2021

Comparison of Sexual Risk Behaviors Between Junior Male and Female Students at Pierz High School

Sandy Tautges
Minnesota State University, Mankato

Comparison of Sexual Risk Behaviors Between Junior Male and Female Students at Pierz High School

By
Sandy Tautges

A Thesis Statement In Partial Fulfillment
Of the Requirements for

Master of Science
School Health

Minnesota State University, Mankato
Mankato, MN
December 2017

Date:

Comparison of Sexual Risk Behaviors Between Junior Male and Female Students at Pierz High School

Sandra J. Tautges

This thesis paper has been examined and approved by the following members of the student's committee.

_____

Dr. Marlene Tappe, Advisor

_____

Dr. Marge Murray-Davis

Abstract

Comparison between male and female junior students sexual risk behaviors at Pierz High School. Sandy Tautges, M.S. Minnesota State University, Mankato, 2017.

The purpose of the study was to conduct a secondary analysis of Minnesota Student Survey data to compare selected sexual risk behavior of male and female eleventh grade students at Pierz High School. The secondary analysis revealed that the males and females are not significantly different with respect to the selected sexual risk behaviors.

The conclusion can be reached that there is no need to tailor the sexual health instruction to students based on gender.

Table of Content

Chapter One: Introduction

Minnesota has been at the forefront among states in terms of administering a student health survey (Minnesota Department of Education [MDE], 2016b). The Minnesota Department of Health (MDH) began administering the Minnesota Student Survey in 1989 (MDE, 2016b). The results are utilized to track health risk behaviors and develop and implement programs and services to support the health of children and youth. The MDH (n.d.) publishes the statewide and county results related to these surveys on its website and provides the results of school-specific surveys to local school districts. The purpose of this study is to compare the sexual risk behaviors of male and female juniors at Pierz High School by conducting a secondary analysis of the results of Minnesota Student Survey collected and reported by MDH to Pierz Independent School District 484. Within this chapter the statement of the problem, purpose of the study, and research questions are provided. The limitations, delimitations and assumptions of the study along with definitions that apply to this study are also described in this chapter.

Statement of the Problem

Public health officials in Morrison county expressed concern to health care providers about the rise in sexually transmitted infections (STIs) in teenagers (R. Young, personal communication, January 12, 2015). The Centers for Disease Control and Prevention (CDC) also reports that the three nationally reported STIs (chlamydia, gonorrhea and syphilis) have risen for the second consecutive year (2016). This rise in STIs is a concern for many; those sexually active, the health care

costs associated with treating an STI, public health officials directing programs focused on STIs, and medical personnel diagnosing and treating STIs. Another concern is that STIs such as gonorrhea are developing a resistance to antibiotics (CDC, 2017).

Purpose of the Study

The purpose of the study is to compare the sexual risk behaviors of male and female juniors at Pierz High School by conducting a secondary analysis of the results of Minnesota Student Survey collected and reported by MDH to Pierz Independent School District 484. This analysis may provide useful information from students about their sexual risk behaviors. The information will help develop and maintain programs and provide better services in our school and community.. The Minnesota Student Survey is an anonymous survey conducted by the MDH every three years at public schools, charter schools, tribal schools, alternate school, Area Learning Centers, and juvenile correction centers in Minnesota (MDH, n.d.). The portion of the survey related to sexual risk behaviors is given to only ninth and eleventh graders. The focus of this study will be on sexual risk behaviors and risk factors associated with these behaviors among eleventh grade male and female students at Pierz High School.

Research Question

This study addresses the following question:

1. Do the sexual risk behaviors of juniors at Pierz High School vary by gender?

Limitations

The following were limitations of this research project:

1. The researcher did not have access to the primary data set from the Minnesota Student Survey conducted by the MDH at Pierz High School on March 3, 2016. Therefore, this study is a secondary analysis of published results of surveillance data collected and reported by the MDH.
2. The number of students who participated in the Minnesota Student Survey conducted by the MDH at Pierz High School in March, 2016.

Delimitations

The following was the delimitation of this research project:

1. The secondary analysis was limited to the published results related to eleventh graders at Pierz High School central Minnesota.

