “stressors”, including both stressful life events and the more chronic “life strains”) to mediators of stress and in turn to manifestations of stress (such as mental health struggles).\textsuperscript{88} Minority stress theory has been used in investigations of health disparities that affect various minority groups—notably African Americans in the US—but has particularly gained traction in the study of sexual minority health following Meyer’s detailed theoretical articulation in 2003.\textsuperscript{16} Sexual minority stress theory has been applied as a psychological mediation framework that posits that sexual minorities encounter sexual stigma in various forms (“stressors”), which in turn affects “general coping/emotion regulation, social/interpersonal, and cognitive processes” (mediators), ultimately conferring a higher risk of mental illness (manifestation).\textsuperscript{31} The theory has been empirically tested and verified with epidemiologic (most often cross-sectional and correlational) data in relation to depression, anxiety, problematic drug and alcohol use, suicidal behaviors, and HIV risk behaviors.\textsuperscript{31,89–94} Empirical studies of the minority stress model in relation to suicide ideation and attempts are discussed in detail in chapter 5 (study 2).

Minority stress may be conceived of as a collection of related constructs (or ‘processes’, using Meyer’s terminology); therefore, multiple, exploratory approaches are required to measure
minority stress.\textsuperscript{2,16,95} These constructs include: actual or enacted stigma\textsuperscript{3} (e.g., discrimination, harassment, violence, on basis of minority status; ‘distal processes’ in Meyer’s terms); anticipated prejudice (also called ‘expectations of rejection’, ‘rejection sensitivity’, or ‘hyper-vigilance’); concealment of sexuality; and internalized homophobia.\textsuperscript{2,16,31,95,96} Notably, not every sexual minority individual will experience or report every minority stress construct, even in contexts where sexual minorities are pervasively stigmatized. These constructs have noteworthy analogues across other theories of social behavior and mental health; e.g., psychological theories that link repression/suppression to experiences of social oppression\textsuperscript{97}, and Jones’s framework that identifies three levels of racism: institutional, personally mediated, and internalized\textsuperscript{98,99}. As in social constructivist sexuality models, minority stress is context-dependent, creating variability in experiences of stressors, which can then be measured.

2.3.3 Theories of suicide

Multiple psychological theories have been proposed to explain suicide and suicidal behavior in general populations.\textsuperscript{32} Here I briefly outline two of the more prominent theories: the interpersonal-psychological theory of suicide (IPTS)\textsuperscript{50} and the integrated motivational-volitional model of suicidal behavior (IMV)\textsuperscript{32}. According to IPTS, fatal suicide behavior occurs with the intersection of two separate characteristics: the desire to die and the (usually acquired) capability for suicide.\textsuperscript{50} The desire-to-die component is further characterized by a combination of two experiences: thwarted belongingness (e.g., social rejection, isolation) and perceived burdensomeness (e.g., family conflict, unemployment).

Sexuality presumably does not influence the capability for suicide; thus, if IPTS helps to explain elevated rates of suicide attempts in sexual minorities, the thwarted belongingness and perceived burdensomeness components would be implicated. Three recent studies have evaluated the IPTS in sexual minority samples, finding thwarted belongingness to be associated with suicidal behavior in two studies, and perceived burdensomeness associated with suicidal behavior in two studies (both factors were associated in only one of the studies).\textsuperscript{100–102} One of these studies related the IPTS with the minority stress model and found that several minority stress factors

\textsuperscript{3} Underlined terms indicate the construct names I use throughout this thesis.
(violence, lack of social support, and coming out to family) were positively associated with suicidal behavior after accounting for the three IPTS constructs.\textsuperscript{100}

The IMV conceives of suicidal behavior (whether fatal or non-fatal) as a likely outcome following a series of motivational (suicide ideation/intention formation) and volitional (behavioral enactment) factors.\textsuperscript{32} The motivational phase of IMV—similar to the desire-to-die component of IPTS—including feelings of defeat and entrapment, which may be at least partially determined by background (pre-motivational) factors.\textsuperscript{103} No empirical studies have tested the IMV in samples of sexual minorities (to my knowledge); however, the posited interaction between environmental ‘signals’ and individual reactions to these signals may be useful in understanding sexual minority suicide; as O’Connor states, “sensitivity to signals of defeat may be increased by what we believe others expect of us.”\textsuperscript{103} This interaction often occurs most acutely in individuals who perceive a need for socially prescribed perfectionism.\textsuperscript{103,104} While not an empirical test of the IMV, Pachankis’s and Hatzenbuehler’s investigation of “the Best Little Boy in the World” hypothesis—i.e., that managing and concealing a sexual minority identity may lead to overcompensating through achievement-related domains (i.e., a drive for perfectionism)—indeed found that young sexual minority men who based their self-worth on academic competence were more likely to be alone or experience emotional distress.\textsuperscript{105}

2.4 Causes of sexual minority suicide

2.4.1 Pathways to suicidal behavior in sexual minority youth

Numerous studies have confirmed an association between sexual minority status and suicide ideation and attempts\textsuperscript{14,17,18}, while fewer studies have investigated the causal mechanisms that explain this disparity\textsuperscript{15}. Such mechanisms could broadly be classified into three conceptual categories: A) sexual minority status increases risk of suicide ideation/ attempts by increasing the rates of common causes of suicide (e.g., depression, substance use); B) sexual minority status produces unique (group-specific) causes of suicide ideation/attempts; or C) sexual minority status modifies (increases) the effects of common causes on suicide ideation/attempts (Figure 2-4). These mechanisms are not mutually exclusive, though each implies potentially distinct interventions. Sexual minority suicide ideation/ attempts have been most studied among youth; thus, I begin with a review of findings from adolescent research.
Evidence for elevated rates of mood disorders, substance use/abuse, and social isolation (i.e., established common, proximal causes of suicidal behavior in general populations) among sexual minority youth is robust (hence, empirical support for mechanism A). Several studies, however, have suggested that the higher prevalence of common causes is not itself sufficient to explain the higher rates of suicidal behaviors in sexual minority youth. These studies have found that experiences of enacted sexual stigma are independently associated with suicidal behavior, after controlling for common causes (empirical support for ‘group-specific’ mechanism B). Furthermore, several studies have shown that the coming out period is the highest risk period for suicide attempts among sexual minority youth. Together, these studies suggest that minority stress-related factors may be particularly important in understanding (and intervening to prevent) suicidal behavior in sexual minority youth.

Qualitative studies have similarly pointed to the prominent roles of sexual stigma, heterosexism, bullying, and social exclusion based on perceived sexuality in causes suicidal behavior in sexual minority youth. Mechanism C, i.e., effect modification of associations between common causes and suicidal behavior, may be realized through access to healthcare that is non-stigmatizing and sensitive to the particular needs of sexual minorities. In the absence of LGB-supportive/sensitive care, individuals at risk of suicide may not obtain otherwise protective healthcare interventions.

2.4.2 Pathways to suicidal behavior in sexual minority adults

It is less clear how each of the three mechanisms (A: common causes; B: group-specific causes; C: effect modifiers) applies to experiences of suicidal behavior in sexual minority adults. Reviews have consistently demonstrated elevated rates of substance use and mood disorders in sexual minority adults, though mediation studies linking these common causes to suicide-related outcomes (mechanism A) in adults are rare. A small number of recent quantitative studies have tested and provided support for the minority stress model among sexual minority adults (i.e., mechanism B); these studies are discussed in more detail in the Introduction to chapter 5/study 2. At least one study has suggested that sexual minorities who accessed mental health or medical care had no reduction in odds of subsequent suicide attempt, in spite of the fact that sexual minorities appear to seek mental health treatment as (or more) frequently than heterosexuals, offering some support for mechanism C. These studies are observational and cross-sectional in design and thus must be interpreted with caution; additional research is needed...
to establish the degree to which healthcare interactions are effectively reducing (or failing to reduce) suicide risk among sexual minority adults.

To my knowledge, no qualitative studies of suicidal behavior have been conducted by purposively sampling sexual minority adults, though one recent Swiss study of adult gay men included an open-ended question about the perceived causes of suicide attempts. In this study, the most common causes were social/interpersonal problems (especially related to love/relationships) and problems accepting one’s homosexuality. The latter cause was notably associated with the strongest intent to die. This study points to the need for looking to a combination of mechanisms, including both common and group-specific causes, to understand suicidal behavior in sexual minority adults.

Numerous questions about the pathways to suicidal behaviors in sexual minority adults are outstanding. The multidimensional (constructivist) sexuality and concealment frameworks discussed above suggest that the question of ‘coming out’ as a risk factor for suicide should be re-evaluated, accounting for the multiple audiences and contexts in which people may express or conceal gay, bisexual, or queer identities over the course of their lives. Studies of minority stressors and their impact on suicidal behaviors in sexual minority youth must be adapted to account for the longer duration and cumulative effects of sexual stigma in the lives of adults. Finally, the life course trajectories of sexual minorities present unique factors that may themselves be important risk or protective factors in relation to suicide. Sexual minority men experience higher rates of HIV infection, which remains an important risk factor for suicide in Canada today. They are also more likely to migrate over the course of their lives, which often creates disruption in social support networks, in turn causing loneliness and other potential risk factors for suicide. Finally, gay and bisexual romantic and sexual relationships are often different in many ways from those of heterosexual persons. Given that the top-cited cause of suicide attempts in the Swiss study was relationship/romantic struggles, and that being single, widowed, or divorced is one of the largest social correlates of suicide in general, additional studies are needed to explore the complex but potentially important role of sexual minority relationship structures on adult suicidal behavior. All of these factors are notably changing rapidly: for example, advancements in HIV treatment have transformed HIV into a chronic and manageable disease, state-sanctioned same-sex marriage is now available throughout North America, and queer migration patterns are changing (notably, urban ‘gayborhoods’ are
disappearing), in the context of greater societal acceptance of sexual minorities\textsuperscript{137}. With such dramatic temporal-cultural shifts, the roles of these life-course factors in the production of the sexual minority suicide epidemic require ongoing reevaluation.

2.5 Gaps and rationale for thesis research

Multiple gaps exist in the above-referenced literature concerning sexual minority suicide, particularly in relation to studies of adulthood/ageing.\textsuperscript{15} Here I highlight just three of these gaps that are most relevant to the rationale for the present doctoral research.

2.5.1 Sexuality concealment and its effects on studies of suicidal behavior

The fluid, audience-dependent sexual minority identity expression models discussed above (section 2.3.1) predict that sexual minorities may selectively conceal their stigmatized identities in a number of different contexts. One such context is that of a population health survey, defined as a (typically) government-administered survey that uses probability sampling mechanisms within a defined sampling frame to generate a ‘random’ representation of the total population.\textsuperscript{138} Researchers may identify sexual minorities within these surveys by selecting respondents who self-report an LGB identity; however, this method assumes that sexual minorities are accurately classified as such (i.e., the absence of information bias). Population health surveys are traditionally conducted with an interviewer (either over the telephone, or face-to-face, in the case of household surveys)\textsuperscript{18,139}; the interpersonal nature of these interviews induces concealment, or underreporting, of sexual minority identities, most notably for those individuals who anticipate—or are conditioned to anticipate—a negative reaction from others, upon disclosure of a lesbian, gay, or bisexual identity.\textsuperscript{140}

In the last decade, researchers have increasingly relied upon general population surveys to identify and investigate sexual minority health disparities\textsuperscript{62,138,141,142}; indeed, two of the first three recommendations of the recent Institute of Medicine report on LGBT health research call for routine collection of sexual orientation in (US) federally funded population surveys and electronic health records.\textsuperscript{20} Few studies have investigated the degree of under-reporting of LGB identities (information bias) in population health surveys.\textsuperscript{28,143,144} Even fewer have investigated the effects of under-reporting on estimates of LGB health disparities.\textsuperscript{29} None has examined how under-reporting LGB identities may affect estimates of suicide-related behavior among sexual
minorities, though I posited this form of information bias as one explanation for the higher lifetime prevalence of sexual minority suicide attempts estimated by LGB community surveys versus general population surveys (the latter assumed to induce greater concealment of sexual minority identities) in the aforementioned systematic review and meta-analysis I conducted (Figure 2-5). Study 1 of this thesis (chapter 4) offers the first empirical study to test this hypothesis.

2.5.2 Mediating and intervening variables in pathways to sexual minority suicide

A second gap stems from empirical tests of the sexual minority stress model (section 2.3.2) to explain variation in suicide-related behavior among sexual minorities. A number of studies in recent years have confirmed the consistency of associations between measures of minority stress and suicide ideation or attempts\textsuperscript{100,126,127}, but only 30\% of gay men who attempted suicide named a minority stress-related factor (e.g., problems accepting one’s sexuality, lack of acceptance by others) as the cause of their suicide attempt, in one recent study\textsuperscript{128}; in other words, the attributable fraction\textsuperscript{145} of minority stress theory is low. This discrepancy between deductive tests of the minority stress theory and inductive approaches that ask sexual minorities to describe causes of suicide attempts may be unified by testing mediation models that account for more common, proximal causes of suicide attempts (i.e., a combination of mechanisms A and B in Figure 2-4). Furthermore, such studies are useful in identifying points of intervention to prevent suicide among sexual minority adults who have accumulated a lifetime of minority stress. Study 2 of this thesis (chapter 5) attempts to address this gap by using factor analysis to develop a novel minority stress measurement model, and structural equation modeling to compare the mediating effects of traditional psychosocial variables associated with suicide-related behavior.

2.5.3 Collective understandings of why adult sexual minority men attempt suicide

A final gap concerns common understandings of why adult sexual minority men attempt suicide. Research that critically analyzes the narratives used to explain suicide-related behavior in the context of sexual stigma—especially those narratives endorsed by sexual minorities who have themselves struggled with suicide—is imperative to engaging in knowledge exchange related to the public health issue of sexual minority suicide. Cultural communications\textsuperscript{146}—including news
and magazine stories, social media exchanges, community events, in-person conversations, and debates—determine how community leaders, public health organizations, policy-makers, healthcare practitioners, LGB media outlets, and many other stakeholders conceive of sexual minority suicide as a community or public health ‘problem’.

Qualitative methodologies, and in particular narrative approaches, are well-suited to answer this question. Few qualitative studies have explored experiences of suicide ideation or attempts among sexual minorities, and all of these studies were restricted to youth. Sexual minority adults have been incidentally sampled in qualitative studies of adult suicide-related behavior; however, these studies have not focused on experiences of sexuality or sexual minority status, and thus were unable to explore issues of sexual minority suicide with sufficient depth.

Qualitative suicide research offers an opportunity to explore aspects of suicide and suicide-related behavior that are otherwise invisible when using deductive, quantitative methods. Hjelmeland has noted that there is a limit to what can be learned by quantitative tests of suicide risk factors, and that the ongoing prioritization of quantitative methods in suicidology risks missing a more nuanced understanding of the context and complexity of suicide-related behavior. Kral, et al. have likewise advocated for increased application of mixed (qualitative and quantitative) methods in suicide research, in order to hear about the subjective experiences of suicidal people, and to challenge and critique inadequate theories and measures of suicide risk factors. Study 3 of this thesis (chapter 6) responds to these calls by presenting a narrative study of suicide attempts in sexual minority adults.
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Figure 2-1 Age-related patterns of self-inflected injuries and suicide deaths among males

Note. All data from US CDC’s Injury Prevention & Control Data & Statistics Center (WISQARS; year 2012, data restricted to males; http://www.cdc.gov/injury/wisqars/): 1) self-inflicted injuries estimated based on self harm-related emergency room (ER) visits to a national probability sample of US hospitals; 2) suicide deaths estimated based on US vital statistics (ICD-10 codes X60-X84, Y87.0, *U03)
Figure 2-2 Temporal trends in proportions of heterosexual and sexual minority respondents to population surveys reporting lifetime suicide attempts, 1985-2008

Note. Each dot corresponds to a heterosexual or sexual minority sub-sample from a distinct study included in a 2015 systematic review and meta-analysis.
Figure 2-3 Suicide attempts, last 12 months, by age, gay and bisexual male respondents to Canadian *Sex Now* survey, 2011-12 (N=8382)
Figure 2-4 Conceptual diagrams illustrating three distinct mechanisms by which sexual minority status may increase risk of suicide ideation/_attempts; A: sexual minority status increases rates of common causes (e.g., depression, substance use); B: sexual minority status produces unique (group-specific) causes of suicide ideation/ attempts; C: sexual minority status modifies (increases) the effects of common causes on suicide ideation/ attempts.
Figure 2-5 Lifetime prevalence of suicide attempts by sexual identity and sample type; from a systematic review and meta-analysis published in the *American Journal of Public Health*\(^{18}\)
Chapter 3
Methods

If I were to commit suicide, I think I’d quantify—as a non-quantifier—70% orphan trauma; 20% neo-liberal stresses; 10% lack of community; 0% gay identity.

- Anonymous gay man who provided feedback during thesis work

Epigraph 4
3 Methods

The first part of this chapter presents a discussion of overarching methodological concerns that are pertinent to my thesis in its entirety: an overview of the multimethod research design (section 3.1), reflexive statements of my role as a student and my subjective position as a researcher (section 3.2), and a summary of community involvement in the study (section 3.3). The second part of this chapter contains more detailed information about specific methods used for each of the three aims—complementing material presented in the subsequent major chapters—organized by data sources (section 3.4) and matters of measurement (section 3.5). The chapter concludes with a discussion of limitations (section 3.6) and ethical considerations (section 3.7). Analytic methods are addressed within the major chapters themselves (Chapters 4-6).

3.1 Research design

This thesis uses a multimethod design, relying upon multiple quantitative and qualitative methods to address three distinct research aims (Table 1-1). Multimethod research designs are similar to mixed methods approaches in that they combine multiple methods (often quantitative and qualitative) within a single research program, and in the service of a single overarching research problem. Unlike mixed methods approaches, however, multimethod research is constituted by projects that are complete studies in themselves. In other words, although the component projects are interrelated, the data are not integrated across methods, as is typically done in mixed methods studies.

The three components (hereafter called ‘studies’) of this multimethod thesis were conducted concurrently. In study 1 (corresponding to aim 1), I used data from a Canadian community-based serial survey of gay and bisexual men (Sex Now, discussed further in section 3.4.1) in order to quantify the degree of misclassification of sexual orientation and associated bias in estimates of suicidal ideation among sexual minority men in a general population survey (Canadian Community Health Survey, CCHS, discussed further in section 3.4.2). I used quantitative bias analysis, a method for estimating nonrandom errors that may distort epidemiological results, to achieve this aim. In study 2 (aim 2), I used data from a subsequent cycle of Sex Now to identify specific psychosocial factors that mediate relationships between multiple constructs of sexual stigma and recent suicide attempts. The measurement model for study 2 was developed using factor analysis, and mediating pathways were tested using structural...
equation modeling (SEM).\textsuperscript{5–7} Finally, in study 3 (aim 3), I collected qualitative data through one-on-one in-depth interviews in order to construct narratives used by sexual minority men who told their histories of suicide attempts. Analytic procedures for study 3 were guided by Arthur Frank’s approach to \textit{dialogical narrative analysis}.\textsuperscript{8}

The quantitative and qualitative approaches used in this thesis are collectively interpreted (i.e., in chapter 7, which aims to unite the three papers) through a critical realist paradigm.\textsuperscript{9} Critical realism rejects the assumption that causation can be defined by a single model and emphasizes that relationships are context-dependent.\textsuperscript{9} A critical realist stance allows for research using multiple methods, acknowledging that qualitative and quantitative approaches can be complementary. The quantitative portions of this thesis, and study 2 in particular, are theory-driven, testing a particular predominant theory used to understand suicidal behavior among sexual minorities (i.e., minority stress theory). Study 3 relies upon a more inductive process that led to the construction of subjective narratives that are used by gay men in understanding their experiences with suicide thoughts and attempts. The multiple methods of this thesis are additionally unified by a community-based participatory research (CBPR) framework, as further discussed in section 3.3 below.

\section*{3.2 Situating myself}

\subsection*{3.2.1 Role of student}

\textit{Study design:} I independently developed the research questions addressed in this thesis, building upon the literature reviewed in chapter 2. I also designed the studies, with the support of my supervisory committee, and in collaboration with a number of existing community-based research programs, described in sections 3.3 and 3.4 below.

\textit{Data collection:} \textbf{Studies 1, 2:} I have volunteered at the Community-Based Research Centre for Gay Men’s Health (CBRC, \url{http://cbrc.net/}) for 8 years and provided input to the design of the \textit{Sex Now} 2011-12 instrument and recruitment strategy. I am a co-investigator of the 2014-15 cycle of the \textit{Sex Now} survey (funded by the Vancouver Foundation). In this role, I assisted with formative research for the 2014-15 survey (i.e., focus groups and workshops), provided input into the questionnaire development (in particular the questions related to suicide, as detailed in section 3.5 below), and assisted with study recruitment. \textbf{Study 3:} I developed the interview guide
and questionnaire, recruited participants, and conducted all interviews.

Analysis, writing, and knowledge translation: I conducted all analyses and wrote the corresponding manuscripts, with guidance and input from my supervisory committee. Dissemination and translation of results, with community partners and in accordance with CBPR principles, is ongoing, as detailed in chapter 7.

3.2.2 Reflexivity and subjectivity

Reflexivity is an active form of self-examination “that challenges the researcher to explicitly examine how his or her research agenda and assumptions, subject location(s), personal beliefs, and emotions enter into their research.” Reflexivity is more commonly used in qualitative research; however, all research is strengthened by a reflexive account of the researcher’s subjective position(s). Some researchers have called for wider application of reflexivity in multimethod, mixed methods, and quantitative studies.

Subjectivity concerns the relational social positions of the researcher and research participants (e.g., race, class, gender) that occur in the context of systems of power (e.g., racism, classism, sexism, genderism), and can be explored through reflexivity. Subjectivity affects all research, whether explicitly or implicitly. In some paradigms, subjectivity is disregarded or ‘set aside’; for example, positivist quantitative research traditionally aims for objectivity, producing results that are free of bias and replicable, and therefore independent of researcher-participant subjectivities. By contrast, subjectivity is central to constructivist or critical realist paradigms, which maintain that research observation cannot occur independent of the researcher’s own history, culture, or social practice. In this thesis, I aim to acknowledge my subjective positions and make them explicit to the reader.

The following statement of reflexivity and subjectivity addresses four ways in which my personal history, social positions, beliefs, and assumptions have affected the research questions and methods of this thesis: (1) experiences of homophobia and heterosexism, (2) social privilege, (3) access to data and participants, and (4) struggles with epistemology, truth, and the quant/qual divide.

I grew up in the 1980s and 90s, in a small Midwestern town in the United States, and in a Catholic family, both of which emphasized the paramount importance of heterosexual marriage
and parenting. I presented as an effeminate and mild-mannered child, in a gendered (and masculinist), heterosexist context, and was subjected to name-calling and physical bullying throughout my adolescence. For many years I was unaware of the possibility of a positive, out gay identity or loving same-gender relationship. I came out in 1999, while living in Berkeley, California, and was fortunate to be surrounded by friends who expressed unconditional support for my sexuality. Since that time, I have been perpetually fascinated by both sides of the homophobia/pride “coin”. I have sought to understand how negative and positive evaluations of sexual minority identities affect mental well-being, social behaviors, and health status. It is thus not surprising that much of this thesis concerns experiences of sexual stigma, identity concealment, and their relationships with attempted suicide as a possible outcome.

As I acknowledge how my experience as a sexual minority has affected my research interests, I acknowledge other social locations I occupy, many of which are positions of social privilege. I entered my doctoral work with the financial support of an employed middle-class family, a generous three-year scholarship, and racial and gender privileges afforded to me as a white American-Canadian cisgender man. As Arthur Frank notes, what distinguishes my analytic work as a graduate student from that of the everyday interpretive work of other gay men is the freedom of time. This freedom of time was accompanied by institutional support, i.e., scholarly supervision, to deeply pursue the research question at-hand. These positions of privilege remind me that my conceptualization of sexual stigma—how I measure it, describe it, and interpret it—may look very different than that of people of color, indigenous persons, transgender or gender-queer persons. Moreover, I have privileged the study of one form of social stigmatization and oppression (i.e., that related to sexuality); however, queer people of color, immigrants, indigenous persons, gender non-conforming persons, and those with disabilities may not so easily choose one social axis over another in studying social inequities in health.

My personal circumstances, my identity as a gay man, and my volunteer work at the CBRC and related organizations have all been further points of social and academic privilege for me. Working with CBRC provided me with access to gay-identified participants, supporting quantitative data, and credibility in conducting research that is mindful of the social context in which Canadian gay men live. Being an ‘insider’ researching the gay community has benefits and drawbacks. The major benefit is that participants—notably in study 3—may have been more willing to disclose otherwise sensitive stories related to their sexuality, knowing that we
may share some experiences related to sexual stigma. One drawback is that participants may have left some details unexplained, due to an assumption that I would understand the subtext without explanation.

Finally, throughout this study I have struggled with questions of truth and ways of knowing. I was conditioned, during my master degree in epidemiology, subsequent applied epidemiology work experience, and PhD training, to expect that all phenomena of public health, or even social, interests are measurable, knowable, and amenable to replicable study. When I first encountered the question of elevated rates of suicide ideation and attempts among gay men, I struggled to find a way to effectively and meaningfully investigate this public health problem. Quantitative tools and data sources were readily available, as detailed below; however, quantitative approaches did not always provide satisfying answers to my questions, and some dynamics of suicide-related behavior proved difficult to quantify (Epigraph 4). I have thus written this thesis as a gradual step toward a more subjective understanding of social health problems.

3.3 Community participation

CBPR frameworks dictate that all phases of research involve participation by members of the community being researched, in my case, gay and bisexual men. Studies 1 and 2 involve the Sex Now survey, an ongoing community-based project rooted in CBPR practices. Study 3 built on these CBPR practices to include other community partners: the Health Initiative for Men in Vancouver (http://checkhimout.ca/), QMUNITY queer resource centre in Vancouver (http://qmunity.ca/), the Pacific AIDS Network in Vancouver (http://pacificaidsnetwork.org/), and Gay Men’s Sexual Health Alliance of Ontario (http://www.gmsh.ca/).

All four of these organizations, as well as the CBRC, participated in my doctoral research program by assisting with: identifying research questions of high priority; designing studies that meaningfully include community partners; sharing results with community partners; and ensuring results are translated into programming that responds to community-identified needs and is mindful of the context of community organizations’ work. I achieved the first two of these tasks—identifying research questions and designing my studies—through ongoing dialogues with representatives at the organizations named above. For example, Darren Usher and his successor Aaron Purdie have managed the sliding scale counseling program for gay, bisexual, and queer men at the Health Initiative for Men (HIM). I met with Darren, and then Aaron, on a
periodic basis throughout this study to understand how the mental health program at HIM is evolving, hear their clinical impressions related to suicidal behavior among gay/bi/queer men, and receive feedback about methods of recruitment and specific questions or variables to look for in my research.

I achieved the latter two tasks—community-based knowledge dissemination and translation—through a number of activities that are ongoing, and described in detail in chapter 7. These include presentations at community events (e.g., PAN conference in February 2015, Gay Men’s Health Summit in 2013-2016, GMSH meeting in October 2015; full list in chapter 7), an interview with Xtra, a Canadian LGBT news outlet (http://www.dailyxtra.com/canada/news-and-ideas/news/study-finds-gay-men-now-die-suicide-hiv-93113), blog posts (http://cbrc.net/articles/09-2014/suicide-major-cause-death-gay-and-bisexual-men and http://cbrc.net/articles/10-2016/preventing-suicide-among-gay-and-bisexual-men-new-research-and-perspectives), and a public health grand rounds presentation (http://mediasite.phsa.ca/Mediasite/Play/fd7d836d36044019ba4e442008ade8391d?catalog=8b83c4e8-de95-40b0-8787-fc2a880b79b3).

Throughout this study I have sought to adhere to Bradbury & Reason’s 5 markers of quality in CBPR or ‘action’ research. I have ensured the participatory nature of my research by continually seeking ways to bring more individuals into my research process and by staying close to my research subject, e.g., through volunteering at a gay health research organization (the CBRC) and a local crisis centre (‘quality as relational praxis’). I have aimed to produce research that is immediately useful to my community, e.g., looking for health service solutions that are practical and feasible, as described in chapter 7 (‘quality as practical outcome’). I have engaged with multiple theories and methods, as described in this chapter and the previous one (‘quality as plurality of knowing’), and have used methods that are not only suited to the research question but also inclusive of community (‘quality through methodological appropriateness’). Finally, I have elected to work in a topic that is fundamental to my community (related to social stigma as a fundamental cause, and suicide as a major cause of death), under-researched, and therefore significant (‘quality as engaging in significant work’).
3.4 Data sources

3.4.1 Canadian Community Health Survey

CCHS is a national, population-based cross-sectional survey that collects information related to health status and determinants.\textsuperscript{24} CCHS includes people 12 years of age and older (see note below re: age-restriction of sexual orientation question) living in all regions of Canada, with the exception of those living on-reserve, full-time members of the Canadian Forces, institutionalized populations, children living in foster homes, and those residing in two regions of northern Quebec.\textsuperscript{24} Multi-stage random sampling is used to ensure representativeness of the Canadian population with respect to geography.\textsuperscript{25} The CCHS questionnaire is administered over the telephone (approximately 60\% of respondents) or in-person (~40\% of respondents) by an interviewer who follows a standardized computer-assisted script. CCHS has collected information on self-reported sexual orientation (heterosexual, homosexual, bisexual) since 2003. In the 2003 and 2007 surveys, 2\% of respondents identified as lesbian, gay, or bisexual; in 2014 this figure had risen to 3\%.\textsuperscript{26–28} CCHS is indeed the only federally funded population health survey in Canada that includes a question related to sexual minority identity or behavior.\textsuperscript{29}

CCHS includes a series of questions related to suicide ideation and attempts (“Have you ever seriously considered committing suicide or taking your own life?”; “If yes, has this happened in the past 12 months?”; “If yes, have you ever attempted to commit suicide or tried taking your own life?”; “If yes, did this happen in the past 12 months?”); questions about suicide attempts are notably only asked of respondents who indicate suicide ideation in the past 12 months. For this reason, and to enable sufficient sample size, my study focused on suicide ideation (ever, past 12 months) as outcomes of interest. Sexual orientation questions were only asked of respondents 18-59 years of age. Suicide-related questions were optional, selected by 4-5 of the 13 provinces and territories in any given cycle. To increase sample size, I drew on data that were pooled across 12 years of data (2003-2014), yielding N=4,675 gay and bisexual-identified respondents, as further described in chapter 4.

3.4.2 Sex Now survey

Sex Now is a community-based cross-sectional survey of sexual minority men >16 years of age, administered every 1-2 years by the CBRC.\textsuperscript{21} The survey is national in scope, offered in English.
and French, and has expanded over the years to include in-depth measures of social determinants of health. The survey is completed anonymously online and recruits approximately 8,000 respondents per cycle, from all 13 provinces and territories. Participants are recruited from: dating/sex-seeking websites (53%, in 2011-12), social media (23%), an email database of previous survey participants (10%), word-of-mouth (9%), and other various promotional activities, both in-person and online (5%).

This thesis draws on Sex Now data from the 2011-12 and 2014-15 cycles. I used data from the 2011-12 survey for study 1 (chapter 4) and from the 2014-15 survey for study 2 (chapter 5). Both iterations of the survey included a wide range of questions related to socio-demographics, sexual behaviors, and common health outcomes, including suicide ideation and attempts (last 12 months, or lifetime). The theme of the 2011-12 survey was social determinants of health, and questions were specifically added to investigate the issue of under-reporting/under-representation of sexual minorities in federally funded health surveys, such as CCHS (further described in chapter 4). The theme of the 2014-15 survey was issues of life-course and generational difference in the community of gay and bisexual men. I worked with the CBRC survey principal investigators, and the Investigaytors, a CBPR youth training initiative that engages young gay men in the research process (http://cbrc.net/investigaytors), to develop a set of novel measures related to three aspects of sexual stigma: enacted stigma, anticipated prejudice, and concealment of sexuality (as further described in chapter 5, and Appendix 1).

3.4.3 Fieldwork and interviews

Study 3 required primary data collection, which comprised two phases: fieldwork (January – August 2015), and interviews (August 2015 – March 2016). In the winter of 2015, I began formally engaging with various stakeholders to research gay suicide: specifically, mental health practitioners working with gay men; community-based organizations interested in gay men’s health; public health institutional actors; and volunteers at a local suicide prevention crisis centre. My fieldwork revealed a wide range of ideas about the causes of gay suicide. One colleague, a professional counsellor who coordinated a sliding scale counseling program for gay and bisexual men, articulated his theory using a ‘stacked-books’ metaphor. Suicidal clients came to his practice after a ‘stack’ of life-struggles piled over their heads and began to topple. My colleague suggested that there was no way to tell what the last book would be that might tip the balance:
perhaps an ended relationship, a lost job opportunity, or a death in the family. Another therapist encouraged me to inquire about same-gender loving relationships, which were a constant theme in his practice with gay men.

Observations such as these helped to prepare me for the second phase of study 3 in several ways. They gave me some ideas of what I might expect to hear in the interviews. They gave me ‘probing’ questions when interviews were stalled because I was able to reference things I observed in my fieldwork (including the ‘stacked-books’ metaphor and questions about same-gender relationships). Finally, they gave me a point of reference as I interpreted my results. For example, as part of my fieldwork, I was a reader for a gay psychotherapist’s forthcoming book on the experiences of gay men recovering from emotional trauma in a post-HIV treatment era ([http://www.waltodets.com/](http://www.waltodets.com/))\(^3\). I often ‘triangulated’\(^3\) between my own research and Dr. Odet’s writing (among others), to find ways of understanding results that related to other theories, notably those applicable to practitioners working in gay men’s mental health.

To complement the professional psychology theories uncovered during my fieldwork, I recruited a sample of seven gay men who had attempted suicide as adults and invited them to share their life stories in one-on-one interviews. Participants were recruited from local gay health and HIV service organization newsletters and social media (n=5), flyers in gay businesses (n=1), and word-of-mouth (n=1), and the details of this sample and my analytic method\(^8\) are provided in chapter 6. The consent form, interview guide, and questionnaire are provided in Appendix 2.

