ALASKA'S LOCAL OPTION LAW AND ITS IMPACTS ON UNDERAGE DRINKING OUTCOMES

A

PROJECT REPORT

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By

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Abstract

The purposes of this project were to explore the relationship between alcohol bans and 1) age of first use, 2) 30-day use and perceptions of harm among high school students, and 3) intentional and unintentional injury among adolescents. Methods involved secondary data analyses of two samples from the Alaska Youth Risk Behavior Survey (YRBS), the Alaska Trauma Registry (ATR), and the Alaska Violent Death Reporting System (AKVDRS) – including 49 communities without a ban on possession, and including 11 villages with a ban on sales, importation and possession. Lower rates of self-reported alcohol consumption in underage persons in communities with a ban on possession were not found. Moreover, data from the YRBS indicates youth in communities with a ban on alcohol possession had increased odds of lifetime use of alcohol (OR 1.621) as well as use before age of 13 (OR 1.903) and increased odds of lower reported peer approval related to drinking (OR .531). No significant differences were identified between the two communities on 30-day use of alcohol; 30-day binge drinking; drinking on school property; perceptions of risk related to daily use of alcohol; and parental approval for regular alcohol use. Communities with a ban on possession had lower number of suspected or proven alcohol use related injuries and deaths. Study findings suggest that it is insufficient to address alcohol-related problems among youth based on a single environmental level policy. Communities need to look beyond a single factor to solve a public health problem and consider the complex interactions between the individual, interpersonal, and other environmental-level.

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Introduction

Records suggest alcohol was first introduced to the Alaska region in 1741 (Alaska Department of Commerce, Community and Economic Development, n.d.; Anderson, 1988). There were many revisions and iterations of Alaska alcohol control laws after becoming a state in 1959. However, the most far-reaching version of regulation was adopted in 1979 (Alaska Department of Commerce, Community and Economic Development, n.d.). This was the package of revisions, which is commonly referred to as the "local option;" the full law can be found in Title 4, Chapter 11, Article 6 of Alaska Statutes (State of Alaska, 2013). The local option allows for communities to choose how they would like to manage alcohol. Communities, from Angoon to Akiak, have opted to use a local option law to ban sales, importation and possession of alcohol in some way. Alaskan communities are in the company of approximately 10% of other U.S. communities who have similar policies (Billings, 2013). The anticipated impact of restrictive alcohol policy change is a shift in an understanding of the integration of context, use and consequences as well as a decrease in negative outcomes (Gruenwald, 2011).

Background

Alaska youth experience many consequences related to alcohol use, including minor consuming citations, alcohol related injuries, and suicide and school related problems. In addition, the costs to the state are significant. Alaska statewide data indicate 28.6% of youth in high school reported current (30-day) use of alcohol (Department of Health and Social Services, 2011). Similar to national data, Alaska's 2011 data show 65% of youth report any lifetime use of alcohol (Department of Health and Social Services, 2011). From 2000-2008, there were 30,998 alcohol-related charges against persons

aged 20 and younger in Alaska (Rivera & McMullen, 2010). Of these charges, 93% were minor consuming charges. Recent data from Alaska Division of Juvenile Justice (DJJ) show 669 persons 17 and under incarcerated in a youth detention facility for offenses due to alcohol violations or offenses involving alcohol (Alaska Justice Statistical Analysis Center, 2011). A common way youth are charged or cited for alcohol misuse is by receiving minor consuming alcohol (MCA) charges from a law enforcement officer. See Table 1 for annual total number of MCAs between 2009-2013.

Table 1

MCA Totals 2009-2013 (Alaska Court System, 2010; 2011; 2012; 2013; 2014)

	2009	2010	2011	2012	2013
Minor Consuming Alcohol Charges	3,949	3,685	3,471	2,696	2,210

An MCA is issued to those aged 20 or younger caught in possession of or consuming alcohol when there is no other crime involved; this is also known as a status offense. Many of these MCA charges were for repeat offense, with a predominant number of them occurring in smaller communities (Alaska Court System, 2010; 2011; 2012; 2013; 2014). The decline in the number of MCA's is not one that has been documented; however there has been speculation that it has more to do with a decline in the number of citations given, rather than the number of actual incidence. However, underage drinking has been declining over the past ten years. When someone receives an MCA, he or she is referred to the Juvenile Alcohol Safety Action Program (JASAP). JASAP is a part of the Alcohol Safety Action Program (ASAP), which is administered through the State of Alaska, Department of Health and Social Services. ASAP is working towards decreasing substance abuse related recidivism and promoting access to appropriate mental health supports for offenders (State of Alaska, 2012). The

intent of ASAP is to assist people through court mandated treatment, while helping to promote health and wellness concepts in their lives (2012). ASAP's key function is to act as a neutral link between the justice and the health care delivery systems (2012). This requires a close working relationship among all involved agencies: enforcement, prosecution, judicial, probation, corrections, rehabilitation, licensing, traffic records, and public education (2012). In 2012, JASAP had a total of 2,038 youth on the intake list, with 975 completing the program (2012).

Underage drinking costs the State of Alaska significant resources. Research conducted by Pacific Institute for Research and Evaluation (PIRE) estimated the total costs of underage drinking in Alaska for 2010 at $321.4 million (2011). These costs are broken into the following categories: youth violence, youth traffic crashes, high risk sex, youth property crime, youth injury, poisonings and psychoses, FAS children of mothers ages 15-20 and youth alcohol treatment. Youth violence as a result of underage drinking cost Alaska over $154 million; the state spent $91 million on alcohol related youth traffic crashes and over $11.4 million was spent on youth property crime (Pacific Institute for Research and Evaluation, 2011). In 2010, the average cost per youth for alcohol-related consequences in Alaska was $4,378.00, compared to the national average of $2,070.00 (Underage Drinking Enforcement Training Center, 2011).

To address the consequences and challenges related to alcohol use, Alaskan communities can choose to adopt a Local Option Policy. A total of 108 communities had a local option policy in place in 2011: 40% (N=43) have banned sale and importation; 31% (N=34) communities have completely banned sale, importation, and possession; 18% (N=19) have banned sales; 6% (N=7) allow sale by

municipal operated licensee only; and 5% (N=5) allow sale by specific type of license only (Alaska Department of Commerce, Community and Economic Development, 2011; See Appendix A).

When a rural Alaskan community introduces a local option law regulating or prohibiting the sale, importation and possession of alcohol beverages, there are benefits and challenges for the community depending on the level of law enforcement and local support for the new policy. A literature review was conducted to identify impacts of local option policies on youth drinking behavior and consequences in Alaska. The literature review included a review of Google Scholar and the UAA Consortium Libraries vast journal resources. Key words utilized in the search of both the search engines and specific journals included the following terms: local option, prohibition, Alaska, alcohol, youth, and Youth Risk Behavioral Survey. While this search produced no results on studies documenting the impact on self-reported youth use and perceptions of harm in communities with a local option law, it did produce a body of literature that will enrich the understanding of the findings of the research. Understanding the impacts of local option laws on underage persons' drinking behaviors and consequence outcomes contributes to the literature by filling the knowledge gap about youth drinking patterns and consumption levels in communities with the local option law prohibiting the sale, importation and possession of alcohol and by providing a first look at differences in youth self-reported use, perception and actual injuries.

In national studies, leading causes of death among American Indian and Alaska Native persons are alcohol-related hypothermia, poisoning, liver disease and dependencies (Landen, Roeber, Naimi, Nielsen, & Sewell, 2014). Current research regarding Canada's Northern communities does not address the impacts of the policies; rather, it documents the policies in place and calls for future

research to better understand the impacts (Davison, Ford, Peters, & Hawe, 2011). The positive outcomes related to passage of a local option law include lower death rates, less serious injuries and assault and an opportunity for self-governance in villages (Berman & Hull, 2001; Berman, Hull, & May, 2000; Seale, Shellenberger, & Spence, 2006; Wood & Gruenewald, 2006). Challenges tied to adopting a local option are enforcement and non-enforcement related factors. Many variables impact enforcement including availability of Village Public Safety Officers (VPSOs), and administrative oversight from the Alcohol Beverage Control (ABC) board.

Overall, research in Alaskan villages has shown that in isolated village communities with a ban on alcohol sale, importation and possession, consumption and consequence behaviors decrease (Seale, Shellenberger, & Spence, 2006). "Consequence behaviors" is a common term used in the alcohol prevention and treatment community. It refers to problem behaviors, crimes, costs and outcomes from alcohol misuse and abuse. Specific benefits to the population established by previous research include a decrease in death and injury in Alaska, according to ATR vital statistics and VPSO records (Wood & Gruenewald, 2006; Berman, Hull, & May, 2000). This is significant since the rates of unintentional injury and death in Alaska are some of the highest in the nation (Hull-Jilly & Casto, 2011). Research has established that villages with a ban on sale of alcohol, importation and possession recorded a decrease in the death rates amongst adults (Berman, Hull, & May, 2000). Although this recorded decrease was significant, the study also indicated the death rate after the ban was still higher than the national average in these villages (2000). In addition, injury from assault, motor vehicle collisions and other causes decreased in BP communities (Wood & Gruenewald, 2006). Finally, tribal sovereignty and self-governance are sensitive and significant issues in many of the tribal communities

across Alaska. Berman and Hull (2001) recorded qualitative stories chronicling the use of the local option vote as a step towards community ownership of laws and practices. A final benefit for a local vote on a local option law is self-governance at the community level (Berman & Hull, 2001).

The bootlegging industry, size of Alaska, funding and capacity of state and local law enforcement and community contexts, all create challenges for the enforcement of regulation and legislation related to alcohol (Shively, Wood, Olsho, Rhodes, & Chapman, 2008; Wood & Gruenewald, 2006; Berman & Hull, Alcohol Control by Referendum in Northern Native Communities: The Alaska Local Option Law, 2001). The Rural Alaska Alcohol Interdiction, Investigation, and Prosecution program addresses issues related to enforcement of local option laws. A study of this program found that locally made alcohol was challenging to deal with from an enforcement perspective; these challenges in enforcement include the size of Alaska, culture, economics and resources for law enforcement as deterrents to effective local option application (Shively, Wood, Olsho, Rhodes, & Chapman, 2008; Wood & Gruenewald, 2006). Environment and context play a significant role in crime, injury and death related to alcohol. Individual characteristics like demographics and psychology as well as community characteristics such as economic opportunity and access make it difficult to determine the degree to which a local option impacts alcohol related consequences (Berman, Hull, & May, 2000).

In summary there is evidence that local option policies can lower death rates in isolated villages where restrictions are in place. These regulations may reduce the number and severity of injuries and assault in some villages. Self-governance in villages and ability to have some control over local issues has been beneficial for remote villages, regardless of alcohol-related outcomes. However, enforcement is complicated because of home brewing of alcohol, the large size of the state and the

limited number of VPSOs. Establishing a causal relationship between the ordinance enactment and outcomes is difficult. The existing gaps in knowledge about the comprehensive impacts of local option policies remain large. Underage alcohol use and consequences could be impacted by the enactment of a local option prohibiting the sale, importation and possession of alcohol. Alcohol use in the underage population in Alaska remains a challenge; significant numbers of youth still report current and lifetime use of alcohol.

Conceptual Framework and Theoretical Orientation

The conceptual framework of the community impacts of the introduction of a local option to a community in Alaska is based on the socioecological model of health behavior. The socioecological perspective considers impacts at many levels including, policy environment, behavior settings, behavior, perceived environments, and intrapersonal.