Assumptions

The following are assumptions of this research project:

1. The results reported by the MDH accurately reflect the primary data collected from students at Pierz High School.
2. The primary data collected is based on honest responses from the students to each question.
3. The primary data collected is based on students' understanding that the questions in the sexual behavior section reflect vaginal intercourse.

Definitions

Census survey. A census survey collects complete information from all participants in the population (Cottrell & McKenzie, 2011).

Dichotomous*.* Dichotomous is dividing into two parts. This was a simple, if yes, then continue to additional questions (Merriam-Webster Online, n.d.).

Protection of Pupil Rights Amendment (PPRA). PPRA requires schools that participate in the survey notify parents of the survey administration, provide parents the opportunity to review the survey instrument, and allow parents to opt their child out of participating (United States Department of Education, n.d.).

Secondary analysis. "Secondary analysis is the re-analysis of either qualitative or quantitative data already collected in a previous study, by a different researcher normally wishing to address a new research question" (Payne & Payne, 2004, p. 214).

Surveillance. Surveillance is the "Systematic, ongoing collection, collation, and analysis of health-related information that is communicated in a timely manner to all who need to know which health problems require health action in their community" (Last, 2007, p. 360).

Chapter Two: Review of Literature

Introduction

The purpose of this study was to compare the sexual risk behaviors of male and female juniors at Pierz High School by conducting a secondary analysis of the results of Minnesota Study Survey collected and reported by MDH to Pierz Independent School District 484. This analysis may provide useful information from students about their sexual risk behaviors. The information will help develop and maintain programs and provide better services in our school and community. This chapter will describe the Minnesota Student Survey (Minnesota Department of Health, 2016b) and its history. In addition, this chapter will delineate uses for results gained from the Minnesota Student Survey.

Minnesota Student Survey

The Minnesota Student Survey is a census survey that is anonymous and confidential. Students are not asked for their names or any personal identification (MDH, 2013). It is conducted to students in grades 5, 8, 9, and 11 at public schools, charter schools, tribal schools, alternate school, Area Learning Centers, and juvenile correction centers (MDH, n.d.). The results are reported as a whole for each school district. Topics on the survey include; demographics, school related questions, activities, family and relationships, risk factors, health and safety, mental health, behavior, substance use, and sexual health and protective factors (MDH, 2016). The sexual health and protective factors is only addressed to the 9th and 11th graders (MDH, n.d.). Most school districts in Minnesota participate in the survey, over 80%

(MDH, 2016). According to the MDE all schools and districts that participate in the survey do follow the required Protection of Pupil Rights Amendment (PPRA) (U.S. Department of Education, n.d.). Surveys with invalid responses were removed from analysis. Surveys were also eliminated when responses with highly inconsistent or a pattern showed exaggeration. The raw data is available to school districts, but must be requested by the superintendent through a written request (MDH, 2016).

History of the Minnesota Student Survey

The Minnesota Student Survey began in 1989 (MDE, 2016b). Minnesota led all states in gathering this type of data through a survey. The rest of the nation began in 1991 with the National Youth Risk Behavior Survey (CDC, 2016). Because Minnesota had already began utilizing a survey they were allowed to continue this survey to be consistent with data collection. Initially, the Minnesota Study Survey during the years 1989 to 2010 was administered to grades 6, 9, and 12. The year 2013 was the beginning of administering to grades 5, 8, 9 and 11. This was decided by the interagency involved to gather data one year earlier among students. The interagency also chose to maintain Grade 9 to be able to monitor data on those students involved in earlier surveys (MDH, 2013). The survey continues to be administered to those districts that participated in the eight previous surveys to enable consistency within the sets gathered. Fortunately, there has consistently been approximately 60% participation among 11th graders (Parks, 2016). In 2013, the survey became available for district to administer online or if the district chose to they could still utilize the paper version (MDH, 2013).

Uses of the Minnesota Student Survey

The agencies from the Minnesota Department of Education, Health, Human Services and Public Safety utilize the data to assist in development of local programs, health care programs and education curriculum to help improve the lives of teenagers (MDH, 2016a). The health and safety of students is critical in their ability to learn. "There are many factors outside of school that can prevent children from succeeding," said Minnesota Education Commissioner Brenda Cassellius (MDE, 2016a, p. 1). "That is why the Minnesota Student Survey is so valuable. Schools, districts, community organizations, local and state agencies rely on MSS data to identify the issues young people are facing, so that we can address those issues to strengthen student achievement" (MDE, 2016a, p. 1).

