THE EFFECTS OF SEXUAL MINORITY SPECIFIC VICTIMIZATION ON MENTAL HEALTH OUTCOMES: THE IMPORTANCE OF SEX, ETHNICITY, AND ADULT SUPPORT

By

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CERTIFICATE OF APPROVAL

This is to certify that Master's thesis of

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To my committee, my parents, and my partner, Natalie, for so much support, and to the members of Out 'N' About for inspiring this endeavor.

Abstract

Purpose: Applying the minority stress model with attention to intersecting social identities, this study tested the effects of sexual minority-specific harassment on several mental health outcomes. Adult support, race/ethnicity, and sex were also tested as moderators of these effects.

Methods: Data from the 2006-2009 Oregon Healthy Teens Survey were analyzed using logistic regression for complex samples to examine the relationship between sexual minority identity, sexual minority-specific harassment, and three mental health outcomes (depression, suicidal ideation, and previous suicide attempt) while testing the importance of race/ethnicity, age, sex, and adult support among 1,087 11th grade students in Oregon.

Results: The odds that a sexual minority youth who reports sexual minority-specific harassment in school would report depression, suicidal ideation, or suicide attempt in the in the last year are 1.65 (95%CI: 1.02, 2.66), 1.75 (95% CI: 1.17, 2.49), and 1.84 (95% CI: 1.21, 2.80) times the odds that a sexual minority youth who does not report sexual minority-specific harassment in school for of each respective outcome. Homophobic victimization had different effects on depression across sex categories, indicating the importance of considering individuals' multiple social identities.

Conclusion: Results underscore the deleterious effect of homophobic victimization on depression, suicidal ideation, and previous suicide attempt. These findings highlight the need for development, passage, and implementation of school policies that address homophobic bullying and other forms of bias-based bullying and harassment

Introduction

The Burden of Suicide, Suicidality, and Depression Among Sexual Minority Youth

Suicide is the third leading cause of death among adolescents and young adults in the United States.[1] Results from the 2011 national Youth Risk Behavior Surveillance (YRBS) show that nationwide, 7.8% of youth report at least one previous suicide attempt and 2.4% report an attempt requiring medical attention.[1] Among sexual minority youth (SMY; persons who are attracted to the same sex, engage in sexual behavior with the same sex, or endorse a gay/lesbian/bisexual identity.[2]), decades of research indicate a greater risk of suicide attempt, suicidal ideation, and depression compared to heterosexual youth. [3-6]

In a recent study, Kann et al. used Youth Risk Behavior Survey (YRBS) data from states and cities that include questions regarding sexual orientation to examine differences in health behavior among SMY. Researchers found that 24.1% of youth identifying as lesbian, gay, bisexual, or unsure also reported at least one previous suicide attempt, and 10.8% reported an attempt requiring medical attention.[7] These findings indicate that SMY are more likely to attempt suicide, and their attempts are more likely to be life-threatening.

In spite of startling disparities, risk factors contributing to poor mental health outcomes among SMY are poorly characterized.[8] Limited research inhibits our ability to design effective interventions to address the clear and serious mental health risks among SMY.[8] Identifying and understanding the root causes of these

disparities will help inform effective prevention and intervention programs, and policies.

Conceptual Framework

The Minority Stress Model was used as the conceptual framework for this study.[9] This framework emerged from studies demonstrating that social stress is associated with mental health disorders, and that minority members are exposed to specific types of social stress related to their minority status and position in society.[9] Over 250 cross-sectional and longitudinal studies have established a strong association between discrimination and a variety of poor health outcomes, but few have examined these issues among SMY.[10-12] SMY are disproportionately exposed to interpersonal and institutional-level discrimination compared with their white/heterosexual counterparts.[13]

Minority stress is defined as "an excess stress to which individuals from stigmatized social categories are exposed to as a result of their minority position". [9] Such experiences may trigger physiological and emotional stress responses that in turn increase risk for the development of psychiatric morbidity,

The Minority Stress Model outlines three types of stress events relevant to sexual minority individuals:

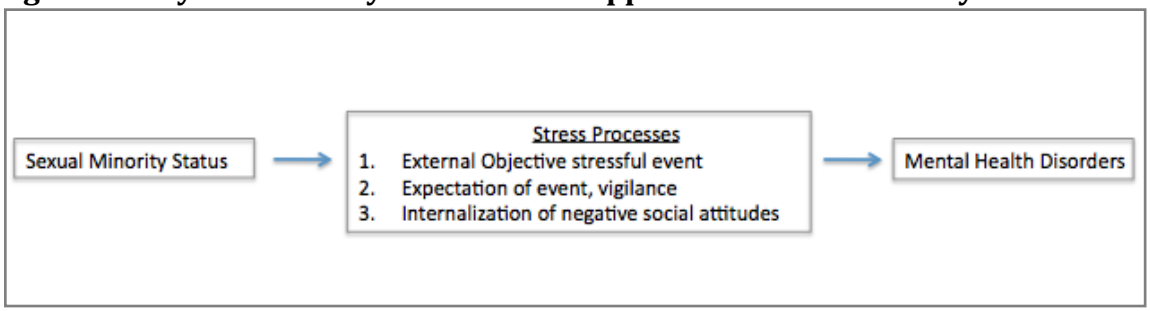
(a) External, objective stressful events and conditions (chronic and acute)

(b) Expectations of such events and the vigilance this expectation requires

(c) Internalization of negative societal attitudes

Belonging to a disadvantaged social position increases one's likelihood of exposure to stressors related to one's position and arouses adaptive machinery to cope with these stressors that can lead to mental health disorders over time (Figure 1).

Figure 1: Meyer's Minority Stress Model Applied to Sexual Minority Members



In the current study, I examined the effect sexual minority victimizations experiences on mental health outcomes in SMY. Sexual minority-specific victimization encompasses all three stress processes outlined in the Minority Stress Model. For example, being called a derogatory epithet related to one's sexuality can be stressful during the confrontation (external objective stressful event), afterward in anticipation of a similar event (vigilance), and can result in internalized homophobia and behavior modification (internalization of negative social attitudes). Thus, the Minority Stress Model offers a clear and empirically validated way of understanding the stress and coping processes of sexual minority-specific victimization on the mental health of SMY.

Sexual-minority specific victimization

In the last decade, more research has examined the prevalence and source of sexual minority victimization occurring within US schools.[14] Findings from this body of research indicate that 93% of SMY who are "out" in schools, have experienced explicit and implicit forms of homophobic verbal abuse or physical abuse.[14] Even in the absence of direct homophobic victimization, SMY may experience increased anxiety, depression, and isolation in schools where anti-gay language pervades.[14] Approximately 91.4% of SMY middle school and high school students reported that they sometimes or frequently heard homophobic remarks in school such as ''faggot,'' ''dyke,'' or ''queer.'' Of these students, 99.4% said they heard remarks from students and 39.2% heard remarks from faculty or school staff.[15]

Sexual minority victimization may include actions that are seemingly unintentional, but are nevertheless hurtful to malicious, directed attacks that single out one person for their real or perceived sexual orientation. Victimization ranges from microaggressions (e.g., the use of ''that's so gay'' and ''fag'' as generalized derogatory comments among youth), to verbal harassment, property damage, and physical violence.[14]

Sexual minority-specific victimization may partially explain the mental health disparity between sexual minority and heterosexual youth. For example, in a longitudinal study, Burton et al., found that sexual minority-specific victimization strongly predicted suicidality among SMY.[16] The association between sexual minority-specific victimization and suicidality remained significant after controlling

for lifetime history of suicidality.[16]

The commonplace occurrence of sexual minority-specific victimization in US high schools, and its impact on the immediate and long-term mental health of SMY present a public health imperative: to identify subpopulations at greatest risk, to define and determine protective factors, and to apply this knowledge to the creation and implementation of programs and policies aimed at reducing victimization and strengthening communities.