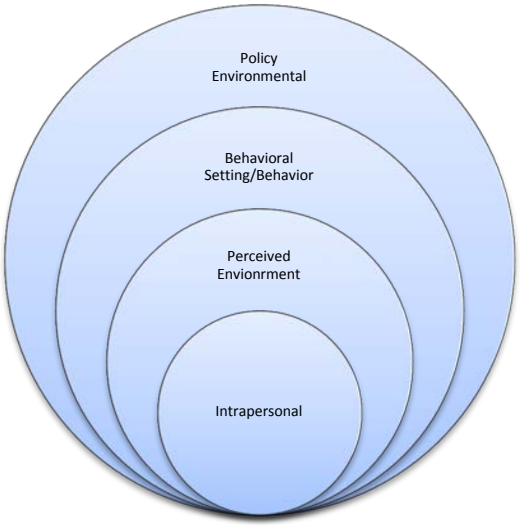

Figure 1. Socioecological model of health behavior (Sallis, Cervero, Ascher, Henderson, Kraft, & Kerr, 2006)

The implementation of the local option law or policy in a community suggests some interest in addressing the ecology of the community, specifically through policy. This research considered the impact this policy and environmental change has on the population of 10-19 year olds in a sample of villages with a ban on sales, importation and possession of alcohol versus those who do not have a ban on possession. How the policy impacts perceptions of harm, personal use and injury fits within the socioecological framework and is based on Social Cognitive Theory (SCT). SCT has a focus on how people interact with their environment (Glanz, Rimer, & Viswanath, 2008). In particular, reciprocal determinism, or the ability for individuals and groups to influence their environment or the environment to influence individuals is a strong concept when considering environmental strategies (2008). Facilitation, changes in the environment that make it easier to change behavior, observational learning, and the use of peer modeling as a way to influence behavior, may also influence changes in alcohol consumption in communities with a ban on sales, importation and possession. When a community introduces a local option prohibiting sale, importation and possession of alcohol, there are multiple factors which impact its potential success at decreasing alcohol, related consumption and consequence behaviors in underage persons, which can be directly tied to reciprocal determinism. Using the SCT, we can consider how the community-based policy impacts individual behaviors and beliefs and how individual behaviors and beliefs impact reciprocal determinism.

Goal

Based on available literature, when a rural Alaskan community introduces a local option policy regulating and prohibiting the sale, importation and possession of alcohol beverages, there are potential benefits for the community. The positive outcomes related to passage of a local option

policy include lower death rates, and less serious injuries and assault, although most of this research focuses on outcomes of those aged 15 and older. The peer-reviewed literature provides methods and evidence of the impacts a local option ban can have. This can be used as the basis to consider whether the decrease in harm is shared with the youth population and provides an opportunity to analyze whether self-reported youth use and perceptions of harms also decrease when an Alaskan community has a local option policy in place. Therefore, this research proposes to better understand the impacts of local option policies on underage persons' self-reported drinking behaviors and consequence outcomes, and to ultimately fill the gap in the literature on youth drinking patterns and consumption levels in communities with the local option policy prohibiting the sale, importation and possession of alcohol.

Research Questions

Two types of rural communities were investigated in this study: a community that has a No Ban on Possession (NBP) policy and a community that has a Ban on Sales, Importation, and Possession (BP) policy. The following are the research questions and corresponding hypotheses of this study:

Research Question 1 (RQ1): Is there a difference in self-reported alcohol consumption in underage persons in BP communities versus NBP communities? The study hypothesizes that existence of a local option ban on sale importation and possession will result in lower rates of self-reported alcohol consumption in underage persons.

Research Questions 2 (RQ2): Are there differences in youth perceptions of harm and approval related to alcohol use in BP communities versus NBP communities? The study hypothesizes

that a local option ban on sale, importation and possession community will have higher rates of youth perceptions of harm and lower rates of positive approval related to alcohol use.

Research Question 3 (RQ3): Are there differences in alcohol related injury frequency and type among 10-19 year olds in BP communities versus those who live in NBP communities? The study hypothesizes that alcohol related intentional and unintentional injury frequency and rates among 10-19 year olds in ban on sale, importation and possession communities will be lower than those in no ban on possession communities.

Objectives

The research objectives for this project are based on similar criteria used in the State of Alaska Epidemiologic Profile on Substance Abuse and Dependency, which identified criteria for solid data sources, as being a long-standing data source and being available regularly (Hull-Jilly & Casto, 2011). This research project will use existing data to address each of the research questions. A table including the research question and data source can be found in Appendix B. Further details on processes related to obtaining these data including approval processes will be described in the section on data collection.

The objective for RQ1 is to utilize the Alaska Youth Risk Behavior Survey (YRBS) to compare self-reported alcohol consumption data for 9^{th} to 12^{th} grade students between communities with a ban in place and those without a ban in place. Specific variables to compare include: 1) students who had at least one drink of alcohol on one or more days during their life, 2) and students who had their first drink of alcohol other than a few sips before age 13, 3) students who had at least one drink of alcohol on one or more of the past 30 days, 4) students who had five or more drinks of alcohol in a row, that is,

within a couple of hours, on one or more of the past 30 days, and 5) students who had at least one drink of alcohol on school property on one or more of the past 30 days.

The objective for RQ2 is to consider if local option impacts perceptions of harm and approval related to alcohol use by analyzing three questions from the YRBS including: 1) students who think one or two drinks of alcohol nearly every day is no or slight risk, 2) students who think there is a very good or pretty good chance of drinking alcohol regularly as being seen as cool, and 3) percentage of students whose parents consider it not wrong at all for them to drink alcohol regularly.

The objective of RQ3 is to understand the differences in alcohol-related injury frequency and type among 10-19 year olds by reviewing the data available on intentional injury using Alaska Violent Death Reporting System (AKVDRS) and unintentional injury in the Alaska Trauma Registry (ATR) for the years spanning 2004-2011.

Methods

The study procedure involved secondary data analyses of the Alaska Youth Risk Behavior Survey, specifically investigating data of 11 communities with a ban on possession of alcohol and 49 villages with no ban on possession of alcohol in place during 2011. In addition, secondary data analyses of the Alaska Trauma Registry, and the Alaska Violent Death Reporting System, specifically investigating data of 11 communities with a ban on possession of alcohol and 49 villages with no ban on possession of alcohol in place from 2004 to 2013, was completed. This analysis was conducted using SPSS Software Version 22. Analysis looked at variations in rates of youth alcohol consumption and perception of harm, as well as variations in alcohol-related injury prevalence and types.

Data Sources and Study Design

Three data sources were utilized including 2011 YRBS data and the ATR and AKVDRS data including a span of years from 2004-2011. The YRBS sample includes unweighted totals split up by area and type of alcohol ban, either NBP or BP for eight alcohol related variables. The communities were selected by comparing the list of BP communities to the list of communities who had completed the YRBS. The original set of years reviewed was 2009, 2010 and 2011. Of those years, it was determined that due to the small sample sizes in many of the communities with a ban on possession, it would be necessary to look at just one year of data to avoid duplication in the responses of consecutive years. This process resulted in a first sample of 11 communities with a ban on possession of alcohol and a comparison group of 49 NBP communities with no ban on possession of alcohol. The ATR and AKVDRS data request included the same groupings of communities identified through the sampling process for the YRBS set. A table including a full listing of all the previously mentioned variables can be found in Appendix C.

Data Collection and Sampling

The data collection strategy for this project required significant cooperation and support from the statewide surveillance systems. YRBS data came from Alaska Department of Health and Social Services, Division of Public Health, Section of Chronic Disease Prevention and Health Promotion. ATR data came from Alaska Department of Health and Social Services, Division of Public Health, Emergency Programs and AKVDRS data came from Alaska Department of Health and Social Services, Division of Public Health, Injury Surveillance.

Youth Risk Behavior survey Data was provided in a SPSS format, and was split up into the NBP and NB groups. The data was de-identified and sorted prior to the receipt of the file. This data source is collected and managed by DHSS who provided it to the researcher based on an approved data use request. The questions analyzed to test RQ1 were YRBS question 39, 40, 41, 42 and 44 (see Appendix D 2011 Youth Risk Behavior Survey School Survey). The questions analyzed to test RQ2 were YRBS question 123, 107, 128 (see Appendix D, 2011 Youth Risk Behavior Survey School Survey). Bivariate analysis with a Pearson's chi square and unadjusted odds ratio were used to look at the relationship between the presence of a ban on possession of alcohol and its impacts on rates of self-reported alcohol consumption among high school students.

The ATR and AKVDRS data was provided in a format, which required some minor cleaning and refining to meet criteria. First, case definitions were crafted; the case definition guided the process for narrowing the two sample groups to valid cases. The case definition for the ATR dataset was as follows:

1. The case occurred between the years of January 1, 2004 and December 31, 2011.
2. The injury case occurred in one of the communities in the two geographic units
3. The case is of any gender between the ages of 10 and 19 at the time of their injury.
4. The variable "alcohol doc" response was yes.

ATR defines "alcohol doc" as "positive alcohol blood test or Breathalyzer result within 6 hours of injury or any documentation in medical record file that alcohol was involved (Alaska Department of Health & Social Services, 2011)." The ATR dataset provided included a total of 5238 cases for the years 2004-2011. In order to identify a dataset for analysis, the first step was removal of cases that did not fall within the criteria for the research. The dataset was sorted by scene city and home city variables to identify cases that had either occurred in one of the NBP or BP communities or where the person injured was from a community that was included in the sample. All cases where the case had neither a

person from a sample community or injured in a sample community were removed. A new variable was created to code the cases into 12 categories, found in Appendix E. In addition to removing cases not within the criteria of the research, four cases where the Scene City was unknown but the home city was included in the sample were also removed. This resulted in a reduction of the original dataset of 5238 cases to 379 valid cases for use in analysis. The dataset was finalized and imported into SPSS and relabeling of the 12 categories was completed resulting in two clear groups of NBP and BP for comparing frequencies and descriptive elements.

The AKVDRS Case Definition for this research is as follows:

1. The case occurred between the years of January 1, 2004 and December 31, 2011.
2. The injury case occurred in one of the communities in the two geographic units.
3. The case is of any gender between the ages of 10 and 19 at the time of their injury.
4. Included in the AKVDRS data alcohol tested response was yes and alcohol result was present or if not tested alcohol was suspected.

The National Violent Death Reporting System User Guide defines alcohol suspected as victim's suspected alcohol use in the hours preceding the incident (p. 54), and this information can be based on witness or investigations reports or other evidence and alcohol tested as, alcohol was tested for and presented in the toxicology report (p. 140) (National Violent Death Reporting System , 2013). The AKVDRS dataset provided included a total of 2087 cases for the years 2003-2011. In order to get a dataset for analysis, the first step was to remove cases not within the criteria for the research. Only those injuries that occurred during 2004-2011 were included in this research; sorting and removing cases with neither a person from a sample community or injured in a sample community was completed. A new variable was created to code the cases into the 12 categories identified in Appendix F. In addition to removing those cases that did not meet the criteria of the research, four cases where

the Injury City was unknown but the residence city was included in the sample were also removed. This resulted in going from the original sample size of 2087 cases to 13 valid cases for use in analysis; this was a large drop in numbers, primarily due to the fact the full set of data received had to be cleaned to remove cases from outside the sample frame. The dataset was finalized and imported into SPSS and relabeling of the 12 categories was completed, resulting in two clear groups of NBP and BP for comparing frequencies and descriptive elements.

Data Analysis

RQ1 and RQ2 were analyzed using bivariate analysis with a chi square test and an unadjusted odds ratio (OR) using confidence intervals (CI) of 95% or greater and p value of <.05. Each of eight YRBS questions identified (see Appendix C) was examined separately, not as a composite measure. Bivariate analysis provided an opportunity to look at the relationship between the two variables and the chi-square tested the hypothesis. RQ3 was explored using descriptive analysis and frequencies.

Protecting Human Subjects

While this research did not include interviews or interaction with human subjects, it looked at small communities and small datasets with sensitive information. In order to protect the identity of subjects represented in the secondary datasets, as well as the consideration of privacy for villages, data was combined into two large sets of data representing communities with a local option ban and those without. This allowed the research to better respect the participants and the communities. These issues were fully disclosed to the University of Alaska Anchorage Institutional Review Board (IRB) application. After UAA IRB review, this research project was deemed "exempt" because it relied on de-identified secondary data analysis.

Results

The results section is presented with findings for each research question. Table 2 below provides an overall picture of the distribution of responses for each variable reviewed and presented in more detail in the individual research questions analysis. Of note is the rate of response for the YRBS questions was consistently in the upper 80-90%, except one variable. The response rate for the question, students who had their first drink of alcohol other than a few sips before age 13, was 59%.

Table 2.