Summary

Minnesota is a leader in the collection of student data to help in developing programs to assist in the lives and health of youth. Although, adjustments have been made to questions, ages of participants and options of admission the overall process of conducting the Minnesota Student Survey have stayed consistent.

Chapter Three: Methodology

Introduction

The method of research will be addressed within this chapter. These methods will include the design of the study, participants, instrumentation, procedure, and summary of results.

Research Design

The design of the study was a secondary analysis (Payne & Payne, 2004) of surveillance data collected and reported by the MDH to Pierz Independent School District 484. It is census-like survey (MDH, 2016a) where schools are invite to participate. These are three levels administered. Level one to 5th graders, level 2 is to 8th graders and level 4 is for 9th and 11th graders. The questionnaire is given to all participants throughout the state of Minnesota. The data collection method was anonymous and voluntary by students in grades 5, 8, 9 and 11. This study will look at the results of data collected and reported by the MDH from only eleventh graders from Pierz Healy High School.

The Pierz Results

There were approximately 36,575 juniors throughout the state of Minnesota that took the Minnesota Student Survey (MDE, 2016b). The student population at Pierz Healy High School juniors in the year 2016 was a total of 103 students (S. Smallfield, personal communication, July 28, 2017). The ratio count of those 103 students, 47 were male and 56 were female (S. Smallfield, personal communication, July 28, 2017) The results of the data set provided to Pierz Independent School

District 484 included 71 of the 103 students, with 27 being male and 44 female (MDE, 2016b). The results provided to Pierz Independent School District are based on data collected March 3, 2016 (S. Smallfield, personal communication, July 28, 2017). The MDH (2016b) reported that the participants ranged in age from sixteen to seventeen.

Instrumentation

The results of the data set provided to Pierz Independent School District 484 were based on the Minnesota Student Survey administered by the MDH. The survey format was available to the participants online or as a paper format. In 2016, the majority of schools used the web-based version (Parks, 2016). The students were asked questions pertaining to activities, opinions, behaviors and experiences (MDE, 2016b). All students were asked questions pertaining to school climate, bullying, and gambling, health, nutrition, mental/emotional health, and substance use. Additional questions about sexual health were only addressed to 9th and 11th graders (MDE, 2016b). All questions were worded appropriately for each grade level to comprehend. The questions were straight forward and not probing. A variety of different formats were utilized: 1) closed questions (what gender the participant is) 2) open/closed questions (open question with limited answers), and 3) there were sections that had dichotomous questions (if yes, then continue to additional questions).

Procedure

The results of the data set provided to Pierz Independent School District 484 were based on the Minnesota Student Survey administered by the MDH. The survey-based level 3 questionnaire was given to all juniors throughout the state of Minnesota during the first half of the 2016 calendar year. The survey was administered to juniors at Pierz High School on March 3, 2016. Pierz High School sent the necessary notification to all junior parents about the upcoming Minnesota Student Survey that their son or daughter had the opportunity to take part in (see appendix for letter). Included with the notification letter was an "opt out" option. Simply stating if they did not want their son or daughter to participate in the survey they needed to sign the letter and send back or drop off to the school. Parents were informed that the survey was strictly voluntary allowing their son/daughter the opportunity to "opt out" of the survey if they so chose. Thirty-three students chose to opt out. The students that participated in the survey were instructed to go to the computer lab. Once at the lab students were advised of a few key items before beginning. These were: 1) their name would not appear on the survey, 2) that they did not have to answer every question and, 3) they had as much time as needed to complete the survey.

Analysis

Chi-square tests were used to compare the proportions of male and female students' engagement in sexual risk behaviors as well as their reports related to risk factors associated with these behaviors. Chi-square is used "…to find the

significance of differences among the *proportions* of subjects, objects, events…that fall in different categories" (Ary, Jacobs, & Razavieh, 1979, p. 162). The independent variable for each of these analyses was gender (male or female) and the dependent variables included the proportions of students responding to each of the following questions:

- Have you ever had sexual intercourse? (yes, no)
- During the last 12 months, with how many different male partners have you had sexual intercourse? (None, 1 person, 2 persons, 3 persons, 4 persons, 5 persons, 6 or more persons)
- During the last 12 months, with how many different female partners have you had sexual intercourse? (None, 1 person, 2 persons, 3 persons, 4 persons, 5 persons, 6 or more persons)
- Did you drink alcohol or use drugs before you had sexual intercourse the LAST time (yes, no)?