Race/Ethnicity

Many studies of sexual minority youth rely on mostly white populations. Very little research has focused on SMY of color.[17] SMY who are racial or ethnic minorities may experience different risk factors than sexual minority youth who are not racial or ethnic minorities.[17] For example, sexual minority members of racial/ethnic minorities groups experience multiple social identities as a person of color and sexual minority. There are mixed findings as to whether sexual minority persons of color show further risk as a result of multiple marginalized identities.[18] Using Meyer's minority stress model one would predict that persons with multiple minority statuses would face even greater levels of discrimination and stigma.

Sex

Past research has pointed toward a sex difference in depression, suicidal ideation, and attempted. According to the Youth Risk Behavior Surveillance System (YRBSS), a national school-based survey conducted by the CDC to assess health risk

behaviors among US youth in grades 9-11th, clear differences in depression, suicidal ideation, and suicide attempt exits between males and females. According to YRBSS data, the prevalence of having felt sad or hopeless almost every day for 2 or more weeks in a row was higher among female (35.9%) than male (21.5%) students. The prevalence of having seriously considered attempting suicide was higher among females (19.3%) than males (12.5%). The prevalence of having attempted suicide was higher among females (9.8%) than males (5.8%). [19]

In the majority of studies of SMY, males and females are grouped into one sexual identity category to increase the sample size and power of the study. As a result it is unclear whether or not male and female SMY follow similar patterns of depression, suicidality, and suicide attempt as the general population. There may be important differences in risk and protective factors between male and female SMY.

Adult Support

In much of the literature on at-school victimization, general parental support and peer support have been found to attenuate the effects of victimization among the general population.[20] However, among sexual minority youth who are victimized based on their sexual orientation, parental support does not appear to buffer the relationship to poorer mental health outcomes.[21] Many SMY fear rejection from their parents and do not seek support from parents.[22]

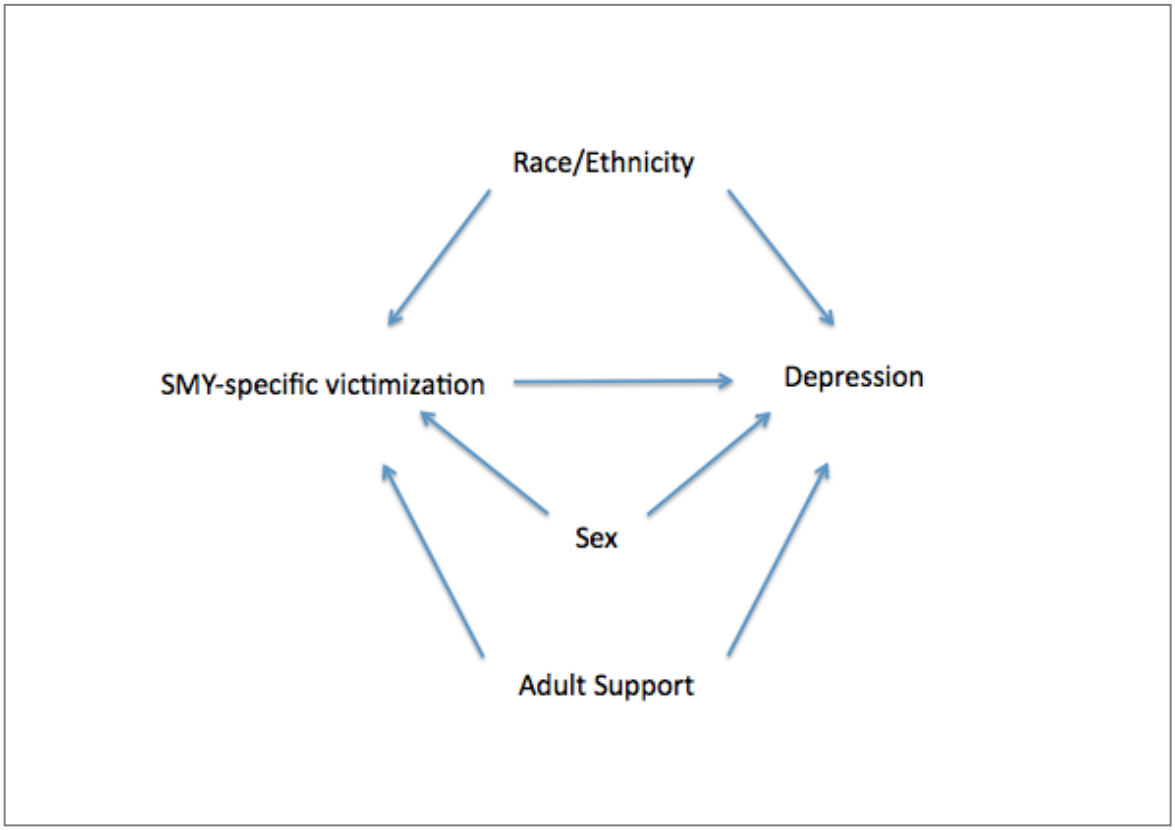
Peer support, though a significant protective factor for victimization in the general population, is problematic as a protective factor in SMY, because many SMY do not feel comfortable disclosing their sexual orientation to peers.[23] Sexual

minority youths who seek counseling from social service agencies identify social isolation and a lack of supportive friends among the most difficult issues they face.[24] In study of the SMY 95% reported that they frequently felt alienated from their peers because of their feelings of "differentness".[24] Friendship networks and the perception of friendship closeness and support are thus important foci to consider in addressing contextual peer factors and adjustment.[24]

To our knowledge, no research to date has looked at the capacity of adult support in schools as a factor that attenuates the effects of sexual minority specific victimization. However, support in schools may represent an important protective factor against negative mental health among SMY. It may also represent an important area for public health intervention.

Therefore to address these gaps in the research, I examined the potential associations between the prevalence of depression, suicidality, and past suicide attempts among SMY and the influence of homophobic victimization, adult support in school, race/ethnicity, age, and sex (Figure 2).

Figure 2: Hypothesized Model of the Relationship between Sexual Minority-Specific Victimization and Mental Health Outcomes, Examining Race/Ethnicity, Sex, and Adult Support as Potential Effect Modifiers.



Study Rationale and Objectives

Though the minority stress theory has been supported empirically, questions remain regarding specific mediators of the relationship between sexual minority status and mental health outcomes.[25] Unanswered questions in sexual minority research remain determining subgroups of sexual minority youth at greatest risk, stressors most predictive of adverse outcomes, and mechanisms through which these stressors impact health.[26]

Additionally, much of the extant research on SMY relies on small convenience samples that lack a heterosexual comparison group and do not have the resolution to look at differences between important subgroups. The current study seeks to

extend the literature on sexual minority stress and mental health in three ways. First, we will use a population-based study from multiple schools, giving our research strong external validity. Second, the sampling method also allows for a comparison among sexual minority groups within a defined population, including sex and race/ethnicity. Third, to our knowledge, no studies have assessed adult support in schools as a moderator of the relationship between victimization and mental health outcomes in SMY. This relationship may have important implications for development of anti-victimization programs in schools.

Specific Aims

1. To describe disparities in depression, suicidality, and previous suicide attempt among SMY in Oregon.

2. To examine differences in prevalence rates for depression, suicidality, and previous suicide attempts among sexual minority youth in Oregon who report being harassed at school as compared to sexual minority youth who do not report being harassed at school, and the role of age, sex, race/ethnicity, and adult support as potential confounders and effect modifiers.