All Variables Univariate Analysis

Data Source	Variable	Valid Responses	% Responded N=1712	% Affirmative
YRBS	Students who had at least one drink of alcohol on one or more days during their life.	1619	95%	61%
YRBS	Students who had at least one drink of alcohol on one or more of the past 30 days.	1517	89%	23%
YRBS	Students who had five or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days.	1648	96%	15%
YRBS	Students who had at least one drink of alcohol on school property on one or more of the past 30 day.	1658	97%	2%
YRBS	Students who had their first drink of alcohol other than a few sips before age 13.	1003	59%	25%
YRBS	Students who think one or two drinks of alcohol nearly every day is no or slight risk.	1684	98%	34%
YRBS	Students who think there is very good or pretty good chance of drinking alcohol regularly as being seen as cool.	1636	96%	22%
YRBS	Students whose parents consider it not wrong at all for them to drink alcohol regularly.	1636	96%	11%
ATR	Hospitalized Injury Cases	1035	60%	37%
ATR	Violent Deaths	53	3%	25%

Research Question 1

RQ1 explores whether there is a difference in rates of self-reported alcohol consumption between underage persons in BP communities and those in NBP communities. Between the NBP and BP communities a total of 1716 YRBS respondents were included in the analysis.

Figure 2 displays prevalence rates of the five variables reviewed for this research question.

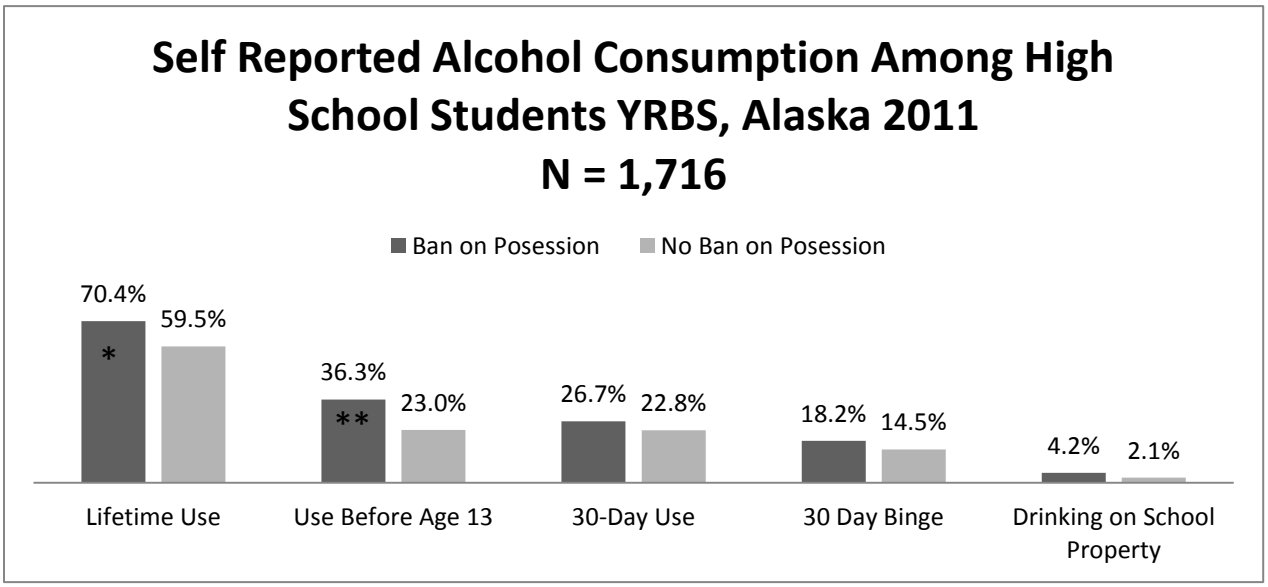

Figure 2. Self-Reported Alcohol Consumption, Alaska 2011
* P<0.01, **P<0.001

Statistically significant differences in self-reported alcohol consumption by underage persons in BP communities and those in NBP communities were found in two variables. Youth in BP communities had increased odds of lifetime use of alcohol (see Table 2). There are significantly higher rates of lifetime alcohol use in BP communities compared to NBP communities. Whereas 70% of respondents in BP communities reported ever drinking alcohol, 60% of respondents in NBP communities reported ever drinking alcohol (chi-square = 7.16, $p < 0.007$). This finding translates to an unadjusted risk

estimate where students in BP communities are 1.6 times more likely to report ever using alcohol than students living in NBP communities. Similarly, a greater proportion of youth in BP communities compared to NBP communities had their first drink of alcohol prior to the age of 13 (see Table 3). Whereas 36% of student/youth respondents in BP communities reported drinking prior to age 13, 23% of respondents in NBP communities reported having their first drink prior to the age of 13 (chi-square = 10.998, p<.001). This translates to an unadjusted risk estimate where youth living in BP communities are 1.9 more likely to have their first drink of alcohol prior to the age of 13. Note this is an unadjusted odds ratio; this study did not control for other variables like age, grade or gender.

Table 3

Risk Estimate for Youth Self-Reported Alcohol Use by Local Option Status, Alaska 2011

Variable	Chi Square	Unadjusted Odds Ratio	Risk Estimate (95% CI)
During your life, How many days have you had at least one drink of alcohol?	7.160	1.621	1.135, 2.314*
How old were you when you had your first drink of alcohol?	10.998	1.903	1.295, 2.796**
During the past 30 days on how many occasion s did you have at least one drink of alcohol?	1.116	1.232	.836, 1.815
In the past 30 days, on how many days did you have 5 or more drinks?	1.592	1.311	.860, 1.997
In the past 30 days, on how many days did you have at least one drink on school property?	3.113	2.089	.905, 4.823

* P<0.01, **P<0.001

No significant difference in self-reported alcohol consumption in underage persons in BP communities versus those in NBP communities were found in the remaining three variables: past month alcohol consumption, past month binge drinking, and past month drinking on school property,

and students who had at least one drink of alcohol on school property on one or more of the past 30 days.

Research Question 2

RQ2 looks at differences in youth perceptions of harm and approval by peers and parents of use of alcohol. *Figure 3* includes all three variables related to perceptions of harm and approval of alcohol use.

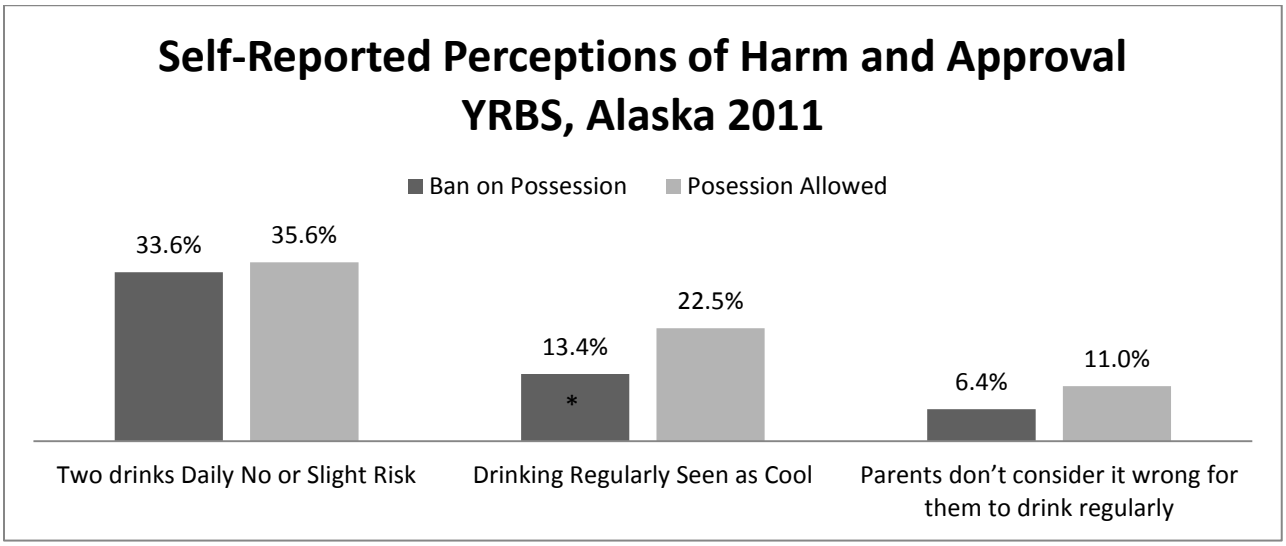

Figure 3. Perceptions of harm and approval of alcohol use by peers and parents.

***P<.01*

Statistically significant differences between BP communities and NBP communities in youth perceptions of harm and approval were found in only one variable. A significantly lower number of respondents in BP communities compared to NBP communities reported that drinking regularly would be seen as cool. Whereas approximately 13% of respondents in BP communities report that drinking regularly is seen as somewhat, pretty or very cool, about 23% of respondents in NBP communities on possession reported drinking regularly is seen as somewhat, pretty or very cool (chi-square = 6.992, p <

0.008). This finding translates to an unadjusted risk estimate whereby those living in BP communities were 47% (OR = 0.53) less likely to report that their peers perceive drinking as cool. Again note this is an unadjusted odds ratio; so it did not control for other variables like age, grade or gender.

Table 4

Pearson's Chi Square Results for Youth Self-Reported Perception of Harm Use by Local Option Status, 2011

Variable	Chi Square	Unadjusted Odds ratio	Risk Estimate (95% CI)
How much do people risk harming themselves if they have one or two drinks of alcohol nearly every day?	.295	1.095	.789, 1.520
What are the chances you would be seen as cool if you drink alcoholic beverages regularly?	6.992	.531	.330, .855*
How wrong do your parents feel it would be for you to drink alcohol regularly?	3.162	.533	.286, 1.072

**P<.01*

No significant difference between perception of underage persons in BP communities and those in NBP communities were found in the remaining two variables: students who think one or two drinks of alcohol nearly every day is no or slight risk and students whose parents consider it not wrong at all for them to drink (see Table 4).

Research Questions 3

To understand the difference in alcohol related injury prevalence and type among 10-19 year olds, Alaska Trauma Registry and Alaska Violent Death Reporting System data from 2004-2011 were analyzed and descriptive statistics and frequencies were calculated. The ATR dataset included a total of 5238 cases for the years 2004-2011, of which 379 met the case definition (see Methods): of these, 335

were included in the NBP sample and 44 were included in the BP sample for the purposes of comparison.

The AKVDRS dataset included 2087 cases; of which 13 entries met the case definition (see Methods). Of the 13 cases, 11 were included in the NBP sample and 2 in the BP sample. Table 4 demonstrates that for both injury and death cases, BP communities had lower percentages of suspected or proven alcohol use than NBP communities.

Table 5

Injury and Death Associated with Alcohol Use among BP and NBP Communities—Alaska, 2004-2011

Sample	**ATR Cases**			**AKVDRS**		
	Hospitalized Injury cases	Alcohol Documented at Time of Injury	% Documented Alcohol Use	Violent Deaths	Suspected or Proven Alcohol Use	% Suspected or Proven Alcohol Use
NBP	887	335	37.76%	39	11	28.2%
BP	148	44	29.72%	14	2	14.2%

Injuries and death by year

Injury. Between 2004-2011, the total number of injuries by year for the NBP sample decreased substantially from the peak of 67 injuries in 2004 to 14 injuries in 2011 with an overall mean of 41.9 injuries per year over the eight-year span. The numbers of injuries in the BP communities stayed relatively flat with a low of two injuries in a year to a high of nine in a year with an average of 5.5 injuries per year over the eight-year period.