Summary

The results of the data set provided to Pierz Independent School District 484 were based on the Minnesota Student Survey administered by the MDH. All students were given an "opt out" option before taking the survey. There were 33 students that opted out. The survey was monitored in a computer lab at Pierz High School. This was a questionnaire type survey. Some sections were dichotomous. The sexual health section had some dichotomous style questions. Of the 71 students that participated in the survey, 70 students answered questions from the sexual health

section. Chi-square tests were used to compare the proportions of male and female students' engagement in sexual risk behaviors as well as their reports related to risk factors associated with these behaviors.

Chapter Four: Results and Discussion

Introduction

This chapter will include the results of the survey as provided to Pierz Independent School District 484 by the MDH as well as the Chi-square analyses to compare the proportions of male and female students' engagement in sexual risk behaviors. The results will interpret the participants first, next the results of the sexual health section questionnaire, and then divided out by gender within the survey reflecting on the research questions.

Characteristics of Participants

The participants within the Minnesota Student Survey from the Pierz High School were juniors. There were 103 junior students in Pierz High School at the time of the survey. Seventy-one students participated in the questionnaire, of those there were slightly less males (n=27 males, 38%) than females (n=44 females, 62%). The student's ages were 16 -18 years of age. The mean age is 16.61 years (standard deviation = .52) (see Table 1). This is very comparable to the state wide average age of juniors, which was 16.62.

Table 1

Demographic Characteristics of Pierz Students Who Participated in the MDH Minnesota Student Survey

Characteristic	*n*	%	*M (SD)*
Gender	71		
Male	27	38.0	
Female	44	62.0	
Age	71		16.61 (.52)

Sexual Risk Behaviors Among Male and Female Students at Pierz High School

Ever had sexual intercourse

Students were asked a specific question whether they have had sexual intercourse before. The majority of the students responded with a "no" answer (61.4%). The national average scores reflect that 50% of students in 11th grade are sexually active (MDE, 2016b). Sexual Activity in Pierz is more than 11% lower than the national average, but versus the state of Minnesota Pierz junior students have a slightly higher engagement in sexual intercourse. The state response of "no" was 64.7%

Table 2

Frequency Distributions (n), Percentages (%), and Chi-Square Value for Crosstabulations of Ever Sexual Intercourse by Gender

Ever Sexual Intercourse	Gender			
	Female		Male	
	n	%	*n*	%
Yes	17	38.6	10	38.5
No	27	61.4	16	61.5
Total	44	100.0	26	100.0
$\chi^2 = 00.00$				

*$p <$ .05. **$p <$ .01.

The results from one gender to the other are not different. There were 10 males stating "yes" they have had sexual intercourse before (38.5%), whereas, 17 females said they have had sexual intercourse before (38.6%). The comparison of the two sets of data in Table 2 shows the observed and the expected to have no difference Chi-Square = 00.00).

Number of heterosexual partners

Common response to the number of different heterosexual partners each gender had intercourse with in the last 12 months showed that the majority of the student's responses were "none" (male, 65.4%, females, 65.9%). Students had options of zero partners up to six or more different partners. The second largest

grouping was one person, the breakdown for males is 26.9% and female is 22.7% (see Table 3). Pierz versus the state of Minnesota percentages appear to be higher. The state proportions for males were: zero partners (96%), one partner (2.2%), two or more partners (1.9%). Proportions for the females were; zero partners (96.7%), one partner (2.4 %), two or more partners (1%).

Table 3

Frequency Distributions (n), Percentages (%), and Kendall's tau-c Value for Crosstabulations of Number of Heterosexual Partners by Gender

Number of Heterosexual Partners	Gender			
	Female		Male	
	n	%	*n*	%
None	29	65.9	17	65.4
1 Person	10	22.7	7	26.9
2 or More Persons	5	11.3	2	7.6
Total	44	100.0	26	100.0
$\chi^2 = 00.05$				

*$p <$ .05. **$p <$ .01.

The comparison of the number of heterosexual partners is shown in Table 3. The Chi-Square was not a significant difference (Chi-Square = 00.05).