Methods

Data were drawn from the Oregon Healthy Teens (OHT) study to complete this secondary data analysis. Annual OHT surveys are administered to 297 of Oregon schools, representing one third of Oregon's 8th and 11th -grade students attending public schools. Each year, a random sample of districts within counties and schools within districts is selected to participate in the OHT study. Participating students were drawn from 34 counties (no respondents were sampled in the remaining two counties in Oregon). The methods of OHT are available online. (http://public.health.oregon.gov/BirthDeathCertificates/Surveys/OregonHealthyTeens/results/2006/Documents/oht06methods.pdf)

For this secondary analysis, I pooled data from the years 2006 (when sexual orientation was first assessed) to 2009 (the most recently available data), to increase the sample size of sexual minority participants. In 2009, 75.4% of the 8th- and 11th-grade students in participating schools completed the OHT survey. Surveys from schools that were part of the statewide simple random sample were weighted to make them representative of the state. Schools not part of the random sample had their information reported to their districts but were not weighted and are not included in the analysis.

For each survey data included in this secondary analysis, a weight was applied to each student survey to adjust for student non-response and the distribution of students by grade, sex, and race/ethnicity in each site. Therefore, weighted state and local estimates are representative of all students in grades 9–12 attending public schools in each site.

Details concerning how the data were weighted can be found online. (http://public.health.oregon.gov/BirthDeathCertificates/Surveys/OregonHealthyTeens/results/2006/Documents/oht06methods.pdf)

Data Collection and Quality Control

Students completed the self-administered questionnaire during one class period and recorded their responses directly on a computer-scannable booklet or answer sheet. NPC Research optically scanned the surveys. This process created raw data files (one for 8th grade and one for 11th grade) containing the responses for each survey completed, identified only by the imprinted survey number, which cannot be associated with any particular student. Further processing of the surveys added school, school district, county and other student-demographic information, and NPC Research combined all of these into a single SPSS data file combining the results for all the surveys. If a particular survey contained no grade information NPC Research imputed the true grade based on their age.

Inclusion Criteria

Specific Aim 1: 11th grade participants who completed all survey items of interest.

Specific Aim 2: 11th grade students who identified as lesbian, gay, bisexual, or not sure and completed all survey items of interest.

Key Variables

Predictor Variables

The survey on which the current study is based addressed many factors that play important roles in the health behaviors of Oregon adolescents. The variables used in the current analyses were chosen on the basis of both their ability to address the research questions and their congruity with the Minority Stress Model.

Primary Exposure Categories	***Survey Item***	***Variable Type***
Sexual minority identity	Q: "Which of the following best describes you?"	Dichotomous
Sexual minority specific victimization	Q: "During the past 30 days, have you ever been harassed at school (or on the way to or from school)? (Type of harassment, mark all that apply.)"	Dichotomous
Adult support	Q: "There is at least one teacher or other adult in my school that really cares about me."	Dichotomous
Race/ethnicity	Q: "What is your race?"	Categorical (5 levels)
Age	Q: "How old are you?"	Continuous
Sex	Q: "What is your sex?"	Dichotomous

Sexual Minority Identity

The term sexual minority refers to members of sexual orientations or who engage in sexual activities that are not part of the mainstream.[27] Sexual orientation has three conceptual dimensions: self-identification or how one identifies one's sexual orientation, behavior, the sex of sex partners, and attraction, the sex or gender of individuals that one feels attracted.[28]

There is limited understanding of which dimension of sexual orientation is most meaningfully related to suicidal behavior. A recent study survey of SMY that incorporated multiple measures of sexual orientation found suicidal behavior to be significantly higher in youth who identify as lesbian, gay, or bisexual than youth who reported same-sex attraction, or previous sexual experience with someone of the same-sex but identified as heterosexual.[29] Those who indicated same-sex attraction or behavior but identified as heterosexual, however, did not report a higher rate of suicide attempt that heterosexual youth without same-sex attraction.[29]

The OHT instrument measures sexual orientation with two questions. First, regarding self-identification, students are asked, "Which of the following best describes you?" and are given the choices of (a) heterosexual (straight), (b) Gay or Lesbian, (c) Bisexual, or (d) Not sure. Second, regarding previous sexual experiences, students are asked " During your life, with whom have you had sexual contact?" and are given the choices of (a) I have never had sexual contact, (b) Females, (c) Males, (d) Females and Males.

In my analysis, I defined sexual minority identity students as those who identified as lesbian or gay, bisexual, or not sure were considered sexual minority. Students who marked heterosexual and had no or opposite sex only sexual experiences were considered heterosexual.

The survey item regarding previous sexual behavior was not used to define sexual minority status because of the subjective quality of the term "sexual contact". Another cognitive factor is the terminology used in questions about sexual behavior. Different populations might use different words for describing the same

behaviors.[30] For adolescent surveys, using a more precisely defined term may be a problem. Specifically asking about penile, vaginal, oral, or anal sex in adolescent surveys may cause some school districts or parent groups to become uncomfortable with researchers using these terms with young people. Including such precise terms can result in school districts or youth services delivery sites refusing to participate. Researchers should test the acceptability of the question content first.[30]

In most countries fewer than half of adolescents under the age of 17 are sexually experienced, so questions that focus on gender of sexual partners—a sexual orientation measure based on behavior—will likely misclassify the majority of adolescents with respect to sexual orientation.[31]

Sexual Minority Specific Victimization

Sexual minority specific victimization was assessed in a single survey item. Students were asked "During the past 30 days, have you ever been harassed at school (or on the way to or from school?)", and were then able to mark all types of harassment that apply including "Harassment because someone thought you were gay, lesbian, or bisexual"

Adult Support

Adult support was assessed with a single survey item. Students were asked to respond to the prompt "There is at least one teacher in my school who really cares about me" with the responses "very much true", "pretty much true", "a little true", or "not true at all". In the analysis, respondents who marked "very much true"

or “pretty much true” were categorized as having adult support in schools. Those who marked “a little true”, or “not true at all” were categorized as not having adult support.

Race/Ethnicity

Sexual minority specific victimization was assessed in a single survey item. Students were respondents could mark “white”, “black”, “Asian”, “Native American”, “Pacific Islander”, “multiple races”, or “Hispanic”.

Outcome Variables

Several studies have examined the impact of different modes of administration on reports of behaviors related to suicide.[32] Klimes-Dougan found a higher prevalence of reported suicidal ideation in a paper-and-pencil survey than in a structured interview.[33] These studies suggest that a lack of privacy can lead to underreporting of suicidal behavior.

Additional evidence that adolescent self-reports of health behaviors are affected by privacy and confidentiality can be found in studies that report significantly higher substance use from surveys conducted in schools than in households.[34]

Suicide

Students were asked, “During the past 12 months, how many times did you actually attempt suicide?” The suicide question used in the OHT was based on a

measure from the Youth Risk Behavior Surveillance Survey, which showed excellent test-retest reliability.[33]

For our analysis, previous suicide attempt was coded dichotomously, those who report never having attempted suicide, and those who report having attempted suicide at least once.

Suicidal Ideation

Suicidal ideation was assessed in a single survey item. Students were asked, "During the past 12 months, did you ever seriously consider attempting suicide?" The variable was coded dichotomously.

Depression

Depression was assessed using a single item, "During the past 12 months, did you ever feel so sad or hopeless every day for two weeks or more in a row that you stopped doing some usual activities?" The variable was coded dichotomously.

Data Analytic Plan

Descriptive statistics for the main study variables are presented in a table format. Logistic regression models were created for each of the three binary outcome variables: depression, suicidality, past suicide attempts.

For each model, the model selection process began with univariate analysis of each predictor variable. For categorical variables, this was done using

contingency tables. Contingency tables also allow the number of observations in each cell to be assessed, as a cell with zero observations will yield undesirable numerical outcomes to occur.