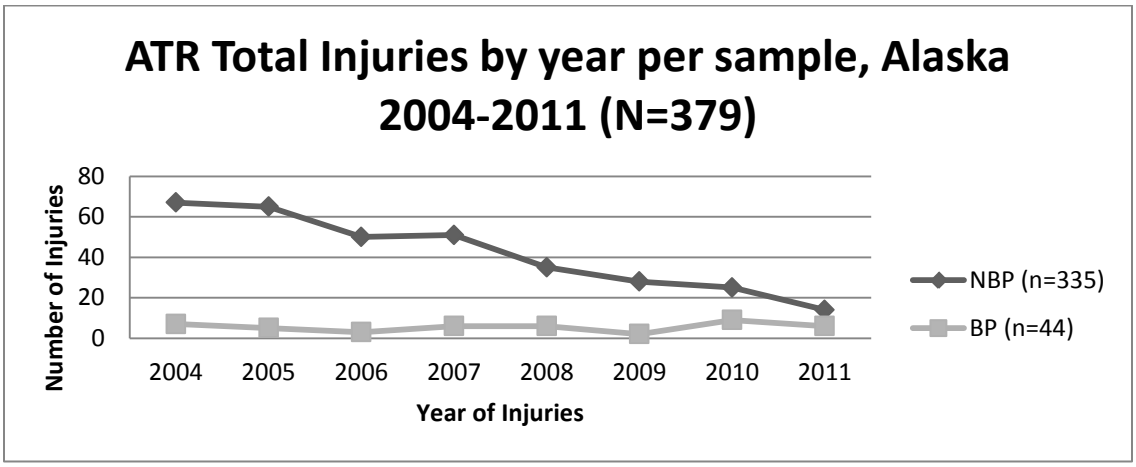

Figure 4. ATR Total Injuries by Year 2004-2011

Deaths represented in the AKVDRS dataset include two cases in the BP community and there were eleven cases from the NBP communities. The NBP sample had a minimum of 0.0 and maximum of 3.0 with a mean of 1.83 deaths per year (six of the eight years had a documented death; see Table 5 for deaths by year).

Table 6

AKVDRS deaths by year, Alaska 2004-2011

	2004	2005	2006	2007	2008	2009	2010	2011	Totals
NBP	2	0	1	3	0	2	2	1	11
BP	1	0	1	0	0	0	0	0	2

Injury and death characteristics. Suicide attempts accounted for 31% of the NBP alcohol related injuries, while 66% of the BP alcohol related injuries were suicide attempts. ATV and snow machine accidents accounted for 6% of the NBP sample and 14% of the BP sample. Those are the main differences; the categories of alcohol related assault, motor vehicle traffic occupant, falls,

hypothermia, cut and accidental firearms were relatively similar in percentages between the NBP and BP communities.

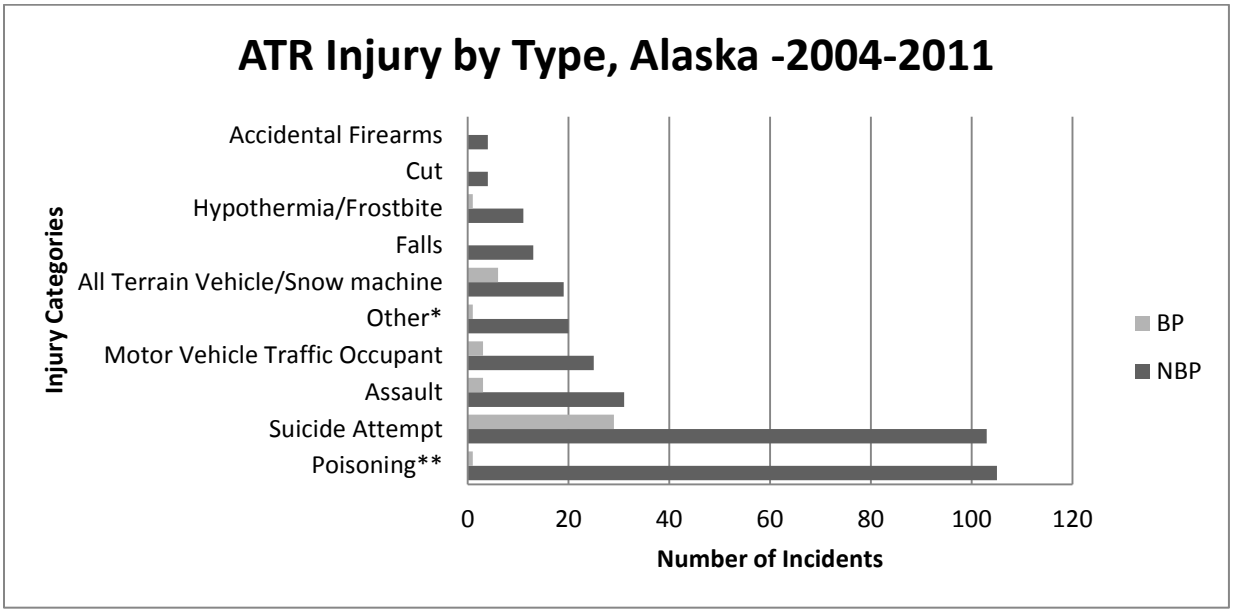

Figure 5. ATR Injury by Category, Alaska- 2004-2011.

*Other includes: Sports, sprain, fire/flame, hot substance, pedestrian labels. ** Intentional poisonings among adults (18 +) were no longer collected after 2006, see strengths and limitations section.

Table 7

Injury category by sample group and percent of total cases, Alaska 2004-2011

Injury Category	Total Alcohol Related NBP Injuries	% of *n*=335	Total Alcohol Related BP Injuries	% *N*=44
Suicide Attempt	103	31%	29	66%
Assault	31	9.0%	3	7.0%
Total Intentional Injuries	134	40%	32	73%
Poisoning	105	31%	1	2.0%
Motor Vehicle Traffic Occupant	25	7.0%	3	7.0%
Other	20	6.0%	1	2.0%
All Terrain Vehicle/Snow machine	19	6.0%	6	14%
Falls	13	4.0%	0	0.0%
Hypothermia/Frostbite	11	3.0%	1	2.0%
Cut	4	1.0%	0	0.0%
Accidental Firearms	4	1.0%	0	0.0%
Total Unintentional Injuries	201	60%	12	27%
Total Injuries	335		44	

Of note (highlighted in Table 6), is that in NBP communities intentional injures were 40% of the total injuries and in BP communities intentional injuries made up 73% of the total. Unintentional injuries were 60% of the total in NBP communities while, in BP communities' unintentional injuries were 27% of the total injuries during this period. While both NBP and BP communities shared the most frequent injury category of suicide attempt with 31% of the NBP injuries and 66% of the BP communities, the second highest occurrence of injury was different between the two with 31% of those injuries in NBP being poisonings and 14% of BP injuries being ATV/snow machine related. The other reported alcohol related injuries categories in both NBP and BP communities, assaults and motor vehicle traffic, respectively.

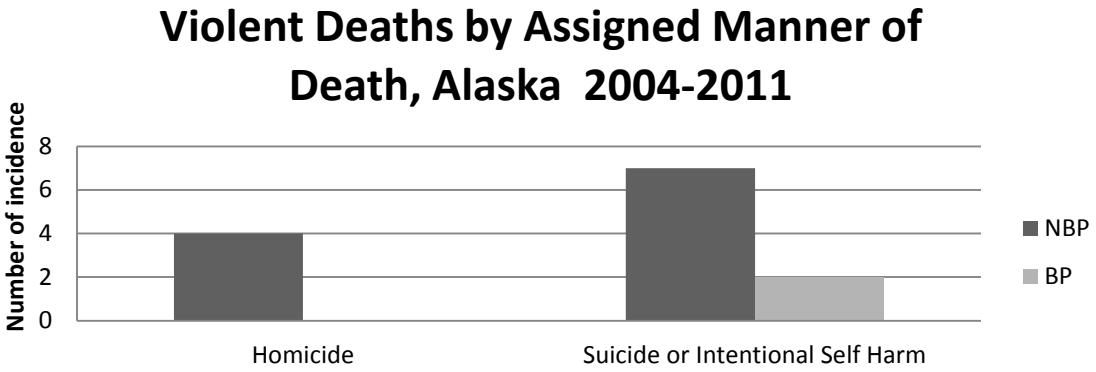

Figure 6. Violent Deaths by Assigned Manner of Death, Alaska-2004-2011.

Of the two cases representing all of the fatalities for the BP communities, both were gunshot wounds. The manner of death for these two cases was identified as suicide, and alcohol was suspected in both cases. One of the two cases tested positive for alcohol. The case not tested for alcohol, but identified as alcohol suspected, had a recent death of a friend or family member and had disclosed intent to commit suicide. The 11 cases from the NBP communities included one female and ten males, between the aged of 15-19 years. The causes of death documented for these cases included gunshot wounds (7), hangings (2) beating or blunt trauma (2). Death manner assigned by AKVDRS was suicide or intentional injury (7) and homicide (4). Two homicides were caused by gunshot wounds and two were caused by blunt force. Seven of the suicides were due to gunshot wounds and hanging caused two. Nine of the eleven were tested for alcohol and confirmed for alcohol in their system prior to death. The most commonly recorded characteristics identified in the records, were intimate partner problems, followed by argument, depressed mood and recent suicide in the family.

Discussion

RQ1 asked whether there was a difference in self-reported alcohol consumption in underage persons in BP communities versus NBP communities. The study hypothesized that existence of a local

option ban on sale importation and possession would result in lower rates of self-reported alcohol consumption in underage persons. Results of this study did not confirm this hypothesis. Originally, the researcher had considered that based on potential decreases in injury and death, from previous research, alcohol use would be lower in community with a ban on possession. The study results from the YRBS in 2011 illuminated that youth in communities with a ban on possession of alcohol had increased unadjusted odds of lifetime use of alcohol (OR 1.62) and use before age of 13 (OR 1.90). No significant differences were identified in 30-day use of alcohol, 30-day binge drinking or drinking on school property. Similarly no significant difference was found for perceptions of risk related to daily use of alcohol, peer approval related to drinking, and parental approval for regular alcohol use. A possible explanation for this finding could be that a restrictive local option does not impact youth access to alcohol. Other explanations include, youth in communities with a ban have equal access to alcohol due to the black market avenues of homebrew and bootlegging. Due to the clandestine nature of bootlegging and homebrew, youth may have early and easy access to alcohol as these types of alcohol are typically used or made in the home. However this assumption could not be confirmed because the research did not explore actual access to alcohol in the communities. The statistically significant findings related to early onset and lifetime use of alcohol are particularly concerning as research indicates young people who began drinking prior to the age of 15 are four times more likely to develop alcohol dependence and at increased risk to become alcohol abusers (Windle & Zucker, 2010).

RQ2 asked whether there were differences in youth perceptions of harm and approval related to alcohol use in BP communities versus NBP communities. The study hypothesized that communities with a local option ban on sale, importation and possession community would have

higher rates of youth perceptions of harm and lower rates of positive approval related to alcohol use. Results of this study did not support the hypothesis. Originally, the researcher had considered that based on potential decreases in injury and death, from previous research, that increased perceptions of harm related to use of alcohol and increased disapproval of use by peers and parents would be found in BP communities. The study results showed a statistical difference in peer approval related to drinking, which demonstrated that in BP communities, youth are less likely to perceive peers think it is cool to drink alcohol. The analysis found no significant difference in perceptions of risk related to daily use of alcohol and no statistical difference in parental approval for regular alcohol use. A possible explanation for this finding could be that the peer influence is not the main driver for early onset and lifetime use; it may be that adults or home environment influence this behavior more. However, this assumption could not be confirmed because investigation into the response and the context of drinking influences was not analyzed.

RQ3 asked whether there were differences in alcohol related injury prevalence and type among 10-19 year olds in BP communities versus those who live in NBP communities. The study hypothesized that alcohol related intentional and unintentional injury frequency among 10-19 year olds in ban on sale, importation and possession communities would be lower than those in no ban on possession communities. Results of this study confirmed this hypothesis and what other investigators have found in this area of study. The study results show that NBP communities have higher frequency of injury and death related to alcohol. BP communities had lower incidence of suspected or proven alcohol use related injuries and deaths which is consistent with the previous research on injury and death documenting lower apparent rates among adults in communities with a ban on alcohol (Wood &

Gruenewald, 2006; Landen M. G., 1997; Berman, Hull, & May, 2000). Females were represented in higher percentages among the injury data, which is also consistent with previous research (Wood & Gruenewald, 2006) that found the self-harm rate for females was higher and directly connected to the proportion of females in a community. Suicide attempts were 66% (29) of alcohol related injuries in the BP communities and of the total alcohol related injuries in NBP communities 31% (103) were suicide attempts, while 100% (2) of the deaths in ban on possession communities and 72% (8) of the deaths in NBP communities were suicides. These are small numbers but they are consistent with the findings by Berman (2014), which was that alcohol control does not increase or decrease suicide risks. Berman recommends that researchers should considering looking at the role community characteristics in more depth to understand the factors, which are impacting suicide (2014). Figure 6, is a visual of the socio ecological model of health as described by Glanz, et al., it demonstrates the interactions of individual with the environment. The local option policy is housed in the sphere of environmental policies, as this research demonstrated and the literature highlights, when looking at the ecological framework, communities need to look beyond a single factor to solve a public health problem. Communities should consider the complex interplay between interpersonal, and other environmental-level factors. Policy is just one factor, other environmental strategies should be considered like cultural norms. In addition, communities should look at the other levels, like behavior setting, perceived environment and the individual.

