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Risk And Protective Factors Related to Female/Male Use Of Alcohol In Grades 7-12

Christie L. B. Rood

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RISK AND PROTECTIVE FACTORS RELATED TO FEMALE/MALE
USE OF ALCOHOL IN GRADES 7-12

by

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A Dissertation
Submitted to the Graduate Faculty
of the
University of North Dakota
in partial fulfillment of the requirements

for the degree of
Doctor of Philosophy

Grand Forks, North Dakota
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2007
This dissertation, submitted by Christie Lynn Bogan Rood in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

This dissertation meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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Title                      Risk and Protective Factors Related to Female/Male Use of Alcohol in Grades 7-12
Department                Educational Leadership
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Signature  Christie Lynn Bogan Reed
Date        July 10, 2007
TABLE OF CONTENTS

LIST OF TABLES ................................................................. vi

ACKNOWLEDGMENTS ................................................... vii

ABSTRACT ................................................................. ix

CHAPTER

I. INTRODUCTION ......................................................... 1

Need for the Study ....................................................... 4

Purpose of the Study .................................................... 5

Research Questions .................................................... 5

Definitions ............................................................... 6

Assumptions ............................................................. 7

Delimitations ............................................................ 7

II. REVIEW OF THE LITERATURE ................................ 9

Risk and Protective Factor Research ............................. 9

The Relationship of Risk and Protective Factors and
Adolescent Alcohol Use ............................................. 21

Alcohol Abuse at the National Level ............................ 24

III. THE STUDY SAMPLE ............................................. 36

Instrument ............................................................... 37

Procedures .............................................................. 40

Analysis of the Data .................................................. 41
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frequency by Grade</td>
<td>46</td>
</tr>
<tr>
<td>2. Frequency by Grade and Gender</td>
<td>46</td>
</tr>
<tr>
<td>3. Frequency by Grade, Gender, and Non-users/Users</td>
<td>48</td>
</tr>
<tr>
<td>4. Results of the Varimax Rotated Factor Analyses for the Individual Domain Items (17)</td>
<td>51</td>
</tr>
<tr>
<td>5. Results of the Varimax Rotated Factor Analyses for the Peer Domain Items (8)</td>
<td>53</td>
</tr>
<tr>
<td>6. Results of the Varimax Rotated Factor Analyses for the Family Domain Items (24)</td>
<td>55</td>
</tr>
<tr>
<td>7. Results of the Varimax Rotated Factor Analyses for the School Domain Items (19)</td>
<td>57</td>
</tr>
<tr>
<td>8. Results of the Varimax Rotated Factor Analyses for the Community Domain Items (5)</td>
<td>59</td>
</tr>
<tr>
<td>9. Analysis of Variance Results for 7th-9th Grade Male/Female Non-users and Users of Alcohol</td>
<td>61</td>
</tr>
<tr>
<td>10. Analysis of Variance Results for 10th-12th Grade Male/Female Non-users and Users of Alcohol</td>
<td>62</td>
</tr>
<tr>
<td>11. Summary of Results of Multiple Comparisons</td>
<td>65</td>
</tr>
</tbody>
</table>
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I dedicate this dissertation to my mom and dad, Helen and Louie Bogan.

"... I am strong when I am on your shoulders."
ABSTRACT

The purpose of this study was to investigate risk and protective factors related to the use of alcohol during a 30-day time frame for 7th-12th grade females/males. The comparisons were male non-users to male users, female non-users to female users, and male users to female users. Data were collected from the spring 2003 Grand Forks (North Dakota) Public Schools Youth Risk and Protective Factor Survey (YRPFS). The study was conducted with 666 students: 375 were in grades 7-9 and 291 were in grades 10-12. There were 340 females and 326 males. MANOVA was used to investigate the differences between the comparison groups. The level of significance was set at .01.

There were significant differences found at all grade levels for male and female non-users and users of alcohol. Non-users were more likely to have protective factor influences (e.g., personal perception, parent perception, and positive beliefs). Users were more likely to have risk factor influences (e.g., other drug use; friend’s influence; school drug use; alcohol, tobacco, and other drug (ATOD) school availability; and ATOD community availability). There were slight variations between male and female users; males were higher on risk factors, other drug use, and ATOD community availability. There were no significant differences found within any of the comparison groups on 5 of the 14 factors. These were personal support, parent/school involvement, parental relationships, home violence, and school safety.
In conclusion, this study found there were specific risk and protective factors that influenced the non-use and use of alcohol by males and females at all grade levels. There were very few differences for male and female users: males were higher on only two of the factors.