### 3.5 Measurement

**Outcome:** Where possible, I have aimed to use standardized measures throughout this thesis, particularly for suicide-related outcomes. *Sex Now* and CCHS questions related to suicide ideation and attempts use comparable wording and time-frames (12 months, lifetime) (see Appendix 3). Suicide ideation is a non-specific marker inclusive of emotional distress and other factors that lead to thoughts of ending one’s life or communication thereof\(^37\); care must be taken to distinguish between the intention of suicidal thoughts (whether to die, self-harm, or undetermined)\(^38\), and many reports of suicide ideation reflect suicidal or self-harm impulses that are not life-threatening\(^39\). For all of these reasons, suicide attempts are a more specific marker; as few as 7% of those with suicidal ideation will go on to attempt suicide (depending on the time-frame of follow-up).\(^37\)\(^40\) Suicide attempts therefore constitute the primary outcome of interest in
this thesis (where possible: i.e., used as the outcome of focus in studies 2 and 3, though not in study 1, due to limited power within the CCHS data-set), and are used in this thesis as a group at high risk of suicide mortality.\textsuperscript{41,42} Only a fraction of individuals who attempt suicide will die by suicide—though suicide attempt is notably one of the strongest and most consistent predictors of suicide mortality.\textsuperscript{43,42,41} Future research on suicide mortality among sexual minorities is needed\textsuperscript{44} and has been achieved in some settings with robust registries and linked data-sets\textsuperscript{45}; however, suicide mortality was not a suitable outcome for the present thesis study due to the lack of currently available data on suicide deaths among sexual minorities in Canada and the small sample sizes derived in those studies that are able to link some measure of sexual identity with suicide mortality.\textsuperscript{46–48}

**Exposure:** Sexual minority status may be measured by a number of overlapping yet distinct constructs: identity/orientation, sexual behavior, and same-gender attraction.\textsuperscript{49} It remains unclear which is most relevant for the question of suicidal behavior\textsuperscript{50}, though identity is arguably the construct most directly implicated by a minority stress model.\textsuperscript{51,52} I have opted to emphasize sexual identity—with a focus on gay and bisexual identities—throughout this thesis for this reason, and because at least one study has found the largest magnitude of association between identity and suicide attempts.\textsuperscript{50} In fact, the true ‘exposure’ of interest in this study is societal sexual stigma, as conceptualized in Figure 1-1. In this conceptual model, sexual identity is at least partially an effect of experiences of sexual stigma (those who are most stigmatized are less likely to express a minority identity), and study 2 (chapter 5) is specifically concerned with improving approaches to measure the immediate effects of sexual stigma (i.e., minority stress).

### 3.6 Limitations

Methodological limitations of the three respective studies are detailed in a ‘limitations’ section of each chapter. Here I highlight four cross-cutting limitations that bear additional discussion as they relate to the thesis as a whole.

(1) **Gender:** As described in chapter 2, I chose to limit this thesis to sexual minority men, due to my experience as a gay man (discussed above), my access to data from gay and bisexual men (\textit{Sex Now} survey), and gender-specific patterns of both sexual stigma\textsuperscript{53,54} and suicidal behaviors.\textsuperscript{40,55–58} This restriction allowed me to focus on gendered aspects of sexual stigma and suicide (e.g., pressures of adherence to masculine gender roles) but also limited the ability to
understand cross-gender aspects of queer suicidal behavior. This means many of the results in this thesis may not be generalizable to queer women or some transgender groups. Moreover, although the Sex Now survey and my qualitative study were inclusive of trans men (in both recruitment and gender identity measures), they were both also advertised as studies of ‘men’ and thereby excluded individuals who feel marginalized by a gender binary. In study 3 I learned more about how gender binaries inadequately capture more fluid gender expressions (see chapters 6 and 7).

(2) Intersectionality. As described in section 3.2.2 above, my study is limited by my particular experience and focus as a white cisgender gay man. I have prioritized matters of sexuality in this study. This focus on sexuality is a strength, in that I have been able to derive particular understandings of what it is about sexual minority status that relates to the higher rates of suicide attempts; but it is also a limitation, in that it presumes that sexual stigma is the foremost concern in the lives of sexual minority men I study. Intersectionality theory and practice reminds me that we do not live single social identities in isolation from other intersecting identities. The large associations between education, income, Aboriginal identity, and HIV status observed in study 2 suggest that these intersecting experiences are also important to understanding suicide among sexual minority men.

(3) Sampling. All studies of sexual minorities are limited by matters of sampling. There is no enumerated sampling frame of sexual minorities; therefore, researchers must rely upon methods prone to one or another source of bias. For example, population surveys like CCHS offer some representation of the Canadian geography but are prone to misclassification of sexual identity, as detailed in study 1. Meanwhile, community surveys like Sex Now may capture individuals who would not disclose a sexual minority status in CCHS but are biased in their particular sampling methods, through gay websites or venues. This thesis is thus limited by all of these sampling biases, though a critical aim of the thesis is to explicate these forms of bias.

This thesis is both constrained and strengthened by an inherent survival bias. In suicide research it is often difficult to study those who have died from suicide. This thesis is therefore primarily concerned with suicide attempts as an outcome. However, those who have attempted suicide and survived may be different from those who die by suicide. Additionally, individuals who are motivated and willing to share their stories are likely different from those who are
suicidal but unwilling or unable to participate; the latter group may notably be at greater risk of serious attempts or suicide mortality and will be missed in my PhD study. Studying survivors may also, however, be seen as a strength, as discussed in study 3 (chapter 6). Survivors can offer unique perspectives on resilience through periods of distress.

(4) Measurement. Finally, this thesis is limited by matters of measurement. The most pressing of these matters concerns the distinction between suicide attempts and suicide mortality. Just as factors associated with suicide ideation may be poor predictors of suicide attempt\textsuperscript{37}, factors associated with attempts may be poor predictors of suicide mortality. Furthermore, suicide attempts may be either under- or over-reported. This misclassification may be non-differential (unrelated to sexual identity or experiences of sexual stigma, for example), in which case associations will tend to be biased toward the null.\textsuperscript{65} Alternatively, misclassification might be differential (e.g., gay people or those who are highly stigmatized might be more likely to under-report suicidal behavior because of a reluctance to report any sensitive or further stigmatizing behavior\textsuperscript{66}), though the direction and magnitude of this bias in studies of suicide among sexual minorities requires further study.\textsuperscript{62,67}

3.7 Ethical considerations

I obtained ethical approval for this research from the Health Research Ethics Board at the University of Toronto. Separate protocols were reviewed for the quantitative (protocol #31566) and qualitative (protocol #31573) aims. Approval certificates are provided in Appendix 4. Ethical matters particular to study 3 (interviews with individuals who have attempted suicide) included: undertaking over 100 hours of crisis counseling and suicide risk assessment training, establishing a ‘safety net’ protocol for participants in distress\textsuperscript{68}, and working with local counselors who were available for immediate referral. These steps are further detailed in chapter 6.
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Chapter 4
Study 1

4 Concealment of sexual minority identities in interviewer-administered government surveys and its impact on estimates of suicide ideation among bisexual and gay men

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4.1 Abstract

Bisexual and gay men are at increased risk of suicide ideation. Characterizing this risk requires self-disclosure of sexual identities; however, many will conceal their identity when interviewed. We investigated the impact of the resulting information bias within the Canadian Community Health Survey (CCHS). Expected probabilities of disclosure were derived from a community-based survey of bisexual and gay men, stratified by sexual identity and other social characteristics. Forty percent of bisexual men and 86% of gay men were willing to disclose to CCHS interviewers. The odds of suicide ideation were higher for both bisexual (odds ratio [OR]=4.91) and gay (OR=3.63) men compared to heterosexual men. After bias analysis these disparities remained significant but were attenuated, with greater attenuation for bisexual (adjusted OR=3.53) than for gay (adjusted OR=3.52) men. We recommend that researchers continue exploring bias in estimated sexual minority health disparities, and that population surveys be more inclusive of bisexual-identified individuals.
4.2 Introduction

Empirical evidence for increased risk of suicide ideation and attempts among aggregated sexual minority populations (i.e., bisexual, lesbian, and gay people combined) relative to heterosexual persons, is robust.\textsuperscript{1-4} A next priority for researchers is to characterize the risk of suicide ideation and behaviors by ‘disaggregated’ sexual minority subgroups, in order to identify particular risk and protective factors for these subgroups, and ultimately, to intervene to prevent suicide.\textsuperscript{5} One such subgroup is bisexual individuals\textsuperscript{2,3}. Studies consistently show that bisexual persons have higher rates of suicide ideation and attempts as compared with heterosexual persons; however, comparisons with lesbian and gay persons are mixed: in a review of 19 studies, 11 found no difference between bisexual and lesbian/gay subgroups, 5 found higher rates in bisexual subgroups, 1 found lower rates in bisexual subgroups, and 2 were inconclusive.\textsuperscript{2}

4.2.1 Bisexuality and minority stress

At least one theory has posited an explanation for a higher risk of suicidal (and other mental health) outcomes in bisexual persons. Ross, Dobinson, & Eady adapted minority stress theory\textsuperscript{6} to theorize that bisexual people experience biphobia—“negativity, prejudice, or discrimination against bisexual people”—and monosexism—stigmatization or exclusion of bisexual identities at a structural level.\textsuperscript{7} They hypothesized that accumulation of multiple stressors related to this stigma produces poorer mental health status, through cognitive (e.g., feelings of hopelessness), affective (e.g., rumination, poor self-evaluation), and interpersonal (e.g., social isolation) pathways.\textsuperscript{8}

Several scholars have noted important differences in experiences of sexual stigma between bisexual and homosexual people, despite biphobia and homophobia often being treated as analogous counterparts.\textsuperscript{9} Bisexual people sustain a “doubly-stigmatized identity”\textsuperscript{7}, facing stigma, rejection, and prejudice, within both the general heterosexual population\textsuperscript{10,11} and the gay and lesbian community—an assumed ‘safe haven’ from discrimination for many sexual minorities\textsuperscript{7,12}. Biphobia is bolstered by pervasive monosexist assumptions: among them, that bisexuality is an inauthentic identity, that bisexual people are disloyal, or that sexual desire is fundamentally binary, yielding exclusively hetero- or homo-sexual orientations.\textsuperscript{11,13} Thus, the additive effects of biphobia, monosexism, homophobia, and heterosexism, may ultimately induce
a higher burden of mental distress in bisexual individuals, as compared with lesbian and gay persons.

4.2.2 Sexual identity concealment

Most research on relationships between sexual minority stress processes and mental health outcomes has focused on ‘distal’ stressors, such as experiences of violence or discrimination. Less explored is the effect of sexual identity concealment on rates of mental health outcomes. Rates of concealment differ by sexual identity and gender, with some studies demonstrating lower disclosure of bisexual identities than gay or lesbian identities, to a number of different audiences, including family, friends, coworkers, and healthcare providers; in addition, fewer bisexual men report disclosing their identity to family and friends than do bisexual women, in at least one study. Greater concealment among bisexual persons may notably be interpreted in the context of pervasive biphobia and monosexism, while gender-related differences in disclosure may stem from differing societal attitudes about masculine and feminine sexualities, the former being more rigidly binary and assumed heterosexual. Differences in disclosure/concealment between bisexual and gay/lesbian people may also be a matter of practical experience; bisexual people in opposite-gender relationships are often assumed to be heterosexual, thus limiting opportunities to build comfort and confidence in expressing an otherwise invisible identity.

Concealment is relevant to research on the mental health status of sexual minorities in two ways, one theoretical and one methodological.

First, in the context of a stigmatized identity generally, concealment may produce contrasting, or even opposing, effects on mental distress. On the one hand, concealment may ‘protect’ sexual minorities from overt expressions of sexual stigma (e.g., discrimination or harassment on the basis of an expressed or presumed sexuality) predicted by the minority stress model described above. On the other hand, concealment activates its own set of internal cognitive and affective processes, including vigilance, shame, and anger, which may themselves produce poorer mental health outcomes. Pachankis interrelates the effects of concealment by describing a cycle in which the concealable stigma leads to negative self-evaluation (sometimes described as anger turned inward), which in turn leads to both further concealment of identity as well as anxiety, depression, and in some cases suicide.
A second implication of concealment in relation to sexual minority mental health research is methodological. Just as sexual minorities cautiously evaluate perceived risks and benefits before disclosing a stigmatized identity in their everyday lives\textsuperscript{20}, they likely apply a similar analysis when asked about their sexual identity by a research interviewer. The resulting concealment produces misclassification, or information bias, in studies that attempt to estimate and investigate mental health burdens in sexual minorities. Misclassification errors may be non-differential (random underreporting), or differential (systematic underreporting) with regard to study methods, individual characteristics (including sexual identity), and outcome—each of which has a particular potential impact on measures of association (such as odds ratios) comparing health outcomes in sexual minorities to those in heterosexuals. While all studies are affected by underreporting of sensitive topics, general population surveys (typically government-sponsored) that ask respondents to self-report sexual minority status to an interviewer (face-to-face, or by phone) are especially prone to this type of bias.\textsuperscript{21} In this interpersonal context—as contrasted to the context of an anonymous survey—sexual minorities face what Pachankis describes as “the threat of discovery”, which may motivate respondents to hide their stigmatized identity.\textsuperscript{20}

Underreporting sexual minority status not only biases estimates of the burden of mental health outcomes, but also inhibits our ability to accurately identify and study those subgroups at highest risk of illness or suicide-related behavior. Addressing this methodological challenge is particularly important in the context of an increasing reliance upon general population surveys to study sexual minority health.\textsuperscript{22-24}

4.2.3 Study aims

The present study therefore investigates the impact of concealment of sexual identity in population surveys on estimates of suicide ideation for bisexual men and gay men, derived from two national Canadian surveys: one a general population government survey, the other a gay and bisexual community-based survey. We hypothesized that if concealment explains differences between the two samples, adjustment for misclassification of sexual identity will render the samples more comparable with regard to general characteristics and facilitate more accurate estimates of suicide ideation. This hypothesis was tested using a three-step approach, combining descriptive analysis and quantitative bias analysis.
4.3 Methods

We used the two largest Canadian data-sets measuring health outcomes in sexual minority men: *Sex Now* (SN), a community-based online survey run by the Community-Based Research Centre for Gay Men’s Health, and the Canadian Community Health Survey (CCHS), a population based government survey run by Statistics Canada. SN was used to identify correlates of willingness to disclose bisexual and gay identities to a *Statistics Canada* interviewer. Resultant probabilities of disclosure were then applied to CCHS data to quantify and correct the effect of information bias on the prevalence of suicide ideation.

4.3.1 Samples

SN is a community-based serial cross-sectional survey of gay and bisexual Canadian men, completed anonymously, online, in English or French. Participants are recruited every 1-2 years through dating/sex-seeking websites, social media, a standing database of previous survey participants, and word-of-mouth. There is no defined sampling frame, as with other studies focused on sexual minorities. Survey content is dynamic, developed iteratively by a collaboration of gay and bisexual men who participate in all stages of research, from questionnaire design and recruitment to analysis, interpretation, and knowledge translation. Additional methods are described elsewhere.25

CCHS is a population-based government-administered serial survey, completed with an interviewer, either in-person or by phone, in English or French.26 A multistage stratified cluster design is used to randomly select participants from a geographically representative sampling frame of households enumerated in the national *Labour Force Survey*, supplemented in some regions by a random digit dialing frame.27 CCHS content is determined based on consultation with Canadian health researchers and public health officials. Additional methods are described elsewhere.27

4.3.2 Measures and data restrictions

Sexual identity is routinely collected in SN and has been asked in CCHS since 2003 (cycle 2.1), though only to respondents 18-59 years of age. Accordingly, both datasets were restricted to men 18-59 years of age. In both surveys this is a measure of self-described identity: gay/homosexual, bisexual, or straight/heterosexual (*Appendix 3*). In the 2011-2012 cycle of SN, the following
question was added specifically to assess willingness of gay and bisexual men to disclose their sexual identity to Statistics Canada: “Would you reveal your sexual orientation if asked in a Statistics Canada survey?: very likely; likely; somewhat unlikely; totally unlikely”. For the present analysis, this variable was dichotomized with the first two response categories collapsed to indicate “willingness” to disclose, and the last two categories collapsed to indicate “likely concealment”.

Accordingly, the present study uses data from the 2011-2012 cycle of SN; however, to increase statistical power, multiple CCHS cycles were pooled, combining the 2003 (cycle 2.1), 2005 (cycle 3.1), 2007 (cycle 4.1), and 2008-2014 annual cross-sections. Pooling is recommended when the small sample size of sub-groups within CCHS—such as gay and bisexual-identified respondents—precludes in-depth single-cycle analysis. Cycles were pooled following methods established by Statistics Canada. Sampling and bootstrap weights were scaled by a constant factor, $\alpha=1/6$, to adjust for the combination of 6 cycles (2003, 2005, 2007-08, 2009-10, 2011-12, and 2013-14).

Both surveys include measures of sociodemographic characteristics and a wide range of health behaviors and health outcomes, including suicide ideation and attempts. For the present study, a subset of variables that were approximately equivalent between the two surveys—based on face validity—were selected for analysis (Appendix 3). Suicide ideation and behavior questions constitute an optional CCHS module; in any given cycle four to five of the thirteen Canadian provinces and territories opted to administer these questions, and these provinces varied from cycle to cycle. Given the rarity of suicide attempts, only suicide ideation (last 12 months; lifetime) variables were used, ensuring adequate power for multivariable and sub-group analyses.

4.3.3 Analysis

Analysis was conducted in three steps, each of which was stratified by sexual identity (bisexual, gay). First, sociodemographic characteristics, health behaviors, and suicide ideation were compared between the two surveys. The magnitude of relative differences was calculated as:

$$\frac{\% \text{ with characteristic in SN} - \% \text{ with characteristic in CCHS}}{\% \text{ with characteristic in SN}}$$

(eq 1)
Relative differences $>|10\%|$ were defined as ‘large’. CCHS data were weighted to account for the complex survey design.

In step two, SN respondents were restricted to those willing to disclose their sexual identity to Statistics Canada, creating a third analytic sample, “SN (disclose)”. For each characteristic with a large difference identified in step one, the three samples—SN, SN (disclose), and CCHS—were compared to examine the degree to which SN (disclose) better approximates CCHS. If large cross-survey differences identified in step one are explained by sexual identity concealment in CCHS, as hypothesized, the SN (disclose) sample should look more similar to CCHS than the full SN sample, with regard to the proportionate distribution of characteristics. Comparisons between the three samples were evaluated using the following ‘ratio-of-differences’ formula:

$$\frac{\% \text{ with characteristic in SN (disclose)} - \% \text{ with characteristic in SN}}{\% \text{ with characteristic in CCHS} - \% \text{ with characteristic in SN}} \quad (eq \ 2)$$

Both direction (+/-) and magnitude of the ratios-of-differences were examined. For example, a ratio of +0.5 suggests that concealment ‘explains’ 50% of the difference between CCHS and SN, while a ratio of -0.3 would suggest that concealment does not explain the difference (i.e., % with characteristic in SN (disclose) is not closer in value to CCHS than SN). Positive ratios were assessed in aggregate to determine the number of cross-survey differences ‘explained by’ concealment and the magnitude of these positive ratios.

Finally, quantitative bias analysis was used to evaluate the effect of underreporting, or misclassification, of bisexual and gay identities on estimates of suicide ideation (12 months; lifetime) in CCHS, following methods established by Greenland and Lash, et al.\(^{30-33}\)

Probabilities of disclosure (i.e., proportion of SN respondents willing to disclose their sexual identity to Statistics Canada), or $Pr(\text{Discl})$, were derived from SN and then applied as sensitivity values for the sexual identity question within CCHS. $Pr(\text{Discl})$ values were applied using the following formula:

$$A = \frac{a}{Pr(\text{Discl})} \quad (eq \ 3)$$

Where ‘$a$’ refers to the observed number of bisexual or gay respondents, and ‘$A$’ refers to the adjusted number of bisexual or gay respondents (i.e., the expected value in the absence of
misclassification). The estimated number of heterosexual respondents were then reduced by \((A - a)\) in order to adjust counts in the comparator group.

Bias analyses were conducted first using a single \(Pr(Discl)\) estimate (i.e., univariate and non-differential reclassification). Analyses were then repeated using separate \(Pr(Discl)\) estimates for those with and without suicide ideation (i.e., differential reclassification), and using separate \(Pr(Discl)\) estimates stratified by a subset of sociodemographic variables (i.e., multivariable reclassification)—identified based on a previous analysis of this question. Sociodemographic factors were dichotomized because of the limited sample size within CCHS. Logistic regression was used to select correlates with statistically significant \((p<0.05)\) associations with willingness to disclose in a full multivariable model.

Prevalence odds ratios (OR) estimated relative differences in suicide ideation between bisexual vs. heterosexual men, and gay vs. heterosexual men, respectively, before and after reclassification. Multivariable (stratified) OR were calculated using the Mantel-Haenszel method. 95% confidence intervals (CI) were estimated using Statistics Canada bootstrap methods for crude (no reclassification) OR. Greenland’s formula was used to calculate 95% CI for reclassified OR, in order to account for the variance of both the \(Pr(Discl)\) measure, derived from SN, and the resultant two-by-two table within CCHS; normalized weights (i.e., raw weight divided by mean weight) were used within CCHS to account for the complex survey design while preserving sample size (i.e., to avoid underestimation of variance). R statistical software version 3.1.1 was used for all analyses. The survey package was used to accommodate CCHS weights.

Several secondary analyses were undertaken to check key assumptions of the primary analyses described above. First, given changing societal attitudes toward sexual minorities, temporal trends in responses to the CCHS sexual identity question were examined; Chi-square test for trend was used to identify statistically significant \((p<0.05)\) trends. Second, sociodemographic characteristics of all adult (18-59 years) male CCHS respondents were compared with those who were administered the suicide module (40% of total sample) to identify any large differences \((>|10\%)\) in characteristics. Finally, an exploratory analysis was undertaken to reclassify as gay/bisexual all CCHS male respondents who answered ‘don’t know’ or refused to answer the sexual identity question; the prevalence OR for suicide ideation (gay/bisexual combined vs.
hetosexual) was then re-estimated. This study was approved by the Health Sciences Research Ethics Board at the University of Toronto, and by the Social Sciences and Humanities Research Council Research Data Centre Program (analysis required access to confidential CCHS micro-data files through a secure Statistics Canada Research Data Centre).

4.4 Results

7,058 men 18-59 years of age participated in SN 2011-2012, including 4,767 who identified as gay and 2,291 who identified as bisexual. The pooled CCHS (2003-2014) dataset included 3,205 male respondents, 18-59 years of age, who identified as gay (1.56% of total adult male sample, weighted), and 1,470 who identified as bisexual (0.63% of total adult male sample, weighted). Eighty-six percent of gay men and 40% of bisexual men in SN indicated they would be willing to disclose their sexual identity to Statistics Canada, suggesting that (equation 3) 522 gay men and 2,155 bisexual men concealed their sexual identity when interviewed by CCHS previously (2003-2014).

4.4.1 Cross-survey comparison (step 1)

Relative differences in the characteristics of bisexual male respondents to SN vs. CCHS were large (>10%) for nine of the twelve variables examined. Compared with bisexual-identified men in CCHS, more bisexual-identified men in SN resided in a rural area, were employed, earned at least $60,000 annually, consumed 5+ alcoholic drinks at least on occasion, or were older, and fewer were Aboriginal or single. The prevalence of suicide ideation (both lifetime and last 12 months) was higher in the SN sample of bisexual men than in the CCHS sample of bisexual men. (Table 4-1)

Large cross-survey differences were likewise identified for ten of twelve variables examined in gay male respondents. Several of these differences were similar to those observed when comparing bisexual men across the two samples: when compared with gay-identified men in CCHS, more gay-identified men in SN resided in a rural area, earned at least $60,000 annually, or consumed 5+ alcoholic drinks at least on occasion, and fewer were Aboriginal or single. While bisexual respondents to SN were older than bisexual respondents to CCHS, gay-identified men in SN were younger than their counterparts in CCHS. Unlike bisexual men, for whom the proportion with a university degree was similar between samples, fewer gay respondents to SN
had a university degree than gay respondents to CCHS. In addition, more gay respondents to SN used tobacco compared with gay respondents to CCHS. As with bisexual men, the prevalence of suicide ideation (both lifetime and past 12 months) was higher in the SN sample of gay men. (Table 4-2)

4.4.2 Differences explained by concealment (step 2)

Concealment, as measured by the restricted SN (disclose) sample, helped to explain (i.e., produced a positive ratio-of-differences measure) seven of the nine large differences between bisexual men in SN vs. bisexual men in CCHS, and the proportion of these differences accounted for by concealment was large for two variables: rural residence and birth cohort. For example, 18.64% of the SN (all) bisexual sample resided in a rural area, while 14.29% of the CCHS bisexual sample resided in a rural area (relative difference of 23.35%; equation 1); 16.67% of the SN (disclose) bisexual sample resided in a rural area, producing a ratio-of-difference of +45% (equation 2). (Figure 4-1; ratio-of-difference values only shown where positive).

Concealment helped to explain four of the ten large differences identified between gay men in SN and gay men in CCHS in step 1 (i.e., rural residence, university education, Aboriginal ethnicity, and suicide ideation, last 12 months), though the proportion of these differences explained by concealment (i.e., ratio-of-differences measure) was <20% in all four cases. (Figure 4-2; ratio-of-difference values only shown where positive). Notably, between-sample differences in estimates of suicide ideation were not explained by concealment for either sexual identity.

4.4.3 Quantitative bias analysis (step 3)

Gay men, men living in urban or suburban areas, men born after 1980, and men with a college or university diploma were all more likely to be willing to disclose their sexual identity to Statistics Canada (Table 4-3). On this basis, sexual identity, birth year, and education were used in multivariable quantitative bias analysis within CCHS. The small sample size of men in rural areas (n<5 for bisexual subgroups) within CCHS precluded using the residence variable in the CCHS multivariable analysis. Partnership was also predictive of willingness to disclose but depended on the gender of partner: 91% of those married or partnered to a man vs. 35% of those married or partnered to a woman were willing to disclose. However, partner’s gender is not collected in CCHS; therefore, this variable was also not used for quantitative bias analysis.
Willingness to disclose was higher among those who reported a history of suicide ideation, and this difference was more pronounced for bisexual men (47% of those who reported suicide ideation vs. 34% of those who reported no suicide ideation were likely to disclose) than for gay men (among whom 88% of those who reported suicide ideation vs. 84% of those who reported no suicide ideation were likely to disclose).

A total of 83,011 male respondents 18-59 years of age answered the CCHS suicide module (across the six pooled cycles) and were included in quantitative bias analysis. The odds of suicide ideation were 3.63 (95% CI 3.02, 4.36) times higher for gay men than heterosexual men, when measured across the lifetime, and 2.90 (95% CI 2.06, 4.10) times higher when measured in the last 12 months. The ORs for gay men did not change by more than 5% after reclassifying respondents in bias analyses.

The odds of suicide ideation were 4.91 (95% CI 3.62, 6.64) times higher for bisexual men than heterosexual men, when measured across the lifetime, and 4.52 (95% CI 2.94, 6.94) times higher when measured in the last 12 months. The OR for lifetime suicide ideation, comparing bisexual men to heterosexual men, decreased by 26% with univariate differential reclassification, and 28% with multivariable differential reclassification. The OR for suicide ideation in the last 12 months, comparing bisexual men to heterosexual men, decreased by 25% with univariate differential reclassification, and 30% with multivariable differential reclassification. (Table 4-4)

4.4.4 Secondary analyses

**Trends in responses to sexual identity question:** The percentage of CCHS respondents who identified as gay increased over the six cycles of CCHS, from 1.32% in 2003 to 2.05% in 2013-14 (p<0.001), while the percentage who identified as bisexual showed no discernable trend, fluctuating between 0.58% (2007-08 and 2009-10 cycles) and 0.77% (2013-14) (p=0.09; Figure 4-3).

**Comparison between full CCHS sample and those who were administered the suicide module (both restricted to males, 18-59 yoa):** The full CCHS sample and sub-sample answering the suicide-related questions were comparable with regard to most sociodemographic characteristics (<10% relative difference), with a few exceptions: the suicide module sub-sample included fewer
men in rural areas (17% in full sample vs. 15% in sub-sample) and fewer men born 1980-95 (25% vs. 23%).

Respondents answering ‘don’t know’ or refusing to answer sexual identity question: 1.28% of the adult male CCHS sample (weighted) answered ‘don’t know’ or refused to answer the sexual identity question. Re-classifying these respondents as gay/bisexual (combined) reduced the ORs (referent group: heterosexual) from 4.01 to 2.73 for lifetime suicide ideation, and from 3.40 to 2.49 for suicide ideation in the last 12 months. (Table 4-4)

4.5 Discussion

4.5.1 Effects of concealment by sexual identity

In this study we combined data from two large national surveys to explore the effect of concealment of bisexual and gay identities to government interviewers on characteristics of study participants and estimates of suicide ideation. While concealment had little effect on estimates among gay men, effects were more pronounced in bisexual men, as evidenced in several ways. First, the percentage of bisexual men who indicated they would conceal their identity to an interviewer was higher (60% vs. 14% of gay men). Second, restricting the SN dataset to those willing to disclose their sexuality (i.e., accounting for concealment) made SN more comparable to CCHS with regard to 7 of 9 characteristics among bisexual men but only 4 of 10 characteristics among gay men. Third, quantitative bias analysis based on probability of disclosure did not change comparative estimates of prevalence of suicide ideation among gay men appreciably (ORs changed by <5% post-reclassification). However, the prevalence of suicide ideation among bisexual men attenuated 30% after adjustment (OR=4.91 before adjustment, 3.53 after, for lifetime suicide ideation), though remained significantly high, matching the prevalence for gay men (OR=3.63 before adjustment, 3.52 after, for lifetime suicide ideation).

This latter finding merits discussion, especially in light of the mixed evidence for elevated rates of suicide-related behavior in bisexual persons as compared with gay and lesbian persons. The reduced prevalence of suicide ideation among bisexual men observed in the quantitative bias analysis of the present study is explained by a positive association between disclosure of sexual identity and suicide ideation among bisexual men in SN. This association may be interpreted
through the bisexual minority stress theory articulated at the start of this paper; i.e., disclosure may result in increased expressions of interpersonal stigma, which accumulate to produce mental distress. Alternatively, those who are willing to disclose a bisexual identity may also be more willing to report suicide ideation. Sexual minority status and suicide are both stigmatized in many societies; thus, inter-individual variation in propensity to disclose sensitive information—bisexual identity and suicide ideation in this case—is a possible explanation for the association we observed. In our analysis we controlled for two variables that potentially confound this association—age and education—but other variables, e.g., personality traits that make individuals willing to disclose information kept private by others, were unmeasured.

Within CCHS, the crude prevalence of suicide ideation was higher in bisexual men (32% lifetime) than in gay men (26%); however, post-reclassification estimates were comparable (both 25%). This suggests that misclassification (underreporting) of bisexual identities is one possible explanation for the mixed findings of the Pompili et al. review. Of note, three of the five studies from this review that showed higher rates of suicide ideation or attempts in bisexual persons than in gay or lesbian persons were general population surveys in which respondents must report their sexual identity to an interviewer. Temporal trends in the CCHS sexual identity question (Figure 4-3) underscore the pervasive impact of concealment on representation of bisexual men in government surveys: while disclosure of gay identity increased over the twelve years of data examined, disclosure of bisexual identities remained static.

4.5.2 Interpretation of between-sample differences

The initial cross-survey comparison of crude characteristics revealed many large differences for both bisexual and gay men. For example, SN, a community-based, online and anonymous sample, included more married and partnered sexual minority men and more sexual minority men from rural areas than government interviewer-administered CCHS. The latter finding is particularly noteworthy given that an assumed strength of stratified probability samples, such as the CCHS, is improved representation of geographically remote areas.

Most relevant to the present study, the prevalence of suicide-ideation was substantially higher among sexual minority men in SN than those in CCHS. We hypothesized that one possible explanation for the between-sample differences was concealment of sexual identity. Even among bisexual men, however, concealment failed to explain more than half of any between-sample
difference examined; concealment notably did not explain any of the differences in estimates of suicide ideation.

In light of this finding, alternative explanations for the between-sample differences (particularly with regard to suicidal ideation and behaviors) merit discussion. Other studies have similarly found higher rates of these outcomes among sexual minorities sampled from LGB community venues as compared to those classified within general population surveys.\(^3,4^7\) One of these studies interpreted the discrepancy by suggesting that those attached to the LGB community—and thereby more likely to be sampled in LGB community surveys—may have a greater proclivity to disclose mental health problems in order to support advocacy efforts for community resources to respond to such problems.\(^4^7\) This hypothesis requires further empirical evaluation; at least one study has examined LGB community attachment in relation to suicide ideation and found no correlation.\(^4^8\) The present study focused on one source of information bias that may differentially affect general population surveys, i.e., misclassification of sexual identity; however, just as sexual stigma limits disclosure of sexual minority identities, suicide-related stigma may limit disclosure of suicide-related experiences to government interviewers\(^4^9\) and explain differences in estimates of suicide ideation and behaviors between the two sample types\(^3\).

Selection bias is a possible explanation for at least some of the cross-survey differences observed in this study. Bisexual and gay men who choose to participate in a community-based survey may differ from those sampled into a random population-based survey like CCHS. A few empirical studies comparing community versus general population survey samples of sexual minorities have suggested that community-based samples tend to recruit those with greater attachment to the LGB community, a more central LGB identity, and more openness about their sexual identity, though few of these have looked at online community-based samples specifically.\(^4^7,5^0,5^1\)

### 4.5.3 Limitations

Our study is limited, first, by selection bias; selection factors other than those discussed above may have affected the online, community-based SN sample, and in turn the \(Pr(Discl)\) estimates we used. This limitation stems from the lack of a robust sampling frame for sexual minorities, as acknowledged by others.\(^4^6,5^2\) Our analysis is further limited by differences in construct measurement between the two samples used. Questionnaire measures were selected to be reasonably consistent between SN and CCHS (Appendix 3), nonetheless, important differences
warrant attention. In particular, the suicide ideation measures differ, the CCHS measure including the modifier “seriously considered committing suicide or taking your own life,” which may result in greater specificity of suicidal ideation within the CCHS. In addition, the suicide module was not administered to all CCHS respondents. This may have introduced a further bias, though we were unable to detect any major differences in characteristics between all CCHS respondents and those given the suicide-related questions.