Strength and Limitations

The study has several limitations including: small pool of communities with YRBS data available, the information analyzed was self-reported secondary data, ATR changes in acute intoxication code

assignment over the time frame of the study, ATR and AKVDRS data included incomplete fields or unknowns, AKVDRS had turnover in medical examiner's office during the study period which may have impacted consistency of data, and the fact that this research did not explore community context or characteristics.

Small number of communities. The findings represent just 49 (15%) of the 272 communities without a ban on possession communities in Alaska and 11 (32%) of the 34 communities with a full ban on sales, importation and possession. This is limiting as the findings may not be generalizable to other communities in Alaska, due to the small number of communities included.

Self-reported secondary data. The information analyzed from YRBS was self-reported secondary data: this is limiting in that it was designed for other research and not necessarily tailored for the specific needs of this analysis. Other issues with secondary data are that how the data was collected, questions designed and overall process may not necessarily meet the needs of the research. In addition, YRBS is limited because it's a cross-sectional study design, and this study only reviewed one years' worth of data. The implication of cross-sectional design paired with only one year of data means it is only a snap shot, therefore trend analysis is not possible. In addition, cross-sectional study design limits the study's ability make definitive causal link between variables.

Changes in acute intoxication codes. Changes in how acute intoxications were assigned codes within ATR may have impacted the numbers of death and injuries; they were classified as acute drug or alcohol intoxication codes 2006 and earlier, but after 2007, such coding was discontinued (Strayer, Craig, Asay, Haakenson, & Provost, 2014). This affects the findings and reported number of injuries and deaths because the assigned codes delineate the intent which determines how an incident is

classified, not having an ICD 10 code that is not delineated. This can cause underrepresented and misrepresented cases.

Incomplete data. Not all AKVDRS cases were tested for alcohol. Both ATR and AKVDRS datasets included cases with unknown status related to alcohol, which resulted in them all being removed from the final sample. Since the status is unknown and they are removed, this changes the overall reported number of alcohol-related cases possibly causing inaccurate reporting.

Medical examiner turnover. Limitations to the AKVDRS data may also be related to turnover in death investigator positions at the medical examiners officer's staff during the study period. This change in staff may have impacted the way that death characteristics were documented, new leadership could contribute to either extra focus on documentation or changed approach to interpretations of what characteristic were documented.

Community context or characteristics. This research looked only at self-reported use and perceptions, injury and violent death. It did not take into account community context or the ability to look closely at the characteristics of the communities themselves, which could have been completed through added qualitative research. Previous research clearly identifies other variations in community context that impact injury and death in communities (Wood & Gruenewald, 2006).

This research did not calculate prevalence rates of the ATR and AKVDRS data, so the findings are not comparable to other studies, which used prevalence rates as a measure. Ultimately this research documented, but did not provide an opportunity to better understand why, a ban on sale importation and possession seems to be effective in decreasing injury and death among 10-19 year olds.

Despite this study's limitations, this study is perhaps the first to assess the association between local option ban policies and youth alcohol use and perception. While this study was not comprehensive enough to draw conclusions about the effectiveness of local option bans on sales, importation and possession, it at least provides insight into considering what sources of data could be considered to better understand alcohol consumption behaviors among young people in remote Alaska. This was the first time that the eight YRBS variables were evaluated in relationship to local option laws. Connecting youth prevalence to communities with local option is an important contribution to our understanding of the impacts of local option in Alaskan communities. As stated in the discussion, a strength of this research is that it highlighted the communities should consider the complex interplay between interpersonal, and other environmental-level. Policy is just one factor; other strategies should be addressed like those described in Alaska's Strategies to Prevent Underage Drinking. This would include environmental strategies which are culturally based and community supported to establish healthy community norms, comprehensive alcohol screening at pediatric or community based clinics (Alaska Department of Health and Social Services, 2013). In addition, communities should look at the other levels, like behavior setting, perceived environment and the individual, and crafting interventions designed to address the complexity.

Public Health Implications

Findings of this research suggest that local option policy may decrease death and injuries as per previous research. Self-report use behaviors were examined and differences identified, however the analysis did not confirm several hypotheses related to these behaviors. Social norms that high school students shared did not shed light on the behavioral setting in depth as there was only one

significant difference and it may be that the policy does not noticeably influence parental perceptions of harm or risk of underage drinking. However, this analysis did not look at the complete picture of data that may have led to a better understanding of youth behavior. More research could be done to better understand the context.

Implementing an environmental policy, like a local option, should be partnered with other efforts and with a plan to monitor, evaluate, sustain and improve the policy over time (Imm, Chinman, Wandersman, Rosenbloom, Guckenburg, & Leis, 2007). Selecting one strategy as a stand-alone approach is not recommended by the leading efforts around prevention, therefore it would be in addition to the implementation of an environmental strategy like a local option, the community should commit to other evidence-based intervention that can be sustained over the long term to help mitigate early onset-of alcohol use among underage persons. While the goal of the local option may not simply be to prevent underage drinking, it should be considered as one of the goals. Early onset of alcohol use can lead to long-term alcohol dependence, which comes with its own social costs (Windle & Zucker, National Institute on Alcohol Abuse and Alcoholism, 2010).

When a community determines that it wants to use a policy change like a local option ban on sales, importation and possession, a resolution to commit to collecting the necessary data to be able to evaluate the effectiveness of the policy would be appropriate. Data that would be useful to collect, evaluate and share includes 10 years of self-reported youth alcohol use and perception data (if available) alcohol related school incidents, and a catalogue of other prevention and intervention strategies deployed in the community. In addition to this data, it would be important that the community commit funds or time to ensure that some type of community law enforcement approach

is being implemented and that the community commit to self-monitoring of bootlegging or homebrew. Once those data sources and efforts have been implemented, research should be conducted to better understand the drinking contexts in both BP communities and NBP communities to help increase understanding related to the most effective prevention and intervention (Gruenwald, 2011).

Conclusions

This research provided a first look at the self-reported alcohol use and perceptions of youth in rural communities and confirmed that persons aged 10-19 may have similar injury and death frequency as found literature which documented injury and death prevalence in the adult population.

Key Findings

In 2011, living in a BP community did not result in lower rates of self-reported alcohol consumption in underage persons, or result in higher rates of youth perceptions of harm and lower rates of parental approval related to alcohol use. However, from 2004-2011, living in a BP community did result in more youth reporting that their peers did not see drinking as cool. In addition, alcohol related intentional and unintentional injury frequency and rates among 10-19 year olds in ban on sale, importation, and possession communities were lower than those in no ban on possession communities. However, these findings are limited, as 2011 was the only year of YRBS considered. Resulting in not being able provide trend data over time, in addition, ATR/AKVDRS data was only reviewed using frequencies and descriptive statistics. One other consideration is that the communities reviewed that were included in the BP sample had bans on possession in place for varying amounts of time.

Recommendations

Communities considering a local option should be encouraged by the ABC Board to include a plan that will allow for the community to monitor, evaluate, sustain and improve the policy over time. Data which should be collected includes: 10 years of self-reported youth alcohol use and perception data, alcohol related school incidents, other prevention and intervention strategies catalogued In addition, the community should consider identification and implementation of other evidence based strategies that support the community's goals to decrease alcohol use.

An additional prevention strategy community could adopt, along with a local option policy is *Qungasvik: A tool box for community intervention* in all communities to increase protective factors of community members (Mohatt, Fok, Henry, & Allen, 2014). Qungasvik, utilized community based participatory research and indigenous models of protection, which may be appropriately adapted in rural Alaska. Prevention efforts at the community level should employ efforts to impact parental opinions on the consequences of alcohol use and promote harm reduction approaches like social norms related to early onset of use (Van Hoof, Gosselt, & de Jong, 2010). Support for alcohol policy and control increases as adult alcohol use decreases, therefore considering interventions aimed at decreasing adult alcohol use would eventually have an impact on the whole community, including youth (Van Hoof, Gosselt, & de Jong, 2010).

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Appendix A

Local Option Communities, adapted from ABC Board Resources (Alaska Department of Commerce, Community and Economic Development, 2013)

City	Ban	Sale by specific type of license only	Sale by municipality operated license only	Ban sale and importation	Ban sale, importation & possession	Vote Tally	Election date	Certification date	Effective date	Limitations
Akiak				●		38-15	7/17/1991	8/21/1991	9/1/1991	
Akiachak					●	40-13	8/7/2001	8/23/2001	10/22/2001	
Alakanuk					●	47-7	2/6/1990	2/12/1990	3/1/1990	
Aleknagik		●				25-9	6/10/2011	6/16/2011	7/1/2011	Outdoor Recreation Lodge License Only
Allakaket					●	45-34	5/12/1989	5/19/1989	8/17/1989	
Ambler				●			12/15/1981	12/15/1981	1/1/1982	
Anvik	●					23-6	1/16/2002	1/21/2002	2/1/2002	
Anaktuvuk Pass					●	59-45	11/4/1986	12/16/1986	1/1/1987	
Angoon					●	92-40	7/26/1988	8/1/1988	11/1/1988	
Atmautluak*				●		60-12	10/6/1981	4/29/1982	5/1/1982	
Atqasuk					●	59-43	4/15/2003	4/21/2003	6/30/2003	
Barrow	●					911-789	10/7/1997	10/9/1997	11/1/1997	
Beaver*					●	17-11	6/15/2004	7/9/2004	8/1/2004	

Birch Creek*				●	13-2	10/6/1987	10/22/1987	11/1/1987	
Brevig Mission				●	34-32	3/3/1999	3/5/1999	5/3/1999	
Buckland			●		52-6	5/10/1982	5/11/1982	6/1/1982	
Chalkyitsik*			●		21-2	7/20/1982	7/28/1982	8/1/1982	
Chefornak			●		48-29	10/14/1982	10/15/1982	11/1/1982	
Chevak			●		88-63	10/2/1990	10/2/1990	11/1/1990	
Deering			●		32-24	5/26/1982	6/1/1982	7/1/1982	
Diomede			●		27-12	9/10/1981	9/29/1981	10/1/1981	
Eek			●		90-15	11/27/1982	11/27/1982	12/1/1982	
Elim			●		49-17	8/24/1981	8/27/1981	9/1/1981	
Emmonak				●	104-89	10/1/1991	10/7/1991	7/14/1992	
False Pass		●			34-6	10/2/2001	10/5/2001	11/1/2001	
Fort Yukon		●			130-78	11/24/2009	11/24/2009	12/1/2009	Package Store Only
Gambell				●	72-13	12/23/1986	12/29/1986	1/1/1987	
Golovin			●		31-22	1/16/1984	1/17/1984	2/1/1984	
Goodnews Bay				●	37-11	1/14/1991	1/18/1991	2/1/1991	
Grayling	●				36-27	11/5/1996	11/12/1996	12/1/1996	
Gulkana				●	17-3	1/14/1997	1/28/1997	3/30/1998	
Holy Cross	●				42-31	10/3/2000	10/6/2000	11/1/2000	
Hooper Bay			●		103-44	3/1/1983	3/1/1983	4/1/1983	
Hughes	●				17-4	3/2/1993	3/29/1993	4/1/1993	