Univariable logistic regression models were created for both categorical and continuous variables to obtain the estimated odds ratio, associated 95% confidence interval, and p-value to assess statistical significance (α=0.05). Results were summarized in table form. All models were created using weighted data.

Results

Sample Characteristics:

The dataset included 18,971 observations, distributed across 4 years (2006—2009, inclusive) with the number of surveys per year ranging from 2600 to just over 7000, approximately.

As shown in Table 1, the sample of heterosexual youth contains 50.9% females vs. 49.1% males. The gender composition of those youth who identified as sexual minority is 62.6% females vs. 37.4% males. Notably, though males made up only 37.4% of sexual minority identified youth, they make up 47.1% of sexual minority youth who are harassed because of their sexual orientation.

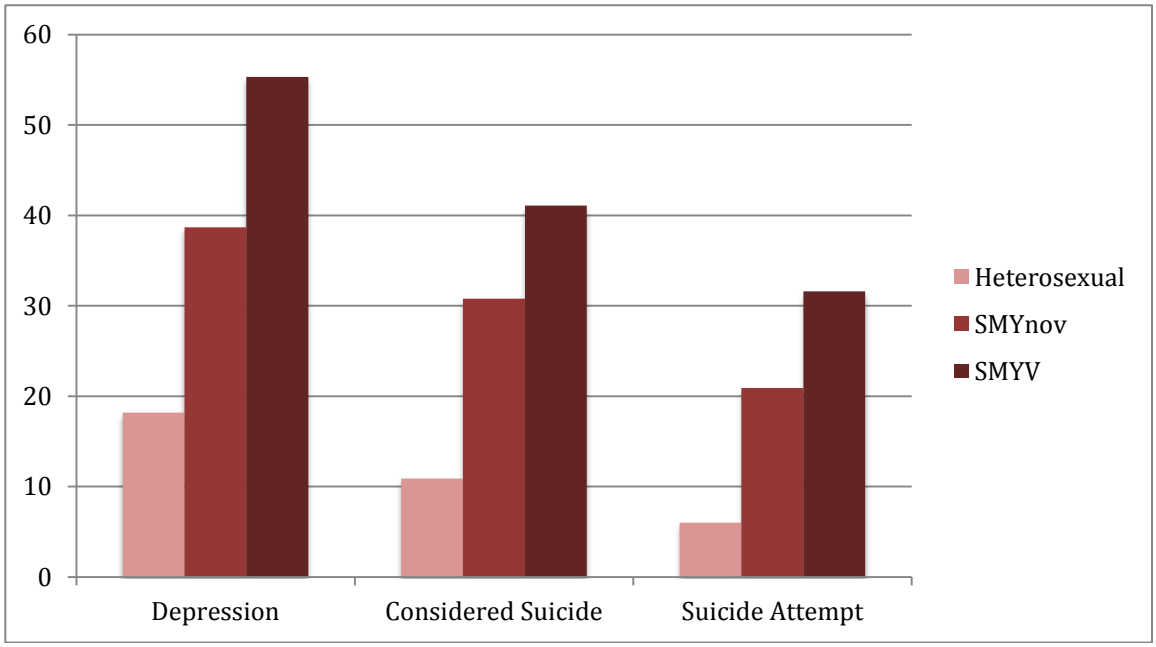
Differences in the proportion of race/ethnicities exist across the three populations of interest, heterosexual youth, sexual minority youth who do not report being harassed at school because of their sexual identity, and sexual minority youth who report being harassed at school because of their sexual identity. SMY

who described themselves as Black, Pacific Islander, or multiple races not including Hispanic, were more likely to also describe being harassed at school because of their perceived sexual orientation. These findings, however, were not found to be significant at the $\alpha = 0.05$ level.

Age of sampled youth did not vary significantly between heterosexual, SMY, and SMY who are harassed by peers (F-stat (2, 2525)=1.04 p-value= 0.35). The prevalence of adult support did not vary significantly across group (F-stat (2, 2206)=0.420p-value= 0.66)

With respect to the primary outcomes of interest, depression, suicidal ideation, and suicidality, dramatic prevalence differences exist across heterosexual, SMY, and SMY who are harassed by peers (Figure 1).

Figure 3: Prevalence of Depression, Suicidality, and Previous Suicide Attempt Among Heterosexual, Sexual Minority Youth, and Sexual Minority Youth Who Experience Harassment



Using unadjusted data, the odds of depression among SMY were found to be 3.22 times the odds of depression among heterosexual youth (95% CI: 2.73, 3.80). The odds of depression among SMY who are harassed for their perceived sexual orientation was found to be 5.02 times the odds of depression among heterosexual and sexual minority youth who were not victimized for their perceived orientation (95% CI: 3.66, 6.88).

The odds of suicidality among sexual minority youth were found to be 3.83 times the odds of suicidality among heterosexual youth (95% CI: 3.23, 4.56). The odds of suicidality among sexual minority youth who are harassed for their perceived sexual orientation was found to be 4.91 times the odds of suicidality among heterosexual and sexual minority youth who were not victimized for their perceived orientation (95% CI: 3.60, 6.70).

The odds of attempted suicide among sexual minority youth were found to be 5.04 times the odds of attempted suicide among heterosexual youth (95% CI: 4.09, 6.22). The odds of attempted suicide among sexual minority youth who are harassed for their perceived sexual orientation was found to be 4.81 times the odds of attempted suicide among heterosexual sexual minority youth who were not victimized for their perceived orientation (95% CI: 3.44, 6.72).

Table 1: Sample characteristics and variable associations of 11th grade Oregonians by self-identified sexual orientation, and homophobic victimization, 2006-2009.

Variable	% (SE)		
	Heterosexual	SMY	
		SMYNV	SMYV
Gender			
Male	49.1 (0.50)	34.4 (2.10)	47.1 (3.93)
Female	50.9 (0.50)	65.6 (2.10)	52.9 (3.93)
Ethnicity			
Caucasian	71.8 (0.49)	67.0 (0.47)	68.0 (3.73)
Hispanic	14.8 (0.38)	15.6 (1.66)	16.0 (3.05)
Black	2.29 (0.18)	4.92 (1.26)	8.40 (0.52)
AI/AN	1.81 (0.13)	3.06 (0.71)	2.11 (0.91)
Asian	4.58 (0.25)	3.48 (0.73)	1.37 (0.64)
Pacific Islander	1.07 (0.12)	1.07 (0.41)	6.60 (0.53)
Multiple, non-Hispanic	3.63 (0.20)	4.87 (1.04)	10.2 (2.61)
Age			
15 years old	0.18 (0.01)	0.32 (0.21)	0.12 (0.12)
16 years old	34.4 (0.51)	30.8 (2.10)	33.8 (3.70)
17 years old	62.9 (0.52)	63.1(2.17)	63.4 (3.73)
≥18 years old	2.50 (0.17)	5.60 (1.02)	2.70 (1.22)
Mental Health			
Sad or hopeless for 2+ weeks in past 12 months	18.2 (0.43)	38.7 (2.22)	55.3 (3.94)
Considered suicide last 12 months	10.9 (0.34)	30.8 (2.09)	41.1 (3.68)
Attempted suicide last 12 months	6.03 (2.51)	20.9 (1.78)	31.6 (3.64)
Healthy Development			
Adult at school cares about me: "Very much" or "Pretty much" true	80.3 (0.43)	75.8 (1.96)	77.2 (3.18)

Depression Model Results:

Univariate analysis began with the creation of contingency tables such that the observed cell values for all candidate categorical variables could be assessed. All variables assessed (perceived sexual minority harassment, race/ethnicity, perceived adult support at school and sex) had greater than 5 observations in each cell of the contingency table, allowing for the application of normal approximations (Appendix A-1, Tables 1-4).