Partner gender was notably a strong predictor of willingness to disclose sexual identity; however, this variable was not measured in CCHS and thus could not be included in bias analysis. Partnership status and characteristics are fundamentally important in suicide research, as marriage has often been found to be associated with reduced risk of suicide ideation and attempts in heterosexual populations. The association between partnership and suicide risk among sexual minorities is not well-researched, though one recent study identified four-times higher odds of recent suicide attempts in bisexual men partnered to a man as compared with bisexual men partnered to a woman, underscoring the importance of accounting for partners’ genders (among other partner characteristics) in analyses of suicide-related outcomes. Other researchers have highlighted the problems associated with relying upon measuring single dimensions of sexuality. The expansion of population survey measures to elicit both sexual identity and gender(s) of partners would not only improve the rigor of analyses related to sexuality but also signal to participants a desire to more accurately reflect the diverse realities of the lives of sexual minorities, thereby improving participation and representativeness of samples.

A third limitation concerns the SN question regarding intention to disclose sexual identity to Statistics Canada. Intention to disclose is an imperfect—though likely best available—proxy for actual behavior when an individual is in the midst of answering an interviewer’s question. Furthermore, this measure did not indicate whether disclosure would be made to an interviewer (as opposed to anonymous self-administered survey), though if it had made this distinction, estimates of \( \text{Pr(Discl)} \) would likely be even lower than the estimates we used in this study.

Fourthly, bisexual and gay men who are unwilling to identify as such in any research study are absent from both samples; this additionally suggests that the \( \text{Pr(Discl)} \) estimates in this study can be regarded as upper limits to the true proportion of sexual minority men willing to disclose their sexual identity in a population health survey. Fifthly, both samples, and indeed all cross-sectional
studies, are limited by survival bias: bisexual and gay men who died by suicide—and presumably should be counted among those with a history of suicide ideation—are notably absent. Sixthly, we were unable to conduct multivariable bias analysis with more than three covariates, given sparse data within CCHS—a common and widely acknowledged limitation of analyses of sexual minorities conducted within general population probability samples. Finally, our analyses were restricted to males 18-59 years of age; additional studies are needed to explore effects of information bias in samples of sexual minority women.

4.5.4 Implications

Implications of our findings are fourfold. First, we recommend additional research to derive a more nuanced understanding of how all types of bias—including information and selection biases—hinder our ability to accurately estimate and investigate health disparities affecting sexual minorities. Qualitative methods may be useful in this regard, and would invite sexual minority research participants to share their own reasons for participating or refusing to participate in a study, as well as their motivations for disclosure of sexuality to survey interviewers. Our analyses highlight the underrepresentation and invisibility of bisexual individuals, in particular, in population health surveys, suggesting a need to understand obstacles to (and remedies for) the inclusion and identification of bisexual people specifically. Moreover, our results emphasize the diversity of intersecting identities and social positions of bisexual men (Table 4-1), and remind us that bisexual people are not a monolithic group; some sub-groups of bisexual men are less likely to be included and identified in health surveys (Table 4-3), and thus must be purposively sampled.

Relatedly, we foresee a few ways survey measures could be improved to be more inclusive of bisexual respondents. Multiple ‘plurisexual’ (an umbrella term inclusive of people attracted to multiple genders) identities are increasingly endorsed by non-monosexual individuals, e.g., queer, pansexual, omnisexual, fluid. Given variation in experiences of minority stress across these identities, additional plurisexual identities should be made available to research participants, especially in studies specific to sexual minority populations. In addition, the double-stigma experienced by bisexual people (in both heterosexual and homosexual contexts), discussed in the Introduction to this paper, suggests that future research on bisexual identity concealment should assess (at least) two levels of disclosure: disclosure of sexual minority
identity generally (most relevant to heterosexual audiences) and disclosure of bisexual identity
specifically (relevant to both heterosexual and gay and lesbian audiences).19

A third implication of our analysis is the need for survey investigators to find mechanisms to
reduce social desirability bias related to concealment of sexual minority status. A review of
methodological research related to social desirability bias suggests that underreporting of
sensitive topics is context-dependent and amenable to reduction through use of self-
administration of questionnaires and privacy measures.59 CCHS, and other broad population
probability surveys, should explore online methods or other privacy measures to improve
disclosure of sensitive topics, which would benefit research related to not only sexuality and
suicide, but all socially stigmatized issues.

Finally, we have demonstrated the feasibility of conducting quantitative bias analysis of sexual
minority status within population health surveys, and we recommend that such sensitivity
analyses be used in more studies of sexual minority health to explore the effects of sexuality
concealment on burden of disease estimates. Various methods are available, many of which will
accommodate a range of hypothetical sensitivity values, and in turn provide a plausible range of
‘corrected’ estimates.60,61 Our study suggests that such sensitivity values should include
estimates as low as 40% (in the case of bisexual men) or as high as 86% (gay men), and analyses
should be stratified by sexual identity. As shown here, the effects can be expected to vary
depending on the characteristics of the sample and the outcome under study. Bayesian
adjustment allows for the incorporation of expert prior knowledge in the context of limited
empirical data about misclassification62, and thus may overcome some of the limitations of our
study, related to reliance upon a convenience-sampled community survey. Other researchers
have indeed begun to use Bayesian methods to adjust for underreporting of same-sex behaviors
in population surveys.63,64 The field of sexual minority health research necessarily relies upon
observational sampling and surveying methods, which will always be limited by multiple,
competing biases. Given these intractable limitations, adjunct methods like quantitative bias
analysis can greatly strengthen the rigor of research in this field.

Our findings support the calls of other researchers, practitioners, and policy advocates to sharpen
and deepen our understanding of suicide risk among sexual minorities.5,65,66 Stratified analyses
revealed the ways in which bisexual men and gay men are distinct groups with some overlapping
but also different characteristics, patterns of sexual identity disclosure, and representation in population health surveys. This observation further suggests potentially distinct mechanisms and pathways relating to suicide ideation, which should be the focus of future research with bisexual men specifically.
4.6 References


Table 4-1. Socio-demographic characteristics, health behaviors, and suicide ideation across two national Canadian samples of bisexual men, 18-59 yoa: *Sex Now* 2011 (SN) and Canadian Community Health Survey 2003-2014 (CCHS)

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<th>CCHS N=1470* Column %</th>
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<td>58.60</td>
<td>-96.84 **</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>39.07</td>
<td>23.77</td>
<td>39.16 **</td>
</tr>
<tr>
<td></td>
<td>Partnered/common-law/other</td>
<td>22.70</td>
<td>9.44</td>
<td>58.41 **</td>
</tr>
<tr>
<td></td>
<td>Separated/divorced</td>
<td>8.47</td>
<td>8.12</td>
<td>4.13</td>
</tr>
<tr>
<td>Family doctor‡</td>
<td>Yes</td>
<td>75.69</td>
<td>72.83</td>
<td>3.78</td>
</tr>
<tr>
<td>Tobacco use‡</td>
<td>Any smoking</td>
<td>39.55</td>
<td>38.65</td>
<td>2.28</td>
</tr>
<tr>
<td>Alcohol use‡ ‡</td>
<td>Regularly consume 5+ drinks</td>
<td>31.95</td>
<td>30.48</td>
<td>4.60</td>
</tr>
<tr>
<td></td>
<td>Occasionally consume 5+ drinks</td>
<td>36.80</td>
<td>25.25</td>
<td>31.39 **</td>
</tr>
<tr>
<td></td>
<td>Some use but never 5+ drinks</td>
<td>21.34</td>
<td>25.08</td>
<td>-17.53 **</td>
</tr>
<tr>
<td></td>
<td>Never use</td>
<td>9.91</td>
<td>18.99</td>
<td>-91.62 **</td>
</tr>
<tr>
<td>Suicide ideation§</td>
<td>Lifetime</td>
<td>41.07</td>
<td>31.72</td>
<td>22.77 **</td>
</tr>
<tr>
<td></td>
<td>Last 12 months</td>
<td>14.32</td>
<td>7.97</td>
<td>44.34 **</td>
</tr>
</tbody>
</table>

**Note.** CCHS analyses based on pooled and scaled weights. * unweighted N (weighted N=60,568); † (SN – CCHS) / SN x 100% (relative % difference), n/c=not calculable; ‡ CCHS values do not add to 100 owing to ‘don’t know’, ‘refused’, or ‘not stated’ responses; § excluding ‘don’t know’, ‘refused’, or ‘not stated’; ‡ ‡ regular defined as at least once per month, occasional defined as less than once per month; ** relative difference >|10%|. 
Table 4-2. Socio-demographic characteristics, health behaviors, and suicide ideation across two national Canadian samples of gay men, 18-59 yoa: Sex Now 2011 (SN) and Canadian Community Health Survey 2003-2014 (CCHS)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>SN N=4767 Column %</th>
<th>CCHS N=3205* Column %</th>
<th>% difference between surveys†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area of residence</td>
<td>Rural</td>
<td>12.44</td>
<td>7.40</td>
<td>40.51 **</td>
</tr>
<tr>
<td>Year of birth</td>
<td>1943-49</td>
<td>0.00</td>
<td>2.60</td>
<td>n/c</td>
</tr>
<tr>
<td></td>
<td>1960-69</td>
<td>30.31</td>
<td>30.21</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>1980-95</td>
<td>32.03</td>
<td>26.09</td>
<td>18.55 **</td>
</tr>
<tr>
<td>Education§</td>
<td>College/university degree</td>
<td>60.67</td>
<td>72.85</td>
<td>-20.08 **</td>
</tr>
<tr>
<td>Employment‡</td>
<td>Currently employed</td>
<td>81.85</td>
<td>81.97</td>
<td>-0.15</td>
</tr>
<tr>
<td>Income§</td>
<td>Under 30,000</td>
<td>32.33</td>
<td>34.95</td>
<td>-8.10</td>
</tr>
<tr>
<td></td>
<td>30,000 - 59,999</td>
<td>33.38</td>
<td>35.46</td>
<td>-6.23</td>
</tr>
<tr>
<td></td>
<td>60,000 +</td>
<td>34.30</td>
<td>29.59</td>
<td>13.73 **</td>
</tr>
<tr>
<td>Ethnicity‡</td>
<td>Aboriginal</td>
<td>2.20</td>
<td>3.13</td>
<td>-42.27 **</td>
</tr>
<tr>
<td></td>
<td>Caucasian</td>
<td>84.92</td>
<td>85.26</td>
<td>-0.40</td>
</tr>
<tr>
<td></td>
<td>Asian</td>
<td>3.50</td>
<td>3.64</td>
<td>-4.00</td>
</tr>
<tr>
<td></td>
<td>Latino</td>
<td>1.80</td>
<td>2.23</td>
<td>-23.89 **</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>7.57</td>
<td>5.53</td>
<td>26.95 **</td>
</tr>
<tr>
<td>Marital status‡</td>
<td>Single</td>
<td>52.82</td>
<td>61.92</td>
<td>-17.23 **</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>9.61</td>
<td>8.53</td>
<td>11.24 **</td>
</tr>
<tr>
<td></td>
<td>Partnered/common-law/other</td>
<td>33.38</td>
<td>23.86</td>
<td>28.52 **</td>
</tr>
<tr>
<td></td>
<td>Separated/divorced</td>
<td>4.20</td>
<td>5.49</td>
<td>-30.71 **</td>
</tr>
<tr>
<td>Family doctor‡</td>
<td>Yes</td>
<td>71.28</td>
<td>75.45</td>
<td>-5.85</td>
</tr>
<tr>
<td>Tobacco use‡</td>
<td>Any smoking</td>
<td>38.56</td>
<td>34.13</td>
<td>11.49 **</td>
</tr>
<tr>
<td>Alcohol use‡</td>
<td>Regularly consume 5+ drinks</td>
<td>31.91</td>
<td>32.99</td>
<td>-3.38</td>
</tr>
<tr>
<td></td>
<td>Occasionally consume 5+ drinks</td>
<td>34.53</td>
<td>27.09</td>
<td>21.55 **</td>
</tr>
<tr>
<td></td>
<td>Some use but never 5+ drinks</td>
<td>24.04</td>
<td>31.61</td>
<td>-31.49 **</td>
</tr>
<tr>
<td></td>
<td>Never use</td>
<td>9.52</td>
<td>8.31</td>
<td>12.71 **</td>
</tr>
<tr>
<td>Suicide ideation§</td>
<td>Lifetime</td>
<td>56.98</td>
<td>25.67</td>
<td>54.95 **</td>
</tr>
<tr>
<td></td>
<td>Last 12 months</td>
<td>19.34</td>
<td>5.29</td>
<td>72.65 **</td>
</tr>
</tbody>
</table>

Note. CCHS analyses based on pooled and scaled weights. * unweighted N (weighted N=150,965); † (SN – CCHS) / SN x 100% (relative % difference), n/c=not calculable; ‡ CCHS values do not add to 100 owing to ‘don’t know’, ‘refused’, or ‘not stated’ responses; § excluding ‘don’t know’, ‘refused’, or ‘not stated’; ‖ regular defined as at least once per month, occasional defined as less than once per month; ** relative difference >|10%|. 
Table 4-3. Likelihood of disclosure of sexual identity to Statistics Canada, by dichotomized socio-demographic characteristics, among bisexual and gay respondents to Sex Now 2011

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Willing to disclose %</th>
<th>Multivariable OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual identity</td>
<td>Gay</td>
<td>86.26</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>Bisexual</td>
<td>39.55</td>
<td>0.11 (0.10, 0.12)*</td>
</tr>
<tr>
<td>Living environment</td>
<td>Urban/suburban</td>
<td>72.62</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>62.06</td>
<td>0.74 (0.63, 0.87)*</td>
</tr>
<tr>
<td>Year of birth</td>
<td>1950-79</td>
<td>68.05</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>1980-95</td>
<td>78.68</td>
<td>1.46 (1.26, 1.69)*</td>
</tr>
<tr>
<td>Education</td>
<td>&lt; College/university diploma</td>
<td>67.35</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>College/university diploma</td>
<td>73.89</td>
<td>1.19 (1.05, 1.34)*</td>
</tr>
<tr>
<td>Income</td>
<td>&lt; 60,000</td>
<td>73.64</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>60,000 +</td>
<td>66.99</td>
<td>0.97 (0.95, 1.11)</td>
</tr>
<tr>
<td>Employment</td>
<td>Employed</td>
<td>70.39</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>74.49</td>
<td>1.10 (0.93, 1.30)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Caucasian</td>
<td>70.69</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>Non-Caucasian</td>
<td>73.66</td>
<td>0.86 (0.72, 1.03)</td>
</tr>
</tbody>
</table>

Note. OR=odds ratio: odds of being willing to disclose sexual identity to Statistics Canada; *p<0.05 in multivariable logistic regression model; N=7058.
Table 4-4. Prevalence of suicide ideation by sexual identity, and prevalence odds ratios (OR) comparing bisexual and gay males to heterosexual males, before and after re-classification, CCHS 2003-2014

<table>
<thead>
<tr>
<th></th>
<th>Heterosexual</th>
<th>Bisexual</th>
<th>Gay</th>
<th>Bisexual/gay combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prevalence estimate</td>
<td>Prevalence estimate</td>
<td>OR (ref: heterosexual)</td>
<td>Prevalence estimate</td>
</tr>
<tr>
<td><strong>Suicide ideation, lifetime</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude (no reclassification)</td>
<td>8.69%</td>
<td>31.82%</td>
<td>4.91 (3.62, 6.64)</td>
<td>25.67%</td>
</tr>
<tr>
<td>Re-classify DK/REF*</td>
<td>8.69%</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Univariate, non-differential†</td>
<td>8.46% (bi)‡</td>
<td>31.82%</td>
<td>5.05 (3.72, 6.85)</td>
<td>25.67%</td>
</tr>
<tr>
<td>Univariate, differential†</td>
<td>8.55% (bi)‡</td>
<td>25.43%</td>
<td>3.65 (2.69, 4.95)</td>
<td>24.98%</td>
</tr>
<tr>
<td>Multivariable, non-differential†</td>
<td>8.47% (bi)‡</td>
<td>31.23%</td>
<td>4.89 (3.11, 7.68)</td>
<td>25.87%</td>
</tr>
<tr>
<td>Multivariable, differential†</td>
<td>8.56% (bi)‡</td>
<td>24.94%</td>
<td>3.53 (1.57, 7.96)</td>
<td>24.95%</td>
</tr>
<tr>
<td><strong>Suicide ideation, last 12 months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crude (no reclassification)</td>
<td>1.89%</td>
<td>8.00%</td>
<td>4.52 (2.94, 6.94)</td>
<td>5.29%</td>
</tr>
<tr>
<td>Re-classify DK/REF*</td>
<td>1.89%</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Univariate, non-differential†</td>
<td>1.83% (bi)‡</td>
<td>8.00%</td>
<td>4.67 (3.04, 7.18)</td>
<td>5.29%</td>
</tr>
<tr>
<td>Univariate, differential†</td>
<td>1.85% (bi)‡</td>
<td>5.97%</td>
<td>3.37 (2.19, 5.18)</td>
<td>5.11%</td>
</tr>
<tr>
<td>Multivariable, non-differential†</td>
<td>1.84% (bi)‡</td>
<td>8.08%</td>
<td>4.42 (2.81, 6.95)</td>
<td>5.36%</td>
</tr>
<tr>
<td>Multivariable, differential†</td>
<td>1.86% (bi)‡</td>
<td>6.03%</td>
<td>3.17 (0.77, 13.10)</td>
<td>5.11%</td>
</tr>
</tbody>
</table>

**Note.** All analyses based on pooled (and scaled, i.e., crude weight divided by number of cycles, 6) weights; normalized weights (i.e., pooled/scaled weight divided by mean weight) were used to calculate confidence intervals. n/a=not applicable; *move all who responded “don’t know” (DK) or refused to answer (REF) sexual identity question (N=40,503 weighted; n=947 unweighted) to gay/bisexual group; †univariate=assuming same sensitivity value for entire sample; multivariable=assuming different sensitivity value depending on sociodemographic stratum (stratified by: sexual identity, year of birth, and education); non-differential=not accounting for outcome; differential=assuming different sensitivity value depending on outcome; ‡(bi)=adjusted referent heterosexual prevalence estimate for bisexual stratum; (gay)=adjusted referent heterosexual prevalence estimate for gay stratum.
Figure 4-1. Comparison of select characteristics between 3 samples of bisexual men: all Sex Now (SN) respondents (N=2291), Sex Now respondents willing to disclose their sexual identity to Statistics Canada (N=906), and Canadian Community Health Survey (CCHS) respondents (N=1470). Note. Ratio of differences, [% with characteristic in SN (disclose) - % with characteristic in SN (all)] / [% with characteristic in CCHS - % with characteristic in SN (all)], is shown in labels above bars, where positive.
Figure 4-2. Comparison of select characteristics between 3 samples of gay men: all Sex Now (SN) respondents (N=4767), Sex Now respondents willing to disclose their sexual identity to Statistics Canada (N=4112), and Canadian Community Health Survey (CCHS) respondents (N=3205). Note. Ratio of differences, [\% with characteristic in SN (disclose) - \% with characteristic in SN (all)] / [\% with characteristic in CCHS - \% with characteristic in SN (all)], is shown in labels above bars, where positive.
**Figure 4-3.** Trends in responses to sexual identity question, CCHS 2003-2014. Note. Question wording: Do you consider yourself to be … Heterosexual? (sexual relations with people of the opposite sex); Homosexual, that is lesbian or gay? (sexual relations with people of your own sex); Bisexual? (sexual relations with people of both sexes); DK (don’t know); R (refuse). Beginning in 2007, question was preceded by a ‘buffer’ statement: “Now one additional background question which will help us compare the health of people in Canada.”
Chapter 5
Study 2

5 Specific psychosocial challenges mediate the relationships between constructs of stigma and suicide attempts among adult gay and bisexual men

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* Former surname (prior to 2017) was Salway Hottes

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5.1 Abstract

**Purpose:** To estimate relationships between multiple constructs of sexual minority stigma and suicide attempts among adult gay and bisexual men, and measure the proportion of these relationships that are mediated by specific psychosocial challenges, thus identifying proximal points of intervention.

**Methods:** Data were drawn from a Canadian community-based survey of adult men who have sex with men. A minority stress measurement model was developed using factor analysis. Structural equation modeling was then used to compare associations between three latent constructs—enacted stigma (e.g., discrimination, harassment), anticipated prejudice (worry about encountering anti-gay/bisexual prejudice), and concealment of sexuality—and self-reported suicide attempts in the last 12 months. Coefficients were estimated for direct, indirect (mediation), and total pathways, and evaluated based on magnitude and statistical significance. The proportion of associations mediated by depression, drug/alcohol use, and social isolation was calculated using indirect effects.

**Results:** Among 7872 respondents, 3.4% reported a recent suicide attempt. The largest total effect was observed for enacted stigma, and this association was partially mediated by depression and drug/alcohol use. The total effect of anticipated prejudice was relatively smaller and mediated by depression and social isolation. Concealment had an inverse association with suicide attempts as mediated by depression but was also positively associated with suicide attempts when mediated through social isolation.

**Conclusion:** Enacted stigma, anticipated prejudice, and concealment of sexuality were all associated with adult suicide attempts; however, mediating pathways differed by construct, suggesting that a combination of strategies is required to prevent suicide in adult gay and bisexual men.
5.2 Introduction

Gay and bisexual men are two- to five-times more likely than heterosexual men to attempt suicide. The most prominent theory currently used to understand this disparity is the minority stress model. The theory was first articulated in the context of sexual minorities’ lives by Meyer, and has subsequently been developed and refined by others. Minority stress theory posits that sexual minorities cumulatively experience increased stress as they encounter sexual (anti-gay/bisexual) stigma over the course of their lives. This stress is unique, chronic, and socially-based, and is hypothesized to cause multiple psychological and social problems, for example, emotional dysregulation, hopelessness, negative self-schemas, and felt social rejection. To cope, individuals affected by this process may choose a variety of adaptive strategies, including healthcare-seeking, drug and alcohol use, or social isolation. If these strategies are ineffective, some will turn to suicide.

Research on sexual minority suicide has disproportionately focused on youth. While rates of suicide attempt among sexual minorities decrease with age (an epidemiologic trend also apparent in heterosexual youth), they remain elevated, as compared with heterosexuals, throughout adulthood—an age when fatal suicide rates are highest. These distinct age-related patterns and the dearth of research on suicidal behavior in sexual minority adults underscore the importance of suicide research using samples of sexual minority adults.

At least six empirical studies have explicitly tested sexual minority stress theory in relation to suicide ideation or attempts in sexual minority adults, while others have implicitly used the theory by measuring minority stress-related constructs. Each of these studies has focused on one (or both) of two constructs from the minority stress model: enacted stigma and internalized homophobia. Enacted stigma is defined as stigmatizing behavior that is explicitly expressed through interpersonal interactions, for example, antigay/bisexual slurs, discrimination, exclusion, verbal harassment, and in some cases violence. In contrast, internalized homophobia comes from “adapting one’s self-concept to be congruent with the stigmatizing responses of society”. Evidence is most robust for an association between measures of enacted stigma and suicide-related outcomes. Two studies have found internalized homophobia to be associated with suicide ideation, though not with suicide attempts.
In contrast to the deductive studies of minority stress theory outlined above, Wang et al. found that among 116 Swiss gay men who had attempted suicide, few named enacted stigma as a cause of their attempts. Rather, the most commonly cited causes were problems with romantic relationships (19%), accepting one’s homosexuality (akin to internalized homophobia; 16%), and depression (11%). The discordance between results from the deductive, associational studies that emphasize the importance of enacted stigma, and Wang’s inductive study, which emphasizes other causes, may be explained by limitations in measurement of experiences of sexual stigma, or by attribution to mediators rather than fundamental causes.

Meyer noted that a critical challenge to measurement of sexual stigma is the distinction between overtly discriminatory, acute events that will be memorable (e.g., an incident of sexuality-motivated harassment or bullying) and a more chronic, daily strain of being vigilant or on guard against said events. The former category may be easier to measure because of the rarity and salience of these events, though perhaps less important than the daily hassle of being “hyper-vigilant” in explaining the cumulative stress load of sexual minorities. The rarity of the former category may also explain why it was less commonly cited in Wang’s study.

Herek articulated a second challenge with regard to measurement of sexual stigma: stigma need not be enacted upon an individual to be felt. Measures of hyper-vigilance get at one aspect of felt stigma—that is, the worry and anticipation of enacted stigma. However, felt stigma may also operate through chronically and strategically concealing one’s stigmatized identity. Concealment in response to sexual stigma may simultaneously confer benefits—by shielding sexual minorities from enacted stigma—and activate its own deleterious psychological process that induces shame, hostility, or psychosocial challenges described in relation to the broader minority stress model above. Binary measures of concealment are notably inadequate because most sexual minorities will carefully evaluate particular social contexts and relationships and selectively disclose their sexuality only when perceived to be safe.

In addition to the issues of minority stress measurement outlined above, gay men in Wang’s study may have articulated more proximal causes of their suicide attempts (e.g., depression, relationship troubles) because they are more recent and acute when contrasted to the cumulative experiences of sexual stigma. Associational studies examining measured experiences of sexual
stigma and studies of traditional psychosocial mediators in relation to suicide attempts among sexual minorities may be unified through mediation models that test the extent to which traditional psychosocial factors explain associations between sexual stigma and suicide-related outcomes. Moreover, mediation analyses are necessary to identify proximal points of intervention, in order to prevent suicide among those who have already accumulated experiences of stigma across the life course, thereby failing to benefit from recently enacted measures to reduce stigma (e.g., legislative or policy reform).24

A final limitation of the research to-date on suicidal behavior in sexual minority adults concerns statistical power. All of the studies cited above had sample sizes of fewer than 1000 participants. Such samples are limited when studying the rare outcome of suicide attempts (<5% in most studies5), and further limited in their ability to study differences in associations across key subgroups of sexual minorities (e.g., based on sexual identity, or age).

The present study strives to address several gaps and limitations in this body of literature by first, developing a measurement model of sexual minority stress inclusive of the less-studied constructs of anticipated prejudice and concealment of sexuality; second, using structural equation modeling to assess the magnitude of associations between minority stress constructs and suicide attempts; and third, estimating proportions of these associations mediated by psychosocial causes of suicide. Our analysis is completed using a sample of approximately 8,000 gay and bisexual men, enabling comparisons of associations between minority stress and suicide attempts across key subgroups of sexual minority men on the basis of sexual identity, age, and history of suicide attempts.

5.3 Methods

5.3.1 Design

This study was a secondary analysis of an existing periodic survey, Sex Now, and thus was cross-sectional in design. Sex Now is the largest Canadian sample of men having sex with men. The survey provides a platform for assessing a broad array of health and social issues currently affecting Canadian gay and bisexual men. Survey content and analysis are determined as part of a larger community-based participatory research cycle, including community dialogues, focus groups, and meetings.
5.3.2 Setting and participants

The survey was administered anonymously, online, in English and French, between October 2014 and April 2015. Participants were recruited from across Canada through dating and sex-seeking mobile applications and websites, social media, a database of previous survey participants, and word-of-mouth. Eligible participants resided in Canada, identified as a man who has sex with other men, and were 16 years of age or older.

5.3.3 Survey instrument development

The survey instrument for the 2014-15 cycle of Sex Now was developed in 2014 by a team of gay men of diverse ages, ethnicities, and occupations. Questionnaire items were derived from previous gay health surveys\textsuperscript{25,26}, previous editions of Sex Now\textsuperscript{15,27}, and a series of workshops in which the team discussed constructs not commonly measured in gay health research. These constructs emerged from the lives of team members, and special emphasis was given to different experiences of antigay stigma (settings, social interactions, and vigilance against types of anticipated prejudice), not previously studied in the minority stress literature.

5.3.4 Data preparation and variable coding

For the present analysis, the Sex Now dataset was restricted to Canadian residents who identified as man, transgender, genderqueer, two-spirit, or other. Sex Now participants who opt not to answer a question exit the survey, and their responses are not retained; therefore, there are no missing data. Five types of measured variables were used in this analysis:

1. The outcome was any reported suicide attempt in the last 12 months (binary variable).
2. Manifest indicators of sexual minority stress were conceptually grouped into three constructs, based on discussion from the participatory workshops described above, as well as published articulations of the minority stress model\textsuperscript{2-20}: enacted stigma (eighteen binary variables); anticipated prejudice, or “hyper-vigilance” (nine 5-point Likert ordinal variables); and concealment of sexuality (five 3-point Likert ordinal variables, one binary variable). All items were framed in relation to the respondent’s sexuality. All items related to anticipated prejudice and several items related to enacted stigma were asked with respect to a range of settings (e.g., family events, work, school, gym, travel). Items related to concealment were asked with respect to a
range of audiences (e.g., family, friends, coworkers) and as an ordinal scale, allowing for gradations of concealment to each audience. Minority stress experience was measured cumulatively, i.e., in reference to lifetime experience. Anticipated prejudice is previously untested in relation to suicide attempts in sexual minority adults; likewise, concealment, conceived as a continuous underlying construct (as opposed to a dichotomous measure), is less-measured in empirical studies of minority stress. Accordingly, exploratory (factor analysis) methods were used.

(3) Three psychosocial variables consistently associated with suicide risk in the general literature were selected as potential mediators: depression, drug or alcohol use, and social isolation. According to minority stress theory, these variables are conceptually proximal to suicide attempts; i.e., minority stress is hypothesized to accumulate and eventually cause emotional pain and hopelessness (and in some cases depression), coping strategies (e.g., drug or alcohol use), and social withdrawal. In the survey, depression and drug or alcohol use were measured as discussion with a healthcare provider about these self-defined problems in the past 12 months. Current social support was measured as the number of people respondents can count on when they need help or when something goes wrong.

(4) Directed acyclic graphs were used to identify the minimally sufficient set of sociodemographic variables to control for confounding of the effects of minority stress on the outcome, suicide attempt. These included: age, geography (urban, suburban, rural), income, education, Aboriginal identity, and HIV status, all of which have been identified as risk factors for suicide and suicide attempts, and are hypothesized to affect experiences of sexual minority stress, thereby constituting potential confounding variables.

(5) Three variables were selected a priori as potential effect modifiers of associations between minority stress and suicide attempt: sexual identity (gay, bisexual), age (<30, 30-49, 50+ years), and history of suicide attempt. Sexual identity is a fundamental aspect of the lives of sexual minorities, affecting participation in social networks and venues, as well as identity, and may therefore moderate associations between sexual minority stress and mental health. Age is used primarily to reflect differing birth cohorts, also known to be fundamental to experiences of sexual minority stress.
Those over 50 were born before 1964 and thus aged into adulthood (and likely sexual experience) before widespread visibility or social acceptance of a gay identity and also notably before the emergence of the AIDS epidemic. Those between 30 and 49 were born between 1964 and 1984 and thus aged into adulthood and sexual experience during a period characterized by the HIV/AIDS health crisis (before widespread availability of effective treatment) and changing legal and social support for gay men. Those under 30 were born after 1984 and thus aged into adulthood after the advent of effective HIV combination treatment and after the legalization of same-sex marriage in Canada. Lastly, history of suicide attempts was selected given previous research that suggests different causes of first versus subsequent attempts among sexual minority men⁷, as well as the significance of a history of attempts as a predictor of subsequent attempts in the general suicide literature³⁶.

5.3.5 Factor analysis

A sexual minority stress measurement model was built and tested using exploratory (EFA) and confirmatory factor analysis (CFA) (Appendix 5). A three-factor solution was selected in EFA based on theoretical consistency³⁷, goodness-of-fit measures³⁸, and requiring at least three manifest variables loaded to each factor with coefficient ≥|0.32|³⁹ (Table A5-1, Appendix 5). Sixteen manifest indicators loaded to factor 1, hereafter termed “enacted stigma”; 9 manifest indicators loaded to factor 2, “anticipated prejudice”; and 5 manifest indicators loaded to factor 3, “concealment of sexuality” (Table A5-2, Appendix 5). A conservative approach was used to modify the model in CFA by adding theoretically meaningful error correlations, until fit measures reached recommended cut-points.³⁸

5.3.6 Structural equation modeling (SEM)

SEM was guided by an analytical model that describes hypothesized causal relationships between distinct sexual minority stress constructs (enacted stigma, anticipated prejudice, and concealment of sexuality) and suicide attempts (Figure 5-1). Probit regression with robust least squares was used to estimate relationships between the latent variables (factors) identified in CFA and the outcome. The hypothesized model—including manifest variable error covariances added in CFA—was evaluated for goodness-of-fit, and further modifications were kept to a
minimum. Additional error correlations between factors (now dependent variables in SEM) were added due to the possibility of unmeasured third variables that could affect multiple dependent factors. Fit measures were re-evaluated after model modifications.

SEM analysis was conducted in four steps. First, direct, indirect, and total effects were estimated for each factor, with adjustment for all minority stress latent constructs (multivariable model 1). Second, the model was adjusted for potential sociodemographic confounders (multivariable model 2). Third, predicted probabilities were calculated +/- three standard deviations from the mean factor score of each of the latent variables, holding all covariates at their mean or referent category. Fourth, stratified (fully adjusted) models were run for each hypothesized effect modifier.

Both unstandardized and standardized coefficients are reported. Strength of associations were evaluated using standardized coefficients; emphasis is given to magnitude of associations, though statistical significance (illustrated using 95% confidence intervals [CI]) is also considered. Mediators were evaluated based on the proportion of total effect mediated for each latent factor. Given the possibility of inconsistent mediation (mediating pathways operating in opposite directions), proportion mediated was calculated using the absolute value of coefficients. Effect modification was assessed in two ways. First, qualitative differences in the direction and magnitude of path coefficients were examined across subgroups. Second, a statistical test of difference across levels of effect modifiers was applied, p<0.05 considered statistically significant. All analyses were completed using MPlus 7 for Mac (version 1.4).