This study provided significant findings that can be used to develop strategies to promote protective factors and reduce risk factors. Some of the specific recommendations included the need to use these findings and further research on risk/protective factors as a guide to reduce/eliminate the use of alcohol by adolescents. These results must be shared with youth, parents, schools, and communities to develop a collaborative action plan that will promote healthy youth development.
CHAPTER I

INTRODUCTION

As one of North Dakota’s largest cities, Grand Forks is a growing, progressive community. The area, with grassland prairie to the west and Minnesota lake country to the east, has grown to become the trade area for more than 300,000 people. Grand Forks is the American gateway to Winnipeg, Manitoba, a major commerce trade center 150 miles north in Canada, and is located 300 miles northwest of Minneapolis-St. Paul.

Grand Forks has a population of 49,375. The Grand Forks Air Force Base, which is located just outside the city, has a population of 4,900. Also, located across the Red River in Minnesota, East Grand Forks has 7,500 people living in its city. This makes the total population in this community at 61,775.

The quality of life in Grand Forks has been ranked among the top 10 in the nation. Some of the features that makes Grand Forks a great place to live are the educational opportunities, safety, low crime rate, parks and theatres, and a cost of living considerably below that found in large cities.

The Grand Forks Public School District is a school district on the move, serving 8,015 regular, special education, and alternative educational students.

School facilities consist of 12 elementary schools (grades K-5), four middle schools (grades 6-8), two high schools (grades 9-12), one alternative school (for students 16 and older), and one adult education center. Facilities in the Grand Forks School District are well maintained and a source of community pride. In 1998 two new schools opened their doors replacing two schools that were flood damaged. The current staff of 650 teachers includes 300 with master degrees or beyond. The staff’s average years of experience is 14.3% which shows that the teachers like teaching here and many of them spend their entire careers in the Grand Forks Schools. (Roebuck, 2003, p. 1)

Despite the foregoing description, Grand Forks is ranked number two among communities in the nation for binge drinking (America’s Promise – The Alliance for Youth, 2005; Collins, 2004; Socoski, 2005). In addition, North Dakota is ranked as the number one state in the nation for this same problem. These problems were substantiated in survey data from 1993 through 2003. Trend data indicated that there were differences
in the risk and protective factors of the non-users and users of alcohol (Rood, 2004). These concerns were the focus of discussions among many North Dakota communities, which included state leaders and local citizens in general about what could be done. In addition to binge drinking, drinking and driving and riding with someone else who had been drinking was noted as a problem (HB Associates, 2003). The problems of drinking and driving and riding with someone who had been drinking have also been the subject of concern and discussion in the Grand Forks community. Even though drinking and driving was not a part of this study, it was a significant concern related to the use of alcohol by those who participated in the survey.

Because of the issues associated with alcohol use among 7th-12th graders, it seemed useful to determine if there were risk and/or protective factors which influenced the frequent use or non-use of alcohol by those under 21. This study focused on the relationship of those in grades 7-12 who were users and non-users of alcohol with six identified risk or protective factor domains. The users were defined as those who responded anonymously to a survey as having used alcohol 6 to 30 times within the past month. The non-users were defined as those who responded anonymously to a survey as having not drunk alcohol within the past 30 days.

The seven risk and protective factors were categorized within the domains of demographics, individual, peer, family, school, community, and general. For the purpose of this study, the domain of general was not included. The data were collected from the Grand Forks Public School District. At the time of the 2003 survey, the school district enrolled approximately 8,015 regular, special education, and alternative education students. There were three junior high schools and one school with only grades 4-8.
located at the Air Force Base. There were three high schools, which included one alternative setting.

The district conducted the Grand Forks Public Schools (GFPS) Youth Risk and Protective Factor Survey (YRPFS) during the spring of 2003. The instrument used was an adaptation of the original survey, which was developed in 1993. Several of the parents of students surveyed, as well as other community members, had inquired about the risk and protective factors, which may have an influence on adolescent non-users and users of alcohol.