Huslia	●				37-13	3/14/1989	3/23/1989	4/1/1989	
Iliamna*	●				35-24	10/5/1982	10/25/1982	1/23/1983	
Kake		●							Package Store Only
Kaktovik				●	56-39	8/1/1989	8/7/1989	11/5/1989	
Kasigluk*			●		74-10	10/4/1983	10/17/1983	11/1/1983	
Kiana		●			80-62	10/6/2009	10/12/2009	11/1/2009	Package Store Only with Distribution Center
Kipnuk*			●		82-7	10/5/1982	10/25/1982	11/1/1982	
Kivalina			●		79-33	1/8/1985	1/9/1985	2/1/1985	
Klawock		●			111-70	10/5/1993	10/11/1993	10/11/1993	Package Store Only
Kobuk			●		15-12	3/29/1989	4/3/1989	5/1/1989	
Kokhanok*	●				31-18	6/28/2005	7/14/2005	8/1/2005	
Kongiganak*				●	41-10	4/23/1996	5/27/1984	6/1/1996	
Kotlik				●	51-22	3/24/1987	3/25/1987	4/1/1987	
Kotzebue		●			412-365	10/6/2009	10/12/2009	11/1/2009	Package Store Only with Distribution Center
Koyuk			●		57-8	8/25/1981	8/26/1981	9/1/1981	
Kwethluk			●		82-30	1/1/1982	2/24/1982	3/1/1982	
Kwigillingok*			●		63-5	8/9/1983	9/1/1983	10/1/1983	

Lower Kalskag			●		46-31	11/5/1991	11/7/1991	12/1/1991	
Manokotak				●	80-8	1/29/1988	2/1/1988	3/1/1988	
Marshall				●	37-34	10/7/1986	10/8/1986	11/1/1986	
Mekoryuk				●	42-29	10/7/1986	10/8/1986	11/1/1986	
Minto*			●		59-34	7/12/1983	7/21/1983	8/1/1983	
Mountain Village			●		72-52	3/13/1984	3/19/1984	4/1/1984	
Nanwalek/ English Bay	●				47-29	1/13/1998	1/26/1998	2/1/1998	
Napakiak				●	62-14	5/5/1987	5/19/1987	6/1/1987	
Napaskiak			●		55-4	11/1/1982	11/8/1982	12/1/1982	
Naukati		●			31-13	3/26/1996	4/8/1996	5/1/1996	
Newtok*			●		37-9	10/30/1984	11/2/1984	12/1/1984	
Nightmute				●	32-3	2/2/1996	2/6/1996	4/9/1996	
Nikolai				●	28-16	5/20/1997	5/21/1997	8/5/1997	
Noatak*			●		69-53	12/7/1982	12/22/1982	1/1/1983	
Nondalton	●				46-30	11/10/1986	12/30/1986	1/28/1987	
Noorvik			●		103-58	4/28/1987	4/28/1987	5/1/1987	
Nulato		●			67-29	7/11/2006	7/11/2006	8/1/2006	Package Store Only
Nuiqsut				●	60-56	11/4/1986	11/12/1986	12/1/1986	
Nunapitchuk				●	75-23	10/7/1986	10/13/1986	11/1/1986	
Pilot Station			●		93-76	3/4/2003	3/4/2003	4/1/2003	

Platinum			●		12-9	1/14/1982	1/25/1982	2/1/1982
Point Hope				●	75-57	10/3/1989	10/9/1989	11/1/1989
Point Lay*			●		30-15	7/1/1986	7/11/1986	8/1/1986
Port Alexander	●				31-16	1/5/1982	1/11/1982	2/1/1982
Port Protection*		●			23-9	3/27/1988	4/5/1988	5/1/1988
Quinhagak				●	71-27	10/6/1987	10/12/1987	11/1/1987
Red Devil*	●				17-8	2/20/1990	4/27/1990	7/26/1990
Russian Mission			●		46-22	10/6/1987	10/27/1987	11/1/1987
Saint Mary's	●				98-71	10/3/2006	10/10/2006	11/1/2006
Saint Michael			●		39-21	8/4/1986	8/7/1986	9/1/1986
Saint Paul		●			104-46	10/2/2007	10/11/2007	11/1/2007
Savoonga				●	117-56	10/7/1997	10/10/1997	12/9/1997
Scammon Bay				●	71-25	10/6/1987	10/12/1987	11/1/1987
Selawik			●		89-69	12/17/1986	12/22/1986	1/1/1987
Shageluk	●				29-25	2/20/2001	3/19/2001	4/1/2001
Shaktoolik			●		34-28	3/13/1984	3/15/1984	4/1/1984
Sheldon Point (Nunam Iqua)				●	26-7	8/26/1986	8/27/1986	9/1/1986
Shishmaref			●		82-47	1/4/1983	1/4/1983	2/1/1983
Shungnak			●		46-44	10/6/1987	10/10/1987	11/1/1987
Stebbins			●		88-19	8/25/1987	10/8/1987	11/1/1987
Stevens Village*			●		31-11	6/5/1984	6/15/1984	7/1/1984

Takotna	●					22-8	8/24/1999	9/9/1999	12/8/1999	
Tanana			●			90-15	1/12/1982	1/13/1982	2/1/1982	Package Store and Beverage Dispensary Only
Tanacross*					●	32-5	5/17/1988	5/31/1988	6/1/1988	
Tatitlek*				●		28-15	8/23/1983	9/13/1983	12/9/1999	
Teller	●					55-41	11/13/1997	11/14/1997	1/14/1998	
Tetlin*				●		54-7	12/7/1982	12/22/1982	1/1/1983	
Togiak					●	80-38	10/7/1986	10/31/1986	11/1/1986	
Toksook Bay				●		78-32	11/23/1981	11/23/1981	12/1/1981	
Tuluksak*					●	55-12	4/12/1994	4/25/1994	5/1/1994	
Tuntutuliak*					●	41-22	10/6/1987	10/28/1987	11/1/1987	
Tununak				●		90-11	8/12/1981	8/13/1981	9/1/1981	
Twin Hills*					●	13-5	3/14/2000	3/30/2000	5/30/2000	
Unalakleet	●					121-40	4/14/1992	4/16/1992	5/1/1992	
Upper Kalskag				●		38-30	1/20/1993	2/22/1993	3/1/1993	
Wainwright				●		61-42	7/8/1982	7/14/1982	8/1/1982	
Wales				●		29-21	8/14/1981	8/17/1981	9/1/1981	
Totals	**17**	**5**	**7**	**45**	**34**					

Appendix B

Research Questions and Sources

Research Question	Data Source
1. Is there a difference in self-reported alcohol consumption in underage persons in BP communities and NBP communities?	YRBS
2. Are there differences in youth perceptions of harm and approval related to alcohol use in BP communities versus NBP communities?	YRBS
3. Are there differences in alcohol related injury frequency and type among 10-19 year olds in BSIP communities versus from those who live in NBP communities?	ATR and AKVDRS

Appendix C

Research Questions, Data Sources and Key Variables

RQ	Data Source	Key Variables
RQ1	YRBS	Students who had at least one drink of alcohol on one or more days during their life.
RQ1	YRBS	Students who had at least one drink of alcohol on one or more of the past 30 days.
RQ1	YRBS	Students who had five or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days.
RQ1	YRBS	Students who had at least one drink of alcohol on school property on one or more of the past 30 day.
RQ1	YRBS	Students who had their first drink of alcohol other than a few sips before age 13.
RQ1		BP (Ban on Sales, Ban on Sales and Importation, Ban on Sales, Importation and Possession)
RQ1		NBP (No Ban)
RQ2	YRBS	Students who think one or two drinks of alcohol nearly every day is no or slight risk.
RQ2	YRBS	Students who think there is very good or pretty good chance of drinking alcohol regularly as being seen as cool.
RQ2	YRBS	Students whose parents consider it not wrong at all for them to drink alcohol regularly.
RQ2		BP (Ban on Sales, Ban on Sales and Importation, Ban on Sales, Importation and Possession)
RQ2		NBP (No Ban)
RQ3	ATR	Etiology Code (ICD-9 Ecode)
RQ3	ATR	Cause of Injury
RQ3	ATR	Suspected Alcohol Use
RQ3	ATR	Suspected Drug Use
RQ3	ATR	Total Numbers of Intensive Care Days
RQ3	ATR	Primary Diagnosis

RQ3	ATR	Diagnosis Codes 1-10 (ICD-9 NCODES)
RQ3	ATR	Traumatic Brain Injury
RQ3	ATR	Hospital Discharge Disposition
RQ3	ATR	Disability
RQ3	ATR	General Condition on Discharge
RQ3	ATR	Fatality
RQ3	ATR	Hospital Charges
RQ3	ATR	Hospital Payment Sources (1-4)
RQ3	ATR	Number of Hospital Days
RQ3	AKVDRS	Age
RQ3	AKVDRS	ResidenceCityLabel
RQ3	AKVDRS	EMSPresentLabel
RQ3	AKVDRS	InjuryCity
RQ3	AKVDRS	InjuryCityLabel
RQ3	AKVDRS	AlcoholUseSuspected
RQ3	AKVDRS	AlcoholUseSuspectedLabel
RQ3	AKVDRS	AutopsyPerformedLabel
RQ3	AKVDRS	DeathCause1
RQ3	AKVDRS	DeathCause2
RQ3	AKVDRS	DeathPlaceLabel
RQ3	AKVDRS	UnderlyingCauseCodeLabel
RQ3	AKVDRS	DeathMannerAbstractorLabel
RQ3	AKVDRS	DeathMannerCME
RQ3	AKVDRS	DeathMannerCMELabel
RQ3	AKVDRS	AlcoholTested
RQ3	AKVDRS	AlcoholTestedLabel
RQ3	AKVDRS	AlcoholResult
RQ3	AKVDRS	AlcoholResultLabel

RQ3	AKVDRS	AlcoholLevel
RQ3	AKVDRS	Toxicology done
RQ3	AKVDRS	Drug Positive
RQ3	AKVDRS	Death Date
RQ3	AKVDRS	DeathPlace
RQ3	AKVDRS	DeathPlaceLabel
RQ3	AKVDRS	DeathState
RQ3	AKVDRS	DeathStateLabel
RQ3	AKVDRS	UnderlyingCauseCodeLabel
RQ3	AKVDRS	DeathMannerAbstractor
RQ3	AKVDRS	DeathMannerAbstractorLabel
RQ3	AKVDRS	DeathPlaceText
RQ3	AKVDRS	ExternalCause1ICD10
RQ3	AKVDRS	ExternalCause1ICD10Label
RQ3	AKVDRS	ExternalCause2ICD10
RQ3	AKVDRS	ExternalCause2ICD10Label
RQ3	AKVDRS	CME/LE_AbusedAsChild
RQ3	AKVDRS	CME/LE_AlcoholProblem
RQ3	AKVDRS	CME/LE_DeathFriendOrFamilyOther
RQ3	AKVDRS	CME/LE_DepressedMood
RQ3	AKVDRS	CME/LE_DrugInvolvement
RQ3	AKVDRS	CME/LE_EvictionOrLossOfHome
RQ3	AKVDRS	CME/LE_FamilyRelationship
RQ3	AKVDRS	CME/LE_FinancialProblem
RQ3	AKVDRS	CME/LE_HistoryMentalIllnessTreatment
RQ3	AKVDRS	CME/LE_InterpersonalViolencePerpetrator
RQ3	AKVDRS	CME/LE_InterpersonalViolenceVictim
RQ3	AKVDRS	CME/LE_IntervenerAssistingVictim

RQ3	AKVDRS	CME/LE_IntimatePartnerProblem
RQ3	AKVDRS	CME/LE_IntimatePartnerViolence
RQ3	AKVDRS	CME/LE_Jealously
RQ3	AKVDRS	CME/LE_MentalHealthDiagnosis1
RQ3	AKVDRS	CME/LE_MentalHealthDiagnosis1Label
RQ3	AKVDRS	CME/LE_MentalHealthDiagnosis2
RQ3	AKVDRS	CME/LE_MentalHealthDiagnosis2Label
RQ3	AKVDRS	CME/LE_MentalHealthDiagnosisOther
RQ3	AKVDRS	CME/LE_MentalHealthProblem
RQ3	AKVDRS	CME/LE_MentalIllnessTreatmentCurrent
RQ3	AKVDRS	CME/LE_Prostitution
RQ3	AKVDRS	CME/LE_RecentSuicideFriendFamily
RQ3	AKVDRS	CME/LE_RelationshipProblemOther
RQ3	AKVDRS	CME/LE_SchoolProblem
RQ3	AKVDRS	CME/LE_SubstanceAbuseOther
RQ3	AKVDRS	CME/LE_SuicideAttemptHistory
RQ3	AKVDRS	CME/LE_SuicideIntentDisclosed
RQ3	AKVDRS	CME/LE_SuicideNote
RQ3	AKVDRS	CME/LE_SuicideThoughtHistory
RQ3		BP (Ban on Sales, Ban on Sales and Importation, Ban on Sales, Importation and Possession)
RQ3		NBP (No Ban)

Appendix D

2011 ALASKA

Youth Risk Behavior Survey

This survey is about health behavior. It has been developed so you can tell us what you do that may affect your health. The information you give will be used to improve health education for young people like yourself.