5.4 Results

5.4.1 Sample

A total of 8037 respondents completed the survey; 128 respondents living outside Canada and 43 who exclusively identified as a woman were removed, resulting in an analytic sample of 7872. Two hundred sixty-five of these respondents (3.4%) reported a suicide attempt in the previous 12 months. The sample was diverse with respect to sociodemographic characteristics, though was predominantly gay-identified, over 30 years of age, and Caucasian (Table 5-1).
5.4.2 Structural equation modeling

The hypothesized SEM model was estimated using the analytical model (Figure 5-1), including the three latent constructs tested and confirmed in factor analysis. The initial model had poor fit; therefore, minor modifications were made. Specifically, error covariances were added between each pair of latent factors, and between depression and drug/alcohol use, as suggested by modification indices. Correlations between latent factors were 0.631 (95% CI 0.582, 0.680) for enacted stigma/anticipated prejudice, -0.385 (95% CI -0.422, -0.348) for enacted stigma/concealment, and -0.097 (95% CI -0.111, -0.083) for anticipated prejudice/concealment.

All three mediators were significantly associated with changes in risk of suicide attempt: those who discussed depression (standardized coefficient 0.355, 95% CI 0.253, 0.457) or drug or alcohol use (0.125, 95% CI 0.009, 0.241) with a healthcare provider were more likely to have attempted suicide, while those with social support were less likely to have attempted (-0.131, 95% CI -0.205, -0.057).

Associations between minority stress constructs and suicide attempts were statistically significant for all three latent factors, though direction of effects and specific indirect paths varied across constructs (Table 5-2). The total effect was largest for enacted stigma, and approximately half of this was a direct effect, with an additional 33% mediated by depression. The total effect of anticipated prejudice was smaller and not statistically significant. Indirect effects between anticipated prejudice and suicide attempts were statistically significant for depression and social support. Inconsistent mediation was apparent for concealment, which had an inverse (protective) indirect effect, mediated by depression as well as a positive indirect effect, mediated by social support.

Associations between minority stress factors and suicide attempt were slightly attenuated after adjustment for sociodemographic covariates (Table 5-2). Four sociodemographic characteristics were significantly associated with suicide attempts: personal income (>-$30,000) and university degree were inversely associated, while Aboriginal identity and HIV positive status were positively associated.

Predicted probabilities illustrate the magnitude of effect for the range of minority stress construct scores, as well as selected sociodemographic variables (Figure 5-2). The baseline probability of
suicide attempt in the past 12 months was 0.036 (95% CI 0.026, 0.050). The largest range in probabilities was observed for enacted stigma: those at -3 standard deviations from the mean score had a 0.004 (95% CI 0.001, 0.010) probability of recent suicide attempt, while those at +3 standard deviations had a 0.178 (0.102, 0.281) probability.

5.4.3 Effect modification

Path coefficients for enacted stigma and anticipated prejudice were similar between gay and bisexual men; however, the direct effect of concealment on suicide attempt was larger for bisexual men than for gay men (Table 5-3). The total effect of enacted stigma on suicide attempt was reduced and lost statistical significance when the sample was restricted to those with a history of suicide attempt (Table 5-3). The direct effect of enacted stigma on suicide attempt was larger in older age cohorts than in younger age cohorts (Table 5-4). Across-strata differences in path coefficients were statistically significant for two comparisons: the total effect of enacted stigma and indirect effect mediated by depression in those with (versus those without) a prior suicide attempt (Table 5-3).

5.5 Discussion

This empirical evaluation of the sexual minority stress model in a community-based sample of 7,872 gay and bisexual men confirmed the salience of enacted stigma in explaining suicide-related behavior, while also emphasizing the existence of multiple related pathways from varied experiences of minority stress to suicide attempts. After identifying a measurement model with three distinct constructs of minority stress—enacted stigma, anticipated prejudice, and concealment of sexuality—the largest total association with recent suicide attempts was observed for enacted stigma (Figure 5-2); 33% of this effect was mediated by depression (Table 5-2).

Concealment was independently associated with suicide attempts, though the effects were smaller in magnitude, and mediation was inconsistent. Concealment was inversely associated with suicide attempts (i.e., protective effect) when mediated by depression, and positively associated with suicide attempts (harmful effect) when mediated by social isolation (Table 5-2). That is, as concealment increased, social isolation increased, and as social isolation increased, suicide attempts also increased. Our large sample enabled exploration of these associations across sub-groups of gay and bisexual men, which are further interpreted below.
5.5.1 Interpretation

Previous studies identified a consistent association between measures of enacted stigma and suicide-related behavior among sexual minorities.\textsuperscript{10-12,14-16,44} The present study extends our understanding of the relationship between enacted stigma and suicide attempts in three ways. First, the magnitude of the effect of enacted stigma is far greater than the effects of anticipated prejudice and concealment. This is most clearly illustrated in Figure 5-2, which shows a 10-fold or greater increased risk in recent suicide attempt between those at the highest and lowest end of the range of experiences of enacted stigma. Second, we found that less than half of the total effect of enacted stigma was explained by three traditional psychosocial mediators: depression, drug or alcohol use, and social isolation. Third, we found evidence of a modified effect of enacted stigma in comparing those with and without a history of suicide attempts, whereby the effect was removed in those \emph{with} a history of attempts. This suggests that minority stress may have a larger impact on the onset of suicidal behavior than on subsequent suicide attempts. We also saw a larger direct effect of enacted stigma among older cohorts of men than among the youngest cohort, though this difference was not statistically significant.

To our knowledge, measures of anticipated prejudice—also known as hyper-vigilance\textsuperscript{45}, and conceptually similar to ‘rejection sensitivity’\textsuperscript{46}—have not previously been tested in relation to suicide attempts in sexual minorities, though an association has been found with depression.\textsuperscript{28} We found a statistically significant association between anticipated prejudice and suicide attempts, mediated by depression. This effect was much smaller in magnitude than the association between enacted stigma and suicide attempts, which may reflect the greater impact of enacted versus anticipated stigma. Alternative explanations merit discussion as well, however, particularly in light of the ‘chronic strain’ hypothesis that posits that daily hassles of hyper-vigilance contribute to a large degree of the cumulative minority stress experience.\textsuperscript{20} One explanation is that enacted stigma and anticipated prejudice are too highly correlated to identify independent effects. In our model, the correlation coefficient between enacted stigma and anticipated prejudice factors was large (0.631).\textsuperscript{47} Furthermore, exploratory univariate analysis with each of the minority stress factors yielded total effects for enacted stigma and anticipated prejudice that were both greater than their adjusted estimates in multivariable SEM and estimates more comparable to one another than in multivariable models (\textit{Appendix 6}, cf. Table 5-2). In this
analysis we treated enacted stigma and anticipated prejudice as independent constructs; however, this distinction may not be so clear in the lives of sexual minorities who likely experience both sets of stressors as part of cumulative excess stress and related chronic strain.48

Concealment of sexuality had two opposing effects on suicide attempts, rendering the total effect uninterpretable. Each of the contrasting effects has some degree of theoretical and empirical support. Concealing one’s sexual identity may confer some protection from enacted stigma perpetuated against known sexual minorities, thereby reducing the cumulative load of overt minority stressors among those who conceal.49 Concealment and enacted stigma constructs were indeed inversely correlated in the present study (-0.385). In addition, the direct and total protective effects of concealment were larger among bisexual men than among gay men, though statistical tests of difference were not significant. At the same time, concealment of gay or bisexual identities reduces opportunities for social connection with other gay and bisexual men and thus limits social support through these channels; accordingly, the positive association between concealment and suicide attempts in our sample was mediated by lack of social support. These contrasting effects of concealment notably would have gone undetected without testing for mediators, as the total effect of concealment was not statistically significant (Table 5-2).42

5.5.2 Limitations

While SEM is a powerful and flexible analytic tool, interpretation of SEM results requires caution and qualification.41 Limitations of our application of SEM broadly relate to matters of cross-sectional study design, measurement, and confounding. In this study we were primarily interested in the lifelong cumulative effects of sexual stigma on mental health. In the absence of large-sample longitudinal studies of sexual minorities, we relied upon a cross-sectional design. The benefit of this design is the large sample size, which enabled sub-group analyses. The cost was reduced certainty of the temporal sequence of “exposures”, mediators, and outcomes. We attempted to address this limitation by using exposure measures related to cumulative/lifetime experiences of minority stress and by restricting mediators and outcome to the past 12 months. Furthermore, there is theoretical support for the direction of effects, since suicide attempts cannot plausibly cause enacted sexual stigma. The cross-sectional design additionally induces a form of survival bias, whereby those gay and bisexual men who died—most notably by suicide—are excluded. Assuming minority stress is a major attributable cause of suicide in our
population, this selection bias may have induced underestimation of associations between minority stress constructs and suicide attempts.

With regard to measurement, our study is both strengthened and limited by the use of novel, community-designed indicators of minority stress experiences. These indicators resulted from discussions by Canadian gay and bisexual men who reflected on their own life experiences, and many are previously untested in empirical minority stress research. While the hypothesized measurement model ultimately met a priori cut-points for goodness-of-fit with minor modifications in CFA, additional approaches to improve upon measurement of under-studied constructs, such as anticipated prejudice, are required. In addition, we note that internalized homophobia has been associated with suicide-related outcomes in other studies but was not measured in our survey.

While the associations we observed between enacted stigma and suicide attempts were large, minority stress experiences may not be the cause of the attempts. This study was ultimately a deductive test of one particular theory; inductive, qualitative approaches are required to ascertain perceived causes or precipitants of suicide attempts. Adjustment for sociodemographic characteristics conceptually related to both minority stress and suicide-related behavior only slightly attenuated associations between minority stress constructs and suicide attempts; however, other unmeasured confounders may explain some or all of these associations. Most notably, traits that may predispose individuals to experience or anticipate enacted stigma, or conceal their sexual identity, and attempt suicide (e.g., impulsivity, extroversion, resilience) were not measured.

Two of the mediators we tested, depression and problematic drug/alcohol use, were measured as having a discussion with a healthcare provider for these specific problems. These measures therefore exclude those who did not utilize healthcare for these problems. In Canada, as few as 40% of adults with depression receive professional medical or mental health care. On the other hand, healthcare discussion related to depression or drug/alcohol use is a more specific measure, one that likely reflects greater severity of these issues. Additionally, our study relied upon self-reported suicide attempts. In the face of persistent societal stigma of suicide, some suicide attempts will go unreported; meanwhile, other survey respondents may report behaviors
that would be more accurately classified as an incomplete suicide plan or self-harm without intent to die than as suicide attempts.\textsuperscript{52} Finally, as with most other studies of sexual minority suicide\textsuperscript{53}, our study was conducted in North America, and thus may not be generalized to countries with fewer legal protections against enacted stigma.

5.5.3 Implications

This study adds weight to an increasing body of evidence that societal stigma is a fundamental cause of ill health among sexual minorities.\textsuperscript{54,55} While enacting policies and practices to reduce societal stigma are important strategies for suicide prevention among youth and future generations of adults\textsuperscript{56,57}, they are inadequate to prevent suicide among the current living cohort of sexual minority adults who have already accumulated a lifetime of sexual stigma. Our study points to specific mediating factors that should be the focus of more immediate suicide prevention efforts. These proximal points of intervention include both clinic-based (counseling or healthcare support for depression or drug or alcohol use) and community-based interventions (social support); notably, neither will alone be sufficient to avert the suicide attempts we measured. These services may be enhanced or tailored for sexual minorities by explicitly acknowledging the pervasive sexual stigma that often precedes experiences of mental distress. Ultimately, the distinct pathways identified in our study belie a one-size-fits-all strategy; as with general population strategies\textsuperscript{58}, effective suicide prevention for sexual minorities must be comprehensive, multifaceted, and inclusive of community-based approaches.
5.6 References


Table 5-1. Characteristics of sample of sexual minority men used for structural equation modeling of minority stress and suicide attempts, N=7872

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;30 years</td>
<td>1968</td>
<td>25.0</td>
</tr>
<tr>
<td>30-49 years</td>
<td>3067</td>
<td>39.0</td>
</tr>
<tr>
<td>50+ years</td>
<td>2837</td>
<td>36.0</td>
</tr>
<tr>
<td>Urban residence</td>
<td>4438</td>
<td>56.4</td>
</tr>
<tr>
<td>Annual personal income &gt; $30,000</td>
<td>5579</td>
<td>70.9</td>
</tr>
<tr>
<td>University degree</td>
<td>3442</td>
<td>43.7</td>
</tr>
<tr>
<td>Ethnicity a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>6767</td>
<td>86.0</td>
</tr>
<tr>
<td>Aboriginal</td>
<td>360</td>
<td>4.6</td>
</tr>
<tr>
<td>Neither Caucasian nor Aboriginal</td>
<td>963</td>
<td>12.2</td>
</tr>
<tr>
<td>HIV status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>5933</td>
<td>75.4</td>
</tr>
<tr>
<td>Positive</td>
<td>673</td>
<td>8.5</td>
</tr>
<tr>
<td>Unknown</td>
<td>1266</td>
<td>16.1</td>
</tr>
<tr>
<td><strong>Potential effect modifiers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual identity a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gay</td>
<td>5554</td>
<td>70.6</td>
</tr>
<tr>
<td>Bisexual</td>
<td>2145</td>
<td>27.2</td>
</tr>
<tr>
<td>History of suicide attempt (&gt;12 months ago)</td>
<td>975</td>
<td>12.4</td>
</tr>
<tr>
<td><strong>Psychosocial mediators</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment b for depression (M1)</td>
<td>1959</td>
<td>24.9</td>
</tr>
<tr>
<td>Treatment b for drug or alcohol use (M2)</td>
<td>591</td>
<td>7.5</td>
</tr>
<tr>
<td>Social support (M3) c</td>
<td>4150</td>
<td>52.7</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide attempt, last 12 months</td>
<td>265</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Note. a Categories are not mutually exclusive; b M1 and M2 measured as having discussed issue (depression, drug or alcohol use) with a healthcare provider in last 12 months; c social support measured as reporting at least 4 people to count on for support.
Table 5.2. Structural equation model path coefficients for direct, indirect, and total associations between three latent sexual minority stress constructs (factors) and recent suicide attempts, N=7872

<table>
<thead>
<tr>
<th>Path</th>
<th>Model 1 Unstandardized</th>
<th>Model 1 Standardized</th>
<th>Model 2 Unstandardized</th>
<th>Model 2 Standardized</th>
<th>Proportion mediated*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enacted Stigma (F1) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1→O (direct)</td>
<td>0.167 (0.059, 0.275)</td>
<td>0.143 (0.053, 0.233)</td>
<td>0.148 (0.044, 0.252)</td>
<td>0.133 (0.041, 0.225)</td>
<td>0.55</td>
</tr>
<tr>
<td>F1→Depression→O (indirect)</td>
<td>0.108 (0.069, 0.147)</td>
<td>0.088 (0.057, 0.119)</td>
<td>0.090 (0.055, 0.125)</td>
<td>0.080 (0.051, 0.109)</td>
<td>0.33</td>
</tr>
<tr>
<td>F1→Drug use→O (indirect)</td>
<td>0.036 (0.003, 0.069)</td>
<td>0.031 (0.002, 0.060)</td>
<td>0.029 (0.000, 0.058)</td>
<td>0.026 (0.001, 0.051)</td>
<td>0.11</td>
</tr>
<tr>
<td>F1→Social support→O (indirect)</td>
<td>0.004 (-0.006, 0.014)</td>
<td>0.003 (-0.005, 0.011)</td>
<td>0.002 (-0.006, 0.010)</td>
<td>0.002 (-0.004, 0.008)</td>
<td>0.01</td>
</tr>
<tr>
<td>F1→O (total)</td>
<td>0.310 (0.200, 0.420)</td>
<td>0.265 (0.177, 0.353)</td>
<td>0.269 (0.163, 0.375)</td>
<td>0.240 (0.150, 0.330)</td>
<td></td>
</tr>
<tr>
<td>Anticipated Prejudice (F2) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2→O (direct)</td>
<td>-0.023 (-0.152, 0.106)</td>
<td>-0.013 (-0.086, 0.060)</td>
<td>-0.041 (-0.174, 0.092)</td>
<td>-0.023 (-0.098, 0.051)</td>
<td>0.37</td>
</tr>
<tr>
<td>F2→Depression→O (indirect)</td>
<td>0.033 (0.002, 0.064)</td>
<td>0.019 (-0.001, 0.037)</td>
<td>0.041 (0.008, 0.074)</td>
<td>0.023 (0.005, 0.041)</td>
<td>0.37</td>
</tr>
<tr>
<td>F2→Drug use→O (indirect)</td>
<td>-0.003 (-0.019, 0.013)</td>
<td>-0.002 (-0.010, 0.006)</td>
<td>0.000 (-0.014, 0.014)</td>
<td>0.000 (-0.008, 0.008)</td>
<td>0.00</td>
</tr>
<tr>
<td>F2→Social support→O (indirect)</td>
<td>0.029 (0.009, 0.049)</td>
<td>0.017 (0.007, 0.027)</td>
<td>0.030 (0.010, 0.050)</td>
<td>0.017 (0.005, 0.029)</td>
<td>0.27</td>
</tr>
<tr>
<td>F2→O (total)</td>
<td>0.037 (-0.092, 0.166)</td>
<td>0.021 (-0.053, 0.095)</td>
<td>0.031 (-0.102, 0.164)</td>
<td>0.017 (-0.057, 0.091)</td>
<td></td>
</tr>
<tr>
<td>Concealment (F3) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3→O (direct)</td>
<td>-0.122 (-0.249, 0.005)</td>
<td>-0.075 (-0.153, 0.003)</td>
<td>-0.115 (-0.242, 0.012)</td>
<td>-0.071 (-0.147, 0.005)</td>
<td>0.51</td>
</tr>
<tr>
<td>F3→Depression→O (indirect)</td>
<td>-0.029 (-0.053, -0.005)</td>
<td>-0.018 (-0.032, -0.004)</td>
<td>-0.030 (-0.053, -0.006)</td>
<td>-0.019 (-0.033, -0.005)</td>
<td>0.14</td>
</tr>
<tr>
<td>F3→Drug use→O (indirect)</td>
<td>-0.010 (-0.024, 0.004)</td>
<td>-0.006 (-0.014, 0.002)</td>
<td>-0.005 (-0.017, 0.007)</td>
<td>-0.003 (-0.011, 0.005)</td>
<td>0.02</td>
</tr>
<tr>
<td>F3→Social support→O (indirect)</td>
<td>0.092 (0.045, 0.139)</td>
<td>0.057 (0.030, 0.084)</td>
<td>0.075 (0.032, 0.118)</td>
<td>0.046 (0.021, 0.071)</td>
<td>0.33</td>
</tr>
<tr>
<td>F3→O (total)</td>
<td>-0.069 (-0.183, 0.045)</td>
<td>-0.042 (-0.113, 0.029)</td>
<td>-0.076 (-0.192, 0.040)</td>
<td>-0.046 (-0.117, 0.025)</td>
<td></td>
</tr>
<tr>
<td>Urban residence→O (total)</td>
<td>-</td>
<td>-</td>
<td>0.009 (-0.122, 0.140)</td>
<td>0.008 (-0.103, 0.119)</td>
<td></td>
</tr>
<tr>
<td>Personal income &gt; $30,000→O (total)</td>
<td>-</td>
<td>-</td>
<td>-0.492 (-0.643, -0.341)</td>
<td>-0.407 (-0.528, -0.286)</td>
<td></td>
</tr>
<tr>
<td>University degree→O (total)</td>
<td>-</td>
<td>-</td>
<td>-0.267 (-0.412, -0.121)</td>
<td>-0.220 (-0.338, -0.101)</td>
<td></td>
</tr>
<tr>
<td>Age 30+ years→O (total)</td>
<td>-</td>
<td>-</td>
<td>0.007 (-0.152, 0.166)</td>
<td>0.007 (-0.124, 0.138)</td>
<td></td>
</tr>
<tr>
<td>Aboriginal→O (total)</td>
<td>-</td>
<td>-</td>
<td>0.267 (0.018, 0.516)</td>
<td>0.220 (0.014, 0.427)</td>
<td></td>
</tr>
<tr>
<td>HIV positive→O (total)</td>
<td>-</td>
<td>-</td>
<td>0.237 (0.031, 0.443)</td>
<td>0.202 (0.029, 0.375)</td>
<td></td>
</tr>
<tr>
<td>Fit statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMSEA (90% CI)</td>
<td>0.048 (0.047, 0.049)</td>
<td>-</td>
<td>0.044 (0.044, 0.045)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>CFI</td>
<td>0.923</td>
<td>-</td>
<td>0.919</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TLI</td>
<td>0.914</td>
<td>-</td>
<td>0.908</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>$\chi^2$ (degrees of freedom) (p-value)</td>
<td>9724.264 (505)</td>
<td>-</td>
<td>11038.145 (667)</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Note. Model 1 excludes sociodemographic characteristics; Model 2 is adjusted for sociodemographic characteristics shown; RMSEA=root mean square error of approximation; CFI=Comparative Fit Index; TLI=Tucker Lewis Index; CI=confidence interval; * absolute value of path coefficient divided by sum of absolute value of all path coefficients.
Table 5-3. Structural equation model path coefficients for direct, indirect, and total associations between three latent sexual minority stress constructs (factors) and recent suicide attempts, stratified by sexual identity and history of suicide attempt sub-groups

<table>
<thead>
<tr>
<th>Path</th>
<th>Gay men</th>
<th>Bisexual men</th>
<th>Prior suicide attempt</th>
<th>No prior attempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enacted Stigma (F1) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1→O (direct)</td>
<td>0.112 (0.012, 0.212)</td>
<td>0.092 (-0.092, 0.276)</td>
<td>-0.051 (-0.222, 0.120)</td>
<td>0.075 (-0.058, 0.208)</td>
</tr>
<tr>
<td>F1→Depression→O (indirect)</td>
<td>0.090 (0.055, 0.125)</td>
<td>0.048 (-0.003, 0.099)</td>
<td>0.002 (-0.037, 0.041)*</td>
<td>0.066 (0.041, 0.101)*</td>
</tr>
<tr>
<td>F1→Drug use→O (indirect)</td>
<td>0.020 (-0.007, 0.047)</td>
<td>0.070 (-0.006, 0.146)</td>
<td>-0.004 (-0.023, 0.018)</td>
<td>0.024 (-0.013, 0.061)</td>
</tr>
<tr>
<td>F1→Social support→O (indirect)</td>
<td>0.003 (-0.003, 0.009)</td>
<td>-0.007 (-0.023, 0.009)</td>
<td>-0.008 (-0.024, 0.008)</td>
<td>0.000 (-0.006, 0.006)</td>
</tr>
<tr>
<td>F1→O (total)</td>
<td>0.224 (0.128, 0.320)</td>
<td>0.204 (0.020, 0.388)</td>
<td>-0.061 (-0.230, 0.108)*</td>
<td>0.165 (0.036, 0.294)*</td>
</tr>
<tr>
<td>Anticipated Prejudice (F2) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2→O (direct)</td>
<td>-0.026 (-0.118, 0.066)</td>
<td>0.034 (-0.111, 0.179)</td>
<td>-0.004 (-0.171, 0.163)</td>
<td>0.041 (-0.061, 0.143)</td>
</tr>
<tr>
<td>F2→Depression→O (indirect)</td>
<td>0.021 (-0.003, 0.045)</td>
<td>0.025 (-0.008, 0.058)</td>
<td>0.043 (-0.012, 0.098)</td>
<td>0.023 (0.003, 0.043)</td>
</tr>
<tr>
<td>F2→Drug use→O (indirect)</td>
<td>-0.001 (-0.009, 0.007)</td>
<td>-0.008 (-0.039, 0.023)</td>
<td>0.009 (-0.018, 0.036)</td>
<td>0.000 (-0.008, 0.008)</td>
</tr>
<tr>
<td>F2→Social support→O (indirect)</td>
<td>0.014 (0.000, 0.028)</td>
<td>0.018 (-0.009, 0.045)</td>
<td>0.016 (-0.009, 0.041)</td>
<td>0.008 (0.002, 0.030)</td>
</tr>
<tr>
<td>F2→O (total)</td>
<td>0.009 (-0.081, 0.099)</td>
<td>0.069 (-0.072, 0.210)</td>
<td>0.064 (-0.099, 0.227)</td>
<td>0.077 (-0.023, 0.177)</td>
</tr>
<tr>
<td>Concealment (F3) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3→O (direct)</td>
<td>-0.025 (-0.105, 0.055)</td>
<td>-0.106 (-0.228, 0.016)</td>
<td>-0.038 (-0.152, 0.076)</td>
<td>-0.074 (-0.192, 0.044)</td>
</tr>
<tr>
<td>F3→Depression→O (indirect)</td>
<td>-0.024 (-0.042, -0.006)</td>
<td>-0.026 (-0.055, 0.003)</td>
<td>-0.016 (-0.043, 0.011)</td>
<td>-0.017 (-0.033, -0.001)</td>
</tr>
<tr>
<td>F3→Drug use→O (indirect)</td>
<td>-0.005 (-0.013, 0.003)</td>
<td>-0.008 (-0.035, 0.019)</td>
<td>-0.001 (-0.013, 0.011)</td>
<td>-0.002 (-0.010, 0.006)</td>
</tr>
<tr>
<td>F3→Social support→O (indirect)</td>
<td>0.026 (0.004, 0.048)</td>
<td>0.023 (-0.010, 0.056)</td>
<td>0.026 (-0.009, 0.061)</td>
<td>0.038 (-0.003, 0.079)</td>
</tr>
<tr>
<td>F3→O (total)</td>
<td>-0.027 (-0.101, 0.047)</td>
<td>-0.118 (-0.245, 0.09)</td>
<td>-0.030 (-0.136, 0.076)</td>
<td>-0.055 (-0.163, 0.053)</td>
</tr>
<tr>
<td>Fit statistics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMSEA (90% CI)</td>
<td>0.045 (0.044, 0.046)</td>
<td>0.030 (0.028, 0.031)</td>
<td>0.047 (0.045, 0.049)</td>
<td>0.043 (0.042, 0.044)</td>
</tr>
<tr>
<td>CFI</td>
<td>0.906</td>
<td>0.974</td>
<td>0.920</td>
<td>0.918</td>
</tr>
<tr>
<td>TLI</td>
<td>0.892</td>
<td>0.970</td>
<td>0.908</td>
<td>0.906</td>
</tr>
<tr>
<td>(\chi^2) (degrees of freedom)</td>
<td>8239.393 (667)</td>
<td>1913.408 (667)</td>
<td>2115.554 (667)</td>
<td>9180.552 (667)</td>
</tr>
<tr>
<td>(p-value)</td>
<td>(&lt;0.001)</td>
<td>(&lt;0.001)</td>
<td>(&lt;0.001)</td>
<td>(&lt;0.001)</td>
</tr>
</tbody>
</table>

Note. All models adjusted for social characteristics (urban residence, income, education, age, Aboriginal status, and HIV status); coefficients are standardized; * \(p<0.05\) for test of difference in coefficient across strata.
Table 5-4. Structural equation model path coefficients for direct, indirect, and total associations between three latent sexual minority stress constructs (factors) and recent suicide attempts, stratified by age sub-groups

<table>
<thead>
<tr>
<th>Path</th>
<th>&lt;30 years N=1968</th>
<th>30-49 years N=3067</th>
<th>50+ years N=2837</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enacted Stigma (F1) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1→O (direct)</td>
<td>0.082 (-0.053, 0.217)</td>
<td>0.177 (0.030, 0.324)</td>
<td>0.156 (-0.030, 0.342)</td>
</tr>
<tr>
<td>F1→Depression→O (indirect)</td>
<td>0.087 (0.030, 0.144)</td>
<td>0.080 (0.033, 0.127)</td>
<td>0.067 (0.014, 0.120)</td>
</tr>
<tr>
<td>F1→Drug use→O (indirect)</td>
<td>0.038 (-0.027, 0.103)</td>
<td>0.024 (-0.009, 0.057)</td>
<td>0.013 (-0.018, 0.044)</td>
</tr>
<tr>
<td>F1→Social support→O (indirect)</td>
<td>0.003 (-0.017, 0.023)</td>
<td>0.000 (-0.008, 0.008)</td>
<td>0.000 (-0.008, 0.008)</td>
</tr>
<tr>
<td>F1→O (total)</td>
<td><strong>0.210 (0.087, 0.333)</strong></td>
<td><strong>0.280 (0.139, 0.421)</strong></td>
<td><strong>0.238 (0.056, 0.420)</strong></td>
</tr>
<tr>
<td>Anticipated Prejudice (F2) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2→O (direct)</td>
<td>0.027 (-0.085, 0.139)</td>
<td>-0.093 (-0.216, 0.030)</td>
<td>-0.011 (-0.156, 0.134)</td>
</tr>
<tr>
<td>F2→Depression→O (indirect)</td>
<td>0.032 (-0.001, 0.065)</td>
<td>0.009 (-0.016, 0.034)</td>
<td>0.035 (-0.004, 0.074)</td>
</tr>
<tr>
<td>F2→Drug use→O (indirect)</td>
<td>-0.009 (-0.031, 0.013)</td>
<td>0.004 (-0.010, 0.018)</td>
<td>0.003 (-0.011, 0.017)</td>
</tr>
<tr>
<td>F2→Social support→O (indirect)</td>
<td>0.027 (0.003, 0.051)</td>
<td>0.010 (-0.004, 0.024)</td>
<td>0.014 (-0.011, 0.039)</td>
</tr>
<tr>
<td>F2→O (total)</td>
<td><strong>0.077 (-0.033, 0.187)</strong></td>
<td><strong>-0.070 (-0.193, 0.053)</strong></td>
<td><strong>0.041 (-0.098, 0.180)</strong></td>
</tr>
<tr>
<td>Concealment (F3) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3→O (direct)</td>
<td>-0.125 (-0.247, -0.003)</td>
<td>-0.024 (-0.144, 0.096)</td>
<td>-0.046 (-0.195, 0.103)</td>
</tr>
<tr>
<td>F3→Depression→O (indirect)</td>
<td>-0.019 (-0.043, 0.005)</td>
<td>-0.007 (-0.029, 0.015)</td>
<td>-0.034 (-0.067, -0.001)</td>
</tr>
<tr>
<td>F3→Drug use→O (indirect)</td>
<td>0.010 (-0.010, 0.030)</td>
<td>-0.010 (-0.028, 0.008)</td>
<td>-0.006 (-0.024, 0.012)</td>
</tr>
<tr>
<td>F3→Social support→O (indirect)</td>
<td>0.059 (0.024, 0.094)</td>
<td>0.038 (-0.005, 0.081)</td>
<td>0.029 (-0.024, 0.082)</td>
</tr>
<tr>
<td>F3→O (total)</td>
<td><strong>-0.074 (-0.182, 0.034)</strong></td>
<td><strong>-0.001 (-0.115, 0.113)</strong></td>
<td><strong>-0.058 (-0.191, 0.075)</strong></td>
</tr>
<tr>
<td>Fit statistics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMSEA (90% CI)</td>
<td>0.042 (0.040, 0.043)</td>
<td>0.045 (0.044, 0.046)</td>
<td>0.042 (0.040, 0.043)</td>
</tr>
<tr>
<td>CFI</td>
<td>0.929</td>
<td>0.915</td>
<td>0.934</td>
</tr>
<tr>
<td>TLI</td>
<td>0.919</td>
<td>0.903</td>
<td>0.924</td>
</tr>
<tr>
<td>$\chi^2$ (degrees of freedom)</td>
<td>2815.089 (640)</td>
<td>4622.712 (640)</td>
<td>3772.339 (640)</td>
</tr>
<tr>
<td>($p$-value)</td>
<td>(&lt;0.001)</td>
<td>(&lt;0.001)</td>
<td>(&lt;0.001)</td>
</tr>
</tbody>
</table>

**Note.** All models adjusted for social characteristics (urban residence, income, education, age, Aboriginal status, and HIV status); coefficients are standardized; $p>0.05$ for test of difference in coefficient across strata.
Figure 5-1. Analytical model of hypothesized relationships between three latent sexual minority stress constructs (F1, F2, F3), traditional psychosocial mediators (M1, M2, M3), and recent suicide attempts, among sexual minority men. Note. Direct pathways illustrated with bold arrows; indirect pathways illustrated with black arrows; sociodemographic covariate relationships illustrated with grey arrows; residual arrows annotated by “e” represent error terms (omitted variables and measurement error) for all endogenous/dependent variables.
Figure 5-2. Probability of suicide attempt in last 12 months (with 95% confidence interval), as predicted by a structural equation model including measures of sexual minority stress and social characteristics, N=7872. Note. Threshold = probability based on intercept (threshold) of probit model (holding all latent variables at mean values, and binary covariates at referent group); all other probabilities reflect change in variable indicated while fixing all latent variables at mean values and binary covariates at referent group; SD=standard deviation.
6 Constructing and expanding gay suicide narratives

Prepared for submission to: American Journal of Community Psychology

6.1 Abstract

This study documents life-stories of gay men who attempted suicide as adults, in the context of temporal shifts in gay rights and gay-affirmative policies and societal attitudes. My goal is to share an expanding collection of narratives that may help other gay men who are thinking about suicide. I interviewed seven adult gay men, between 30 and 74 years of age, each of whom had attempted suicide two to four times. Five narratives emerged. Pride narratives resist any connection between sexuality and suicide. Trauma-and-stress narratives enable coping through the acknowledgment of sexual stigma as a fundamental trauma and cause of subsequent stress and suicidal thoughts. Memorial narratives—more common among younger generations of gay men—prevent suicide by maintaining a strong sense of ‘permanent’ identity. Outing narratives demand that the listener or reader confront the legacy of unjust practices of homosexual surveillance, spying, and ‘outing’, many of which historically resulted in gay suicides. Finally, post-gay narratives warn of the risk of suicide among older generations of gay men who feel erased and isolated from the goals of modern gay movements. This exchange of narratives offers a way to collectively and individually respond to ongoing suicidal crises among adult gay men.
Creole began to tell us what the blues were all about. They were not about anything very new. He and his boys up there were keeping it new, at the risk of ruin, destruction, madness, and death, in order to find new ways to make us listen. For, while the tale of how we suffer, and how we are delighted, and how we triumph is never new, it always must be heard. There isn’t any other tale to tell, it’s the only light we’ve got in all this darkness. And this tale, according to that face, that body, those strong hands on those strings, has another aspect in every country, and a new depth in every generation. Listen, Creole seemed to be saying. Now these are Sonny’s blues.