In response to the problems identified by the YRPFS, a community coalition, "The Answer," a federally funded program, was established and sponsored by the Grand Forks Public Schools and the Altru Health System. The coalition’s purpose was to support the reduction/elimination of alcohol and other drug use among youth. In addition, the coalition worked to create healthier relationships for youth, families, and the community. The coalition was highly interested in the outcome of this study as a means to support their efforts in applying the findings to their strategic planning process, in order to enhance protective factors and reduce/eliminate risk factors.

The relationship between risk and protective factor influences on adolescent non-users and users of alcohol has been an area of research for the past 30 years. The early research was conducted primarily through the work of Hawkins and Catalano (2003b) and reported in their study titled *Investing in Your Community's Youth: An Introduction to the Communities That Care System*, conducted by the Social Development Research Group at the University of Washington. The *Communities That Care* Survey and Modules, which was owned by the Channing Bete Company based on
the 30-year research by Dr. J. David Hawkins and Dr. Richard F. Catalano, was used as a
guide to develop the basis for the instruction and questions and of the Grand Forks
survey.

Need for the Study

The National Institute on Alcohol Abuse and Alcoholism had conducted research
that indicated, among young adults, those 15 or younger who engage in alcohol use were
more likely to become adults with alcohol abuse issues. They also conducted research,
which indicated that alcohol was a gateway drug (i.e., a drug that may lead the way to
other drugs) (Community Anti-Drug Coalitions of America, 2005).

More information was needed to determine whether there were factors that could
help to reduce or eliminate alcohol use among local youth and promote healthy youth
development. The local YRPFS had the potential to offer some indication of the possible
risk and protective factors, which influenced non-users and users of alcohol. Additional
information was needed to determine whether there were factors that influenced the
reduction and/or elimination of alcohol use among youth and those that promoted healthy
youth development.

Since the YRPFS was first administered in 1993, there has been a serious concern
about adolescent alcohol use within the community of Grand Forks. In 2003, a trend
analysis (Rood, 2004) was conducted to determine if there were any changes in behavior
related to alcohol and other drug use as a result of efforts by “The Answer” community
Throughout the 10 years, there were changes made to the survey through omissions,
additions, and modifications; however, the questions pertaining to alcohol use and
non-use and the risk and protective factor questions used in this study remained identical over time. The overall results indicated there was only a slight decrease in the use of alcohol among 7th-12th graders during this 10-year period. These data supported the need to find more information about the specific risk and protective factors that may influence the use or non-use of alcohol by youth in grades 7-12. The intent of this study was to determine whether there were specific risk and protective factors which could be altered and potentially reduce the use of alcohol and other substances among 7th-12th graders in Grand Forks.

The results of the 2003 study were shared and disseminated to members of the community. There was also a plan in place for a community youth summit to develop a strategic plan that would emphasize the opportunity to change behavior involving alcohol use.

Purpose of the Study

The purpose of this study was to investigate the risk and protective factors that were related to the non-use or use of alcohol during the past 30 days in female/male 7th-12th graders. The investigator analyzed data provided by the Grand Forks Public School District 2003 YRPFS to identify student-reported risk and protective factors and the relationship of these factors to the non-use and use of alcohol by female/male 7th-12th graders in the past 30 days.

Research Questions

1. What were the differences between 7th-9th grade male non-users and users of alcohol?
2. What were the differences between 10th-12th grade male non-users and users of alcohol?

3. What were the differences between 7th-9th grade female non-users and users of alcohol?

4. What were the differences between 10th-12th grade female non-users and users of alcohol?

5. What were the differences between 7th-9th grade male and female users of alcohol?

6. What were the differences between 10th-12th grade male and female users of alcohol?

Definitions

The following terms were defined to clarify their meanings in the context of this study:

Adolescence: “the transitional stage of development from child to adult. The word derives from the Latin *adolescere* meaning to ‘grow up’” (“Definition of Adolescence,” n.d., para. 1).

Risk factors: conditions for a group, individual, or defined geographic area that increase the likelihood of a substance use/abuse problem occurring (Hawkins & Catalano, 2003b).

Protective factors: conditions that build resilience to substance abuse and can serve to buffer the negative effects of risks. Protective factors may also be referred to as assets in the literature (Hawkins & Catalano, 2003b).
Non-users of alcohol: adolescents who have indicated that they had not used alcohol in the past 30 days on the 2003 YRPFS (Survey A, question 75).