Univariate logistic regression models were created for dependent variables to obtain the odds ratio and its 95% confidence intervals, the linearized standard error, and the p-value. Results are summarized in (Appendix A-2, Table 1). For the race/ethnicity design variables were created and each category was compared to a white referent.

A significant relationship was found between sex and depressive symptoms in the last 2 weeks. Among sexual minority youth, the odds that a female would report depressive symptoms in the last two weeks are 1.78 (95% CI: 1.25, 2.53) times the odds that a male would report depressive symptoms during that time frame. The odds that a female would report depressive symptoms in the last two weeks are 1.78 (95% CI: 1.25, 2.53) times the odds that a male would report depressive symptoms in a similar time frame.

Sexual minority-specific victimization was also strongly associated with depressive symptoms among sexual minority youth. The odds that a sexual minority youth, who reports harassment in school, would report depressive symptoms in the past two weeks are 2.75 times the odds that a sexual minority youth who reports

that they are not harassed in school would report depressive symptoms during that same time frame (95% CI: 1.66, 3.99).

Adult support is also associated with the outcome of interest; the odds that sexual minority youth who report having an adult in school who cares about their well-being are 0.51 the odds report depressive symptoms than sexual minority youth do not report having adult who cares about their well-being in school (95% CI: 0.35, 0.74).

Age and race/ethnicity were not found to be significantly associated with reported depressive symptoms (p-value-0.62, p-value=0.33). Age and race/ethnicity will both be examined in preliminary multivariate logistic regression analysis because they may be effect modifiers.

Minority status was not found to be significantly associated with the outcomes of interest among sexual minority youth (p-value: 0.28).

After fitting the multiple logistic model (Appendix A-3, Table 1), the importance of each variable was assessed by examining the adjusted Wald statistic for each variable. The results of the multiple logistic regression model indicate no significant relationship between race/ethnicity or age and mental health outcomes among SMY when controlling for peer victimization, sex, and adult support.

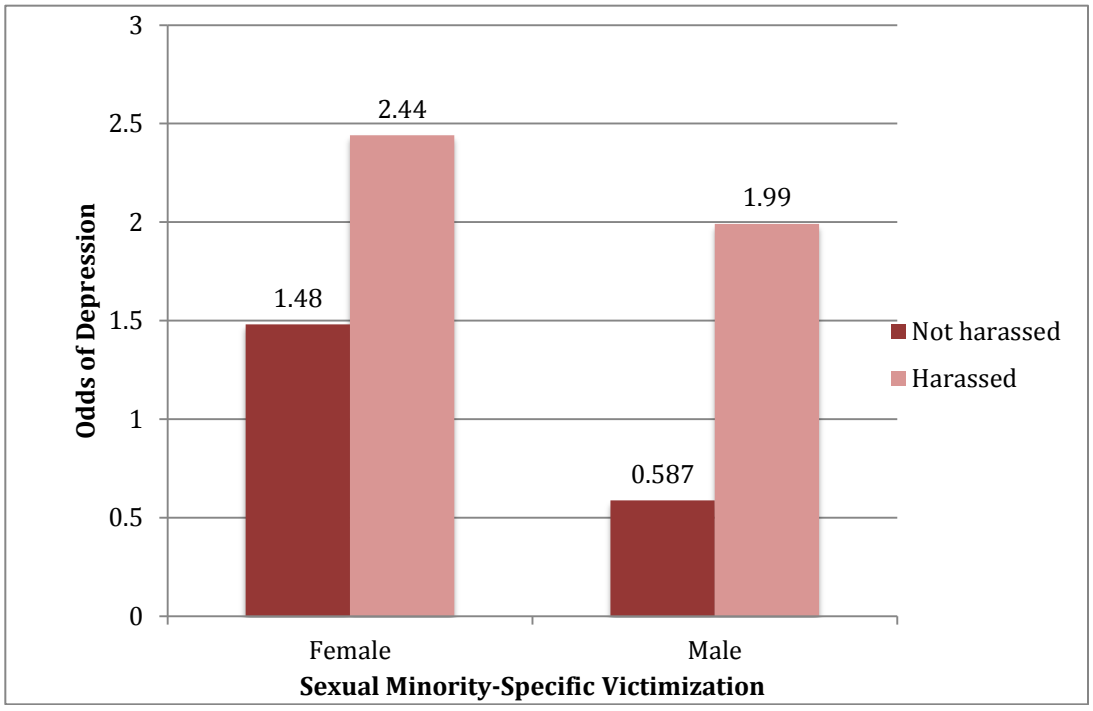
A post-estimation Adjusted Wald test of race/ethnicity was performed to evaluate differences between all race/ethnicities relative to one another. No significant differences in reported depressive symptoms were found between race/ethnicities (F-stat (6, 1078): 1.14, p-value=0.33)).

Sex, peer harassment, and adult support all remain significant in the preliminary multivariate logistic regression model (Table 3).

Assessing Interaction:

Interaction terms were considered on the basis of plausible significance. Post-estimation Adjusted Wald test was performed to evaluate potential interaction. With respect to the outcome depression, sex and harassment were found to interact at the alpha = 0.10 level.

Figure 4: The Odds of Depression Among SM Males who Report SM-victimization and SM Males who Do Not Report SM-victimization vs. The Odds of Depression Among SM Female who Report SM-victimization and SM Females who Do Not Report SM-victimization



The odds of depression among SMY women who reported being harassed in school are 1.64 times as much as the odds of depression in SMY women who do not report being harassed in school. The odds of depression among SMY men who report being harassed in school are 3.39 times the odds of depression in SMY men who do not report being harassed in school. The odds ratios associated with the effect for sexual minority-specific victimization differ for men and women (t-statistic: 1.81, p-value=0.07; test of sex-harassment interaction), such that the odds ratio for men is 2.06 times as large as the odds ratio for women.

Suicidal Ideation Model Results:

Analysis methods of the suicidal ideation model follow the same procedures as outlined for the depression model (pages 6-10). Univariate analysis of categorical variables can be found Appendix A-4. Univariate analysis of continuous variables can be found in Appendix A-4. Univariate logistic regression results are summarized in Table 1 of Appendix A-5.

A significant relationship was found between sex and suicidal ideation. Among sexual minority youth, the odds that a female would report suicidal ideation in the past year are 1.61 times the odds corresponding to the odds that a male would have considered suicide during that same time frame (95% CI: 1.12, 2.27 time as much; p-value=0.01)

SM-specific victimization was also found to be strongly associated with suicidal ideation. The odds at a sexual minority youth who reports SM-specific harassment in school would report suicidal ideation in the last year are 1.55 times the odds that a sexual minority youth who does not reports SM-specific harassment

would report suicidal ideation in that same time frame (95% CI: 1.07, 2.25 times as much; p-value=0.02)

Reported adult support in schools is also strongly associated with suicidal ideation among sexual minority youth. The odds of reporting suicidal ideation in the past year among sexual minority youth who also report an adult in school who cares about their well-being are 0.54 times the odds of reporting suicidal ideation among sexual minority youth who do not report having an adult in school who cares about their well-being (95% CI: 0.37, 0.78 times as much; p-value=0.001)

Age was found to be weakly associated with suicidal ideation. As age increased by 1 year, the odds of suicidal ideation among sexual minority youth were 0.73 times the odds of suicidal ideation among sexual minority youth 1 year younger (95% CI: 0.51, 0.93 times as much; p-value=0.017)

Race/ethnicity was not found to be significantly associated with suicidal ideation within the past year among sexual minority youth (p-value for each race category > 0.05, see Appendix A-6, Table 1). When race data were collapsed into a dichotomous minority variable (white or non-white) no significant association was found (p-value=0.17). Race/ethnicity will be examined in the preliminary multivariate model because it may be an effect modifier of the relationship between sexual minority youth and suicidal ideation.