- James Baldwin, Sonny’s Blues, p. 139

6.2 Introduction

6.2.1 A scarcity of contemporary gay suicide narratives

Popular understandings of gay suicide have evolved over the course of the twentieth century, through periods when homosexuality was regarded as a sin, illness, and crime—notions supported by prominent North American institutions, including those of the Christian churches, the State, medicine, and psychology. Salient gay suicide narratives emerged in these contexts and became etched in the minds of heterosexuals and gays and lesbians alike. Newspapers reproduced scandalous homosexual blackmail stories, which reinforced suicide as a presumed ending for those who otherwise risked public exposure as sexual deviants, while Hollywood films repeatedly employed a tragic, sensational gay suicide trope.

Gay suicide is less clearly situated in the contemporary North American context, where homosexuality is no longer a crime and gay marriage now a legal reality. Familiar notions of gay suicide are thus largely relegated to bygone eras described above, as exemplified by the story of Alan Turing, re-popularized as a heroic tragedy in the 2014 Oscar-nominated film The Imitation Game. Turing was a mathematician credited with developing a modern computer to aid British espionage efforts during World War II. Turing also had sex with men, and was thus branded as a security threat post-war, and convicted under criminal code that outlawed sex between men. He was barred from continuing his government consultancy and forced to receive hormonal treatments to reduce his libido; in 1954, he died by poisoning himself with cyanide.
To the extent that gay suicide is regarded as a contemporary social problem, it is characterized predominantly as a crisis of adolescence.\textsuperscript{5,6} The story of Billy Lucas is illustrative. Lucas lived in Greensburg, Indiana, where he faced increasingly hostile bullying related to his perceived sexuality, and in the fall of 2010, died by hanging himself in his family’s barn.\textsuperscript{7} His story is now remembered—along with those of three other gay bullying-related teenage suicides that received widespread media attention in the fall of 2010—for launching \textit{It Gets Better}, an Internet campaign that aims to persuade gay youth considering suicide to endure antigay stigma and hold out for a day when things will get better.\textsuperscript{7,8}

These two stories are compelling in the direct and forceful ways in which they link antigay stigma to suicide; however, they also inherently limit the range of narratives used to understand gay suicide. Our collective ‘narrative resources’ on the topic are rendered scarce.\textsuperscript{9} Turing’s story remains emotive but is given little credence in a post-marriage equality era. Meanwhile, Lucas’s story offers a contemporary ‘bullying-and-suicide’ narrative, but one that is particular to adolescence. I began the present research project by asking: what stories are marginalized by dominant narratives? My purpose is to expand our contemporary narrative resources with respect to gay suicide, by documenting the stories of gay men, alive today, who have attempted suicide as adults.

\textbf{6.2.2 Opportunities in qualitative inquiry into gay suicide}

This project is fundamentally motivated by inequities in both rates of suicide attempts among gay, lesbian, bisexual (GLB) populations, and public health resources to prevent suicide in GLB communities.\textsuperscript{10} Even after decades of legal and political struggles to achieve equal status, nearly 20\% of North American GLB adults surveyed between 1985 and 2008 attempted suicide; by comparison, the lifetime prevalence of suicide attempts in heterosexual populations is 4\%.\textsuperscript{11} Statistical profiles of GLB suicide suggest an elevated rate of suicide attempts across the lifespan, contrary to the narrative featured in \textit{It Gets Better}.\textsuperscript{12–14}

Epidemiological attempts to understand GLB suicide are limited. Deductive quantitative studies have frequently identified acute exposure to antigay hate speech or bullying as correlates of suicide ideation or attempts in youth.\textsuperscript{15} These studies have inspired a set of interventions focused on bullied youth: enactment and enforcement of anti-bullying policies, expansion of gay-straight alliances, and Internet-based campaigns such as \textit{It Gets Better}.\textsuperscript{16,17} Such interventions are
undeniably important for future generations of sexual minorities; however, stopping antigay bullying may be too little and too late for GLB adults who have accumulated a lifetime of social stress related to sexual stigma. Moreover, acute antigay stressors (such as bullying, harassment, or discrimination) are infrequently cited as causes of suicide attempts among GLB adults, when inductive approaches are used.18

Qualitative research that exhibits the stories of sexual minorities who have experienced suicidal thoughts or actions offers a remedy to these limitations. In particular, unstructured narrative approaches complement quantitative studies by telling us how gay people themselves make sense of their histories of suicide attempts, and how they convey these sensibilities to others. Survivors of suicide attempts can share previously unrealized ways of living and coping, and new strategies for preventing suicide. These strategies may be distinct from biomedical or psychological interventions, and contextualized in ways that will ensure they are relevant and effective for gay people.19

6.3 Methods

6.3.1 Dialogical narrative analysis

My interest in narratives as shared ‘templates’ for understanding socially-determined health phenomena led me to a particular methodological approach, offered by medical sociologist Arthur Frank. Dialogical narrative analysis starts with the premise that stories are powerful, but can be dangerous, particularly when they become monologues, thereby forestalling other stories from being told. Researchers can mitigate this danger by entering a discussion with multiple stories, rather than getting caught up in a singular story. Frank builds on this premise to expound a socio-narratology in his book Letting Stories Breathe.9 Some use the terms narrative and story interchangeably; however, in this paper, I distinguish between a narrative and a story, using the convention established by Harrington20 and followed by Frank: stories are unique individual accounts of personal experiences and events; by contrast, narratives are more basic, general templates that are passed through cultural communications (e.g., films, books, popular media, conversation), or “resources from which people construct the stories they tell and the intelligibility of stories they hear”.9 For example, the ‘quest’ (or journey) is an old and familiar narrative, while Dorothy’s circuitous and particular return trip to Kansas in The Wizard of Oz is perhaps better termed a story.
Frank’s approach is not prescriptive with regard to methods but rather offers several guiding principles: firstly, that stories are always told in dialogue, and consequently that no one individual’s meaning is final; secondly, that “people tell stories that are very much their own, but they do not make up these stories by themselves”. In other words, storytellers borrow from stories that are available to them. Frank argues, in fact, for a converse logic, by which narratives are the ones borrowing the storytellers. By extension, narratives are conceived as dynamic, growing and adapting, as they are repurposed and reimagined by the persons they emplot. Narratives and storytellers are thus symbiotic and iterative: storytellers make narratives their own, to their personal benefit, while simultaneously being ‘conscripted’ by narratives. A corollary to this tenet is that narrative researchers try to understand how stories act, rather than treat stories as data.

6.3.2 Sample and data

I recruited a purposive sample of seven gay men who had attempted suicide as adults and invited them to share their life stories in one-on-one interviews. I focused the present study on individuals who identified as male, given the potential influence of gender roles and expectations on suicide attempts, the persistent gender-binary socialization that renders adult lesbian/gay life socially stratified, and my own experience as a gay man. I was more flexible with regard to sexuality and included any man who identified as gay, bisexual, queer, two-spirit, or questioning. I required that interviewees be 30 years of age or older and have attempted suicide after age 21 but not in the past 2 years, in order to ensure they spoke about suicide attempts that occurred as adults and had sufficient time since their last attempt to seek care or support, if needed. Being two years post-suicide attempt was also intended to reduce the risk of the individual still being in a vulnerable or precariously suicidal state. Participants were recruited from local gay health and HIV service organization newsletters and social media \(n=5\), flyers in gay businesses \(n=1\), and word-of-mouth \(n=1\). Study advertisements prompted prospective participants to respond to the following call: “As many as 1 in 5 gay and bisexual men have attempted suicide. We don’t know why.”

I talked with each potential participant by phone for 15-30 minutes, prior to each interview, to explain the purpose of the study, answer questions, and ensure the participant met all inclusion criteria. I asked about prospective participants’ current state of suicidal ideation and planning,
and also about reliable professional and personal supports, in order to refer prospective participants to a professional counselor, if necessary. A total of 12 individuals responded to advertisements; 3 were ineligible due to age or having not attempted suicide, and 2 opted not to participate after the telephone screening.

Interviews were conducted in a private office and lasted 1-2 hours. I opened interviews by disclosing my identity as a gay man; this brief discussion served to build rapport through transparency and to improve the quality of the interview by acknowledging potentially shared experiences as gay men.24 The interview guide was unstructured, with only two questions: 1) “In your own time, tell me your story about attempting suicide. Please include any events you think are important in your understanding of why you tried to kill yourself.” And 2) “What relationship, if any, do you see between your sexual orientation and your suicide attempts?”, asked later in the interview, only if the topic did not arise. Interviews proceeded in a conversational manner; open-ended probes and follow-up questions were used to encourage story-telling and increase the level of description.25

Interviews were audio-recorded. I wrote my immediate impressions after each interview, capturing non-verbal language, emotions, and salient points, and then transcribed audio-recordings verbatim. Transcripts were verified for accuracy through multiple passes of re-listening to recordings and re-reading transcripts. I wrote numerous memos throughout analysis to work through preliminary ideas and to explore my own subjectivity.26

I administered a three-question suicide risk assessment at the start and end of each interview to assess participant safety, as recommended by Reynolds, et al.27 No participants indicated elevated suicide risk either before or after the interview; however, all participants were given a referral sheet with contact information for the local crisis centre and local gay health organizations offering free or sliding scale counseling, should they wish to access these resources in the future. Additionally, I completed 100 hours of crisis response and suicide risk assessment training to prepare. This study was reviewed and approved by the University of Toronto Research Ethics Board.
6.3.3 Analysis

Analysis was iterative, inductive, and non-linear. I conducted one interview per month between August 2015 and March 2016, allowing ample time between interviews for reflection and analysis. A turning point in analysis occurred after my seventh interview. This participant, Gerry (pseudonyms used for all participants), explained his motivation to participate as follows:

I attended a conference about a year ago. I almost fell off my chair when [I heard] the stats on gay men, who were committing suicide… And it got me questioning it. D’you know? And then, there was a flyer going around work, about gay men thirty plus [years of age] who were attempting it, and it said “we don’t know why,” and I said to the director, “what do you mean they don’t know why?! Of course they know why!”

Reflecting upon Gerry’s indignation about the study’s premise (“Of course they know why!”), I began to acknowledge the particular ways in which the participants were motivated to step forward and share their personal stories. They arrived at the interview having heard my ‘pitch’ about the statistical profile of suicide in gay adults, at least four times (in the study advertisement, during our phone chat, in the consent form, and in my opening statement at the interview), and their stories can thus be interpreted as a response to this call. Faced with this conspicuous aspect of the study dynamics, I began to interpret participant stories as ‘companions’—to use Frank’s language—whether good or bad ones, that served the participants in making sense of, responding to, or even denying the relationship between sexual minority status and suicide featured in my study pitch.

I focused my attention to stories at the intersection of sexuality and suicide, guided by dialogical narrative analysis as an analytic strategy. Analysis proceeded through cycles of engagement with multiple empirical sources: the participant transcripts/audio-recordings, and other popular sources of gay men’s life narratives (books, movies, etc.)—termed bracketing by Gubrium & Holstein. Popular sources included academic journals, gay literature, press reports, blogs, short stories, books about the history of gay suicide, films with gay characters, and a play about ‘gay heritage’ that toured Canada while I was conducting interviews. Many of these references were suggested to me by study participants. Thus, I developed and revised my interpretations of participant stories with an eye to where their stories converged with others I had heard, either across the interviews, or in my own research and field work.

I asked myself a series of questions, adapted Frank’s approach, to advance analysis:
1. What narratives are used by the participants? And for each narrative, what is its genre? What characters, settings, and conflicts are central to the narrative?

2. How does the narrative position or preclude matters of sexuality, and of suicide?

3. What is the narrative’s effect, especially for the people emplotted by it? And, particularly relevant for the goal of suicide prevention, how does the narrative make life livable?

Basic structural elements common to most if not all narratives include: an abstract, orientation (who? when? where?), conflict, resolution, and sometimes evaluation\(^9,40\); I indicate these elements, where relevant, in my analysis and presentation below.

The narratives that emerged were a function of my own experience—enabled and limited by stories I had already heard.\(^41\) Thus, I refined analysis by presenting these narratives to friends, colleagues, supervisors, mental health professionals, gay community health workers, and the participants themselves.\(^42\) I asked readers to indicate whether they recognized the narratives and to describe their interpretations of the narratives with respect to suicide; I additionally asked the participants whether they agreed with my interpretation of quotations from their respective interviews. I then adjusted my presentation of narratives when readers highlighted gaps or contradictions in the versions they read.

I arrived at a ‘typology’ of gay suicide narratives. Typologies are useful in that they organize and make explicit the narrative resources that undergird the collective of otherwise individual and unique personal life-stories of gay suicide.\(^9\) I am also, however, mindful of the danger of typologies to constrain topics and limit diversity of experience. This collection should therefore be considered a tentative groundwork to which other narratives may be added in the future.

6.4 Results

6.4.1 Participant summary

By definition, all seven participants who shared their stories identified as gay, bisexual, or queer at some point during their lives (Table 6-1), though sexual identities were fluid. For example, Darren identified as bisexual for most of his life and only recently adopted a gay identity. Gender identities were also fluid; three participants described an internal feminine gender identity, in spite of a lived male identity and appearance. Two participants specifically described a ‘two-
spirit’ sense of gender.§ Likewise, some participants’ occupations and socioeconomics were transient, and these changes in economic security and professional identity were often associated with mental distress and personal identity crisis. Participants ranged in age from 30 to 74. While six of the seven attempted suicide in the past 8 years, most had previous suicide attempts that occurred during particular historical contexts, such as those marked by frequent police raids of gay bars and bathhouses, or lack of effective treatment for AIDS (Figure 6-1). The effect of the HIV epidemic on the participants’ lives was significant; all of them referenced HIV in some capacity, and three of the participants disclosed that they were HIV-positive.

Each participant reported two to four suicide attempts during their lifetime. All attempts were associated with intent to die; however, means, severity, and injuries associated with attempts ranged widely, with some attempts better classified as a detailed suicide plan (including method, time, place) without attempt.63 Six of the seven participants were taken to a healthcare facility immediately following at least one attempt. Participants described past and ongoing work managing mental health-related struggles, which included depression (most commonly), anxiety, bipolar disorder, post-traumatic stress disorder (PTSD), and paranoia. These terms are taken directly from the transcripts and may not constitute clinical diagnoses, though many were borrowed from interactions in which healthcare professionals offered a diagnosis and treatment.

All seven participants described a meaningful creative outlet in their lives, many of which were personally effective forms of preventing suicidal thoughts and planning. These included writing, acting, photography, performing drag, and cooking. I would add to this list storytelling, though the level of preparation for the storytelling they performed varied. Some had never told the story of their suicide attempts before the interview, while others shared a story that had been rehearsed over a period of years.

§ Two-spirit is an umbrella term adopted by Aboriginal LGBT persons in 1990 as a means to acknowledge and reclaim traditional and venerable non-binary gender roles and identities that were common in several Aboriginal cultures prior to European colonization.71 While the two participants who described a two-spirit sense of gender did not identify as Aboriginal, I have left their gender identities as stated, rather than attempting to impose my own descriptors; in so doing, I acknowledge the context in which the wider practice of non-indigenous persons appropriating the term ‘two-spirit’ detracts from the meaning and power of its use by Aboriginal persons.74
Finally, the interviews suggested numerous themes that are not described in this paper but warrant acknowledgement. Participants related cogent accounts of familial abandonment and conflict, struggles with drug addiction, career loss or failure, and inadequate or inappropriate mental health care, to name a few. These themes are compelling and worthy of study—even touching upon matters of sexuality and sexual stigma in some cases—but they do not address this study’s objective, to derive narratives, with their attendant structures (orientation, conflict, resolution) and purposes. I have thus set these themes aside from this paper and instead focus here on complete functioning narratives that relate sexuality to suicide, of which there are five.

6.4.2 Toward a typology

(1) Pride narrative

Several participants arrived at the interviews responding not only to my study pitch regarding a statistical association between sexuality and suicide, but also often assuming that my interest in this association implied an interest in suicide attempts that occurred in direct response to antigay stigma (e.g., persecution or bullying, as exhibited in Turing’s and Lucas’s stories). These participants reacted to this perception by denying any connection between their sexuality and suicide attempts. Alan states:

A couple people have asked me, “does your suicide attempt have anything to do with the fact that you’re gay?” I said “no… being gay had nothing to do with my suicide attempt.” Absolutely nothing. I know some people commit suicide when they realize they’re gay. It’s like, “what’s wrong, I’m gonna shoot myself.” I never felt that way. That’s what kept me going. And ever since I’ve come out, I’ve never attempted suicide yet. So maybe if I came out earlier it would have been easier.

Alan attempted suicide before coming out, and he describes having not attempted suicide since, suggesting a potent relationship between concealed sexuality and suicide, yet he himself resists drawing any connection between the two. This reluctance to attach a gay identity—when realized as prominent and positively-valent—\(^{44}\) with suicide attempts is supported by a robust pride narrative.

Pride narratives are ubiquitous in gay literature\(^{31,45,46}\), ‘stage’ theories of gay identity development\(^{23}\), and, of course, pride parades\(^{47}\). The conflict in a pride narrative typically begins with pervasive societal stigma. The protagonist of a pride narrative must reject this stigma to eventually claim a gay (or bisexual, queer, or lesbian) identity, free of shame.\(^{48}\) Pride is notably
the culminating stage of clinical psychologist Vivienne Cass’s LGB identity stage model (after identity confusion, comparison, tolerance, and acceptance), often marked by the individual’s “unwillingness to accept the [antigay] stigma as his or her problem”. Pride itself is thus the resolution to this narrative.

Alan came out as gay two to three years before our interview and spent much of his interview outlining this experience, in close step with a pride narrative. This story started with an internalized sense of shame attached to Alan’s sexuality, based on the messages he received from his father:

[My dad] always told us, all his life he said, “gay guys are a bunch of mentally sick goddamn fruits, and they should be taken to an island out in the Pacific and should be annihilated.” And we were sitting there, both my parents one day, and we were visiting, and a show came on, there was two gay guys and they mentioned that these two are a gay couple, and my dad suddenly said, “if I ever found out any of my kids was a goddamn fruit, I’d disown him from my will.”

As Alan realized he was gay, he sought connection in the gay community:

Actually it was [local gay health organization] that really helped me to come out, that it was OK. It was, it felt, it was so much easier than I thought it was going to be. I was talking to a friend of mine a couple years ago, and he said “why are you still here today?” and I said “because I know I’m gay.” I said “the only reason I’m here is because I know I’m gay. I’m very proud of that. I’m happy with that.”

He went on to describe how a particular support group at the gay health organization encouraged him to adopt a gay identity, and normalized this identity for him.

The Wednesday group was the familiar faces all the time, same facilitators for about a year and a half. All the same guys. Regular guys would show up. I started feeling very comfortable with them, to open up, to my feelings. So that’s when we were doing the coming out sessions as well. And I felt very comfortable coming out to these guys.

Eventually, Alan started to test the waters with his oldest brother:

So, uh, I asked my oldest brother, I said “if you ever found out one of your brothers was gay, would you care?” He goes, “no, why would I?” He goes, “I’ve got gay friends. I just want you guys [his brothers] to be happy, that’s all.”… I said “so you wouldn’t care if he [one of your brothers] walks in with his boyfriend one day and introduces him as his boyfriend?” He goes “no,” he goes “if I find out one of my brothers is gay, I want to meet the boyfriend.”… So I think he knows. Because he doesn’t ask me if I have a girlfriend anymore.
Alan’s discussion with his oldest brother is significant in at least two regards. It helps to countervail some of the hateful language of his father, and it signals the arrival of something analogous to Cass’s ‘identity acceptance’ stage, in which the protagonist begins to see the possibility of social acceptance.23 Later in the interview Alan described how he arrived at the confidence referenced in Cass’s pride stage:

…. And now, if someone walked up to me on the street and said, “are you gay?” “Yah I am.” I’m not ashamed of it. I’m not afraid of it. I go to [name of local suburb], and actually I was at the [name of suburban transit] station, and a guy started talking to me, he said, “do you like women?” I said, “no, you mean sexually? No.” He goes “why not?” I said “because I’m gay. I like men.” He goes “oh, ok.” He was fine with it. After he left I’m like “holy crap, I’ve never done that before!” (laughs)

The pride narrative resists any notion of a causal relationship between sexual orientation and suicide and thus can be a powerful form of coping, as it was for Alan. It should be noted, however, that the pride narrative is also rigid. Those who cannot comply with it are ‘at risk’ for suicide, by failing to achieve the supportive connections offered by gay community socialization, like that described by Alan.49 If the pride narrative emerged as a resilient and resistant plot to protect against suicide, the following four narratives offer stark contrasts that serve to justify or explicate it.

(2) Trauma and stress narrative

The next narrative I identified in the interview transcripts was one I was perhaps most primed to find during analysis, having immersed myself in a predominantly psychology-focused literature on the topic of suicide. I have termed this general narrative ‘trauma and stress’. Trauma and stress were referenced by numerous participants (Table 6-2), and clearly articulated by Christopher throughout his interview. Early in the interview Christopher gave an abstract to the story of his first suicide attempt:

I converted to being [HIV]-positive, went through personal financial bankruptcy, went through divorce, went to [local bridge], three in the morning, uh, that was the ultimate, it was just going to the middle of the [local bridge] and just taking a look, just wanting to jump… I had other thoughts before, ever since I was a kid, where, when the anxiety got the better of me, it just seemed like when I was in grade 7 or grade 8, grade 9, umm, I think it would be episodes of trauma. And that really reinforced my sense of anxiety around different things, about can I do it? Can I make it [survive]?
Later, Christopher evaluated his suicide attempt story, through the lens of what he has since learned about the relationship between trauma and stress:

I sometimes wonder if this is all post-traumatic stress, about having to live through the whole secret [about being gay], actually coming out, becoming bankrupt, becoming divorced, things like that... and when I’m cycling really low, about everything, ... all my concerns get grouped together, it gets overwhelming, and I can’t cope. And that’s where I’m going to harm myself because I just can’t do it.

The primary conflict in a ‘trauma and stress’ narrative is the need to find a way to manage the accumulation of stress stemming from trauma, and the climax of this conflict (if not resolved), is suicide, or attempted suicide. Narrative resolution comes only through finding coping strategies to manage the stress and attendant psychological struggles. In many versions of the narrative this is achieved through a vetted clinical or therapeutic strategy, such as individual counseling, group therapy, or medication. In others, the resolution occurs by finding social support in places that acknowledge and work with the effects of trauma and stress. For example, since going on disability Brian has found support through volunteering at a local gay health organization:

They’ve [the organization and staff] always been very supportive of me... when I was thinking of getting back into trying to work, I immediately thought maybe I should go volunteer there, and they said ‘yes, yes please come back’... and if I have a problem or a moment, or something that’s bothering me, I can easily get, take some time off.

This volunteer work removes the additional stress associated with paid work while providing a social network and allowing him to make personally meaningful contributions to his community.

While this general narrative is not particular to gay men, it was often expressed by participants in relation to fundamental, early-life experiences of sexual stigma or shame. For Christopher, this fundamental sexual stigma was compounded by other secrets and stigmas:

I’m withholding a big major secret. Ok. There’s a stress there. And then I’m withholding a secret of being gay. And that’s layered by, I’m withholding a secret about my career, my profession, another layer is that I’m withholding my secret about being bipolar—it’s called stigma. And I’m really attempting to get away from that stigma. But being gay was really, I stop and think, and if I was, twenty-twenty hindsight, if I was comfortable being gay at an earlier age, would all this have happened? You know, I’ll never know, but invariably I’m inclined toward saying everything else would not have happened because it’s living my life truthful.

Alan also traced his trauma and stress narrative to early-life stigma, stemming from a physically and verbally abusive father, who repeated the ‘goddam fruit’ invective in the quotation above:
My dad said to me, several times, “if you’re one of those fruits, I don’t want to hear about it.” I said, “ok fine, you’ll never hear it,” and I don’t think I’ll ever tell him. I’m afraid to tell him now. So um, yah, part of my PTS-, or part of my suicide attempt is I had—or have—PTSD, post-traumatic stress disorder. And that’s actually, my first suicide attempt, that’s how they found it. They found PTSD, I was diagnosed with PTSD.

All participants had interactions with the mental health care system—some supportive, others less so—and they often borrowed ideas from mental health care providers to make sense of their experiences of suicide. Thus, it is not surprising that this narrative appeared so frequently throughout the interviews. The narrative itself is nonetheless significant for the purposes of this study because it offers clear opportunities for making life livable for suicidal gay men. The trauma and stress narrative not only helps by finding ways of coping with the stress but also by acknowledging the role of trauma, and in the case of the men I spoke with, by particularly acknowledging the fundamental effects of sexual (antigay/bisexual) stigma on the lifetime mental health of sexual minorities.

Given Christopher’s and Alan’s attention to sexual stigma as a source of trauma, it is worth acknowledging the overlap between trauma and stress theories and minority stress theory.44 As with theories of PTSD50, minority stress centers around the mechanisms by which negative appraisals of external threats lead to ineffective coping strategies, such as rumination or social avoidance. However, in the case of minority stress the external threat is the continued stigmatization of being a social minority (i.e., gay, bisexual, or queer). Minority stress theory has begun to enter the purview of clinical psychologists and counselors in recent years, especially with the American Psychological Association’s adoption of guidelines on practice with LGB clients, and the prominence of this narrative in interviews with gay men who have attempted suicide suggests it should continue to be explored and utilized by mental health professionals.51

(3) Memorial narrative

Several of the narratives uncovered were in part functions of the generational experiences of the storytellers. Finn (who at 30 years was the youngest participant interviewed) offered a variation of a pride narrative, but one that was more concerned with retrospective aspects of a gay identity, and one that is increasingly endorsed by younger generations of gay and queer persons. The retrospective nature of this type of narrative is termed a ‘memorial’ account49, and is characterized by a sense of having always known one was gay, from early childhood. Finn
provided two parallel memorial accounts: one of a fundamental and fixed sexual identity, the other of a mother who ‘must have known’ about Finn’s gay identity all along:

I’m Roman Catholic, so my family is very bible-oriented. God, he’s our savior, and I’m like, “umm, he doesn’t even exist, so why’re we believing in this bible because it doesn’t make sense to me.” I hated it. And being in a Roman Catholic school, elementary school, it’s kind of hard to be yourself, like when I knew I was gay at the age of 8. Umm, and well actually I knew it sooner than that because I remember when I was 4… I was playing dress-up with my neighbor, and I called my mother, who, she kind of didn’t want to come out. I’m like, “mom, you have to come outside cause I’ve got a big surprise for you!” OK, so she comes out and I’m wearing these hideous fucking—oh my god—I wore stilettos, 10 sizes too big, a mini-skirt, and I had these little short pigtails and really bad make-up. [laughs] (Travis: Baby’s first drag?) That’s right! I was like, “mmhmm, look at these!” But I mean, my mother had a hard time with me being gay, which made me more depressed… but going back, my next door neighbor and I were side by side, down the porch, down the sidewalk, up to our house and into our house, and these were boots that were not tied up, like literally I’m dragging my feet. My mother looked and she’s like, “fucker did it better than I do and I’m a woman!” And she knew from that point on that I was different, but it was hard for her to I think help me in that sense.

This memory was a linchpin of Finn’s narrative, as became apparent later in the interview, when I asked him to reflect on his coming out experience:

[looking up] Oh mother, I love you, but please don’t show up. So when I went and told my family, I was living in a group home… the last person I talked with was my mother… when I called my mother, I asked her two questions. I go, “mom, would you still love me no matter what? If I robbed a bank, would you still love me? Mother, would you still love me if I ended up in jail?” I had to think of these worse case scenarios. “Well, would you love me no matter what, if I was gay and loved a man?” [pause] She uh, there was a pause, and she’s like, “no, I don’t give birth to fags, you’re not my fucking child, don’t ever call me again,” and she hung up the phone, and I was livid. I was in tears because I was not expecting that because I remember when I was four, about the whole high heel thing, there’s no way my mother could ever forget that… so when I’m sitting in the group home… all I can hear is the phone going ‘beep, beep, beep’, I’m still continuing on this whole conversation, with a dead phone with nobody on the other end, and I’m like “well, OK mom, well it’s nice talking to you. I need to go now cause I gotta go back to school” and hung up the phone. And I remember leaving and I bolted.

By cementing this notion of having always been gay (“there’s no way my mother could ever forget that”), Finn is able to identify not only the injustice but also the illogic of his mother’s rejection.

Memorial LGBT narratives—notably prevalent within the repository of *It Gets Better* videos—may risk essentializing a queer identity and hence restricting fluid or non-linear expressions of
sexual and gender identity. For Finn, however, the permanent aspect of the memorial narrative is a source of strength. His identities, as gay and as a drag performer, are bolstered by his age-four memory, and his mother’s positive reaction to ‘baby’s first drag’. Later Finn explains how this connection to drag prevents suicide attempts:

I always tell people, like if I’m at home and I’m not volunteering or if I’m not in the community or I’m not doing drag for like a month or two, you might want to come see what’s wrong with me cause that would be the sign that I’m not OK. … I watched a lot of my friends when they were doing theirs [reference to friends’ suicide attempts and deaths], and even for myself, music is one of the best things for any type of situation, I find. And I mean, I think that’s why I do drag. Music is a way of letting go of emotion.

In the pride narrative, the protagonist adopts a sexual identity through a process of conflict (coming out) and resolution (i.e., conquering societal homophobia). In the memorial narrative, the protagonist’s sexual identity is crystallized from the start; thus, the narrative conflict is one of maintaining a fixed identity through the use of reconstructed memories. The significance of this process of maintaining a memorial identity is illustrated by Alison Bechdel’s graphic memoir Fun Home: A Family Tragicomic. Bechdel, herself a lesbian, melds a series of memories and flashbacks in comic book form, to make sense of her father’s death, which she interprets as a suicide in response to his closeted homosexuality. Memorializing Bechdel’s father’s sexuality is vital to Bechdel, who was herself coming out at the time of her father’s death. For both Bechdel and Finn, the memorial narrative provides strength and connection through the persistence of a fundamental sexuality.

(4) Outing narrative

Many of the participants came of age during times when the RCMP and other Canadian police surveilled gay citizens and raided gay bars and bathhouses, and during the early years of the AIDS epidemic, when AIDS diagnoses or deaths ‘outed’ previously closeted gay men (Figure 6-1). It is not surprising that their suicide stories referenced aspects of surveillance, entrapment, and other homosexual-secret-finding methods used by authorities in the mid- to late-twentieth century, now widely considered unjust. One account of how the political pressure of surveillance and entrapment can result in a gay suicide is provided in the story of Alan Turing, described in the Introduction.
Participants offered their own recreations of entrapment, surveillance, and AIDS-outing narratives, generalized here as ‘outing narratives’. For Darren, who had already lost his sense of identity from a career downfall, the rumored release of the secret about his sexuality was accompanied by what he described as a feeling of unjust exposure. The rumor led his wife and (now adult) children to renounce him and eventually sever all ties with him, leaving him feeling isolated and depressed: “Totally shunned; I have no family,” in Darren’s words. Darren explained that the depression from his family’s rejection led to his first planned suicide attempt, in which he intended to drive his car off a mountain pass road.

Over the course of the interview, Darren shared a series of stories about sexual encounters, mostly with men married to women (and having sex with men unbeknownst to their wives), whom he met through telephone-based advertisements. He often coached these men on how to be circumspect in their sexual interactions. After one of these men tried to coax Darren into having sex in the backyard of his home, Darren admonished him: “And I said, ‘will you smarten up?!’ He had five kids. I said, ‘what would you do if one of the kids came into the grass while I was rogering you?’ I mean, dumb. I said, ‘please, please, please smarten up.’”

Darren’s concern for discretion also manifested as fear of being caught or outed, especially by members of his family. He often referenced this suspicion as ‘entrapment’:

I had five married fuck buddies… all responses to my ad! Which I think the ad might have been listened to by somebody that I wish it hadn’t… I think it was entrapment! And of course that probably solidifies their [his family’s] attitude to me. Because they won’t talk to me. They won’t have anything to do with me.

It is worth noting that entrapment typically implies that an authority (such as a law enforcement agent) has tricked someone to commit a crime (in this case homosexual acts). This aspect is missing from Darren’s story, though his story exhibits two other central features of entrapment: a sense of being caught and a feeling of injustice, from thinking he was in a safe and secure environment when meeting other men for sex, not realizing he could be outed by public onlookers. More significantly, Darren feels a sense of betrayal and loss from his family’s rejection.

Eddie offers an outing narrative that positions his suicide attempt within a similar context of homosexual ‘witch-hunting’:
So [sighs], things started to break with me thirty years ago. I was reading the [university] newspaper just by chance, and I read where some [fraternity] boys crashed a gay and lesbian beer garden and were trying to pick fights and hurling verbal abuse and all this crap. And I kind of got the feeling that, the reason they did that was they were trying to see if I was there… And that’s how bad the homophobia was. They’d go after you. They thought, “he’s one of us but he’s queer, so we’re going to kill him, we’re going to beat him up.” So that, that’s like around the time the paranoia started for me.

After Eddie felt the paranoia was taking over his life, he started seeing a psychiatrist who prescribed him a number of different medications, none of which he felt he could handle. Eddie described becoming “unglued” and vandalizing buildings, which led to a police arrest and then to his psychiatrist admitting him to the hospital. He described a series of four hospital admissions and discharges in a row, within one year from the events related to the gay and lesbian beer garden. The cumulative embarrassment, from the rumors about his sexuality to his hospital admission, eventually drove his first suicide attempt, according to Eddie:

And frankly, the first suicide attempt, I wasn’t feeling sorry for myself… I was just damned embarrassed. I wanted to get rid of myself… the whole thing about getting discharged… going off the medication again, being embarrassed, getting a bunch more medication, and just swallowing as many pills as I could at one time.