Users of alcohol: adolescents who have indicated that they have used alcohol 6-30 days in the past 30 days on the 2003 YRPFS (Survey A, question 75).

*Communities That Care* (CTC): prevention planning system developed by researchers Dr. J. David Hawkins and Dr. Richard F. Catalano (Developmental Research and Programs, Inc., 2000).

Domains: identified as demographics, individual, peer, family, school, and community (Developmental Research and Programs, Inc., 2000).

**Assumptions**

The basic assumptions that underlie this study were as follows:

1. The 7th-12th graders understood the directions of the survey instrument.
2. The 7th-12th graders understood the language of the survey instrument.
3. The respondents gave truthful and candid responses to the survey questions.
4. The survey accurately measured the risk and protective factors.
5. The domain themes – demographics, individual, peer, family, school, and community – were measured accurately.
6. The administration of the survey followed procedures as prescribed by the instructions.

**Delimitations**

For the purpose of this study, the adolescent sample was limited to females/males in grades 7-12 who responded to the 2003 YRPFS at the end of the academic year, on the day that the survey was administered. No effort was made to gather data from the absent
students or those who had dropped out of school. The measurement of risk and protective factors was limited to identified domains and the questions available in the current data set taken from Survey A (see Appendix C). The measurement of risk and protective factors was limited to the identified domains and the responses to the questions on the school district survey instrument.
CHAPTER II
REVIEW OF THE LITERATURE
Risk and Protective Factor Research

Over the last 30 years, research has been conducted to determine the relationship of risk and protective factors and the use of alcohol by adolescents. Hawkins and Catalano (2003a) found that there were many factors that added to an adolescent’s risk for alcohol and other drug use. Risk factors have increased a young person’s chances for drug abuse, while protective factors reduced the risk. If not addressed, negative behaviors may lead to additional risks, such as academic failure and social difficulties; as a result, children are placed at further risk for later drug abuse. Research-based prevention programs have focused on intervening as early as possible in a child’s development to strengthen protective factors before problem behaviors develop. Risk factors have influenced drug use in several ways; the more risks a child was exposed to, the more likely they abused alcohol and other drugs.

Some risk factors have been thought to be more powerful than others at certain stages within a young person’s development (e.g., peer pressure). Protective factors (e.g., a strong parent-child bond) have had a greater impact on reducing risks during early years. An important goal of prevention has been to change the balance between risk and protective factors so that protective factors could outweigh risk factors. Signs of risk can be seen as early as infancy or early childhood, such as lack of self-control, a difficult
temperament, or aggressive behavior (National Institute on Drug Abuse, 2005). As a child becomes older, interactions with their family, at school, and within their community affect the child’s risk for later drug abuse (National Institute on Drug Abuse, 2005). Children’s earliest interactions occur within their family and often family situations increase a child’s risk for later drug abuse. Examples of these situations were a lack of attachment and nurturing by their parents or guardians, parents who abused alcohol or other drugs, and parenting that was ineffective. Families have been able to provide protection from later alcohol and other drug abuse if there was a strong bond between the child and their parents, involvement in their life, and clear, healthy limits and consistent enforcement of discipline (National Institute on Drug Abuse, 2005).

There are also interactions outside the family that involve risks for both children and adolescents, such as poor social skills and classroom behavior, academic failure, and association with peers who used alcohol or other drugs. Association with peers who used was often the most immediate risk for exposing adolescents to drug abuse and delinquency. Other factors such as availability of alcohol and other drugs, trafficking patterns, and the perception that alcohol and other drug abuse was tolerated were risks that could have influenced the initiation of young people to start the use and abuse of alcohol and other drugs (National Institute on Drug Abuse, 2005).

Research indicated that the key risk periods for drug abuse are during the major transitions within children’s lives. The first major transition for children occurs when they leave the security of their family and begin school. Later, when they advance from elementary school to middle school, they often experience new social and academic situations. It is at this stage of early adolescence that children would be most likely to
encounter drugs for the first time. When they enter high school, they face additional emotional, social, and educational challenges. At the same time, they may be exposed to greater availability of alcohol and other drugs, the drug abusers, and activities which involve the use of alcohol and other drugs. These challenges increase the risk that they would abuse alcohol, tobacco, and other drugs. When young adults leave home for work or post secondary education and are on their own for the first time, their risk for alcohol and drug abuse is extremely high. Subsequently, young adult interventions are needed as well. Because risks appear at every life transition, prevention specialists need to select programs that would enhance protective factors at each stage of a young person’s development (National Institute on Drug Abuse, 2005).