Alcohol or other drug use among juniors at Pierz High School

A common risk factor that the male and female students had was the use of alcohol before their last sexual encounter. When looking at the percentages for

alcohol use between the two genders during their last sexual encounter a slight difference between the two genders looks possible. Females were 23.5% that used alcohol whereas; males were 0% (MDE, 2016b) (see Table 4). The overall comparison in Pierz to chose to drink alcohol (14.8%) before having sexual intercourse is also very similar to the Minnesota state average 14.5% ((MDE, 2016b).

Table 4

Frequency Distributions (n), Percentages (%), and Chi-Square Value for Crosstabulations of Alcohol or Other Drug Use Before Last Sexual Intercourse by Gender

Alcohol or Other Drug Use	Gender			
	Female		Male	
	n	%	*n*	%
Yes	4	23.5	0	00.0
No	13	76.5	10	100.0
Total	17	100.0	10	100.0
$\chi^2 = 00.35$				

*$p <$ .05. **$p <$ .01

The comparison of alcohol or other drug use in Table 4 was done using Chi-Square. The result (Chi-Square = 00.35) was not significant.

Summary

The results of students from Pierz High School that were sexually active were consistent and similar in nature. The difference between male and female junior

students at Pierz High School that stated they were sexually active was only .1%. At the same time, risk factors for females seemed much higher than their same male counterparts (23.5% vs. 0%), but the Chi-square test results showed no significant difference.

Chapter Five: Conclusions, Discussions and Recommendations

The Minnesota Student Survey results show the proportion of students at Pierz High School since 2010 that are not sexually active has increased from 51% to 64.7% (MDE, 2016b). The proportion of male and female students who choose to abstain from sexual intercourse appears to have increased and the disparity has lessened. In 2010, the percentage of male students that were not sexually active was 59%, whereas only 43% of females were not sexually active. In 2016 64.5% of males and 64.7% of females chose not to engage in sexual intercourse. This may be due to the fact that in 1982 government funded abstinence-only education. The CDC found there to be no conclusive results that abstinence–only education was an effective curriculum for students (Society for Adolescent Health and Medicine [SAHM], 2017). In the mid-2000's some state were refusing funding for abstinence-only programs and by 2010 the government began funding evidence-based teen pregnancy prevention programs. These evidence-based programs may explain the decline increase in the proportion of students choosing to abstain from sexual intercourse.

Conclusion

The participants were juniors at Pierz High School. The study showed that the proportion of students who were sexually active was similar (38.5% males and 38.6% females). This shows there is a similar comparison between male and female student choices to not have sexual intercourse at Pierz High School. A conclusion can be made that students at Pierz High School make similar choices about sexual intercourse. The analysis comparing the risk factor of drinking alcohol or using

other drugs before last intercourse between males and females was not significant even though 23.5% of females used alcohol or other drugs before their last sexual encounter and 0% of males did not. It appears females chose to use alcohol or other drugs before their last sexual encounter. The failure to find a statistically significant difference between the females and males with respect to this sexual risk behavior was determined when looking at the data examined for this study.

The sexual health history of the Minnesota Student Survey results is difficult to compare from year to year since the Minnesota Student Survey was administered to 9th and 12th graders. A change was made in 2013 for the questionnaire to be administered to 9th and 11th graders.

Discussion

When looking at this study it is important to remember that raw data was not available. The results were pulled from the Minnesota Department of Education. It can be determined from these results the comparison between male and females sexually choice is similar in Pierz, MN. We can determine there is an improvement in students abstaining from sexually activity. The process of teaching an evidence-based curriculum is not conclusive with this study, but does show a link with other studies performed.

Recommendations for Health Educators

It is recommended to continue to administer the Minnesota Student Survey at Pierz High School so that lesson plans within the health curriculum can be developed and adjusted according to the results of this study.

Recommendations for Further Studies

Further administration of the Minnesota Student Survey should continue with the same age groups. Explaining what sex is may be an important change to the sexual health questions making understanding easier for all students. Additional studies should pull in raw data therefore actual results can be seen. This will allow for easier comparison of results within the study among genders and different variables. In addition, curriculum planning can be adjusted accordingly.