DO NOT write your name on this survey. The answers you give will be kept private. No one will know what you write. Answer the questions based on what you really do.

Completing the survey is voluntary. Whether or not you answer the questions will not affect your grade in this class. If you are not comfortable answering a question, just leave it blank.

The questions that ask about your background will be used only to describe the types of students completing this survey. The information will not be used to find out your name. No names will ever be reported.

Make sure to read every question. Fill in the ovals completely. When you are finished, follow the instructions of the person giving you the survey.

Thank you very much for your help.

BLANK

Directions

- **Use a #2 pencil only.**
- **Make dark marks.**
- **Fill in a response like this: A B ● D.**
- **If you change your answer, erase your old answer completely.**

1. How old are you?

A. 12 years old or younger

B. 13 years old

C. 14 years old

D. 15 years old

E. 16 years old

F. 17 years old

G. 18 years old

H. 19 years old or older

2. What is your sex?

A. Female

B. Male

3. In what grade are you?

A. 9th grade

B. 10th grade

C. 11th grade

D. 12th grade

E. Ungraded or other grade

4. Are you Hispanic or Latino?

A. Yes

B. No

5. What is your race? **(Select one or more responses.)**

A. American Indian or Alaska Native

B. Asian

C. Black or African American

D. Native Hawaiian or Other Pacific Islander

E. White

6. How tall are you without your shoes on?

Directions: Write your height in the shaded blank boxes. Fill in the matching oval below each number.

Example

Height	
Feet	**Inches**
5	***7***
③	⓪
④	①
●	②
⑥	③
⑦	④
	⑤
	⑥
	●
	⑧
	⑨
	⑩
	⑪

7. How much do you weigh without your shoes on?

Directions: Write your weight in the shaded blank boxes. Fill in the matching oval below each number.

Example

Weight		
Pounds		
1	***5***	***2***
⓪	⓪	⓪
●	①	①
②	②	●
③	③	③
	④	④
	●	⑤
	⑥	⑥
	⑦	⑦
	⑧	⑧
	⑨	⑨

8. During the past 12 months, how would you describe your grades in school?

A. Mostly A's

B. Mostly B's

C. Mostly C's

D. Mostly D's

E. Mostly F's

F. None of these grades

G. Not sure

The next 4 questions ask about safety.

9. **When you rode a bicycle** during the past 12 months, how often did you wear a helmet?

A. I did not ride a bicycle during the past 12 months

B. Never wore a helmet

C. Rarely wore a helmet

D. Sometimes wore a helmet

E. Most of the time wore a helmet

F. Always wore a helmet

10. How often do you wear a seat belt when **riding** in a car driven by someone else?

A. Never

B. Rarely

C. Sometimes

D. Most of the time

E. Always

11. During the past 30 days, how many times did you **ride** in a car or other vehicle **driven by someone who had been drinking alcohol**?

A. 0 times

B. 1 time

C. 2 or 3 times

D. 4 or 5 times

E. 6 or more times

12. During the past 30 days, how many times did you **drive** a car or other vehicle **when you had been drinking alcohol**?

A. 0 times

B. 1 time

C. 2 or 3 times

D. 4 or 5 times

E. 6 or more times

The next 10 questions ask about violence-related behaviors.

13. During the past 30 days, on how many days did you carry **a weapon** such as a gun, knife, or club?

A. 0 days

B. 1 day

C. 2 or 3 days

D. 4 or 5 days

E. 6 or more days

14. During the past 30 days, on how many days did you carry **a gun**?

A. 0 days

B. 1 day

C. 2 or 3 days

D. 4 or 5 days

E. 6 or more days

15. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club **on school property**?

A. 0 days

B. 1 day

C. 2 or 3 days

D. 4 or 5 days

E. 6 or more days

16. During the past 30 days, on how many days did you **not** go to school because you felt you would be unsafe at school or on your way to or from school?

A. 0 days
B. 1 day
C. 2 or 3 days
D. 4 or 5 days
E. 6 or more days

17. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club **on school property**?

A. 0 times
B. 1 time
C. 2 or 3 times
D. 4 or 5 times
E. 6 or 7 times
F. 8 or 9 times
G. 10 or 11 times
H. 12 or more times

18. During the past 12 months, how many times were you in a physical fight?

A. 0 times
B. 1 time
C. 2 or 3 times
D. 4 or 5 times
E. 6 or 7 times
F. 8 or 9 times
G. 10 or 11 times
H. 12 or more times

19. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?

A. 0 times
B. 1 time
C. 2 or 3 times
D. 4 or 5 times
E. 6 or more times

20. During the past 12 months, how many times were you in a physical fight **on school property**?

A. 0 times

B. 1 time

C. 2 or 3 times

D. 4 or 5 times

E. 6 or 7 times

F. 8 or 9 times

G. 10 or 11 times

H. 12 or more times

21. During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?

A. Yes

B. No

22. Have you ever been physically forced to have sexual intercourse when you did not want to?

A. Yes

B. No

The 2 next questions ask about bullying. Bullying is when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.

23. During the past 12 months, have you ever been bullied **on school property**?

A. Yes

B. No

24. During the past 12 months, have you ever been **electronically** bullied? (Include being bullied through e-mail, chat rooms, instant messaging, Web sites, or texting.)

A. Yes

B. No

The next 5 questions ask about sad feelings and attempted suicide. Sometimes people feel so depressed about the future that they may consider attempting suicide, that is, taking some action to end their own life.

25. During the past 12 months, did you ever feel so sad or hopeless almost every day for **two weeks or more in a row** that you stopped doing some usual activities?

A. Yes

B. No

26. During the past 12 months, did you ever **seriously** consider attempting suicide?

A. Yes

B. No

27. During the past 12 months, did you make a plan about how you would attempt suicide?

A. Yes

B. No

28. During the past 12 months, how many times did you actually attempt suicide?

A. 0 times

B. 1 time

C. 2 or 3 times

D. 4 or 5 times

E. 6 or more times

29. **If you attempted suicide** during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

A. **I did not attempt suicide** during the past 12 months

B. Yes

C. No

The next 13 questions ask about tobacco use.

30. Have you ever tried cigarette smoking, even one or two puffs?

A. Yes

B. No

31. How old were you when you smoked a whole cigarette for the first time?

A. I have never smoked a whole cigarette

B. 8 years old or younger

C. 9 or 10 years old

D. 11 or 12 years old

E. 13 or 14 years old

F. 15 or 16 years old

G. 17 years old or older

32. During the past 30 days, on how many days did you smoke cigarettes?

A. 0 days

B. 1 or 2 days

C. 3 to 5 days

D. 6 to 9 days

E. 10 to 19 days

F. 20 to 29 days

G. All 30 days

33. During the past 30 days, on the days you smoked, how many cigarettes did you smoke **per day**?

A. I did not smoke cigarettes during the past 30 days

B. Less than 1 cigarette per day

C. 1 cigarette per day

D. 2 to 5 cigarettes per day

E. 6 to 10 cigarettes per day

F. 11 to 20 cigarettes per day

G. More than 20 cigarettes per day

34. During the past 30 days, how did you **usually** get your own cigarettes? (Select only **one** response.)

A. I did not smoke cigarettes during the past 30 days

B. I bought them in a store such as a convenience store, supermarket, discount store, or gas station

C. I bought them from a vending machine

D. I gave someone else money to buy them for me

E. I borrowed (or bummed) them from someone else

F. A person 18 years old or older gave them to me

G. I took them from a store or family member

H. I got them some other way

35. During the past 30 days, on how many days did you smoke cigarettes **on school property**?

A. 0 days

B. 1 or 2 days

C. 3 to 5 days

D. 6 to 9 days

E. 10 to 19 days

F. 20 to 29 days

G. All 30 days

36. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?

A. Yes

B. No

37. During the past 12 months, did you ever try **to quit** smoking cigarettes?

A. I did not smoke during the past 12 months

B. Yes

C. No

38. During the past 30 days, on how many days did you use **chewing tobacco, snuff, or dip**, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?

A. 0 days
B. 1 or 2 days
C. 3 to 5 days
D. 6 to 9 days
E. 10 to 19 days
F. 20 to 29 days
G. All 30 days

39. During the past 30 days, on how many days did you use **chewing tobacco, snuff, or dip on school property**?

A. 0 days
B. 1 or 2 days
C. 3 to 5 days
D. 6 to 9 days
E. 10 to 19 days
F. 20 to 29 days
G. All 30 days

40. During the past 30 days, on how many days did you smoke **cigars, cigarillos, or little cigars**?

A. 0 days
B. 1 or 2 days
C. 3 to 5 days
D. 6 to 9 days
E. 10 to 19 days
F. 20 to 29 days
G. All 30 days

41. During the past 7 days, on how many days were you in the same room with someone who was smoking cigarettes?

A. 0 days
B. 1 day
C. 2 days
D. 3 days
E. 4 days
F. 5 days

G. 6 days

H. 7 days

42. How much do you think people risk harming themselves (physically or in other ways), if they smoke one or more packs of cigarettes per day?

A. No risk

B. Slight risk

C. Moderate risk

D. Great risk

The next 7 questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers, and liquor such as rum, gin, vodka, or whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

43. During your life, on how many days have you had at least one drink of alcohol?

A. 0 days

B. 1 or 2 days

C. 3 to 9 days

D. 10 to 19 days

E. 20 to 39 days

F. 40 to 99 days

G. 100 or more days

44. How old were you when you had your first drink of alcohol other than a few sips?

A. I have never had a drink of alcohol other than a few sips

B. 8 years old or younger

C. 9 or 10 years old

D. 11 or 12 years old

E. 13 or 14 years old

F. 15 or 16 years old

G. 17 years old or older

45. During the past 30 days, on how many days did you have at least one drink of alcohol?

A. 0 days

B. 1 or 2 days

C. 3 to 5 days

D. 6 to 9 days

E. 10 to 19 days

F. 20 to 29 days

G. All 30 days

46. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

A. 0 days

B. 1 day

C. 2 days

D. 3 to 5 days

E. 6 to 9 days

F. 10 to 19 days

G. 20 or more days

47. During the past 30 days, how did you **usually** get the alcohol you drank?

A. I did not drink alcohol during the past 30 days

B. I bought it in a store, *restaurant, bar, or club or at a public event such as a concert or sporting event*

C. I gave someone else money to buy it for me

D. I took it from a family member

E. Someone under 21 gave it to me

F. A family member, over 21, gave it to me

G, Someone else, over 21 gave it to me

H. I got it some other way

48. During the past 30 days, on how many days did you have at least one drink of alcohol **on school property**?

A. 0 days

B. 1 or 2 days

C. 3 to 5 days

D. 6 to 9 days

E. 10 to 19 days

F. 20 to 29 days

G. All 30 days

49. How much do you think people risk harming themselves (physically or in other ways), if they have one or two drinks of an alcoholic beverage (beer, wine, or liquor) nearly every day?

A. No risk

B. Slight risk

C. Moderate risk

D. Great risk

The next 5 questions ask about marijuana use. Marijuana also is called grass or pot.

50. During your life, how many times have you used marijuana?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 to 99 times

G. 100 or more times

51. How old were you when you tried marijuana for the first time?

A. I have never tried marijuana

B. 8 years old or younger

C. 9 or 10 years old

D. 11 or 12 years old

E. 13 or 14 years old

F. 15 or 16 years old

G. 17 years old or older

52. During the past 30 days, how many times did you use marijuana?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 or more times

53. During the past 30 days, how many times did you use marijuana **on school property**?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 or more times

54. How much do you think people risk harming themselves (physically or in other ways), if they smoke marijuana regularly?

A. No risk

B. Slight risk

C. Moderate risk

D. Great risk

The next 10 questions ask about other drugs.

55. During your life, how many times have you used **any** form of cocaine, including powder, crack, or freebase?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 or more times

56. During the past 30 days, how many times did you use **any** form of cocaine, including powder, crack, or freebase?

A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

57. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?