Community Anti-Drug Coalitions of America (2005) reported,

The age at which children begin drinking is dropping. Since 1975, the proportion of children who begin drinking in the 8th grade or earlier has jumped by almost one third, from 27% to 36%. Today 7,000 children under the age of 16 will take their first drink. Further, adolescents who begin drinking before the age of 15 are four times more likely to develop alcohol dependence as an adult than those who wait until age 21. Each additional year of delayed drinking onset reduces the probability of alcohol dependence by 14%. (p. 3)

There are various explanations of why some individuals became involved with drugs and then escalated to the abuse stage. One explanation pointed to a biological cause, such as having a family history of alcohol or other drug abuse. Another explanation was that abusing drugs could lead to the affiliation with drug-abusing peers, which, in turn, exposed the individual to other drugs (National Institute on Drug Abuse, 2005). Hawkins and Catalano (2003a, 2003b) found that youth who rapidly increase their substance abuse had high levels of risk factors and low levels of protective factors.
It has also been suggested that gender, race, and geographic location may also play a role in how and when children began their abuse of drugs.

Understanding drug abuse also has helped us understand how to prevent drug use in the first place. The National Institute on Drug Abuse (2003, 2005) funded prevention research showing that comprehensive prevention programs which involved families, schools, communities, and the media were effective in reducing drug abuse. The prevention research was intended to change the public’s negative view of alcohol and other drug abuse and addiction (Robertson, David, & Rao, 2003). The enormous scientific data that have been gathered clearly document the fact that addiction is a treatable disease (Substance Abuse and Mental Health Services Administration, 2007).

The study of factors and processes by Hawkins and Catalano (2003a, 2003b) identified the following primary targets for prevention intervention: family relationships, peer relationships, the school environment, and the community environment. Children most often started to use drugs, including alcohol, at about age 12 or 13. Researchers have observed young teens and determined the risk and protective factors that influenced this early onset behavior and other risky behavior. These factors were not always the direct opposite of one another. Their research had revealed many risk factors for drug abuse; each represented a challenge to psychological and social development of youth. For this reason, the factors identified by the National Institute on Drug Abuse (2003) that affected early development within the family were probably the most crucial risk factors, such as:

- chaotic home environments, particularly in which parents abuse substances or suffer from mental illnesses;
• ineffective parenting, especially with children with difficulty temperaments and conduct disorders; and
• lack of mutual attachments and nurturing.

Other risk factors relate to children interacting with other socialization agents outside of the family, specifically the school, peers, and the community. Some of these factors are:

• inappropriate shy and aggressive behavior in the classroom;
• failure in school performance;
• poor social coping skills;
• affiliations with deviant peers or peers around deviant behaviors;
• perceptions of approval of drug-using behaviors in the school, peer, and community environments.

Certain protective factors also have been identified. These factors are not always the opposite of risk factors. Their impact also varies along the developmental process. The most salient protective factors include:

• strong bonds with the family;
• experience of parental monitoring with clear rules of conduct within the family unit and involvement of parents in the lives of their children;
• success in school performance;
• strong bonds with prosocial institutions such as the family, school, and religious organizations; and
• adoption of conventional norms about drug use. (paras. 1-6)

Other factors – such as the availability of drugs, trafficking patterns, and beliefs that drug use is generally tolerated – also influence the number of young people who start to use drugs, especially alcohol (National Institute on Drug Abuse, 2003).

The relationships between risk and protective factors in children/adolescents have been an area of study since the early work of Emmy E. Werner. Her work identified the differences between children who had suffered identical environments. Werner’s work was the beginning of the study in the area of resilience, which led to the term “protective factors” (Hawkins & Catalano, 2003a, 2003b). Mulheron (2002) reported,

Resilience has been defined as the process of “bouncing back from adversity.” The resilient person has “pulled a gratifying, constructive life out of the fires of
violence, drug or substance abuse, racism, poverty, abuse, neglect, bitter divorce, and/or family disruption” (Wolin and Wolin, 1999).