References

Anfinson, A. (n.d.). *Voices of Minnesota youth: Minnesota student survey*. Retrieved on from http://pbismn.org/documents/summerinstitute/Voices_of_Minnesota_Youth_MSS.pdf

Ary, D. Jacobs, L. C. & Razavieh, A. (1979). *Introduction to research in education* (2nd ed.). New York , NY: Holt-Rhinehart and Winston.

Burton, L. (2016). *Snapshots on Minnesota youth: 2016 Minnesota student survey whole child report*. Retrieved from http://education.state.mn.us/mdeprod/groups/communications/documents/basic/bwrl/mdu5/~edisp/mde059326.pdf

Burton, L., Park, E., & Rode P. (2014). *Understanding and utilizing Minnesota student survey results*. Retrieved from file:///Users/admin/Downloads/C11%20Understanding%20and%20Utilizing%20Minnesota%20Student%20Survey%20Results.pdf

Centers for Disease Control and Prevention. (2016). *2015 Sexually transmitted diseases surveillance.* Retrieved from https: //www.cdc.gov /std / stats 15/default.htm

Centers for Disease Control and Prevention. (2016). CDC releases youth risk behavior survey results. Retrieved from https: //www.cdc.gov /features/yrbs/index.html

Centers for Disease Control and Prevention. (2017). *Antibiotic resistant gonorrhea.* Retrieved from https://www.cdc.gov/std/gonorrhea/arg/default.htm

Cottrell, R. R. & McKenzie, J. F. (2011). *Health promotion & education research* methods (2nd ed.). Sudbury, MA:Jones and Bartlett Publishers

Dichotomous. (n.d.) In Merriam-Webster Online. Retrieved from https://www.merriam-webster.com/dictionary/dichotomy

Last, J. M. (Ed.) (2007). *A dictionary of public health.* New York: Oxford University Press.

Minnesota Department of Education, (2016a). *A majority of teens report healthier behaviors and thriving at school.* Retrieved from file:///Users/admin/Downloads/2016%20MSS%20Results%20Release%20FINAL%20(1).pdf

Minnesota Department of Education (2016b). *Minnesota student survey.* Retrieved from http://education.state.mn.us/MDE/dse/health/mss/index.htm

Minnesota Department of Health. (n.d.). *Minnesota student survey.* Retrieved from http://www.health.state.mn.us/divs/chs/mss/

Minnesota Department of Health. (2013). *Minnesota student survey*. Retrieved from http://www.health.state.mn.us/divs/chs/mss/trendreports/msstrendreport2013.pdf

Minnesota Department of Health (2016). *Overview of substance use among Minnesota youth findings from the 2016 Minnesota student survey*. Retrieved

on July 20, 2017 from https://content.govdelivery.com /accounts/MNDHS /bulletins/170403f

National Oceanic and Atmospheric Administration. (n.d.). *Census vs. sampling.* Retrieved from http://www.st.nmfs.noaa.gov/recreational-fisheries/Understanding-Estimation/census-vs-sampling

Parks, E. (2016). *Overview of substance use in among Minnesota youth findings from Minnesota student survey 2016.* Retrieved from http://www.dhs.state.mn.us/main/groups/disabilities/documents/pub/dhs-291070.pdf

Payne, G., & Payne, J. (2004). *Key concepts in social research.* Thousand Oaks, CA: Sage Publishing

Society for Adolescent Health and Medicine. (2017). Abstinence-only-until marriage policies and programs: An updated position paper of the Society for Adolescent Health and Medicine. *Journal of Adolescent Health, 61,* 400-403.

United States Department of Education. (n.d.). *Protection of Pupil Rights Amendment.* Retrieved from http://familypolicy.ed.gov/ppra

APPENDIX

SELECTED MINNESOTA STUDENT SURVEY QUESTIONS

RELATED TO SEXUAL BEHAVIOR*

1. Have you ever had sexual intercourse ('had sex')?

Yes No

2. During the last 12 months, with how many different male partners have you had sexual intercourse?

1 person 2 persons
3 persons 4 persons
5 persons 6 or more persons

3. During the last 12 months, with how many different female partners have you had sexual intercourse?

1 person 2 persons
3 persons 4 persons
5 persons 6 or more persons

4. How many times have you been pregnant or gotten someone pregnant?

0 times 1 time
2 or more times Not sure

* 5th and 8th grade surveys did not ask these questions