The historical context of AIDS is notably central to Eddie’s narrative:

I broke up with this girl I was supposed to marry… on Christmas Eve, ’84. So in the new year I thought I’ll quit smoking, start jogging, lose some weight, get in shape, eat better, become a better me. All laudable goals, considering I just lost the person I was supposed to marry. The problem is, it worked too well. I lost like 60 pounds in two months, jogging every night. So my whole gut was flat again. However, it’s right at the outbreak of the AIDS epidemic. AIDS is a gay man’s disease, not a woman’s disease. The only known symptom is massive weight loss in a short period of time. Some people are starting to talk about me. “Oh, maybe he fools around with guys a lot.” And I guess my girlfriend had to have a blood test, stuff like that. That would never occur to you nowadays. It makes you paranoid! The whole Linda Evans [TV soap opera co-star with Rock Hudson], what’s his name Rock… (Travis: Hudson), yah, Rock Hudson. ‘Can I get it from kissing? I kissed him once, can I get it from kissing?’ It’s ignorant. It made people like me paranoid. And then later that year in the fall was when the [fraternity boys] crashed the beer garden, so I guess they were looking for me. “The lady’s turned gay finally! And he’s found his people to take him in, gays and lesbians on campus.”

Eddie’s invocation of Rock Hudson’s story is significant because it signals the different ways in which the context and methods for outing changed over the course of the late twentieth century, yet continued to inspire a sense of injustice in the men affected by it. Hudson, a popular actor, Hollywood heartthrob, and previously closeted homo/bisexual, was outed by the popular press in
1985, with the news that he was dying from AIDS. This marked a turning point in the epidemic. Hudson’s death and outing increased awareness and support for the AIDS epidemic, while also substantiating the notion that ‘AIDS equals gay’. The outing tactics of police in the mid-twentieth century were now taken up by the general population in new ways, using AIDS-related assumptions and accusations.

Historically, suicide was associated with homosexual entrapment and blackmail, as an unfortunate, emplotted ending: become publicly revealed as a homosexual, or else end your life. Many chose the latter ending. Indeed, multiple suicides occurred among the gay men arrested in the Toronto bathhouse raids of 1981. For Darren and Eddie, both of whom survived the suicide plans and attempts they discussed, suicide was not an inevitability. Nonetheless, suicide fits logically, if not comfortably, inside their narratives as protest against an unjust system, a system that cannot accommodate their deviance.

Upon first glance, the outing narratives may not appear to serve the storytellers as beneficially as the previously catalogued pride, trauma and stress, and memorial narratives. But Eddie’s and Darren’s embrace of these narratives suggests otherwise. Outing narratives, first, allow the storytellers to make sense of their own histories of suicide thoughts and attempts, just as the trauma and stress and memorial narratives do for the participants who endorsed them. But more importantly, outing narratives ask the listener to acknowledge the injustice of the historical conditions that allowed for entrapment and surveillance, and in so doing derive for the storyteller a certain resilience.

(5) Post-gay narrative

The modern gay rights movement has worked toward goals of simultaneously assimilating gays and lesbians into heterosexual society—take, for example, the recent push for legal same-sex marriage in the US—and diversifying the identities and experiences represented under the queer umbrella, symbolized by the progressive additions of “B” (bisexual), “T” (transgender), and “Q” (queer) to the LGBTQ acronym, thus allowing younger generations of LGBTQ people to opt to use labels like queer or pansexual (or no labels at all) to describe their sexuality. The result of these two goals is the emergence of a ‘post-gay’ assertion—namely that gay people need not exclusively define themselves on the basis of an immutable gay identity—and activists and social critics within and beyond the LGBTQ umbrella have rallied against this trend.
post-gay narrative presents a particular conflict for someone who would otherwise connect with shared gay experiences but feels lost or even dismissed in the context of a “post-gay collective identity”.48,58

Gerry asserted this narrative when I showed him the recruitment flyer for my study, and asked him to give me the answer to his statement, “Of course they know why!”

(Travis: If you had to summarize [the why] in a few sentences or a paragraph, how would you describe it?) I believe that gay men today are being erased. We’re supposed to be initialized under LGBQ, but in the din [we’re] being erased, from the gender studies departments in the universities, right? Um, the closure of the traditional locations where we had colonized so we could meet together safely, the bars, the baths, the discos. They’re closing, right? I think it was Mark Simpson out of the UK who said, the rise and fall of the culture, we have seen the fall of gay culture. We have been so assimilated, which is probably a mistake. History will prove this has been a mistake for us. And I think that the older gays don’t know what’s hit them, right?... And so I’m not sure what the answer is because I think that the older, the voices of those who are up there in age—that would be me, I suppose, but—we need to be, I mean with all respect to Savage and It Gets Better and all that shit, it’s not getting better! … I think for the sake of preserving life, we need a whole new focus from the older gay male, and maybe lesbian groups, to intervene here.

For older generations of gay men, in particular, the threat of being left behind in a post-gay identity movement, can translate to social isolation, and in some cases suicide. A gay writer from Toronto contacted me during this study to let me know of a blog he had prepared that indexes older gay men who have committed suicide. On his blog he responds directly to the question of why?, specifically invoking the post-gay identity shifts (“young queers”) as the murderous villain:

> We survived three holocausts already—family rejection, AIDS, and now young queers who want us dead. Huge numbers of our gay-male friends, who would be eldergays in their own right, died of natural causes, suicide, AIDS, or other factors; many of us are alone. A large percentage of us suffer from depression, anxiety, bipolar disorder, or other mental-health conditions with a predisposition to suicidal thoughts or actual suicide.34

As with the pride and memorial narratives, the post-gay narrative hinges upon the notion of threatened identity.60 The primary conflict in all of these narratives is one of claiming an otherwise fragile sexual identity. Sexual identity threat, specifically49, and identity threat, generally61 are thought to be important in contextualized understandings of suicide among members of social minority groups.
6.5 Conclusion

The exchange of narratives concerning any struggle for health and wellbeing—whether it be suicide, AIDS, or some other threat—leads to a shared belief system about the struggle in question, mobilization of political and social action, and community-based models of coping. The greater our narrative resources on a given topic, the better prepared we are to collectively and individually respond. By expanding the collection of gay suicide narratives available, we enable more ways of making sense of, and more importantly, living with suicidal thoughts and actions in the context of sexual minorities’ lives.

My dialogue with the seven suicide attempt survivors who participated in this study yielded five narratives that go beyond the prevailing adolescent-bullying suicide narrative discussed at the start of this paper. I entered this study expecting participants to make deliberate, albeit indirect, connections between a stigmatized sexuality and suicide attempts. Some participants indeed endorsed such a narrative; the trauma and stress narrative enables its protagonists to seek acknowledgement of their trauma—often stemming from early-life sexual stigma—and thereby find ways of building resilience. The pride narrative also emerged from interviews, contrary to my expectations, a testament to both the prevalence of this narrative in gay life generally and its power in offering strength in identity as a form of coping. These narratives may seem antithetical—the pride narrative precluding a connection between sexuality and suicide, the trauma and stress narrative explicating it; but both ultimately serve to protect the protagonist from suicide, offering ways for him to “hold his own” in the face of stigma or trauma.

The remaining three narratives signal how notions of gay suicide follow seismic generational shifts that occurred in the experiences of gay and bisexual men over the course of the forty years recollected in these participants’ stories. Historical narratives of outing appeared, reminding us that the felt injustice of sexual surveillance continues to resonate in the lives of suicidal gay men today. Memorial and post-gay narratives demonstrated opposing reactions to shifting sexual identities. The memorial narrative—particularly common among the younger living generations of sexual minorities—fixes an identity and thereby protects against suicide, much like the pride narrative, though retrospective in nature. Meanwhile, the post-gay narrative rallies against an erased identity, the (possible) ending of suicide, still uncertain. (Table 6-2)
6.5.1 Limitations

The stories presented within this paper may or may not constitute real or perceived causes of the storytellers’ suicide attempts. As stated throughout this paper, the findings are best construed as a collection of narratives repurposed by gay men who have attempted suicide. These narratives are not esoteric. They are commonly referenced in gay dialogues elsewhere (Table 6-2), and thus will look familiar to many readers. Nor do the narratives presented in this paper originate with the participants I quote. The participants’ creative contribution is recasting these narratives in relation to their own life-stories, highlighting particular experiences of suicide attempts and sexuality. They have made the narratives their own, and in so doing have opened a dialogue that offers critical reflection and new directions for all of us concerned with the contemporary crisis of gay suicide.

The narratives identified in this study are not exhaustive. The participants were diverse with regard to age, sexual identity, occupation, and socioeconomic position; however, only one participant was a racialized minority, and I myself am white. These findings would be complemented by other stories from Indigenous persons, immigrants, and people of color.

Despite my intention to specifically sample male-identified persons, three of the participants expressed some experiences of non-binary gender identities. This suggests there is much to learn from ending the pervasive habit of gender-stratifying queer health research, given the complexity and fluidity of gender. Lastly, the narratives presented were a function of the historical contexts of the storytellers’ lives. While some of these narratives correspond to suicide attempts twenty or thirty years ago, it is important to note that six of the seven participants continued to struggle with suicide throughout their lives, attempting suicide again in recent years (Figure 6-1).

6.5.2 How to expand our narrative resources

All of us concerned with gay suicide—starting with those who are struggling with suicide themselves, but also researchers, clinicians, public health officials, and community advocates—share a common goal of reducing suffering and ultimately preventing suicide. One means of achieving this goal is storytelling, and the dialogical complement: listening. This seemingly straightforward activity is often stymied, as each of us (with good reason) interprets events around us through the ‘lens’ of our own backstories. Thus the difficult task at-hand is to create and open space for new narratives; the challenge and promise of this task is reflected in the
recent growth in narrative approaches to psychotherapy, organizational change, and conflict resolution.\textsuperscript{65}

How can each of the implicated parties named above do more to enable and \textit{expand} storytelling and story-sharing when it comes to gay suicide? I have demonstrated how I think researchers can do this. For example, when I first encountered the \textit{pride} narrative, my inclination was to reject it: these stories were replete with examples of how their sexuality related to suicide attempts, and I was confounded by their insistence that the two have nothing to do with one another. Re-listening to these stories in dialogue, however, revealed a distinct meaning that participants derive from a pride narrative, and therein an opportunity for me as a researcher to represent this meaning to other stakeholders.

This study seeks audience beyond researchers, in the nurses and outreach workers and activists who encounter and speak to issues of gay suicide every day. “Proceed by indirection”: this is Arthur Frank’s advice to those who undertake the clinical work of narrative \textit{reconstruction} (another way to describe what all good clinicians do, as they help their patients find ways of living better).\textsuperscript{66} In other words, rather than suggest to suicidal persons that their stories are ‘good’ or ‘bad’ for them—an approach that is often used by well-intentioned helpers who follow a pathological model that results in clinician-directed treatment\textsuperscript{67}—all of us engaged with this issue can work to make more stories available, and allow those who are suffering to choose among them. Narrative approaches to therapy and arts-based therapies may be two practical ways forward with this recommendation\textsuperscript{68,69}; some of these methods have notably been tailored for use with gay or queer clients.\textsuperscript{70} Ultimately our collective goal should be to enrich the narrative resources made available to both individuals and communities affected by suicide. These narratives may include those of pride and shame, trauma, erasure, fixed and fluid identities, and many others yet to be imaginatively recast.
6.6 References


control study in adult men. *Arch Gen Psychiatry*. 1999;56:867-874.


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Table 6-1. Characteristics of storytellers in a qualitative study of gay suicide attempts

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Age</th>
<th>Gender identity</th>
<th>Sexual identities</th>
<th>Occupation</th>
<th>Ethnicity</th>
<th>Number of suicide attempts</th>
<th>Age, first and last suicide attempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finn</td>
<td>30</td>
<td>Transgender two-spirit* male</td>
<td>Gay, bisexual</td>
<td>Administrative director</td>
<td>White-Canadian</td>
<td>4</td>
<td>13, 24</td>
</tr>
<tr>
<td>Alan</td>
<td>40</td>
<td>Male</td>
<td>Gay</td>
<td>Maintenance worker</td>
<td>White-Canadian</td>
<td>2</td>
<td>25, 35</td>
</tr>
<tr>
<td>Eddie</td>
<td>55</td>
<td>'Two-spirited*'</td>
<td>Queer</td>
<td>Not employed</td>
<td>White-Canadian</td>
<td>3</td>
<td>25, 47</td>
</tr>
<tr>
<td>Brian</td>
<td>56</td>
<td>Male</td>
<td>Gay</td>
<td>Volunteer receptionist</td>
<td>White-Canadian</td>
<td>3</td>
<td>46, 54</td>
</tr>
<tr>
<td>Gerry</td>
<td>58</td>
<td>Male</td>
<td>Gay</td>
<td>Community service agency worker</td>
<td>White-Canadian</td>
<td>2</td>
<td>21, 23</td>
</tr>
<tr>
<td>Christopher</td>
<td>63</td>
<td>Male</td>
<td>Gay</td>
<td>Small business owner</td>
<td>Asian-Canadian</td>
<td>2</td>
<td>25, 59</td>
</tr>
<tr>
<td>Darren</td>
<td>74</td>
<td>Male</td>
<td>Gay, bisexual</td>
<td>Retired</td>
<td>White-Canadian</td>
<td>2</td>
<td>51, 71</td>
</tr>
</tbody>
</table>

Note. * two-spirit is an umbrella term first proposed by LGBT Native American and First Nation persons in 1990; it describes non-binary gender roles and identities that were common in some Aboriginal cultures before European colonization.

71.
Table 6-2. Narratives discussed in interviews with seven adult gay, bisexual, and queer men

<table>
<thead>
<tr>
<th>Narrative</th>
<th>Characters &amp; setting</th>
<th>Conflict</th>
<th>Genre</th>
<th>Role of sexuality</th>
<th>Effect &amp; implications for suicide prevention</th>
<th>Participants referencing narrative</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Pride</td>
<td>Gay/bi/queer person, family, society</td>
<td>Society stigmatizes gay person, who must find a way to reject the stigma and proudly claim a gay identity</td>
<td>Romance</td>
<td>Sexuality is expected to develop and be expressed according to a particular ‘coming out’ proud model</td>
<td>Suicide is precluded, assuming a positive sexual identity is achieved</td>
<td>Alan, Brian</td>
<td>Coming out narratives, e.g.: 23,29,30</td>
</tr>
<tr>
<td>(2) Trauma and stress</td>
<td>Gay/bi/queer person &amp; health professional; in a clinical setting</td>
<td>Finding a way to manage the stress disorder (and more severe responses to stress, such as suicide), stemming from early-life trauma</td>
<td>Tragedy</td>
<td>Sexual stigma related to concealment of sexuality, rejection, violence, or harassment may be a source of trauma</td>
<td>Identifying/acknowledging trauma and finding a way to cope with stress build resilience, and may help avert suicide attempts</td>
<td>Christopher, Alan, Darren, Gerry</td>
<td>Psychological theory and practice, e.g.: 50,72,73</td>
</tr>
<tr>
<td>(3) Memorial recollection</td>
<td>Gay/bi/queer person as a ‘trickster’ character, childhood family; setting: memory recalled</td>
<td>How to interpret early-life signs of queerness and establish a queer identity that is fixed</td>
<td>Comedy; melodrama</td>
<td>Sexuality is hinted early in life, in a playful manner; but in retrospect, the storyteller ‘always knew’ they were gay</td>
<td>In the context of fragile or absent family support, a memorial recollection may provide connection—albeit a whimsical one—or a sense of certainty in one’s identity, thereby reducing risk of suicide</td>
<td>Finn</td>
<td>Personal memoirs, e.g.: 52; contemporary coming out narratives, e.g.: 49</td>
</tr>
<tr>
<td>(4) Outing</td>
<td>Gay person, police, ‘policing’ bullies; historical setting</td>
<td>Gay person is (unjustly) surveilled and ‘incriminated’ for ‘lewd’ homosexual behavior; gay person must avoid, resist, or seek justice</td>
<td>Suspense/crime; social drama</td>
<td>Sexuality is a secret, not to be (unjustly) uncovered by others</td>
<td>Suicide may be a way out of consequences of entrapment (historical interpretation), a form of protest, or an unintended consequence of distress or depression from the threat of revealing a secret sexuality (contemporary or historical)</td>
<td>Darren, Eddie</td>
<td>Historical accounts of entrapment, blackmail, and other forms of threatening or intimidating homosexuals, e.g., as described in: 2; outing of popular figures, e.g., Rock Hudson: 55,56</td>
</tr>
<tr>
<td>(5) Post-gay</td>
<td>Gay man (usually from older generation), academics &amp; activists</td>
<td>How to reconnect with gay heritage in context of assimilation of gays to mainstream culture and erasure of (some) gay men</td>
<td>Tragedy; social drama</td>
<td>Modern/recent generational ideas about sexuality erase ‘gay men’; historical heritage is needed for re-connection</td>
<td>Suicide comes from erasure, from being marginalized in the broader LGBTQ community</td>
<td>Gerry</td>
<td>&quot;Post-gay collective identity construction&quot; 58; blogs, e.g.: 34,35</td>
</tr>
</tbody>
</table>
Figure 6-1. Historical context of suicide attempts described by seven gay, bisexual, and queer men

Note. Each letter in the top portion of figure represents a suicide attempt reported by a study participant (letters correspond to first letter of pseudonym); * when first reported, AIDS was termed GRIDS (gay-related immune deficiency syndrome)
Chapter 7
Discussion

**Travis:** So, while you brought up the, kind of, giving feedback to nonprofits you’ve been involved with, I’m curious to hear about if you have any thoughts or ideas about… what should be done around suicide prevention, specifically for gay health organizations, or HIV service organizations? …

**Finn:** It’s hard to offer something like that ‘cause everyone is gonna be different…. I guess essentially some people don’t like to talk. And it seems like that’s what we’re always forced to do. And that’s supposed to solve all our problems, but no, everyone has a different way of learning. So essentially, yah you might have to have a little bit of a conversation, but if you watch a person and the way, what they do throughout the day can really tell you how it’s best to communicate with somebody, and it’s all in body language. … And I mean, suicide is like, it’s so hard to come up with prevention, but I mean, try music, let them… I don’t know, it’s like music, coloring, you wanna keep their mind active, or them doing something like, I’ve actually been fiddling around here ‘cause it’s been hard but, art therapy is the best way to deal with a lot of things, just let them color as they’re talking. You’ll get more out of it.

**Epigraph 5**

**Gerry:** I don’t know what the answer is. Other than… (pause) Like the Gay Heritage Project says, we won’t be president of the United States. But it’s in our voices, it’s in our hips, it’s in who we are. And I think there still needs to be celebrating, separate from what’s going on corporately, politically now. I think we need to go back to what we were marching for…. We should be having friends within our own group. And we should be sharing our books.

**Epigraph 6**

**Travis:** I’m wondering if we can shift gears a bit and talk about… maybe a bit more detail about supports in your life?

**Christopher:** I was on the Board for a wellness centre … for a good number of years. And I still cook there, Christmas, Thanksgiving, Easter, Chinese New Years, things like that. And at least there is some purpose. And you know I’m being acknowledged for all the years of service that I’ve done there. And I still continue to do so…. That is support because I’m being of service. And when I’m being of service, and being acknowledged for my efforts, that is a form of support. And a form of support is actually very positive thing for me. You know, the side benefits are the networking, the recognition, and the acknowledgement, but granularly… the basics, it’s being of service.

**Epigraph 7**
7 Discussion

This chapter is sub-divided into six sections. In section 7.1, I summarize the principal findings from this thesis and identify cross-cutting themes that become points of reference for the remainder of the chapter. In section 7.2, I look to the broader literature on sexual minority mental health to interpret the cross-cutting themes and findings, going beyond the interpretations offered in the individual study manuscripts (chapters 4-6). Section 7.3 includes limitations of my research that are not addressed in the individual manuscripts. Section 7.4 outlines recommendations for research on the topic of sexual minority suicide, including some follow-up studies that I have begun or will undertake in the near future. Section 7.5 offers recommendations for policy, practice, programming, and healthcare services, with the goal of reducing rates of suicide ideation and attempts among sexual minority men. Finally, I conclude this chapter (section 7.6) by sharing my own next steps with regard to this thesis, i.e., dissemination of findings, and turning the data into community action.

7.1 Summary of thesis findings

The three studies that constitute this thesis correspond to three distinct, though related, research questions. The principal finding of study 1 (chapter 4) is that disparities in suicidal ideation comparing bisexual (odds ratio[OR]=4.91) and gay (OR=3.63) to heterosexual men persisted after adjustment for misclassification bias but were attenuated, with greater attenuation for bisexual (adjusted OR=3.53) than for gay (adjusted OR=3.52) men. The principal finding of study 2 (chapter 5) is that distinct psychosocial variables mediate relationships between suicide attempts in the last 12 months and each of three constructs of sexual minority stigma (enacted stigma, anticipated prejudice, concealment), among gay and bisexual men. The principal finding of study 3 (chapter 6) is that the shared narratives of gay men who have attempted suicide as adults go beyond dominant suicide narratives—such as the bullying-and-suicide narrative commonly represented by It Gets Better videos—and offer unique ways of coping with thoughts of suicide and preventing suicide attempts.

A key overarching message from all of these studies, in aggregate, is that research on the topic of sexual minority suicide must continue to employ multiple (and new) theories, methods, and measures in order to yield more fulsome understandings of pathways to suicide among sexual minority adults, and to identify interventions to prevent suicide in this population. Each of the
principal findings outlined above offers possible ways forward in future investigations of pathways and interventions (as further discussed in section 7.4).

Furthermore, at least three cross-cutting themes can be identified across these three studies, despite the fact that these studies were not designed for the purpose of ‘integrating’ data (e.g., as is often done in mixed methods research). First, concealment of sexual identities has profound, inconsistent, and multidirectional impacts on the health of sexual minority men. Second, experiences of sexual identity and sexual stigma, and their relationships with suicide attempts, differ substantially across ages, historical periods, and birth cohorts (generations). Third, the minority stress model explains only some pathways to suicidal behavior in adult sexual minority men; more complex models are needed to characterize more of the factors and experiences that render the lives of sexual minority men distinct from heterosexual counterparts, and that give rise to the higher rate of suicide attempts in sexual minority men. I devote attention to the interpretation of each of these three themes in section 7.2, below, given the salience of these themes across results from all three studies.

7.2 Interpretation

7.2.1 Concealment and its health effects

All sexual minorities must manage a stigmatized identity or experience, by virtue of being a sexual minority. One of most common ways of managing this stigmatized identity is to conceal it, an experience that is unique to invisible minorities (as compared with visible minorities, such as those defined based on race). The social, psychological, and other health effects of concealment of sexuality are multiple, as demonstrated throughout this thesis. Pachankis’s framework (introduced in chapters 2 and 4 of this thesis) predicts contrasting or even contradictory effects of concealment on mental health. Concealing a stigmatized identity may protect against harassment, violence, or other assaults related to antigay/bisexual stigma; however, concealment also exacts its own toll on the concealer’s mental health, through cognitive-affective processes such as anxiety, shame, and vigilance.

Study 1 (chapter 4) of this thesis demonstrated numerous socio-demographic factors that differ between bisexual men who disclose their sexual identity to government surveyors, as compared with those who conceal. Most notably, those who conceal were more likely to live in a rural area
and to be born before 1980 (Figure 4-1). Each of these differences explained 38-45% of the total differences between a gay and bisexual community sample (Sex Now) and the government-administered Canadian Community Health Survey, in which many sexual minority men are expected to have concealed their identity and therefore been excluded from statistics regarding sexual minorities. Moreover, bisexual men who conceal their sexual identity to government surveyors were less likely to report suicide ideation, and adjustment for this difference yielded a prevalence of suicide ideation in bisexual men that was comparable to that in gay men (Table 4-4). In sum, study 1 reminds researchers that the effects of concealment must be accounted for when interpreting population health survey findings concerning sexual minority—and in particular, bisexual-identified—men.

Study 2 (chapter 5) identified two statistically significant associations between a latent factor representing a range of concealment of sexuality (to a number of audiences: family, friends, coworkers) and suicide attempts in the last 12 months. Concealment protected against suicide attempts by reducing the risk of depression, but also increased the risk of suicide attempts by increasing social isolation (Table 5-2), consistent with the expectations outlined above about contrasting effects of concealment.

The protective effects of concealment on suicide-related outcomes observed in Sex Now across both study 1 and study 2 may alternatively be explained by methodological limitations related to sampling. Concealment was measured on a continuum in Sex Now; nonetheless, those individuals who were at the extreme end of this continuum—i.e., concealing their sexuality entirely—were unlikely to have participated in the survey, given that recruitment occurs through gay and bisexual community organizations, social media channels, and sex-seeking websites.

Finally, concealment featured prominently in all five of the narratives exhibited in study 3 (chapter 6). Concealment was most patently instrumental to the suicide narrative related to ‘outing’—in which storytellers derived a sense of injustice from their early-life experiences with being unfairly outed—but also played a key role in the narratives of pride, memorial, and post-gay identities. All three of these narratives concern finding, fixing, and holding a gay identity in the threat of erasure, a risk that is heightened with an identity that is not immediately visible to others. Hence, Alan proclaims a proud gay identity, Finn clings to the memory of his childhood gender-atypical performance in drag, and Gerry demands that the voices of his generation of gay
men be heard. Christopher poignantly expressed how concealment can be fundamental to notions of trauma, stress, and suicide: “can you think of withholding?... I’m withholding a secret of being gay,” a secret that he describes as fundamental to the stress he experiences.

A few empirical studies on the nuanced effects of concealment on sexual minority mental health serve to further refine an interpretation of concealment in relation to suicide attempts. In a population health survey analysis, Pachankis, et al. found that the odds of major depressive and generalized anxiety disorders depended critically on time since first disclosure of sexuality: odds were highest in those who were recently out, lower in those who were distantly out, and lowest in those who were not out. This suggests that the relationship between concealment (conceived of as non-binary: either continuous or multifaceted) and sexuality may not be linear, a finding supported by the result from study 2, in which concealment had bidirectional effects on risk of suicide attempt. Collectively, Pachankis’s study and mine suggest that both timing and multiple audiences (my study assessed five different audiences; see Appendix 5) should be measured in assessing the effects of concealment.

A second study, by Schrimshaw, et al., used a targeted/community-based sampling strategy to recruit non-gay-identified, behaviorally-bisexual men to study the effects of concealment on mental health. Two findings from the Schrimshaw study are relevant to this thesis. First, the investigators found that while concealment and disclosure** were inversely related ($r=-0.45$), they represented distinct (independent) constructs, with unique socio-demographic correlates. Second, they found that their modified concealment (attitudinal) scale had statistically significant negative effects on depressive and anxious symptoms; however, disclosure had no associations with these outcomes, in their sample. This study adds a third aspect of concealment measurement to complement those suggested by my study 2, and Pachankis’s study: motivations or attitudes about concealment (and its anticipated consequences). Notably, neither the Pachankis nor the Schrimshaw studies investigated the effects on suicide-related outcomes. Thus, a priority for future research is to incorporate the multifaceted aspects of concealment discussed here (audiences, timing, and attitudes/expectations) in studies of suicide-related outcomes.

** Investigators measured concealment as a modified scale inclusive of attitudinal measures related to disclosure of sexuality (e.g., “The fact that I have sex with men is too embarrassing to share with others.”), and disclosure as the number of individuals to whom the respondent had disclosed that he has sex with other men.
7.2.2 Age, period, and cohort effects

Age, period, and cohort (APC) effects are fundamental to investigations of epidemiologic trends. Simply put, variation in disease outcomes over time and across the life-course may indicate some combination of factors attributable to the ageing process (A), ecologic effects of historic time periods (P), and/or the cumulative experiences of unique birth cohorts (C). Distinguishing between A, P, and C effects can be challenging; however, this work is particularly important for understanding issues such as suicide in sexual minorities, where the theoretical rationale for each component effect is strong. Below, I define age, period, and cohort effects, and interpret my thesis findings within the lens of an APC analysis.

Age effects refer to any process associated with ageing but irrespective of the movement of calendar time. As discussed in chapter 2 (and illustrated in Figure 2-1), studies consistently demonstrate an age-related process by which rates of suicide attempts among males peak in late adolescence and decline thereafter, while rates of suicide mortality among males demonstrate a bimodal pattern: first peaking in ages 45-55 years, decreasing by ages 65-69, and then rising to a maximum at 85+ years of age. Age-related patterns specific to sexual minority men have been difficult to achieve due to the limited availability of large, representative samples; however, limited evidence to-date suggests that while rates of suicide attempts are likely highest in adolescence, post-adolescent age-related patterns may be distinct from those observed in heterosexual men. In Sex Now, a trimodal pattern in recent suicide attempts is evident: with a first peak in adolescence, a second peak in ages 50-54, and a third peak in those 65-69 years of age (see Figure 2-3). In fact, age-related effects of cross-sectional studies are more accurately interpreted as birth cohort effects, since by design these studies cannot measure longitudinal changes associated with the ageing process.

Period effects are defined as ecologic events that occur at a definable moment in history—meaning those that effect an entire population at once. Three examples from the history of sexual minorities in North America include: the AIDS epidemic of the 1980s and 1990s, which rapidly killed a large proportion of sexual minority men; the introduction of combination HIV treatment in 1996, which transformed HIV from an acute disease with high fatality rates to a chronic, manageable disease; and the legalization of same-sex marriage in Canada in 2005 (Figure 6-1). These events constitute period effects because they affected the lives of all sexual minority men.
at the same moment in history, irrespective of age or birth cohort. Throughout my work on this doctoral research program, numerous individuals have asked me if the ‘period effect’ of the gay liberation and then gay equality movements in North America have reduced rates of suicide (attempts) in sexual minorities. Indeed, there is some evidence that the lifetime prevalence of suicide attempts in LGB adults has decreased between 1985 and 2008 (Figure 2-2). Nonetheless, given that a disparity in suicide attempts between North American sexual minorities and heterosexuals remains today, we should be critical of suggestions that a ‘period effect’ has diminished this inequity entirely.

Finally, cohort effects refer to the cumulative experiences of each successive generation of a population. Hammack defined five generations of living North American gay men: the “stigma” generation (those men who came of age, roughly, in the 1950s); the “Stonewall” generation (who came of age in the 1960s); AIDS 1 generation (who came of age in the 1970s and 80s); AIDS 2 generation (who came of age in the 1990s); and the “marriage equality” generation (who came of age since 2000). In some cases, patterns discernable by age may be more properly interpreted based on birth cohort; the emergence of historical narratives related to outing and entrapment in study 3 (chapter 6) are examples of this. Darren, at 74, belongs to the “stigma” generation, while Eddie, at 55, belongs to the AIDS 1 generation; their stories accordingly reflect the police entrapment that was common knowledge for many in the stigma generation and the AIDS-related outings experienced directly by those belonging to AIDS 1.

There is evidence for the salience of APC effects on sexual minority suicide attempts throughout this thesis. In study 1 (chapter 4), year of birth had the second largest effect on likelihood of disclosure of sexual identity, after sexual identity itself (gay vs. bisexual) (Table 4-3). In study 2 (chapter 5), the effects of stigma-related constructs on suicide attempts were modified across age groups (or rather, birth cohorts): the direct effect of enacted stigma was greater in older vs. younger cohorts, the indirect and ‘protective’ effect of concealment (mediated by depression) was similarly greater (and statistically significant) in the oldest vs. younger cohorts, while the indirect and ‘harmful’ effect of concealment (mediated by social support) was greater (and statistically significant) in the youngest cohort (Table 5-4). This latter finding suggests a fourth modification to future studies of the mental health impact of sexuality concealment: an accounting for birth cohort-specific experiences. Finally, in study 3 (chapter 6), narratives were likewise functions of generations, as previously described. Of note, memorial and pride
narratives—which tend to be endorsed by younger generations of gay men\textsuperscript{14,19,20}—work to fix and actively express a sexual minority identity, to resist suicide, while outing narratives—more typical of older generations—involve a protection of the right to conceal a sexual minority identity.

APC effects are notably absent from the minority stress theory\textsuperscript{21} and from most theories of suicide\textsuperscript{22,23}, though some aspect of historical period is hinted by Meyer’s reference to “circumstances in the environment”\textsuperscript{21} and by “environment + life event” pre-motivational factors in the integrated motivational-volitional model of suicidal behavior\textsuperscript{24}. I maintain that our understanding of sexual minority suicidal behavior will be enhanced by better integrating aspects of APC into our theories and models. Krieger distinguishes between psychosocial stress theories (such as minority stress\textsuperscript{21}, the stress process model\textsuperscript{25}, and many theories of suicide\textsuperscript{23}), which have been used by social epidemiologists to understand many social inequities in health to-date, and ecosocial theories, which integrate contextual factors (matters of time and place) with those of ‘embodiment’, including those implicated by psychosocial stress models.\textsuperscript{26} Indeed, Krieger’s ecosocial theory of disease distribution (Figure 7-1) offers one approach for including matters of context (and in particular birth cohort, historical period, and age/life-course effects) as fundamental to population health distributions under study.

7.2.3 Beyond minority stress

I relied upon Meyer’s minority stress theory\textsuperscript{21}—and Haztenubuehler’s mediation framework\textsuperscript{27}—for much of this thesis. These theories are foundational to the modern study of sexual minority suicide, and were critical to all three investigations of my thesis program, as detailed throughout. This thesis, however, offers several potential modifications or alternatives that may address some gaps in the minority stress frameworks, in addition to the incorporation of APC effects, described above.

Study 2 (chapter 5) tested a minority stress model that showed good measures of fit and confirmed associations with each component of minority stress; however, ultimately the model explained only 32\% of the variation in recent suicide attempts. Furthermore, the associations between minority stress-related factors and suicide attempts were diminished (and not statistically significant) in the sub-sample of men with a history of suicide attempts (Table 5-3), suggesting that minority stress models are most useful in explaining \textit{first} suicide attempts but not
subsequent attempts in sexual minority men. I have struggled with the following question, as I review the results of the three component studies of this thesis in aggregate: what other factors differ between the lives of sexual minority men and those of heterosexual counterparts, but have not been directly tested within a minority stress framework?