Rather colourfully, it has been described as “the happy knack of being able to bungy jump through the pitfalls of life” (Fuller, McGraw and Goodyear, 1998).

Elsewhere resilience has been defined as “the process of, capacity for, or outcome of successful adaptation despite challenging or threatening circumstances” (Masten, Best, and Garmerzy, 1990). (p. 1)

Benard (1995) described the specific competencies, necessary to develop in adolescence. These are social competencies which include qualities such as:

responsiveness, especially the ability to elicit positive responses from others; flexibility, including the ability to move between different cultures; empathy; communication skills; and a sense of humor. Problem-solving skills encompass the ability to plan; to be resourceful in seeking help from others; and to think critically, creatively, and reflectively. In the development of a critical consciousness, a reflective awareness of the structures of oppression (be it from an alcoholic parent, an insensitive school, or a racist society) and creating strategies for overcoming them has been key.

Autonomy is having a sense of one’s own identity and an ability to act independently and to exert some control over one’s environment, including a sense of task mastery, internal locus of control, and self-efficacy. The development of resistance (refusing to accept negative messages about oneself) and of detachment (distancing oneself from dysfunction) serves as a powerful protector of autonomy. Lastly, resilience is manifested in having a sense of purpose and a belief in a bright future, including goal direction, educational aspirations, achievement motivation, persistence, hopefulness, optimism, and spiritual connectedness. (pp. 1-2)

Resistance is assisted by having the unconditional regard of an adult who has been identified as someone who conveys an attitude of compassion, who understands that no matter how awful a child’s behavior that the child was doing the best he or she could, given his or her experience, and provided support for healthy development and learning (Hawkins & Catalano, 2003a, 2000b).

The Werner and Smith (1989) study, that spanned more than 40 years, found that one of the most frequent, positive role models in the lives of resilient children (outside of
their family circle) was a favorite teacher. This person often served as a confidant and positive role model to the student. Furthermore, as the research of Noddings (1998) had found, a caring relationship with a teacher gave the young person the desire to succeed. Beyond the teacher-student relationship, this study reported that the school created a schoolwide atmosphere of caring, often communicated to the students through the entire staff.

According to Rutter, Maughan, Mortimore, Ouston, and Smith (1979), schools that established high expectations for all students and gave them the support necessary to achieve had high rates of academic success. They also had low rates of behavioral problems such as drug abuse, teen pregnancy, school dropouts, and delinquency than other schools. The conveying of positive and high expectations within a classroom and school occurred at many levels. The most obvious and powerful was at the relationship level in which the teachers and other staff communicated the consistent and clear message that the student had everything he or she needed to be successful. As Kidder (1990) wrote,

> For children who are used to thinking of themselves as stupid or not worth talking to . . . a good teacher can provide an astonishing revelation. A good teacher can give a child at least a chance to feel, "She thinks I’m worth something; maybe I am." (p. 16)

Through relationships that communicate high expectations, students learn to believe in themselves.

A combination of all of the previous findings has been summarized in the work of Hawkins and Catalano. Their adolescent risk and protective factor theory most frequently referenced in the literature was the Social Development Strategy (SDS) theory model, which was developed at the University of Washington, Seattle. Drs. Hawkins and
Catalano conducted this research over the past 25 to 30 years. The SDS research theory was grounded in a medical model, The Public Health Model (Shaffer, 1992). This model defined the host, the agent, and the environment. The host is "the individual . . . including knowledge, attitudes, behavior and susceptibilities to alcohol and other drugs" (p. 3-9). The agent is "the drug . . . and its characteristics" (p. 3-10). The environment is "the setting . . . in which the using behavior occurs and the social norms that shape use patterns" (p. 3-11). The Public Health Model and the SDS model are grounded in "prevention science [which] is a 'technology' for changing the way we address substance abuse and other adolescent problem behaviors" (Hall, 2005, p. 4).

The SDS used The Public Health Model by first identifying the magnitude of adolescent alcohol use. The second step identified the possible risk and protective factors, which may influence the non-use or use of alcohol. The third step was to use the information gathered through the risk/protective factor research to determine the relationships and implement interventions (i.e., reduce a risk factor by eliminating access to underage drinkers through a community-wide approach). After the interventions have been implemented, ongoing evaluation would be conducted to determine effectiveness (Shaffer, 1992).