The results of fitting the multiple logistic model of suicidal ideation are located in Table 2, Appendix A-6.

Sex, SM-specific victimization, age, and adult support in schools all remained significant in the preliminary multivariate model (Table 3).

Race/ethnicity was not found to be significant in the multivariate model (p-values for all race/ethnicities > 0.05). A post-estimation Adjusted Wald Test of race/ethnicity was performed to evaluate differences between race/ethnicity relative to one another. No significant difference in reported suicidal ideation was found between race/ethnicities (F-stat (6, 1067)=0.71, p-value=0.64)

Assessing Interaction:

Interaction terms were considered on the basis of plausible significance. Post-estimation Adjusted Wald tests were performed to evaluate for potential interaction.

For the outcome suicidal ideation, no terms were found to interact significantly at the alpha = 0.10 level.

Previous Suicide Attempt Results:

Analysis methods of the previous suicide attempt model follow the same procedures as outlined for the depression model (pages 6-10). Univariate analysis of categorical variables can be found Appendix A-6. Univariate analysis of continuous variables can be found in Appendix A-7.

Univariate logistic regression results are summarized in Table 1 of Appendix A-7.

The relationship between sex and previous suicide attempt was not found to be significant (p-value=0.83).

SM-specific victimization found to be strongly associated with previous suicide attempt. The odds at a sexual minority youth who reports SM-specific harassment in school would report 1 or more previous suicide attempts in the last year are 1.72 times the odds that a sexual minority youth who does not reports SM-specific harassment would report 1 or more suicide attempts in that same time frame (95% CI: 1.14, 2.61times as much; p-value=0.01)

Reported adult support in schools is also strongly associated with 1 or more previous suicide attempts in the last year among sexual minority youth. The odds of reporting suicidal ideation in the past year among sexual minority youth who also report an adult in school who cares about their well-being are 0.46 times the odds of reporting 1 or more previous suicide attempts in the past year among sexual minority youth who do not report having an adult in school who cares about their well-being (95% CI: 0.37, 0.78 times as much; p-value=0.001)

Age and race/ethnicity was not found to be significantly associated with suicidal ideation within the past year among sexual minority youth (age: p-value=0.06; p-value for each race category > 0.05. See Appendix A-6, Table 1.) When race data were collapsed into a dichotomous minority variable (white or non-white) no significant association was found (p-value=0.19). Race/ethnicity will be examined in the preliminary multivariate model because it may be an effect modifier of the relationship between sexual minority youth and suicidal ideation.

The results of fitting the multiple logistic model of suicidal ideation are located in Table 1, Appendix A-9.

Sex, SM-specific victimization, age, and adult support in schools all remained significant in the preliminary multivariate model (Table 3).

Race/ethnicity was not found to be significant in the multivariate model (p-values for all race/ethnicities > 0.05). A post-estimation Adjusted Wald Test of race/ethnicity was performed to evaluate differences between race/ethnicity relative to one another. No significant difference in reported suicidal ideation was found between race/ethnicities (F-stat (6, 1067): 1.81, p-value=0.07)

Assessing Interaction:

Interaction terms were considered on the basis of plausible significance. Post-estimation Adjusted Wald tests were performed to evaluate for potential interaction.

For the outcome suicidal ideation, no terms were found to interact significantly at the alpha = 0.10 level.

Table 2: Multivariate Models For Depression, Suicidal Ideation, and Previous Suicide Attempt Containing All Predictor Variables

Variable	**Depression** (n=1087)		**Suicidality** (n=1076)		**Previous Attempt** (n=1087)	
	OR (95%CI)	P-value	OR (95%CI)	P-value	OR (95%CI)	P-value
Sex						
Female	1		1		1	
Male	0.38 (0.25, 0.59)	0.019	0.51 (0.32, 0.82)	0.005	0.82 (0.50,1.34)	0.128
Age						
per 1 year	1.20 (0.88, 1.61)	0.239	0.72 (0.53, 0.97)	0.034	0.94 (0.66, 1.33)	0.712
Victimization?						
No	1		1		1	
Yes	1.68 (1.03, 2.73)	0.037	1.40 (0.86, 2.23)	0.169	1.51 (0.89, 2.56)	0.128
Minority?						
No	1		1		1	
Yes	1.21 (0.84, 1.77)	0.306	1.31 (0.89, 1.91)	0.165	1.57 (1.05, 2.34)	0.027
Caring Adult?						
No	1		1		1	
Yes	0.48 (0.33, 0.70)	<0.001	0.53 (0.36, 0.77)	0.001	0.46 (0.30, 0.70)	<0.001
Sex: Harass						
	2.09 (0.95, 4.60)	0.066	1.65 (0.75, 3.60)	0.209	1.67 (0.72, 3.90)	0.232

(a) Interaction between minority and each of sex, harassment and caring adult were noted to be non-significant ($p>0.10$) in the Depression, Suicidality, and Previous Suicide Attempt Model

Table 3: Multivariate Models For Depression, Suicidal Ideation, and Previous Suicide Attempt Containing All Significant Predictor Variables

	Depression (n=1087)		**Suicidality** (n=1076)		**Previous Attempt** (n=1087)	
Variable	OR (95%CI)	P-value	OR (95%CI)	P-value	OR (95%CI)	P-value
Sex						--
Female	1		1			
Male	0.40 (0.34, 0.57)	<0.001	0.57 (0.40, 0.84)	0.004		
Age		--		--		--
Per 1 year						
Victimization?						
No	1		1		1	
Yes	1.65 (1.02, 2.66)	0.041	1.71 (1.17, 2.49)	0.005	1.84 (1.21,2.80)	0.004
Minority?		--		--		--
No						
Yes						
Caring Adult?						
No	1		1		1	
Yes	0.47(0.32, 0.68)	<0.001	0.52 (0.36, 0.76)	0.001	0.45 (0.29, 0.67)	<0.001
Sex: Harass	2.06 (.942, 4.51)	0.07		--		--

(a) Interaction between minority and each of sex, harassment and caring adult were noted to be non-significant (p>0.10) in the Depression, Suicidality, and Previous Suicide Attempt Model

Discussion

The prevalence, incidence and risk of depression is higher in females than in males, beginning at mid-puberty and persisting through adult life.[35] This gender discrepancy is consistent with other studies of SMY in this age group.[36] The depression disparity observed between males and females in adolescence is also seen in SMY. Causal factors for this relationship have not been clearly established. No study has linked the increased prevalence to differences in coping behaviors, genetic factors, or gonadal hormones.[36]

In this study, the differences in prevalence of depression among SMY males and females followed a similar trend to that of the general population. Notably, sexual minority-specific victimization had different effects on mental health outcomes between sexual minority men and women. Among female SMY, the odds of reporting depression among those who did not report harassment was found to be 1.64 times the odds of reporting depression among those who did report harassment. Among male sexual minority youth, the odds of reporting depression among those who did not report harassment was found to be 3.39 times the odds of reporting depression among those who did report harassment. Elucidating the causes of such a disparity is an important public health concern.

Limitations:

The limitations of this study are as follows. First, The OHT survey evaluates the frequency and bias specific type of harassment that youth experience, but not

however, assess the severity of that harassment, or the harassment behavior. It could be different subpopulations of SMY experience different kinds of harassment from their peers. It is important that future studies measure harassment using a rating scale, and that they measure specific harassment behaviors. These behaviors may include directed homophobic language, rumor spreading, and social isolation.[37] A rating scale would allow for examination of a dose-response between severity of victimization and mental health outcomes.