First, as discussed in chapter 5, measuring the multiple dimensions and constructs of minority stress remains challenging. Novel approaches to measuring concealment (as discussed above) and anticipated prejudice are required. Furthermore, there may be other aspects of minority stress, yet to be fully defined. Pachankis and Hatzenbuehler recently offered a novel hypothesis for explaining sexual minority disparities in mental health: “the best little boy in the world” (borrowed from the 1976 Andrew Tobias gay novel of the same name). This hypothesis suggests that sexual minorities will over-invest in achievement-related domains of self-worth/esteem— notably academics, competitive extracurricular activities, and appearance—early in life, in order to “guard against” the potential consequences of the discovery of their concealable stigma (their sexuality). This over-investment, however, exacts a toll in the form of emotional distress and anxiety, ultimately conferring higher risk of other mental health-related outcomes. In an empirical evaluation of this novel hypothesis, Pachankis and Hatzenbuehler demonstrated both between-group (gay vs. heterosexual) and within-group (those who concealed their identity for longer vs. those who came out earlier, and those who lived in “high-stigma” vs. “low-stigma” environments) differences in investment in these domains of “contingent” self-worth and their associations with self-measured emotional distress. This study suggests that there might be sexual minority-specific mediators that operate between lifetime experiences of concealment and enacted stigma, and mental health outcomes like suicide attempts; such mediators may be described as adaptations of self-esteem or self-worth in the context of stigma.

Additional clues for sexual minority-specific factors not (yet) incorporated in minority stress models come from an open-ended/inductive investigation of Swiss gay men that asked these men to describe the causes of their suicide attempts in their own words. The most prevalent category of perceived causes of suicide attempts was social/inter-personal problems, named as the cause of nearly 50% of the most recent attempts, and within which problems with love/relationships was the most prevalent (19% of all attempts). This finding is significant for several reasons. First, changes in relationship status (particularly divorce, separation, and widowing) are among the most prominent and consistent social predictors of suicide and suicide attempts in the general
population. Second, the effects of relationship status on suicide among sexual minorities has scarcely been assessed, with the Swiss study being a rare exception. A recent study using *Sex Now* data demonstrated distinct associations between relationship status and risk of suicide attempt by sexual identity: among gay men, single men had the highest risk of suicide attempt, while among bisexual men, those partnered with men had the highest risk (Figure 7-2). Third, romantic and sexual relationships of sexual minority men differ in many significant ways from those of heterosexual men. Sexual minority men are less likely than heterosexual men to be married, and members of same-sex relationships often adopt non-traditional norms, practices, and roles (specifically endorsing non-monogamous norms and practices and an “egalitarian and negotiated” approach to domestic labor division), suggesting the particular risk and protective factors associated with heterosexual unions require reevaluation in the context of queer relationships.

Other fundamental aspects of sexual minority lives differ substantially from those of heterosexuals. For example, career trajectories differ for sexual minorities in the context of real and perceived anti-gay/bisexual stigma. On the one hand, LGB individuals who are ‘out’ are restricted in career choices by virtue of seeking a work environment that is LGB-“friendly”; on the other hand, LGB individuals who conceal their identity in the workplace will be forced to avoid particular social interactions that would reveal their sexuality, and in some cases must change jobs frequently because of this social pressure. As with relationship status, occupation and unemployment are associated with risk of suicide; thus, these sexual minority-specific life factors also require evaluation in the context of elevated rates of suicide attempts. As another example, social networks of sexual minorities often differ, with sexual minorities—especially out gay or lesbian adults—reporting more social reliance upon other sexual minorities, than on family or heterosexual friend networks.

Finally, study 3 (chapter 6) of this thesis offers some suggestions for un(der)-investigated pathways to suicide attempts in sexual minority men. The pride narrative reminds us that some proportion of suicide attempts among sexual minorities will be attributable to common factors, shared between sexual minorities and heterosexuals (Figure 7-3), and thus may have nothing to do with a sexual minority experience. The trauma and stress narrative is often consistent with the minority stress model, as discussed in chapter 6; however, it also points to other pathways that merit further investigation, including childhood abuse (such as that described by Alan in study
3/chapter 6), and experiences of divorce/separation and bankruptcy (described by Christopher). Adverse childhood experiences have been more commonly reported by LGB individuals, though the mechanisms through which these experiences relate to sexual minority identities remain unclear. The memorial and post-gay narratives both evince a fear of a gay identity that is erased; this is in some sense the antithesis of identity concealment (it is a desire to loudly express an identity), and this sentiment suggests an aspect of sexual minority desires that is unstudied (to my knowledge). Perhaps some sexual minorities strive for visibility in the context of a history of stigmatization and marginalization, and the absence of outlets for this visibility (Finn suggested performing music or drag in Epigraph 5; Gerry suggested more marches and gay heritage reading groups in Epigraph 6) leads to isolation, and in some cases, suicide.

7.3 Limitations

I have outlined methodological limitations specific to each of the three studies in the respective chapters. Here I discuss two additional limitations that require additional space, not afforded within the word limits of the individual study manuscripts.

7.3.1 Gender stratification

This thesis was limited to sexual minorities who identified as men, due in particular to my own access to data from a community of sexual minority men, and also for some empirical and theoretical reasons discussed in section 2.1.2. The decision to restrict my thesis study enabled some exploration of factors that may have been specific to gay and bisexual men; however, this restriction also limited my ability to understand factors that may also be important in understanding suicide ideation and attempts in sexual minority women, who also notably experience elevated rates of suicide-related outcomes relative to heterosexual women. Furthermore, this restriction may have limited the participation or identification of individuals who do not identify with a binary gender, e.g., those who are genderqueer, or those who experience a gender identity that differs from their biologic sex assigned at birth and are yet transitioning. The Sex Now 2014-15 survey was inclusive of transgender gender identities; however, recruitment was nonetheless focused on male-identified respondents.

The importance of understanding the intersection of minority sexuality and suicide attempts, without binary gender restrictions, became apparent to me during study 3. Three of the seven
participants described an internal sense of a feminine gender, despite living their adult lives as men and expressing a male gender identity. All three discussed with a health professional the possibility of transitioning to live as women at some time during their histories, and two of the three began receiving hormones to support these transitions; however, all three ultimately decided against a transition, for individual reasons. Forty-three percent of participants in the Ontario TransPulse study reported having attempted suicide in their life\(^{43}\); the risk of suicide attempts is notably highest before accessing gender-affirming health care (i.e., hormones, medical transition) and decreases thereafter\(^{44}\). That three of the participants in my qualitative study experienced a non-binary gender, in spite of the study’s male inclusion criterion, is remarkable, but raises the question whether other individuals who may experience non-binary-typical gender identity trajectories are otherwise excluded from research concerning suicide and sexual minorities, despite a potentially high risk of suicide attempt.

7.3.2 Inclusion of bisexual men

This thesis aimed to address suicide among sexual minority men broadly, inclusive of bisexual men. Nonetheless, several aspects of study development, design, recruitment, and measurement were driven by gay men and failed to adequately produce research that was fully inclusive of bisexual men. First, Sex Now is hosted and developed by an organization with a particular focus on gay men (Community-Based Research Centre for Gay Men’s Health). Consequently, most, if not all, of the men who participated in designing the survey instrument and conducting recruitment identified as gay men. Second, the minority stress measures used in the Sex Now 2014-15 survey specifically referred to anti-gay discrimination/violence, and sexual behavior questions did not ask about sex with women. Third, recruitment for Sex Now and my qualitative study occurred predominantly through gay community organizations. These limitations can and will be addressed going forward by including bisexual men in the research process, from an early stage, and by working with bisexual community groups specifically to discuss the survey instrument and approaches to recruitment.

7.4 Recommendations for research

I offer recommendations for future research on the topic of sexual minority suicide corresponding to three categories: 1) ongoing methodological investigations of the effects of information and selection bias on estimates of sexual minority health disparities (arising from
study 1\textsuperscript{45}, and the preceding systematic review\textsuperscript{13}; 2) improved measures of sexual identity and identity concealment in quantitative research (arising from studies 1 and 2); and 3) additional qualitative research concerning sexual minority suicide (arising from studies 2 and 3).

7.4.1 Information and selection biases in sexual minority population health research

Study 1 (chapter 4) offers a single empirical investigation of one source of information bias (sexual minority misclassification) in sexual minority population health research. Additional research should investigate the multiple other sources of bias discussed in study 1, including selection bias and suicide-related outcome misclassification. I am planning a systematic review to synthesize empirical evidence of selection bias in relation to sociodemographic characteristics and multiple health outcomes (including suicide ideation/attempts) estimated using LGB-community samples. Qualitative methods may also be useful in understanding the particular reasons why sexual minorities do or do not feel motivated to participate in various types of health research (including both LGB community and general population research).

\textit{Sex Now} is a non-probability convenience sample and is therefore affected by selection biases associated with its particular recruitment methods (focused on gay community organizations, social media channels, and sex-seeking websites). Exploration of additional strategies to measure and account for these biases should be pursued. There is no defined sampling frame of sexual minorities, thus precluding methods that would randomly sample sexual minorities. Alternative approaches to address selection bias in community surveys may include respondent-driven sampling\textsuperscript{46} or probabilistic sensitivity analyses, which can demonstrate potential ranges of estimates after accounting for empirical information about representativeness of recruitment sources.\textsuperscript{47,48} The latter approach may be achieved by obtaining information about frequency of use of the particular gay sex-seeking websites and social media channels used in \textit{Sex Now} recruitment from another survey (e.g., a physical venue-based survey) and then adjusting or weighting respondents in \textit{Sex Now}, based on their recruitment source.\textsuperscript{49} Ultimately, however, \textit{Sex Now} need not be fully representative of sexual minority men to advance our understanding of causal mechanisms or generating hypotheses for further research\textsuperscript{50}, especially given the generally larger sample sizes derived from sexual minority community surveys—as demonstrated in this thesis, and many other community surveys.\textsuperscript{13}
Other research has been conducted to estimate the degree of misclassification (under- or over-reporting) of suicide-related outcomes in general population samples.\textsuperscript{51,52} One study has specifically examined misclassification of self-reported suicide-related outcomes among sexual minorities and found a greater rate of false positive reports in this population; however, this study was restricted to youth\textsuperscript{53} and results have not been replicated in other studies.\textsuperscript{11,54,55} No research has investigated the joint effects of both sources of information bias on estimates of suicide-related outcomes among sexual minorities; Bayesian methods for evaluation of variable misclassification have been developed and are well-suited to this particular question.\textsuperscript{56,57} I have thus begun working with a Bayesian statistician to re-analyze my previous systematic review data-set\textsuperscript{13} incorporating prior assumptions about the likely range of misclassification of both ‘exposure’ and outcome.

7.4.2 Improved survey measures related to sexual minority status and sexual identity concealment

Study 1 (chapter 4) additionally raises the need for improved survey measures related to multiple dimensions of sexuality, sexual identity, and sexual identity concealment. Such measures should include: combining aspects of the three ‘dimensions’ of sexuality—sexual identity, sexual behavior, and sexual attraction\textsuperscript{58,59}—to identify a broader group of sexual minorities; assessing sexual identity disclosure/concealment to multiple audiences and over multiple periods of time\textsuperscript{5} (including disclosure to both heterosexuals and to gays and lesbians, in the case of bisexual or plurisexual individuals\textsuperscript{60}); and, implementing mechanisms to reduce social desirability biases related to sexual identity, e.g., relying upon private self-administration of the sections of questionnaires pertaining to sexuality (and other stigmatized topics)\textsuperscript{61}, and acknowledging to research participants researchers’ interest in collecting information about sexual identity in order to understand and reduce stigma (i.e., signaling to respondents that their disclosure of sexual minority status is in the service of a mutually beneficial goal)\textsuperscript{62}.

7.4.3 Qualitative research

Finally, the vast majority of published suicide research is deductive in nature: using quantitative methods to test theories of suicide, or to identify (or re-identify) individual risk factors for suicide.\textsuperscript{63} This is also true in the case of sexual minority suicide\textsuperscript{34}; in particular, sexual minority health researchers have recently devoted much of their attention to testing the minority stress
theory\textsuperscript{21} in order to explain elevated rates of mental health outcomes among sexual minority groups\textsuperscript{27,64-68} (see also chapter 5). The minority stress model has undoubtedly advanced our understanding of the mental health of sexual minorities; however, there are limits to how much this particular model can explain, as detailed in section 7.2.3 above.

Inductive, qualitative approaches offer a potential remedy to the overreliance upon deductive, theory-testing research in the domain of sexual minority mental health. My own qualitative study (chapter 6) did not aim to produce new theory; nonetheless, the narratives that emerged point to experiences and processes in the lives of sexual minorities that go beyond those factors encompassed by minority stress (or other potentially relevant theories of sexual minority health, e.g., syndemic theory\textsuperscript{69}—not used in this thesis). The qualitative research in this thesis was an attempt to ‘tip the balance’ toward inductive approaches to research, and my conclusion is that significantly more qualitative work is needed in order to continue to advance our understanding of sexual minority suicide. Future research should use novel qualitative approaches to expose more sources and more stories of sexual minority suicide. In particular, research with ethno-racial minorities, indigenous persons, immigrants, and gender-diverse individuals will complement the stories gathered in my study. Additional research methods that honor the creativity of suicide attempt survivors, such as photo-voice or video-based storytelling\textsuperscript{70}, should be explored specifically with sexual minorities.

7.5 Recommendations for policy and practice

This thesis is a community-based research project and thus aims to produce results that are used by communities of Canadian adult gay and bisexual men, particularly those affected by suicide. I have organized my recommendations for interventions following the five-level framework of the World Health Organization\textsuperscript{71}, i.e., interventions corresponding to: 1) individual; 2) interpersonal; 3) community; 4) societal; and 5) health systems levels (Table 7-1). Here I highlight interventions (defined as policies, programs, and practices) for which my thesis offers some degree of empirical support, drawing on the American Foundation for Suicide Prevention’s 2011 Consensus Statement on LGBT suicide\textsuperscript{34}, as well as a comprehensive published review of “best practice elements of multilevel suicide prevention strategies” (not LGBT-specific)\textsuperscript{72}. My review of potential recommendations was also informed by a recent Canadian review of evidence of suicide prevention programs for youth\textsuperscript{73} (in the absence of a comparable Canadian review for
adults), as well as commentaries regarding the need for socially-contextualized and culturally-responsive programming when conducting community-specific/tailored suicide prevention (e.g., indigenous communities, LGBT communities).74,75

7.5.1 Individual-level interventions

The results of this thesis suggest two ways in which individual-level interventions, especially those offered by counselors or other mental health professionals, can be adapted to meet the needs of suicidal sexual minority men. First, the large associations between sexual/anti-gay/bisexual stigma and suicide attempts in study 2, and the salience of the trauma-and-stress narrative in study 3, suggest that counseling interactions should acknowledge and respond to the pervasive effects of minority stress on the psychology of sexual minorities. This recommendation is consistent with the work of other psychologists and social workers who have developed LGB-affirmative models of cognitive behavioral therapy.76,77 Second, narrative approaches—already recommended and used by some psychologists working with suicide attempt survivors78,79—may be particularly well suited for sexual minorities, as demonstrated in study 3. Creative outlets, including story-telling and music therapy, offer unique opportunities for individuals who have struggled with stigmatized (and thus previously silenced or concealed) identities (Epigraph 5, Epigraph 6).80,81

7.5.2 Interpersonal-level interventions

Social isolation mediated the relationships between both anticipated prejudice and sexuality concealment and suicide attempts, in study 2 (chapter 5), and was a key component of many of the stories elicited in study 3 (chapter 6)—in particular the post-gay narrative. Multiple social interventions exist for sexual minorities to build social support within and beyond the gay community.82 This thesis emphasizes two possible modifications to these existing social interventions. Firstly, gay social groups are often not perceived to be ‘safe spaces’ for sharing experiences with suicide (this was revealed in multiple study 3 interviews, though not detailed in chapter 6 due to space limitations). Designated events or spaces may be required to allow social/interpersonal sharing and expression of suicide-related struggles; these may be achieved using story-sharing or arts-based approaches, adapted for group settings. Secondly, I have emphasized the particular importance of accounting for inter-generational and aging-related differences in social isolation. Many older sexual minorities face anti-gay/bisexual stigma in new
environments associated with healthcare, social, and living supports for elderly (e.g., seniors housing\textsuperscript{83}), on top of experiences of social loss (death of friends and family, divorce, and dissolution of social networks) that happens for many adults, irrespective of sexuality, as we age\textsuperscript{84–87}. Interpersonal interventions are thus needed to address social isolation among all sexual minorities, but perhaps especially sexual minority seniors, who may benefit from dedicated social groups, or LGB-specific/sensitive seniors housing.

7.5.3 Community-level interventions

Many of the participants in study 3 reported multiple encounters with LGB community agencies, in some cases as volunteers or staff (Epigraph 7), in others as clients of LGB services (groups, activities, counseling). This underscores the potential for increasing the capacity of LGB community organizations to respond to individuals in suicidal crises. ‘Gatekeeper’ training models have been found to be effective at detecting individuals who are thinking of suicide\textsuperscript{72,88} (a prerequisite to being referred to care or treatment) and could be adopted for use by LGB community agencies. (I have begun working with the Crisis Centre of British Columbia to adapt their own suicide awareness and referral training for use by LGB service agencies—our first workshop was on October 27, 2016; second is scheduled for January 26, 2017).

7.5.4 Structural-level interventions

The finding that enacted stigma remains a major determinant of adult sexual minority suicide attempts in Canada (study 2; chapter 5) suggests that structural approaches (policies, and criminal justice mechanisms for responding to experiences of violence, discrimination, other forms of enacted stigma) remain an important aspect of suicide prevention, as well as violence and hate crime prevention.\textsuperscript{34,89} Canadian policies, such as the Quebec policy on homophobia (which includes 60 province-wide, multi-sectoral actions to combat homophobia and support LGBT wellness)\textsuperscript{90}, should be evaluated to determine the degree to which they measurably improve mental health outcomes for sexual minorities. Models for such evaluations exist: a recent ecologic study of British Columbia schools found a temporal decrease in suicide-related ideation among sexual minority youth attending schools that implemented anti-bullying policies that specifically mention the role of homophobia in motivating bullying, and those attending schools that enabled gay/queer-straight alliance support groups.\textsuperscript{91} Similar studies have been done
in the US with adults, showing positive effects of structural changes in policies regarding state-sanctioned protections against anti-gay/bisexual stigma\(^{92,93}\).

### 7.5.5 Healthcare interventions

Finally, the theme of concealment of sexualities serves as a reminder that many sexual minorities will miss opportunities to benefit from healthcare interventions (e.g., discussions with family doctors or other trusted healthcare providers regarding suicidal thoughts or plans) because real or perceived stigma leads sexual minorities to avoid some healthcare encounters or otherwise conceal their sexuality to healthcare providers.\(^ {94-96}\) Furthermore, even sexual minorities who overcome these barriers related to stigma may find that the treatment they receive is ineffective. A recent US study of sexual minority adults found that those who received general mental health treatment had no reduction in odds of a subsequent suicide attempt, when compared with those who received no treatment.\(^ {97}\) In Canada, sexual minority respondents to the Canadian Community Health Survey were more likely than heterosexual respondents to have consulted a psychologist, social worker, or counselor in the past 12 months but also more likely than heterosexuals to have unmet mental health care needs (defined as self-perceived need for care that was not received, whether due to cost, wait time, access, or cultural concerns), after adjusting for self-rated mental health, prevalent mood disorders, access to a regular family doctor, and sociodemographic characteristics (age, marital status, education, among others).\(^ {98}\) Caution is required in interpreting these observational findings regarding sexual minorities’ interactions with the healthcare system; whether these interactions are causally related to subsequent suicide-related behavior cannot be definitively determined. Nonetheless, both of these studies highlight the high rate of unmet mental health care needs among sexual minorities—whether due to inadequacies in the healthcare system or underlying risk—and the impetus for further evaluations and interventions within the healthcare system.

Multiple strategies may help to improve the Canadian healthcare system’s ability to meet unmet mental healthcare needs of sexual minority adults (Table 7-1). Additional work is needed to train healthcare providers on the particular needs of sexual minorities, particularly in the context of concealment. Physician education models for ‘LGBT health care competency’ exist and should be implemented widely (and adapted as needed for various healthcare contexts and provider roles).\(^ {99-101}\) In the meantime, some healthcare settings are already known to be particularly
sensitive to sexual minority health needs—e.g., LGB-specialized sexual health clinics. Service integration (or ‘bundling’) models should be explored to enable provision of mental health assessment, counseling, and referral at these established LGB-sensitive sites.

7.6 Conclusion

I offer this thesis with the goal of inspiring and informing community-based action with regard to sexual minority suicide prevention. Effective knowledge translation requires repeated interactions with multiple and distinct knowledge user networks. Over the coming months and years, I will build on my knowledge translation framework (Appendix 7) to continue sharing the results of my research with community, public health, and academic partners and collaborators, in order to improve our collective response to the contemporary epidemic of suicide attempts among sexual minority adults in Canada. My long-term vision is to eliminate the sexual stigma that undergirds the health problems investigated within this thesis. Until that vision is achieved, there is no shortage of actions we can take to prevent suicide among sexual minorities and support those living with thoughts of suicide.
7.7 References


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Figure 7-1. Krieger’s ecosocial theory of disease distribution

Full figure can be found on page 214 of *Epidemiology and the People’s Health* (N. Krieger; Oxford University Press, 2011)

Krieger’s ecosocial theory includes the following "core constructs, referring to processes conditional upon extant political economy and political ecology: 1. Embodiment, referring to how we literally incorporate, biologically, in societal and ecological context, the material and social world in which we live; 2. Pathways of embodiment…” (e.g., social trauma; inadequate healthcare; etc.)… “3. Cumulative interplay of exposure, susceptibility, and resistance across the lifecourse… 4. Accountability and agency”.

Krieger’s theory also explicitly acknowledges historical context + generation, and global/national/regional/etc. societal & ecosystem contexts as producing or re-producing health inequalities.
Figure 7-2. Self-reported suicide attempts (12 months) by sexual identity and partnership status, *Sex Now* 2011-12 survey (credit: O Ferlatte, Hottes TS, Marchand R, Trussler T, *manuscript under review, American Journal of Men’s Health*, 2016)
Figure 7-3. Disparity in suicide attempts between sexual minority and heterosexual men, and potential causal explanations.
**Table 7-1.** Policy, program, and practice recommendations for suicide prevention in adult gay and bisexual men

<table>
<thead>
<tr>
<th>Level</th>
<th>Intervention</th>
<th>Evidence in literature</th>
<th>Evidence from this thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td><strong>Counseling</strong>/psycho-therapy, especially LGB-affirmative cognitive-behavioral therapy, and narrative therapy</td>
<td>• LGB-affirmative CBT: 76,77</td>
<td><strong>Study 2:</strong> depression and problematic drug/alcohol use mediated relationships between enacted/anticipated stigma and suicide attempts <strong>Study 3:</strong> participants explained how mental health professionals helped them cope in the ‘trauma and stress’ narrative; sharing narratives was therapeutic for some</td>
</tr>
<tr>
<td>Individual</td>
<td><strong>Arts-based therapies</strong>, coping methods</td>
<td>• Queer music therapy: 80</td>
<td><strong>Study 3:</strong> Many of the participants shared arts-based methods of coping with thoughts of suicide (writing, drawing, singing, performing drag, cooking)</td>
</tr>
<tr>
<td>Interpersonal</td>
<td><strong>LGB support groups</strong></td>
<td>• Role of supportive relationships in approaches to address sexual minority stress: 82</td>
<td><strong>Study 2:</strong> Social isolation mediated relationships between anticipated stigma and concealment and suicide attempts <strong>Study 3:</strong> Social connection (esp. to LGB groups) was critical to the pride and post-gay narratives</td>
</tr>
<tr>
<td>Interpersonal</td>
<td><strong>Story-telling</strong></td>
<td>• Story-telling and theoretical potential for therapeutic value: 81,109</td>
<td><strong>Study 3:</strong> Stories were shared in dialogue (with researcher) but often with intention of broader sharing (publication, discussions with other suicide attempt survivors)</td>
</tr>
<tr>
<td>Community</td>
<td><strong>Suicide awareness education</strong></td>
<td>• Evidence for effectiveness of campaigns is mixed/uncertain: 72</td>
<td>No direct evidence from thesis; though, as part of KTE have worked with local Crisis Centre to develop “queer” suicide awareness training (see Appendix 7)</td>
</tr>
<tr>
<td>Community</td>
<td>Increase <strong>capacity of LGB community staff &amp; volunteers</strong> to support those in crisis</td>
<td>• “Gatekeeper” trainings re: suicide awareness and referral: 72,88</td>
<td><strong>Study 3:</strong> Several participants accessed numerous services at LGB community agencies, suggesting this is a potentially important point of intervention</td>
</tr>
<tr>
<td>Community</td>
<td>Increase access to <strong>resources for those in crisis</strong> (web materials, online chat, 1-800 lines)</td>
<td>• General crisis phone lines/chat services: 110,111</td>
<td>No direct evidence from thesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• LGBTQ-specific suicide hotlines (e.g., Trevor Project—not available in Canada): 34</td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>Intervention</td>
<td>Evidence in literature</td>
<td>Evidence from this thesis</td>
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<tr>
<td>Structural</td>
<td><strong>Reduce antigay stigma</strong> through policies that enforce supportive environments</td>
<td>• State policies that protect sexual minorities from structural forms of stigma/exclusion. ⁹²,⁹³  &lt;br&gt; • School-based policies that address antigay-motivated bullying, or enable access to gay/queer-straight alliances: ⁹¹,¹¹²</td>
<td><strong>Study 2:</strong> Antigay stigma (enacted or perceived/felt) was significantly associated with suicide attempts (e.g., predicted probability of 12-month suicide attempt was 18% among those at the highest range of enacted stigma)</td>
</tr>
<tr>
<td>Healthcare system</td>
<td><strong>Queer sensitivity</strong> training for <em>all</em> healthcare providers</td>
<td>• Research concerning concealment of sexuality, and related health issues, to healthcare providers, among sexual minorities. ⁹⁴,¹¹³</td>
<td><strong>All 3 studies:</strong> All studies point to the pervasive effects of sexuality concealment on sexual minority health, as discussed in section 7.2.1. In this context, multiple efforts are required to ensure that the healthcare system optimizes opportunities for sexual minorities to discuss pertinent health issues that are otherwise stigmatized and concealed.</td>
</tr>
<tr>
<td>Healthcare system</td>
<td><strong>Access to LGB-sensitive/tailored providers, or adapt LGB-sensitive points of intervention</strong> (e.g., STI clinics)</td>
<td>• US integrated health models focused on specific needs of LGB populations, e.g., Fenway Institute: ¹¹⁴–¹¹⁶  &lt;br&gt; • ‘Syndemic’-based care via STI clinics (not yet explored in Canada): ¹¹⁷–¹¹⁹</td>
<td></td>
</tr>
</tbody>
</table>
##Appendices

###Appendix 1: Sex Now 2014-2015 questionnaire (relevant excerpts)

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Relevant excerpts are provided below, in 3 categories:

- Mental health related outcomes
- Sexual stigma manifest indicators
- Other covariates (sexuality, socio-demographics, HIV status)

###A) Suicide outcomes and psychosocial health mediators

**Have you ever considered suicide—taking your own life?**

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Over a year ago</th>
<th>Last 12 months</th>
<th>Over a year ago &amp; last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considered Suicide</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Attempted Suicide</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Have you discussed any of these topics with a healthcare professional?**

<table>
<thead>
<tr>
<th>Topics</th>
<th>No</th>
<th>Over a year ago</th>
<th>Last 12 months</th>
<th>Over a year ago &amp; last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Coming out</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Sex</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Depression</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Anxiety</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Unwanted behavior (compulsions)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Eating disorders</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Relationship problems ☐ ☐ ☐ ☐ ☐
Workplace issues ☐ ☐ ☐ ☐ ☐
Alcohol, drug use ☐ ☐ ☐ ☐ ☐
Family issues ☐ ☐ ☐ ☐ ☐
Suicidal thoughts ☐ ☐ ☐ ☐ ☐
Other mental health issues: Please specify_____ ☐ ☐ ☐ ☐ ☐

How many people can you count on for support if you need help or if something goes wrong?
No one
1-3
4-6
7-9
10+

B) Sexual stigma manifest variables

i) Enacted stigma

Have you experienced any of the following?

<table>
<thead>
<tr>
<th>Have you experienced any of the following?</th>
<th>No</th>
<th>Over a year ago</th>
<th>Last 12 months</th>
<th>Over a year ago &amp; last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted, rejected or dismissed from career opportunity due to sexuality</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Unwanted attention to your appearance, what you wear</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Rumours flying about your sexuality</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Excluded socially because of your sexuality</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### Have you ever been targeted with antigay violence? (check all that apply)

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes, before age 18</th>
<th>Yes, after age 17</th>
<th>Yes, last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal violence, hate talk,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical violence, beaten up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Have you encountered any antigay discrimination in the following settings?

<table>
<thead>
<tr>
<th>Setting</th>
<th>No/Not applicable</th>
<th>Over a year ago</th>
<th>Last 12 months</th>
<th>Over a year ago &amp; last 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Events e.g., wedding, funeral</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apartment, home rental</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment, workplace</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education, university, college</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care: doctor, lab, clinic, hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gym, pool, recreation centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police, law courts, justice system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel, hotel, transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canada Customs border entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other country customs border entry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ii) Anticipated prejudice

**What situations worry you about encountering antigay prejudice?**

**Please rate the following situations...**

<table>
<thead>
<tr>
<th></th>
<th>1 Low</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Events e.g., wedding, funeral</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Apartment, home rental</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Employment, workplace</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Education, university, college</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Health care: doctor, lab, clinic, hospital</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Gym, pool, recreation centre</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Police, law courts, justice system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Travel, hotel, transportation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Canada Customs border entry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other country customs border entry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

iii) Concealment of sexuality

**Who knows about your sexuality ...?**

<table>
<thead>
<tr>
<th></th>
<th>Everyone</th>
<th>Some</th>
<th>No-one</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Friends</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>School/College/University</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Workplace</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Civic, community activities</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
C) Additional covariates (sexuality, socio-demographics, HIV status)

What best describes your sexual identity? (check all that apply)

☐ Gay (homosexual)

☐ Bi (bisexual)

☐ Straight (heterosexual)

☐ Queer

☐ Two-spirit

☐ Other: No identity etc. Please specify_____

Your AGE:_____ drop list (16+ continuous)

What best describes the environment you live in?

☐ Urban

☐ Suburban

☐ Small city/town

☐ Rural

☐ Remote

☐ Other

What is the highest level of education that you have completed?

☐ Some high school

☐ High school

☐ Some college/university

☐ College

☐ University

☐ Doctorate, PhD, MD etc.
What best describes your ethnic/cultural origins? (Check all that apply)

☐ Aboriginal (First Nations, Inuit, Metis)

☐ African

☐ East Asian

☐ South Asian

☐ South-east Asian

☐ Caribbean

☐ Latino/Hispanic

☐ Middle Eastern

☐ Pacific Islands

☐ White/Caucasian (British, European)

☐ Other

What was your income in the last year?

☐ Under $10,000

☐ $10,000 - $19,999

☐ $20,000 - $29,999

☐ $30,000 - $39,999

☐ $40,000 - $49,999

☐ $50,000 - $59,999

☐ $60,000 - $69,999

☐ $70,000 - $79,999

☐ $80,000 - $89,999

☐ $90,000 - $99,999

☐ $100,000 +
What was your most recent HIV test result?

☐ HIV-Positive

☐ HIV-Negative

☐ I’ve never had an HIV test (or a test result)
Appendix 2: Consent form, interview guide, and questionnaire for interviews (study 3)

What’s this project about?
The goal of the study is to better understand suicide attempts among adult gay, bisexual, and other men attracted to men. About 1 in 5 of us have attempted suicide during our lifetime. This study is part of my doctoral research at the University of Toronto.

Why me?
I would like to talk with you because you identify as a gay, bisexual, queer, or two-spirit man or trans-man, or are sexually attracted to other men, and because you have attempted suicide as an adult.

What do I have to do?
If you participate in this study, I will ask you to share as much of your personal life story as it relates to your suicide attempt, as you feel comfortable sharing. You will be invited to bring along any personal items (photographs, journals, objects of personal significance) to the interview, to help tell your story. I will ask questions as we go along, but you don’t have to answer any questions you don’t wish to answer. I’ll voice record our conversation so I can pay full attention to our conversation and less on taking notes. I anticipate our conversation will last approximately two hours; however, the length of time is flexible as I want to give you enough time to tell your story while also recognizing that your time is valuable.

What are the risks?
We will talk about your experiences with sexuality, and with suicidal thoughts or actions, which could bring up old feelings, which may or may not be distressing. I will listen supportively through all emotions you experience throughout the interview. If you feel distressed or sad, you have the choice to stop participating, take a break, or continue. I will provide you with a list of resources or refer you to counseling if you think you need additional help after our conversation. In the unlikely event that you go into significant distress that you are not able to recover from on your own or with my help, I will accompany you to the Emergency Department at Toronto General Hospital.

Our recorded conversation will be written down into text (transcribed) and identifying information such as names of persons and places will be removed to the greatest extent possible, after the interview. It may not be possible to remove all identifying information, given that you will be sharing your personal life story; however, only the principal investigator will have access to your whole story, and I will not share your complete story with anyone. All interviews will be grouped, analyzed, and presented together. Direct quotes will only be used to illustrate study findings and will always be anonymous. I will keep your contact information separate from the notes from our conversation.

What are the benefits?
The direct benefit of participating in this study is knowing that you have contributed to our community’s understanding of suicide, as it affects us, and to researchers’ understanding of this issue. Sometimes participating in studies also gives one the opportunity to learn and clarify our own understanding of things, as we talk about experiences.
Who else will see this information?
The only other people who may see your anonymous transcript are my research partner at the Community-Based Research Centre and my supervisors, who will help me understand and summarize the information I collect in this study.