"Risk factors are conditions that increase the likelihood that children will become involved in problem behaviors in adolescence and young adulthood" (Hawkins & Catalano, 2003b, p. 15). Some common theories surrounding risk factors include that they all exist in areas of influence and throughout development. They predict multiple behavior problems and they have consistent effects across races and cultures. Most importantly, they can be buffered by protective factors. Hawkins and Catalano (2003b)
consistently used the five domains of individual, peer, family, school, and community to separate and define the risk factors. In their research, individual and peer factors were combined and included “early and persistent antisocial behavior, rebelliousness, friends who engage in the problem behavior, gang involvement, favorable attitudes toward the problem behavior, early initiation of the problem behavior, and constitutional factors” (p. 16). Family risk factors included “family history of the problem behavior, family management problems, family conflict, and favorable parental attitudes and involvement in the problem behavior” (p. 16).

School risk factors included “academic failure beginning in late elementary school and lack of commitment to school” (Hawkins & Catalano, 2003b, p. 16). Community risk factors included “availability of drugs; availability of firearms; community laws and norms favorable toward drug use, firearms, and crime; media portrayals of violence; transitions and mobility; low neighborhood attachment and community disorganization; and extreme economic deprivation” (p. 16).

The Social Development Strategy theory of protection developed from the theory that resiliency is developed through building protection. The following represents ways that protection is provided:

1. The goal is healthy behaviors for all children and youth;
2. Start with healthy beliefs and clear standards in families, schools, communities, and peer groups;
3. Build bonding through attachment and commitment to families, schools, communities, and peer groups;
4. Attachment and commitments are likely to occur by providing opportunities, skills, and recognition in families, schools, communities, and peer groups; and

5. By nurturing individual characteristics (Hawkins & Catalano, 2002).

Research found that to carry out this Social Development Strategy theory of protection effectively it was necessary to develop a community-wide approach. Communities That Care found that this was necessary because it affects the entire social environment. A community-wide approach focuses on influencing values, practices, and policies that promote a safe and healthy community, and works to change the conditions that put children at risk for adolescent health and behavior problems. A community-wide approach develops a broad base of support and teamwork, because all segments of the community were involved: Everyone has a critical part to play and no single organization, strategy, person, or institution must address the challenges alone. Programs, policies, and practice are integrated into services and activities of existing organizations and institutions, which establish positive youth development and prevention as an important part of the community’s mission. It broadens the community’s ability to mount a successful initiative, because funding can be broadened beyond a single agency or organization (Communities That Care, 2000).

The Social Development Strategy (SDS) model theory (Hawkins & Catalano, 2003a, 2003b) has efficiently organized the research on protective factors – those factors that buffered adolescents from risk and promoted positive youth development. The model guided communities toward their vision of positive futures for young people. It began with the goal of healthy, positive behaviors for all young people. It provided the research-based framework for developing the processes necessary for positive youth
development, even within the presence of risk. Hawkins and Catalano (2003a) theorized that healthy beliefs and clear standards for behavior must be communicated by families, schools, communities, and peer groups. All community stakeholders needed to be involved in identifying the standards for behavior that could have helped young people avoid problem behaviors and become healthy, productive citizens. All community members must then communicate those healthy beliefs and clear standards in all areas of a young person’s life – at home, at school, and within the community. Hawkins and Catalano (2003a) found that bonding must take place for all youth through strong, attached relationships with caring, dependable adults who hold healthy beliefs and clear standards for young people, and make a commitment through positive interactions to communicate these beliefs and standards. Children who have these bonds are more likely to follow the beliefs and standards these groups hold.

Research has shown that a child living in a high-risk environment can be protected from problem behaviors through a relationship with a caring, dependable adult who was committed to his or her healthy development. This could have been any caring adult – a parent, a teacher/coach, a relative, an employer, or any other adult who provided mentoring. The most important part of this relationship was that the youth believed that the relationship was worthwhile and valuable, and was motivated to follow the healthy beliefs and clear standards held by the person (Find Out About, 1998).

What created these protective bonds? There must have been opportunities for adolescents to be involved in their families, schools, and communities in meaningful ways. Developmentally appropriate ways to make a real contribution must be available and youth must feel valued for their efforts and accomplishments. For young people to
take advantage of these opportunities, they needed the social, cognitive, emotional, and behavioral skills to be successful. Finally, young people needed recognition for their involvement. They also needed corrective feedback when their performance was not up to standards. Recognition and corrective feedback provided the motivation to continue to contribute (Texas Youth Commission, 2001).