Second, the number of racial/ethnic minority SMY in the OHT survey was not adequate to detect significant differences depression, suicidal ideation, and previous attempt among racial/ethnic minority SMY. Due to an overwhelming majority of white SMY and limited ethnic/racial diversity within Oregon overall, the study was not suitable to determine differences among various ethnic/racial groups.

The sample size was large enough to detect important differences between sexes, as well as do elucidate the relationship between sexual minority-specific victimization and mental health outcomes. Further research will require larger a larger sample size to look at race/ethnicity differences in Oregon.

Third, the survey definition of sexual orientation may limit the number of SMY captured in the OHT survey. Sexual minority youths may be defined in at least two ways: by sexual identity or by the sex of their sexual contacts. Sexual minority youths defined by sexual identity include those who identify themselves as gay, lesbian, or bisexual or who are unsure of their sexual identity.[38] Sexual minority youths defined by the sex of their sexual contacts include those who have only had sexual contact with persons of the same sex or with both sexes. Youths who identify

themselves as heterosexual, gay, lesbian, or bisexual might not have had any sexual contact.

Furthermore, youths who have only had sexual contact with persons of the same sex or with both sexes might identify themselves as heterosexual, and youths who have only had sexual contact with persons of the opposite sex might identify themselves as gay, lesbian, or bisexual. Some youths who eventually identify themselves as a sexual minority or only have sexual contact with persons of the same sex or both sexes might not identify themselves as a sexual minority and might not have had any sexual contact.[39] The dissonance between sexual identity and sex of sexual contacts is well documented, particularly among youths.[39]

Finally, it is possible that some unknown or poorly characterized confounder might account for the relationship between sexual minority youth and mental health outcomes. Using the method laid out by Winklestein et al., for an unknown confounding variable to explain an odds ratio of 1.84, it would have to be a relative risk of 2.84. The high-risk level of the unknown confounder would have to be associated with a 2.84 times increase in the risk of previous suicide attempt compared to the high-risk level. A relative risk of 2.84 is not implausibly large and is therefore a possible explanation of the observed association. [40]

Non-response:

Youth who will eventually identify as gay, lesbian, or bisexual vary among themselves in terms of when and the degree to which they become aware of their same-sex attractions, label these attractions as gay, lesbian, or bisexual, engage in

sexual activity with same-sex individuals, and disclose their sexual orientation to others.[41] We can expect that some students did not, at the time of the survey, feel comfortable revealing their sexual identity or previous same-sex sexual partners in the survey, resulting a misclassification of sexual orientation; however, we expect this to attenuate the true relationship, biasing the results toward the null.

Sexual orientation questions do not threaten respondents' willingness to participate in a survey. Respondents are not more likely to break-off their participation on surveys when they encounter a sexual orientation question.[42] Inconsistencies include things like reporting having smoked cigarettes in the past 30 days, yet reporting never having smoked when asked age of first use. If a survey showed a relatively large number of inconsistencies, the entire survey was marked as invalid. The threshold for this invalidation was 10% or more of the total possible inconsistencies in the survey. If total inconsistencies were less than 10%, the discrepant items were resolved by setting to missing the responses for the inconsistent questions. In general, the first item of the related set was used as the standard, i.e., no change was made to the answer in the standard, or key indicator. Then if the student had inconsistent answers in related questions, and their survey was still within the 10% overall validity threshold, the inconsistent answers in the set of related questions were changed to missing.

Further Research

Trans-inclusion

Factors relating to the culture of heteronormativity such has appearance and

behavior may help explain the victimization of sexual minority members.[43] Lesbian and gay individuals are often more gender atypical than heterosexual individual, and gender atypicality may signal non-heterosexuality to others.[43] These transgressions may result in the experience of victimizations as others respond to this non-normative behavior.[43] It may be that gender non-conformity better predicts the odds of reporting harassment in school.

Policy and Intervention

Gay-Straight Alliances (GSAs) are student-led, school-based clubs that aim to provide a safe environment in the school context for lesbian, gay, bisexual, and transgender (LGBT) students, as well as their straight allies.[44] Recent studies have shown that the presence of a GSA is associated with reduced suicide risk for sexual minority youth. GSA presence is also associated with greater levels of school safety, fewer reports of missing school due to fear, and greater awareness of a safe adult in the school context.[44]

The 1984 Federal Equal Access Act mandates that schools receiving federal funding cannot discriminate against student groups. In spite of this legislation, in recent years several schools have denied students the right to assemble in Gay–Straight Alliances.[45] Given the capacity GSAs have to increase the wellbeing of sexual minority students, it is a public health imperative that federal policy protect GSA rights to assemble.

Anti-bullying policies should be upheld in all schools to protect the physical and emotional health of all students. Given the impact of sexual minority-specific

victimization, and it's prevalence in US high schools, it is clear that SMY require protection from such victimization at the institutional level. More research into which policies most significantly reduce the incidence of sexual minority victimization is needed.

Summary & Conclusion

In this study, sexual minority-specific victimization was found to be strongly associated with depression, suicidal ideation, and previous suicide attempt in this study. This finding is congruent with previous studies in smaller samples.

The relationship between sexual minority victimization and racial/ethnic identity was not found to be significant. This finding may be explained by the small sample size of SMY in the sample. Future research samples in Oregon should over-sample in racial/ethnic minorities to elucidate potential difference in risk related to sexual and racial minority identity.

Importantly, though male SMY had a lower baseline prevalence of reported depression than female SMY, the odds ratios associated with the effect of sexual minority-specific victimization differ for men and women (t-statistic: 1.81, p-value: 0.07; test of sex-harassment interaction), such that the odds ratio for men is 2.06 times as large as the odds ratio for women.

In this study, I was able to evaluate the effects of sexual minority victimization on depression, suicidal ideation, and previous suicide attempt among

Oregon SMY. I was also able to look at differences based on sex, and adult support. The findings of this study indicate areas in which anti-bullying policies could be used affective to alleviate the burden of depression, suicidal ideation, and suicide among SMY. It is also clear that further research, particularly in the area of intersecting social identities, is needed.

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Appendix A-1: Depression Model: Analysis of Categorical Predictor Variables

Contingency Tables for Categorical Predictor Variables

Contingency Table 1: of Depression vs. Sex

Depression	Female	Male	Total
No	0.33	0.24	0.57
Yes	0.30	0.13	0.43
Total	0.63	0.36	1.00

Contingency Table 2: of Depression vs. Harassment

Depression	Not Harassed	Harassed	Total
No	0.46	0.11	0.57
Yes	0.29	0.14	0.42
Total	0.75	0.25	1.00

Contingency Table 3: of Depression vs. Adult Support

Depression	No	Yes	Total
No	0.11	0.46	0.57
Yes	0.13	0.30	0.42
Total	0.24	0.76	1.00

Contingency Table 4: of Depression vs. Race/Ethnicity

Race/Ethnicity	No Depression	Depression	Total
White	0.400	0.280	0.680
Native American	0.014	0.011	0.025
Asian	0.020	0.010	0.030
Black	0.017	0.021	0.038
Pacific Islander	0.002	0.005	0.007
Multiple Races	0.035	0.026	0.061
Hispanic	0.087	0.075	0.162
Total	0.572	0.428	1.000

Appendix A-2: Depression Model: Univariate Regression Models

Table 1: Analysis of Association Between Predictor Variables and Suicidal Ideation

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.56	(0.40, 0.80)	0.001
Age			
Per 1 year	1.10	(0.81, 1.48)	0.543
Victimization?			
No	1		
Yes	2.75	(1.66, 3.99)	<0.001
Minority *			
Native American	1.13	(0.44, 2.91)	0.799
Asian	0.74	(0.33, 1.65)	0.459
Black	1.80	(0.65, 5.03)	0.260
Pacific Islander	3.72	(0.73, 19.0)	0.113
Multiple Races	1.07	(0.53, 2.19)	0.848
Hispanic	1.23	(0.77, 1.94)	0.386
Caring Adult?			
No	1		
Yes	0.51	(0.35, 0.74)	<0.001