How will you compensate my time and transportation?
To thank you for your time and travel for this study, I will provide a $50 honorarium.

Can I withdraw from the study if I no longer wish to participate?
This study is voluntary. You may refuse to participate or withdraw from this project at any time before the end of the interview. After the interview has ended it will no longer be possible to remove your interview because it will be anonymous and so unidentifiable.

Do you have any questions?

Would you like to participate?

YES  NO  I WANT MORE TIME TO DECIDE

Do you give me permission to audio-record our conversation?

YES  NO

Would you like to receive a copy of the transcript of our conversation?

YES  NO

Would you like to review and give feedback on any summary reports from this study?

YES  NO

________________________________________  ______________________________
Participant signature  Date

________________________________________  ______________________________
Researcher signature  Date

CONTACT INFORMATION
Principal investigator (student): Travis Salway Hottes, travissalway.hottes@mail.utoronto.ca, 778-836-1506
Supervisor: Dionne Gesink, Dalla Lana School of Public Health, University of Toronto

Community partner organizations:
Community-Based Research Centre for Gay Men’s Health, Vancouver Health Initiative for Men, Vancouver

You may contact: Office of Research Ethics, University of Toronto at ethics.review@utoronto.ca or 416-946-3273, if you have questions about your rights as a research participant.
Interview guide

1. Introduction
Thank you for taking the time to meet with me today. In my research I have learned that gay, bisexual, and other men attracted to men have higher rates of suicide attempts than heterosexual men. Based on a number of surveys, about 1 in 5 (or 20%) of us have attempted suicide at least once. Those of us working with gay and bi men don’t have a good understanding of why this happens, but we’d like to so that we can help these men. That’s why I am doing these interviews.

2. Consent
Do you have any questions about the consent form I shared with you? [answer questions, sign consent]

3. Opening question
Can you tell me why you wanted to participate in this study?

4. Main question
In your own time, tell me your story about attempting suicide. Please include any events you think are important in your understanding of why you tried to kill yourself.

5. Relationship between sexuality/sexual orientation and suicide attempt
(If not already addressed in interview)
What relationship, if any, do you see between your sexual orientation and your suicide attempt?

6. Closing questions
Is there anything else you want to share with me today?

Do you have any feedback about the questions I asked today? Or about the interview process?
Confidential Questionnaire

You do not have to answer any questions you don’t feel comfortable answering. If you want to know the purpose of any of the questions, or want me to explain what is meant by the questions, please ask.

First, a few questions about who you are (so I’m later able to describe in general terms who has participated)...

1. How old are you? __________ (years)

2. What city do you live in? _____________________________

3. How long have you lived in greater Vancouver? ________(years)

4. Were you born in Canada? ☐ Yes ☐ No

5. How would you describe your gender (e.g., male, trans, two-spirit)?
   __________________________________________

6. How would you describe your sexual orientation (e.g., gay, bisexual, straight, queer, two-spirit)?
   __________________________________________

7. What is your current job/occupation? _________________________________
   ☐ Student
   ☐ Not currently employed

8. What is your background (ethnicity)? _________________________________

Next, a few questions to understand your experience with thoughts about suicide...

9. How many times have you attempted suicide in your life? _____________

10. How old were you when you first attempted suicide? _________________

11. How old were you when you last attempted suicide? _________________

12. Have you ever been taken to a hospital, ER, or other health care provider after a suicide attempt? ☐ Yes ☐ No

Thank you.
Appendix 3: Question wording for corresponding analytical variables across two Canadian national surveys measuring the health status of bisexual and gay men: Sex Now (SN) and the Canadian Community Health Survey (CCHS)

<table>
<thead>
<tr>
<th>Variable</th>
<th>SN (2011-12)</th>
<th>CCHS (2011)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual identity</td>
<td>How do you see yourself…?</td>
<td>Do you consider yourself to be...?</td>
</tr>
<tr>
<td></td>
<td>- Gay (homosexual)</td>
<td>- Heterosexual (sexual relations with people of the opposite sex)</td>
</tr>
<tr>
<td></td>
<td>- Bi (bisexual)</td>
<td>- Homosexual, that is lesbian or gay (sexual relations with people of your own sex)</td>
</tr>
<tr>
<td></td>
<td>- Straight (heterosexual)</td>
<td>- Bisexual (sexual relations with people of both sexes)</td>
</tr>
<tr>
<td></td>
<td>- Other</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td>Are you currently… ?</td>
<td>What is your marital status?</td>
</tr>
<tr>
<td></td>
<td>- Single</td>
<td>- Married</td>
</tr>
<tr>
<td></td>
<td>- Married to a man</td>
<td>- Living common-law</td>
</tr>
<tr>
<td></td>
<td>- Partnered with a man but not married</td>
<td>- Widowed</td>
</tr>
<tr>
<td></td>
<td>- Separated, divorced from a man</td>
<td>- Separated</td>
</tr>
<tr>
<td></td>
<td>- Married to a woman</td>
<td>- Divorced</td>
</tr>
<tr>
<td></td>
<td>- Partnered with a woman but not married</td>
<td>- Single, never married</td>
</tr>
<tr>
<td></td>
<td>- Separated, divorced from a woman</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Other</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>What is the highest level of education that you have completed?</td>
<td>What is the highest certificate, diploma or degree that you have completed?</td>
</tr>
<tr>
<td></td>
<td>- Some high school</td>
<td>- Less than high school diploma or its equivalent</td>
</tr>
<tr>
<td></td>
<td>- High school</td>
<td>- High school diploma or a high school equivalency certificate training</td>
</tr>
<tr>
<td></td>
<td>- Some college/university</td>
<td>- Trade Certificate or Diploma</td>
</tr>
<tr>
<td></td>
<td>- College</td>
<td>- College, cegep or other non-university certificate or diploma (other than trades certificates or diplomas)</td>
</tr>
<tr>
<td></td>
<td>- University</td>
<td>- University certificate or diploma below the bachelor’s level</td>
</tr>
<tr>
<td></td>
<td>- Doctorate, PhD, MD etc.</td>
<td>- Bachelor's degree (eg. B.A., B.Sc., LL.B.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- University certificate, diploma or degree above</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td><strong>What was your income in the last year?</strong></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Under $10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $10,000 - $19,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $20,000 - $29,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $30,000 - $49,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $50,000 - $59,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $60,000 - $69,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $70,000 - $79,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $80,000 - $89,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $90,000 - $99,999</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• $100,000 +</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Employment</strong></th>
<th><strong>What is your employment situation? Check all that apply.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Employed</td>
</tr>
<tr>
<td></td>
<td>• Self employed</td>
</tr>
<tr>
<td></td>
<td>• Student</td>
</tr>
<tr>
<td></td>
<td>• Retired</td>
</tr>
<tr>
<td></td>
<td>• Unemployed</td>
</tr>
<tr>
<td></td>
<td>• Unable to work</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ethnicity</strong></th>
<th><strong>How do you describe yourself to other guys?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• African</td>
</tr>
<tr>
<td></td>
<td>• Asian</td>
</tr>
<tr>
<td></td>
<td>• Caribbean</td>
</tr>
<tr>
<td></td>
<td>• Caucasian</td>
</tr>
<tr>
<td></td>
<td>• First Nation</td>
</tr>
<tr>
<td></td>
<td>• Inuit</td>
</tr>
<tr>
<td></td>
<td>• Metis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Income</strong></th>
<th><strong>Can you estimate in which of the following groups your personal income falls? Was your total personal income in the past 12 months...?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Less than $5,000</td>
</tr>
<tr>
<td></td>
<td>• $5,000 to less than $10,000</td>
</tr>
<tr>
<td></td>
<td>• $10,000 to less than $15,000</td>
</tr>
<tr>
<td></td>
<td>• $15,000 to less than $20,000</td>
</tr>
<tr>
<td></td>
<td>• $20,000 to less than $25,000</td>
</tr>
<tr>
<td></td>
<td>• $25,000 to less than $30,000</td>
</tr>
<tr>
<td></td>
<td>• $30,000 to less than $40,000</td>
</tr>
<tr>
<td></td>
<td>• $40,000 to less than $50,000</td>
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<tr>
<td></td>
<td>• $50,000 to less than $60,000</td>
</tr>
<tr>
<td></td>
<td>• $60,000 to less than $70,000</td>
</tr>
<tr>
<td></td>
<td>• $70,000 to less than $80,000</td>
</tr>
<tr>
<td></td>
<td>• $80,000 to less than $90,000</td>
</tr>
<tr>
<td></td>
<td>• $90,000 to less than $100,000</td>
</tr>
<tr>
<td></td>
<td>• $100,000 and over</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Employment</strong></th>
<th><strong>Did you work at a job or a business at any time in the past three months?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Yes</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ethnicity</strong></th>
<th><strong>Are you an Aboriginal person, that is, First nations, Métis or Inuk (Inuit)? First Nations includes Status and Non-Status Indians.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Yes</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
</tbody>
</table>

You may belong to one or more racial or cultural groups on the following list. Are you...?
<table>
<thead>
<tr>
<th>Healthcare access</th>
<th>Where do you usually get routine medical care?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Family physician</td>
</tr>
<tr>
<td></td>
<td>• Walk-in medical clinic</td>
</tr>
<tr>
<td></td>
<td>• Emergency Center (hospital)</td>
</tr>
<tr>
<td></td>
<td>• No routine care available</td>
</tr>
<tr>
<td></td>
<td>• Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is there a place that you usually go to when you are sick or need advice about your health?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Yes</td>
</tr>
<tr>
<td>• No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What kind of place is it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Doctor’s office</td>
</tr>
<tr>
<td>• Community health centre / CLSC</td>
</tr>
<tr>
<td>• Walk-in clinic</td>
</tr>
<tr>
<td>• Appointment clinic</td>
</tr>
<tr>
<td>• Telephone health line (for example, HealthLinks, Telehealth Ontario, Health-Line, TeleCare, InfoSanté)</td>
</tr>
<tr>
<td>• Hospital emergency room</td>
</tr>
<tr>
<td>• Hospital outpatient clinic</td>
</tr>
<tr>
<td>• Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smoking</th>
<th>How often have you used the following in the last 12 months? Tobacco:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Never</td>
</tr>
<tr>
<td></td>
<td>• Occasions</td>
</tr>
<tr>
<td></td>
<td>• Regularly</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At the present time, do you smoke cigarettes daily, occasionally or not at all?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Daily</td>
</tr>
<tr>
<td>• Occasionally</td>
</tr>
<tr>
<td>• Not at all</td>
</tr>
<tr>
<td>Alcohol use</td>
</tr>
<tr>
<td>-------------</td>
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<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suicidal behaviors</th>
<th>Have you ever felt troubled by suicide?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thoughts about suicide…</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
<tr>
<td></td>
<td>• Some time ago</td>
</tr>
<tr>
<td></td>
<td>• Last 12 months</td>
</tr>
<tr>
<td></td>
<td>• Both prior to &amp; last 12 months</td>
</tr>
<tr>
<td></td>
<td>Attempted suicide…</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
<tr>
<td></td>
<td>• Some time ago</td>
</tr>
<tr>
<td></td>
<td>Have you ever seriously considered committing suicide or taking your own life?</td>
</tr>
<tr>
<td></td>
<td>• Yes</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
<tr>
<td></td>
<td>(If yes…) Has this happened in the past 12 months?</td>
</tr>
<tr>
<td></td>
<td>• Yes</td>
</tr>
<tr>
<td></td>
<td>• No</td>
</tr>
<tr>
<td></td>
<td>(If yes…) Have you ever attempted to commit suicide</td>
</tr>
<tr>
<td><strong>Last 12 months</strong></td>
<td><strong>or tried taking your own life?</strong></td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------</td>
</tr>
</tbody>
</table>
| Both prior to & last 12 months | • Yes  
|                     | • No  |

(If yes…) **Did this happen in the past 12 months?**

- Yes
- No

**Note.** *2011 survey wordings are presented for illustration; cross-cycle variations in CCHS question wording were minor, for selected variables above.*
Appendix 4 : University of Toronto Research Ethics Certificates

PROTOCOL REFERENCE #: 31938

Dr. Dionne Gesink
PUBLIC HEALTH SCIENCES(DLSHP)
DALLA LANA SCHOOL OF PUBLIC HEALTH

Mr. Travis Salway Holles
PUBLIC HEALTH SCIENCES(DLSHP)
DALLA LANA SCHOOL OF PUBLIC HEALTH

Dear Dr. Gesink and Mr. Travis Salway Holles,

Rec: Your research protocol entitled, “Suicidal behavior among adult gay and bisexual men: A secondary analysis of two population health surveys”

ETHICS APPROVAL

Original Approval Date: May 14, 2015
Expiration Date: May 13, 2016
Continuing Review Level: 1
Renewal: Data Analysis Only

We are willing to advise you that you have been granted annual renewal of ethics approval to the above-referenced research protocol through the Research Ethics Board (REB) delegated process. Please note that all protocols involving ongoing data collection or interaction with human participants are subject to re-evaluation after 5 years. Ongoing research under this protocol must be renewed prior to the expiry date.

Please ensure that you submit an Annual Renewal Form or a Study Completion Report 15 to 30 days prior to the expiry date of your protocol. Note that annual renewals for protocols cannot be accepted more than 30 days prior to the date of expiry as per our guidelines.

Any changes to the approval protocol or consent materials must be reviewed and approved through the amendment process prior to its implementation. Any adverse or unexpected events should be reported to the Office of Research Ethics as soon as possible. If your research is funded by a third-party, please contact the assigned Research Funding Office in Research Services to ensure that your funds are released.

Best wishes for the successful completion of your research.

Yours sincerely,

[Signature]

Elizabeth Peller, Ph.D.
REB Chair

Research Oversight and Compliance Office - Human Research Ethics Program
McRae Building, 11 Queen's Park Crescent West, 2nd Floor, Toronto, ON M5S 3E6 Canada
Tel: 416 946-7784 Fax: 416 946-7789 ethics.review@utoronto.ca http://www.research.utoronto.ca/for-researchers/administrators/ethics/
May 24, 2016

Dr. Damien Gesink
PUBLIC HEALTH SCIENCES (DLSFH)
DAULANANA SCHOOL OF PUBLIC HEALTH

Mr. Travis Salway-Holmes
PUBLIC HEALTH SCIENCES (DLSFH)

Dear Dr. Gesink and Mr. Travis Salway-Holmes,

Re: Your research protocol entitled, "A qualitative study of adult gay and bisexual men who have attempted suicide".

Ethics Approval

Original Approval Date: June 12, 2015
Expiry Date: June 11, 2017
Continuing Review Level: 2
Removal: 1 of 4

We are willing to advise you that you have been granted annual renewal of ethics approval to the above-referenced research protocol through the Research Ethics Board (REB) delegated process. Please note that all protocols involving ongoing data collection or interaction with human participants are subject to re-evaluation after 5 years. Ongoing research under this protocol must be renewed prior to the expiry date.

Please ensure that you submit an Annual Renewal Form or a Study Completion Report 15 to 30 days prior to the expiry date of your protocol. Note that annual renewals for protocols cannot be accepted more than 30 days prior to the date of expiry as per our guidelines.

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Best wishes for the successful completion of your research.

Yours sincerely,

[Signature]

Elisabeth Peter, Ph.D.
REB Chair

Research Oversight and Compliance Office - Human Research Ethics Program
Michener Building, 13 Queen's Park Crescent West, 2nd Floor, Toronto, ON M5S 3E8 Canada
Tel: +1 416 948-5775  Fax: +1 416 948-5785  ethics.research@utoronto.ca  http://www.research.utoronto.ca/researcher-administration/ethics/
Appendix 5: Exploration and confirmation of minority stress measurement model

Methods

A measurement model was built and tested using factor analysis. Prior to factor analysis the dataset was randomly split in half, the first half of observations used for exploratory factor analysis (EFA) and second half for confirmatory factor analysis (CFA). Thirty-three manifest indicators of sexual minority stress were used: 19 binary indicators and 14 ordinal indicators, all of which were treated as categorical variables in EFA. Robust weighted least squares was used to estimate the relationship between all 33 manifest variables and an undetermined number of latent factors, hypothesized to be 3, based on the minority stress model and the questionnaire development process, described above. Incremental factor counts were evaluated using the following goodness-of-fit measures and corresponding cut-off criteria proposed by Schreiber, et al: standardized root mean square residual (RMSR ≤0.08), Root Mean Square Error of Approximation (RMSEA ≤0.06), comparative fit index (CFI ≥0.95), Tucker-Lewis Index (TLI ≥0.96), and χ², though emphasis was given to RMSR, RMSEA, CFI, and TLI, given that χ² is sensitive to large sample size.1,2 Factor loadings were examined for each possible EFA solution, and factors were only retained if loaded with ≥3 manifest variables with loadings ≥|0.32|.3 Factor loadings were also reviewed for theoretical meaningfulness. Variables with complex loadings (i.e., manifest variables cross-loading on more than one factor) were not used unless conceptually interpretable. Manifest variables with loadings ≤0.32 were dropped.3 We hypothesized that the factors would be correlated; therefore, oblique rotation was used.

Confirmatory factor analysis (CFA) was used to evaluate the fit of the measurement model identified in EFA, using the second half of the dataset. The same goodness-of-fit measures were used, as in EFA, and in the case of a poor fit, a conservative approach to model modification allowed for the addition of theoretically consistent item error covariances until fit measures reached a priori cut-points.1 Modifications were made iteratively, using chi-square modification tests and starting with within-factor item error correlations.

Results

One-, two-, three-, and four-factor measurement models were examined (Table A5-1). All goodness-of-fit measures reached the recommended cut-off with a three-factor solution. Fit measures continued to improve with a four-factor solution; however, the fourth factor failed to load with at least 3 manifest variables (with loadings ≥0.32), and the factor loadings were not
theoretically consistent. Thus, a three-factor solution was carried forward for CFA and SEM. Sixteen manifest indicators loaded to factor 1, hereafter termed “enacted stigma”; 9 manifest indicators loaded to factor 2, “anticipated prejudice”; and 5 manifest indicators loaded to factor 3, “concealment of sexuality” (Table A5-2). Four enacted stigma indicators (verbal violence, antigay discrimination in healthcare setting, antigay discrimination at gym, and antigay discrimination by police/law courts) cross-loaded to factors 2 and 3, and two anticipated prejudice indicators (worry at family events and employment) cross-loaded to factor 3, but all cross-loaded indicators were dropped from the secondary factors because they were not conceptually consistent with those latent constructs. Two enacted stigma indicators (antigay discrimination at Canadian border and antigay discrimination at other country borders) and one concealment indicator (attended event with a woman to pass as straight) failed to load (i.e., loadings <0.32) to their hypothesized factors but did load to other factors; all three were likewise dropped due to conceptual inconsistency.

The initial model tested in the second half of the data-set with CFA converged but had only adequate fit (RMSEA=0.062; CFI=0.946; TLI=0.942). Therefore, error correlations were added to the hypothesized model, starting with the following four within-factor indicator error correlations: rejected/dismissed from job opportunity and antigay discrimination at work (conceptually consistent as both relate to prejudice in the workplace); called out as “homo”, “faggit”, etc. and verbal violence (conceptually consistent as both refer to verbal antigay slurs); verbal violence and physical violence (conceptually consistent as both refer to overt expressions of homophobia); anticipated prejudice at Canadian border entry and anticipated prejudice at foreign border entry (conceptually consistent as both refer to prejudice during travel). The following three between-factor indicator error correlations were added given conceptual consistency: antigay discrimination at family events and anticipated prejudice at family events (same setting); antigay discrimination in healthcare setting and anticipated prejudice in healthcare setting (same setting); anticipated prejudice at family events and concealment of sexuality to family (same audience). Modifications improved all goodness-of-fit measures, such that the final model reached the recommended cut-offs for all measures (RMSEA=0.057, CFI=0.960, TLI=951). (Table A5-2)
References


### Table A5-1. Comparison of exploratory factor analysis models of sexual minority stress, N=3936 (split dataset)

<table>
<thead>
<tr>
<th>Diagnostic</th>
<th>Cutoff criterion(^a)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMSR</td>
<td>≤0.08</td>
<td>0.215</td>
<td>0.088</td>
<td>0.062</td>
<td>0.044</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤0.06</td>
<td>0.123</td>
<td>0.720</td>
<td>0.053</td>
<td>0.044</td>
</tr>
<tr>
<td>CFI</td>
<td>≥0.96</td>
<td>0.751</td>
<td>0.922</td>
<td>0.960</td>
<td>0.974</td>
</tr>
<tr>
<td>TLI</td>
<td>≥0.95</td>
<td>0.735</td>
<td>0.910</td>
<td>0.951</td>
<td>0.966</td>
</tr>
<tr>
<td>(\chi^2) (degrees of freedom) ((p\text{-value}))</td>
<td>-</td>
<td>30023.570 ((495) (&lt;0.001))</td>
<td>9783.809 ((463) (&lt;0.001))</td>
<td>5149.293 ((432) (&lt;0.001))</td>
<td>3497.992 ((402) (&lt;0.001))</td>
</tr>
<tr>
<td>≥3 manifest variables with standardized coefficient ≥(0.32)</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Consistency with theory</td>
<td>-</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** \(^a\) Schreiber, et al. J Ed Res 2006; RMSR=standardized root mean square residual; RMSEA=root mean square error of approximation; CFI=Comparative fit index; TLI=Tucker-Lewis Index.
Table A5.2. Sexual minority stress factor loadings, N=7872 (dataset split for exploratory and confirmatory analysis)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Proportion a (N=7872)</th>
<th>Exploratory factor analysis (N=3936)</th>
<th>Confirmatory factor analysis (N=3936)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F1</td>
<td>F2</td>
</tr>
<tr>
<td>Rejected or dismissed from job opportunity b</td>
<td>0.123</td>
<td>0.711</td>
<td>0.051</td>
</tr>
<tr>
<td>Unwanted attention to appearance, clothing b</td>
<td>0.222</td>
<td>0.619</td>
<td>0.112</td>
</tr>
<tr>
<td>Rumors flying b</td>
<td>0.422</td>
<td>0.653</td>
<td>0.073</td>
</tr>
<tr>
<td>Excluded socially b</td>
<td>0.205</td>
<td>0.762</td>
<td>0.098</td>
</tr>
<tr>
<td>Called out as “homo”, “faggot”, “queer” b</td>
<td>0.481</td>
<td>0.736</td>
<td>-0.013</td>
</tr>
<tr>
<td>Social media harassment b</td>
<td>0.095</td>
<td>0.572</td>
<td>0.129</td>
</tr>
<tr>
<td>Verbal violence, hate talk b</td>
<td>0.434</td>
<td>0.725</td>
<td>-0.019</td>
</tr>
<tr>
<td>Physical violence, beaten up b</td>
<td>0.180</td>
<td>0.655</td>
<td>-0.076</td>
</tr>
<tr>
<td>Antigay discrimination at family events b</td>
<td>0.155</td>
<td>0.514</td>
<td>0.172</td>
</tr>
<tr>
<td>Antigay discrimination in home rental b</td>
<td>0.061</td>
<td>0.520</td>
<td>0.292</td>
</tr>
<tr>
<td>Antigay discrimination at work b</td>
<td>0.201</td>
<td>0.730</td>
<td>0.116</td>
</tr>
<tr>
<td>Antigay discrimination at school b</td>
<td>0.116</td>
<td>0.559</td>
<td>0.202</td>
</tr>
<tr>
<td>Antigay discrimination in healthcare setting b</td>
<td>0.093</td>
<td>0.469</td>
<td>0.355</td>
</tr>
<tr>
<td>Antigay discrimination at gym or recreation b</td>
<td>0.094</td>
<td>0.462</td>
<td>0.333</td>
</tr>
<tr>
<td>Antigay discrimination by police or law courts b</td>
<td>0.086</td>
<td>0.446</td>
<td>0.316</td>
</tr>
<tr>
<td>Antigay discrimination in travel (e.g., hotel) b</td>
<td>0.093</td>
<td>0.417</td>
<td>0.319</td>
</tr>
<tr>
<td>Antigay discrimination at Canadian border entry b</td>
<td>0.054</td>
<td>0.263</td>
<td>0.420</td>
</tr>
<tr>
<td>Antigay discrimination at other country border entry b</td>
<td>0.095</td>
<td>0.170</td>
<td>0.281</td>
</tr>
<tr>
<td>Worry about prejudice at family events c</td>
<td>0.255</td>
<td>0.022</td>
<td>0.591</td>
</tr>
<tr>
<td>Worry about prejudice at apartment or home rental c</td>
<td>0.132</td>
<td>-0.004</td>
<td>0.790</td>
</tr>
<tr>
<td>Worry about prejudice in employment, workplace c</td>
<td>0.252</td>
<td>0.073</td>
<td>0.694</td>
</tr>
<tr>
<td>Worry about prejudice, healthcare (clinic, hospital) c</td>
<td>0.158</td>
<td>0.011</td>
<td>0.827</td>
</tr>
<tr>
<td>Worry about prejudice at gym, pool, recreation centre c</td>
<td>0.227</td>
<td>0.005</td>
<td>0.814</td>
</tr>
<tr>
<td>Worry about prejudice with police or law courts c</td>
<td>0.308</td>
<td>-0.083</td>
<td>0.907</td>
</tr>
<tr>
<td>Worry about prejudice during travel (hotel, transport) c</td>
<td>0.207</td>
<td>-0.077</td>
<td>0.836</td>
</tr>
<tr>
<td>Worry about prejudice at Canadian border entry c</td>
<td>0.203</td>
<td>-0.264</td>
<td>1.011</td>
</tr>
<tr>
<td>Worry about prejudice at other country border entry c</td>
<td>0.482</td>
<td>-0.202</td>
<td>0.907</td>
</tr>
<tr>
<td>Concealment to family c</td>
<td>0.253</td>
<td>-0.131</td>
<td>0.010</td>
</tr>
<tr>
<td>Concealment to friends c</td>
<td>0.160</td>
<td>-0.162</td>
<td>-0.022</td>
</tr>
<tr>
<td>Concealment at school / university / college c</td>
<td>0.260</td>
<td>-0.028</td>
<td>-0.011</td>
</tr>
<tr>
<td>Concealment at workplace c</td>
<td>0.297</td>
<td>-0.046</td>
<td>-0.008</td>
</tr>
<tr>
<td>Concealment in civic, community activities c</td>
<td>0.287</td>
<td>0.004</td>
<td>-0.017</td>
</tr>
<tr>
<td>Attended event with woman to pass as straight b</td>
<td>0.228</td>
<td>0.467</td>
<td>0.102</td>
</tr>
</tbody>
</table>

Note. Coefficients ≥0.32 are bolded; a Proportion reporting binary indicator or ordinal response ≥2; b binary indicator—all items framed in relation to respondent’s sexuality; c item asks about level of “worry” about encountering antigay prejudice in a range of settings (ordinal scale, where 1=low worry, 5=high worry); d concealment items framed in response to “Who knows about your sexuality…?” (ordinal scale, where 1=everyone in category, 3=no one in category); e variable dropped due to loading with coefficient <0.32 or theoretical inconsistency; F1= enacted stigma, F2= anticipated prejudice, F3= concealment.
### Appendix 6: Path coefficients for direct, indirect, and total associations between latent sexual minority stress constructs (factors) and recent suicide attempts, tested in separate (univariate) models for each factor, N=7872

<table>
<thead>
<tr>
<th>Path</th>
<th>Coefficients (95% CI)</th>
<th>Proportion mediated</th>
<th>RMSEA (90% CI)</th>
<th>CFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized</td>
<td>Standardized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model 1 (F1 only):</strong> Enacted Stigma (F1) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1 → O (direct)</td>
<td>0.187 (0.126, 0.268)</td>
<td>0.162 (0.101, 0.223)</td>
<td>0.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1 → Depression → O (indirect)</td>
<td>0.122 (0.081, 0.163)</td>
<td>0.106 (0.073, 0.139)</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1 → Drug use → O (indirect)</td>
<td>0.037 (0.004, 0.070)</td>
<td>0.032 (0.003, 0.061)</td>
<td>0.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1 → Social support → O (indirect)</td>
<td>-0.007 (-0.013, -0.001)</td>
<td>-0.006 (-0.012, 0.000)</td>
<td>0.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F1 → O (total)</td>
<td><strong>0.339 (0.263, 0.415)</strong></td>
<td><strong>0.295 (0.238, 0.352)</strong></td>
<td>0.036 (0.035, 0.038)</td>
<td>0.971</td>
<td>0.966</td>
</tr>
<tr>
<td><strong>Model 2 (F2 only):</strong> Anticipated Prejudice (F2) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2 → O (direct)</td>
<td>0.132 (0.044, 0.220)</td>
<td>0.084 (0.027, 0.141)</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2 → Depression → O (indirect)</td>
<td>0.124 (0.083, 0.165)</td>
<td>0.079 (0.054, 0.104)</td>
<td>0.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2 → Drug use → O (indirect)</td>
<td>0.032 (0.005, 0.059)</td>
<td>0.021 (0.003, 0.039)</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2 → Social support → O (indirect)</td>
<td>0.013 (0.003, 0.023)</td>
<td>0.008 (0.002, 0.014)</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F2 → O (total)</td>
<td><strong>0.300 (0.208, 0.392)</strong></td>
<td><strong>0.192 (0.137, 0.247)</strong></td>
<td>0.067 (0.064, 0.069)</td>
<td>0.972</td>
<td>0.964</td>
</tr>
<tr>
<td><strong>Model 3 (F3 only):</strong> Concealment (F3) to Suicide Attempt (O)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3 → O (direct)</td>
<td>-0.074 (-0.111, -0.037)</td>
<td>-0.140 (-0.209, -0.071)</td>
<td>0.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3 → Depression → O (indirect)</td>
<td>-0.031 (-0.043, -0.019)</td>
<td>-0.058 (-0.078, -0.038)</td>
<td>0.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F3 → Drug use → O (indirect)</td>
<td>-0.010 (-0.020, 0.000)</td>
<td>-0.019 (-0.037, -0.001)</td>
<td>0.07</td>
<td></td>
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</tr>
<tr>
<td>F3 → Social support → O (indirect)</td>
<td>0.037 (0.021, 0.053)</td>
<td>0.070 (0.041, 0.099)</td>
<td>0.24</td>
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</tr>
<tr>
<td>F3 → O (total)</td>
<td><strong>-0.078 (-0.111, -0.045)</strong></td>
<td><strong>-0.148 (-0.207, -0.089)</strong></td>
<td><strong>0.059 (0.055, 0.063)</strong></td>
<td><strong>0.997</strong></td>
<td><strong>0.995</strong></td>
</tr>
</tbody>
</table>

Note. | a absolute value of path coefficient divided by sum of absolute value of all path coefficients; F1=enacted stigma; F2=anticipated prejudice; F3=concealment; O=suicide attempt, last 12 months; RMSEA=root mean square error of approximation; CFI=Comparative Fit Index; TLI=Tucker Lewis Index; CI=confidence interval.
Appendix 7: Knowledge translation framework

My knowledge translation strategy is community-based (i.e., primarily concerned with delivering and exchanging research findings to communities of Canadian gay and bisexual men) and relational (i.e., dependent on maintaining ongoing relationships with those who are most able to use my research in their work). Below I index knowledge translation activities, to-date or ongoing, according to audience.

<table>
<thead>
<tr>
<th>Audience</th>
<th>Venue, organization, or individuals</th>
<th>Activity/Activity Details</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community members (gay and bisexual men)</td>
<td>BC Gay Men’s Health Summit, Vancouver, BC</td>
<td>Oral presentations</td>
<td>November 7-8, 2013 (panel) October 29-31, 2014 (keynote) November 9-10, 2016 (panel)</td>
</tr>
<tr>
<td>Community-Based Research Centre for Gay Men’s Health</td>
<td>Preventing Suicide Among Gay and Bisexual Men: New Research and Perspectives (report)</td>
<td>September 1, 2016</td>
<td></td>
</tr>
<tr>
<td>Community-Based Research Centre for Gay Men’s Health</td>
<td>Blog entries</td>
<td>September 4, 2014 September 7, 2016</td>
<td></td>
</tr>
<tr>
<td>Xtra (Canadian gay and lesbian online news)</td>
<td>Interview</td>
<td>September 17, 2014</td>
<td></td>
</tr>
<tr>
<td>Service providers (working for LGB and HIV service organizations)</td>
<td>Ontario Gay Men’s Sexual Health Alliance, Toronto, ON</td>
<td>Oral presentation &amp; discussion</td>
<td>November 17, 2014</td>
</tr>
<tr>
<td>Pacific AIDS Network (knowledge exchange for HIV service organizations), Vancouver, BC</td>
<td>Oral presentation</td>
<td>February 25, 2015</td>
<td></td>
</tr>
<tr>
<td>Mental Health Round Table (group of HIV service organization providers interested in mental health; meets quarterly)</td>
<td>Founded &amp; facilitate round-table meeting</td>
<td>January, 2016 - (ongoing)</td>
<td></td>
</tr>
<tr>
<td>Public health organizations</td>
<td>BC Public Health Grand Rounds</td>
<td>Grand rounds presentation: Why do suicide rates remain so high among lesbian, gay, &amp; bisexual adults, and what can we do about it?</td>
<td>November 1, 2016</td>
</tr>
<tr>
<td>Academic</td>
<td>World Congress of International Association for Suicide Prevention, Montreal, QC</td>
<td>Oral presentation</td>
<td>June 16-20, 2015</td>
</tr>
<tr>
<td>Gay and Lesbian Medical Association Annual Conference, Portland, OR</td>
<td>Oral presentation</td>
<td>September 24-26, 2015</td>
<td></td>
</tr>
<tr>
<td>European Symposium on Suicide and Suicidal Behaviour, Oviedo, Spain</td>
<td>Oral and poster presentations</td>
<td>September 8-10, 2016</td>
<td></td>
</tr>
<tr>
<td>Critical Public Health</td>
<td>Publication</td>
<td>September, 2014</td>
<td></td>
</tr>
<tr>
<td>Journal of Bisexuality</td>
<td>Publication</td>
<td>September, 2016</td>
<td></td>
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</tbody>
</table>