A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

58. During your life, how many times have you used **heroin** (also called smack, junk, or China White)?

A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

59. During your life, how many times have you used **methamphetamines** (also called speed, crystal, crank, or ice)?

A. 0 times
B. 1 or 2 times
C. 3 to 9 times
D. 10 to 19 times
E. 20 to 39 times
F. 40 or more times

60. During your life, how many times have you used **ecstasy** (also called MDMA)?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 or more times

61. During your life, how many times have you taken a **prescription drug** (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 or more times

62. During the past 30 days, how many times did you take a **prescription drug** (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription?

A. 0 times

B. 1 or 2 times

C. 3 to 9 times

D. 10 to 19 times

E. 20 to 39 times

F. 40 or more times

63. During your life, how many times have you used a needle to inject any **illegal** drug into your body?

A. 0 times

B. 1 time

C. 2 or more times

64. During the past 12 months, has anyone offered, sold, or given you an illegal drug **on school property**?

A. Yes

B. No

The next 7 questions ask about sexual behavior.

65. Have you ever had sexual intercourse?

A. Yes

B. No

66. How old were you when you had sexual intercourse for the first time?

A. I have never had sexual intercourse

B. 11 years old or younger

C. 12 years old

D. 13 years old

E. 14 years old

F. 15 years old

G. 16 years old

H. 17 years old or older

67. During your life, with how many people have you had sexual intercourse?

A. I have never had sexual intercourse

B. 1 person

C. 2 people

D. 3 people

E. 4 people

F. 5 people

G. 6 or more people

68. During the past 3 months, with how many people did you have sexual intercourse?

A. I have never had sexual intercourse

B. I have had sexual intercourse, but not during the past 3 months

C. 1 person

D. 2 people

E. 3 people

F. 4 people

G. 5 people

H. 6 or more people

69. Did you drink alcohol or use drugs before you had sexual intercourse the **last time**?

A. I have never had sexual intercourse

B. Yes

C. No

70. The **last time** you had sexual intercourse, did you or your partner use a condom?

A. I have never had sexual intercourse

B. Yes

C. No

71. The **last time** you had sexual intercourse, what **one** method did you or your partner use to **prevent pregnancy**? (Select only **one** response.)

A. I have never had sexual intercourse

B. No method was used to prevent pregnancy

C. Birth control pills

D. Condoms

E. Depo-Provera (or any injectable birth control), Nuva Ring (or any birth control ring), Implanon (or any implant), or any IUD

F. Withdrawal

G. Some other method

H. Not sure

The next 2 questions ask about body weight.

72. How do **you** describe your weight?

A. Very underweight

B. Slightly underweight

C. About the right weight

D. Slightly overweight

E. Very overweight

73. Which of the following are you trying to do about your weight?

A. **Lose** weight

B. **Gain** weight

C. **Stay** the same weight

D. I am **not trying to do anything** about my weight

The next 8 questions ask about food you ate or drank during the past 7 days. Think about all the meals and snacks you had from the time you got up until you went to bed. Be sure to include food you ate at home, at school, at restaurants, or anywhere else.

74. During the past 7 days, how many times did you drink **100% fruit juices** such as orange juice, apple juice, or grape juice? (Do **not** count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)

A. I did not drink 100% fruit juice during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

75. During the past 7 days, how many times did you eat **fruit**? (Do **not** count fruit juice.)

A. I did not eat fruit during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

76. During the past 7 days, how many times did you eat **green salad**?

A. I did not eat green salad during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

77. During the past 7 days, how many times did you eat **potatoes**? (Do **not** count french fries, fried potatoes, or potato chips.)

A. I did not eat potatoes during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

78. During the past 7 days, how many times did you eat **carrots**?

A. I did not eat carrots during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

79. During the past 7 days, how many times did you eat **other vegetables**? (Do **not** count green salad, potatoes, or carrots.)

A. I did not eat other vegetables during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

80. During the past 7 days, how many times did you drink a **can, bottle, or glass of soda or pop**, such as Coke, Pepsi, or Sprite? (Do **not** count diet soda or diet pop.)

A. I did not drink soda or pop during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

81. During the past 7 days, how many times did you drink a **can, bottle, or glass of a sugar sweetened drink**, such as sports drinks, sweetened energy drinks, Snapple, fruit punch, Kool-Aid, Tang, or Capri-Sun? (Do **not** include soda or pop, diet drinks, or 100% fruit juice.)

A. I did not drink sugar sweetened drinks during the past 7 days

B. 1 to 3 times during the past 7 days

C. 4 to 6 times during the past 7 days

D. 1 time per day

E. 2 times per day

F. 3 times per day

G. 4 or more times per day

The next 6 questions ask about physical activity.

82. During the past 7 days, on how many days were you physically active for a total of **at least 60 minutes per day**? (Add

up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time.)

A. 0 days

B. 1 day

C. 2 days

D. 3 days

E. 4 days

F. 5 days

G. 6 days

H. 7 days

83. On an average school day, how many hours do you watch TV?

A. I do not watch TV on an average school day

B. Less than 1 hour per day

C. 1 hour per day

D. 2 hours per day

E. 3 hours per day

F. 4 hours per day

G. 5 or more hours per day

84. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Xbox, PlayStation, Nintendo DS, iPod touch, Facebook, and the Internet.)

A. I do not play video or computer games or use a computer for something that is not school work

B. Less than 1 hour per day

C. 1 hour per day

D. 2 hours per day

E. 3 hours per day

F. 4 hours per day

G. 5 or more hours per day

85. In an average week when you are in school, on how many days do you go to physical education (PE) classes?

A. 0 days

B. 1 day

C. 2 days

D. 3 days

E. 4 days

F. 5 days

86. During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?

A. I do not take PE

B. Less than 10 minutes

C. 10 to 20 minutes

D. 21 to 30 minutes

E. 31 to 40 minutes

F. 41 to 50 minutes

G. 51 to 60 minutes

H. More than 60 minutes

87. During the past 12 months, on how many sports teams did you play? (Count any teams run by your school or community groups.)

A. 0 teams

B. 1 team

C. 2 teams

D. 3 or more teams

The next 3 questions ask about other health-related topics.

88. Have you ever been taught about AIDS or HIV infection in school?

A. Yes

B. No

C. Not sure

89. Has a doctor or nurse ever told you that you have asthma?

A. Yes

B. No

C. Not sure

90. Do you still have asthma?

A. I have never had asthma

B. Yes

C. No

D. Not sure

The next 8 questions ask about other related topics.

91. During the past 30 days, on how many days did you **not** go to school because you were sick?

A. 0 days

B. 1 or 2 days

C. 3 to 5 days

D. 6 to 9 days

E. 10 or more days

92. During the past 30 days, on how many days did you miss classes or school without permission?

A. 0 days

B. 1 or 2 days

C. 3 to 5 days

D. 6 to 9 days

E. 10 or more days

93. How often does one of your parents talk with you about what you are doing in school?

A. Never

B. Less than once a month

C. About once or twice a month

D. About once or twice a week

E. About every day

94. Do you agree or disagree that your teachers really care about you and give you a lot of encouragement?

A. Strongly agree

B. Agree

C. Not sure

D. Disagree

E. Strongly disagree

95. Besides your parents, how many adults would you feel comfortable seeking help from if you had an important question affecting your life?

A. 0 adults

B. 1 adult

C. 2 adults

D. 3 adults

E. 4 adults

F. 5 or more adults

96. During an average week, how many hours do you spend helping or volunteering at school or in the community (such as helping elders or neighbors; watching young children; teaching or tutoring; peer helping; mentoring; or helping out at local programs, health clinics, faith organizations, tribal organizations, or environmental organizations)?

A. 0 hours

B. 1 hour

C. 2 hours

D. 3 to 5 hours

E. 6 to 10 hours

F. 11 or more hours

97. During an average week, on how many days do you take part in organized after school, evening, or weekend activities (such as school clubs; community center groups; music, art, or dance lessons; drama; church; or cultural or other supervised activities)?

A. 0 days

B. 1 day

C. 2 days

D. 3 days

E. 4 days

F. 5 days

G. 6 days

H. 7 days

98. Do you agree or disagree that you feel alone in your life?

A. Strongly agree

B. Agree

C. Not sure

D. Disagree

E. Strongly disagree

99. Do you agree or disagree that in your community you feel like you matter to people?

A. Strongly agree

B. Agree

C. Not sure

D. Disagree

E. Strongly disagree

100. Do you agree or disagree that your school has clear rules and consequences for behavior?

A. Strongly agree

B. Agree

C. Not sure

D. Disagree

E. Strongly disagree

The next 6 questions are general questions about your perception of drug use.

101. How wrong do your parents feel it would be for you to smoke marijuana?

A. Very wrong

B. Wrong

C. A little bit wrong

D. Not wrong at all

102. How wrong do your parents feel it would be for you to drink beer, wine, or hard liquor (for example, vodka, whiskey, or gin) regularly?

A. Very wrong

B. Wrong

C. A little bit wrong

D. Not wrong at all

103. How wrong do your parents feel it would be for you to smoke cigarettes?

A. Very wrong

B. Wrong

C. A little bit wrong

D. Not wrong at al

104. What are the chances you would be seen as cool if you smoked cigarettes?

A. No or very little chance

B. Little chance

C. Some chance

D. Pretty good chance

E. Very good chance

105. What are the chances you would be seen as cool if you began drinking alcoholic beverages regularly, that is, at least once or twice a month?

A. No or very little chance

B. Little chance

C. Some chance

D. Pretty good chance

E. Very good chance

106. What are the chances you would be seen as cool if you smoked marijuana?

A. No or very little chance

B. Little chance

C. Some chance

D. Pretty good chance

E. Very good chance

This is the end of the survey.

Thank you very much for your help

Appendix E

Alaska Trauma Registry Case Coding Method

New Geographic Code	SPSS Relabeling	Alaska Trauma Registry Case Coding Method
1	1	NBP community (both scene city and home city)
2	2	BP (both scene city and home city)
3	1	Scene City in NBP but Home City is in the BP sample
4	1	Scene City is NBP and Home City is another NBP community
5	1	Scene City is NBP but Home City is from outside the NBP and BP Sample
6	0	Scene City is outside the sample communities Home City is in the NBP sample
7	2	Scene City in BP but Home City is in the NBP sample
8	2	Scene City is BP and Home City is another BP community
9	2	Scene City is BP but Home City is from outside the NBP and BP Sample
10	0	Scene City is outside the sample communities Home City is in the BP sample
11	0	Scene City is unknown but Home City is from NBP sample
12	0	Scene City is unknown but Home City is from the BP sample

Appendix F

Alaska Violent Death Reporting System Case Coding Method

New Geographic Code	SPSS Relabeling	Alaska Violent Death Reporting System Case Coding Method
1	1	NBP community (both InjuryCityLabel and ResidenceCityLabel)
2	2	BP (both InjuryCityLabel and ResidenceCityLabel)
3	1	Injury City in NBP but Residence City is in the BP sample
4	1	Injury City is NBP and Residence City is another NBP community
5	1	Injury City is NBP but Residence City is from outside the NBP and BP Sample
6	0	Injury City is outside the sample communities Residence City is in the NBP sample
7	2	Injury City in BP but Residence City is in the NBP sample
8	2	Injury City is BP and Residence City is another BP community
9	2	Injury City is BP but Residence City is from outside the NBP and BP Sample
10	0	Injury City is outside the sample communities Residence City is in the BP sample
11	0	Injury City is unknown but Residence City is from NBP sample
12	0	Injury City is unknown but Residence City is from the BP sample

Appendix G

Acronym Dictionary

ABC Board	Alcohol Beverage Control Board
AKVDRS	Alaska Violent Death Reporting System
ASAP	Alcohol Safety Action Program
ATR	Alaska Trauma Registry
BP	Ban on Sale Importation and Possession
DJJ	Division of Juvenile Justice
DWI	Driving While Intoxicated
IRB	Institutional Review Board
JASAP	Juvenile Alcohol Safety Action Program
MCA	Minor Consuming Alcohol
NB	No Ban
UAA	University of Alaska Anchorage
VPSO	Village Public Safety Officers
YRBS	Youth Risk Behavioral System