- Race/ethnicity: odds of depression measured relative to white referent

Appendix A-3: Depression Model: Multivariate Regression Models

Table 2: Results of Fitting Multivariable Model Containing Predictor Variables of Interest

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.47	(0.39, 0.84)	<0.001
Age			
Per 1 year	1.91	(0.89, 1.61)	0.240
Victimization?			
No	1		
Yes	2.42	(1.64, 3.59)	<0.001
Minority *			
Native American	1.27	(0.43, 3.72)	0.64
Asian	1.02	(0.45, 2.31)	0.97
Black	2.20	(0.74, 6.54)	0.15
Pacific Islander	4.96	(1.04, 21.1)	0.04
Multiple Races	0.81	(0.36, 1.81)	0.06
Hispanic	1.18	(0.74, 1.89)	0.51
Caring Adult?			
No	1		
Yes	0.47	(0.32, 0.69)	<0.001

* Race/ethnicity: odds of depression measured relative to white referent

Table 3: Results of Fitting Multivariable Model Containing Significant Predictor Variables

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.49	(0.34, 0.79)	<0.001
Victimization?			
No	1		
Yes	2.22	(1.50, 3.30)	<0.001
Caring Adult?			
No	1		
Yes	0.47	(0.32, 0.69)	<0.001

Appendix A-4: Suicidal Ideation Model: Analysis of Categorical Predictor Variables

Contingency Tables for Categorical Predictor Variables

Contingency Table 1: Suicidal Ideation vs. Sex

Ideation	Female	Male	Total
No	0.40	0.26	0.66
Yes	0.24	0.10	0.34
Total	0.64	0.36	1.00

Contingency Table 2: Suicidal Ideation vs. Harassment

Ideation	Not Harassed	Harassed	Total
No	0.52	0.14	0.66
Yes	0.24	0.10	0.34
Total	0.76	0.24	1.00

Contingency Table 3: Suicidal Ideation vs. Adult Support

Ideation	No	Yes	Total
No	0.13	0.53	0.66
Yes	0.11	0.23	0.34
Total	0.24	0.76	1.00

Contingency Table 4: Suicidal Ideation vs. Race/Ethnicity

Race/Ethnicity	No Ideation	Ideation	Total
White	0.463	0.214	0.677
Native American	0.014	0.012	0.026
Asian	0.022	0.008	0.030
Black	0.024	0.016	0.040
Pacific Islander	0.0033	0.0039	0.0072
Multiple Races	0.0355	0.0259	0.0614
Hispanic	0.1038	0.055	0.1588
Total	0.6644	0.3356	1.000

Appendix A-5: Suicidal Ideation Model: Univariate Regression Model

Table 1: Analysis of Association Between Predictor Variables and Suicidal Ideation

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.62	(0.44, 0.89)	0.01
Age			
Per 1 year	0.69	(0.51, 0.93)	0.017
Victimization?			
No	1		
Yes	1.55	(1.07, 2.25)	0.02
Minority *			
Native American	1.89	(0.75, 4.81)	0.179
Asian	0.08	(0.33, 1.90)	0.607
Black	1.58	(0.52, 4.78)	0.412
Pacific Islander	2.81	(0.77, 3.21)	0.193
Multiple Races	1.57	(0.38, 0.56)	0.213
Hispanic	1.16	(0.38, 0.56)	0.571
Caring Adult?			
No	1		
Yes	0.54	(0.37, 0.78)	0.001

- Race/ethnicity: odds of depression measured relative to white referent

Appendix A-6: Suicidal Ideation Model: Multivariate Regression Model

Table 2: Results of Fitting Multivariable Model Containing Predictor Variables of Interest

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.59	(0.41, 0.86)	0.006
Age			
Per 1 year	0.73	(0.54, 0.99)	0.040
Victimization?			
No	1		
Yes	1.73	(1.18, 2.53)	0.004
Minority *			
Native American	1.88	(0.71, 5.05)	0.2.05
Asian	1.07	(0.44, 2.58)	0.874
Black	1.62	(0.46, 5.68)	0.448
Pacific Islander	3.10	(0.64, 15.2)	0.161
Multiple Races	1.25	(0.62 2.53)	0.531
Hispanic	1.15	(0.70, 1.92)	0.568
Caring Adult?			
No	1		
Yes	0.52	(0.36, 0.76)	0.001

* Race/ethnicity: odds of depression measured relative to white referent

Appendix A-7: Previous Suicide Attempt: Analysis of Categorical Predictor Variables

Contingency Tables for Categorical Predictor Variables

Contingency Table 1: Previous Attempt vs. Sex

Ideation	Female	Male	Total
No	0.50	0.28	0.78
Yes	0.14	0.08	0.22
Total	0.064	0.036	1.00

Contingency Table 2: Previous Attempt vs. Harassment

Ideation	Not Harassed	Harassed	Total
No	0.60	0.17	0.77
Yes	0.15	0.07	0.22
Total	0.75	0.25	1.00

Contingency Table 3: Previous Attempt vs. Adult Support

Ideation	No	Yes	Total
No	0.16	0.62	0.78
Yes	0.08	0.14	0.22
Total	0.24	0.76	1.00

Contingency Table 4: Previous Attempt vs. Race/Ethnicity

Race/Ethnicity	No Attempt	Attempt	Total
White	0.540	0.130	0.670
Native American	0.020	0.005	0.025
Asian	0.025	0.004	0.029
Black	0.025	0.013	0.038
Pacific Islander	0.002	0.005	0.007
Multiple Races	0.050	0.017	0.067
Hispanic	0.117	0.046	0.161
Total	0.780	0.220	1.00

Appendix A-8: Previous Suicide Attempt Model: Univariate Regression Model

Table 1: Analysis of Association Between Predictor Variables and Suicidal Ideation

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.96	(0.64, 1.43)	0.834
Age			
Per 1 year	0.91	(0.65, 1.29)	0.060
Victimization?			
No	1		
Yes	1.72	(1.14, 2.61)	0.010
Minority *			
Native American	1.23	(0.38, 4.01)	0.730
Asian	0.75	(0.25, 2.24)	0.602
Black	2.13	(0.67, 6.75)	0.199
Pacific Islander	7.98	(1.68, 37.9)	0.009
Multiple Races	1.60	(0.78, 3.25)	0.197
Hispanic	1.64	(0.98, 2.72)	0.059
Caring Adult?			
No	1		
Yes	0.46	(0.30, 0.69)	<0.001

- Race/ethnicity: odds of depression measured relative to white referent

Appendix A-9: Previous Suicide Attempt Model: Multivariate Regression Model

Table 2: Results of Fitting Multivariable Model Containing Predictor Variables of Interest

Predictor Variable	**Odds Ratio**	**95% Confidence Interval**	**P-value**
Sex			
Female	1		
Male	0.98	(0.65, 1.47)	0.923
Age			
Per 1 year	0.94	(0.66, 1.33)	0.712
Victimization?			
No	1		
Yes	1.95	(1.28, 2.96)	0.002
Minority *			
Native American	1.40	(0.40, 4.85)	0.599
Asian	0.83	(0.27, 2.53)	0.753
Black	2.36	(0.81, 6.08)	0.112
Pacific Islander	9.85	(1.90, 51.1)	0.007
Multiple Races	1.30	(0.64 2.71)	0.462
Hispanic	1.53	(0.92, 2.54)	0.101
Caring Adult?			
No	1		
Yes	0.52	(0.36, 0.76)	0.001

* Race/ethnicity: odds of depression measured relative to white referent