Protective factors mediate or moderate the effects of exposure to risk. They include invulnerability and resiliency. Additional protective factors included strong attachment between parent and adolescent, strong bonds of attachment between an adolescent and their father, adolescent conventionality, positive maternal characteristics, and marital harmony (Hawkins & Catalano, 2003a).

Some of the protection occurred through the child’s own positive temperament, supportive family environment, and an external support system that energized and refined the child’s coping efforts. The approach includes the implementation of the following system: (a) Getting Started; (b) Organizing, Introducing, Involving; (c) Developing a Community Profile; (d) Creating a Community Action Plan; and (e) Implementing and Evaluating the Community Action Plan (Hawkins & Catalano, 2003b).

A research guide to what works labeled the risk and protective factor domains into the categories of individual, family, peer, school, and community. The family, school, and community can create a web of protection. The family into which a child is born has the first opportunity to build a web of protection for the child. That web can buffer against risks for problem behaviors. Throughout a child’s life, commitment to healthy beliefs and clear standards for behavior learned in the family remains a powerful source for healthy development (Developmental Research and Programs, Inc., 2000).
The transition to schooling offers the young child opportunities to interact with a larger group of adults and other children and the need to master a multitude of new social and cognitive skills. Along with the continuing power of family to shape a child’s development, the school now becomes a significant influence in the child’s world.

The community is the context in which families raise their children. Families of all socioeconomic levels, cultures, and races, in all neighborhoods across the country, must recognize the powerful influence of the community on the development of their children. The community context can increase the risks in young people’s lives, or, working hand-in-hand with families, schools, and youth serving organizations, can help create the web of protection for youth (Springer, Sambrano, Sale, Kasim, & Hermann, 2002).

Many communities around the United States have found emerging energy, commitment, and passion to reduce/eliminate the risk factors and increase the protective factors for youth. They have formed coalitions across the country to deter underage drinking within their communities through the formation of coalitions. A coalition may be described as a formal arrangement for collaboration between groups or sector of a community, in which each group retains its identity, but all agree to work together toward a common goal of building a safe, healthy, and drug free community (Community Anti-Drug Coalitions of America, 2005).

The Relationship of Risk and Protective Factors and Adolescent Alcohol Use

Since young people have been a particularly vulnerable at-risk population for substance abuse, they have been a primary focus of investigation through the leading
alcohol and other drug federal government agencies. These agencies are the Substance Abuse and Mental Health Services Administration (SAMHSA), the National Institute of Drug Abuse (NIDA), the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and Community Anti-Drug Coalitions of America (CADCA). These agencies have led the effort to determine the risk and protective factors that were related to the use of alcohol and other drugs for all populations. The past decade or more there has been a special interest in understanding the practices of those under age 21 who drink alcohol and individuals of all ages who binge drink. Their research indicated that there is a “cultural norm” within the United States that believes that it is OK for those under 21 to drink alcohol. There has been a desire to understand what some of the factors are that relate to this use of alcohol. Previous research had outlined risk and protective factors within the domains of individual, peer, family, school, and community (Community Anti-Drug Coalitions of America, 2005).

Several theories within the alcohol and other drug use prevention field have been evolving over time, often through induction based on applied empirical research. Among the most important developments within this prevention theory and programming in recent years has been the focus on risk/protective factor research as a unifying descriptive and predictive framework. The more risk factors a child or youth experiences, the more likely he or she will experience substance abuse and related problems in adolescence or young adulthood. Also, the more the risks in a child’s life can be reduced, the less vulnerability that child will have to subsequent health and social problems. However, exposure to even a significant number of risk factors in a child’s life does not always indicate that alcohol or other drug use or other problem behaviors will follow.
Many children and youth growing up in presumably high-risk families and environments emerge relatively free of problems. The reason for this, according to many researchers, is the presence of protective factors in these young people's lives. Protective factors balance and buffer risk factors (Mathias, 1996).

Taken together, these data enhance the understanding of why and how youth began the use of alcohol and other drugs as well as provide some direction for preventing, decreasing, or eliminating its use. Risk and protective factors exist at every level at which an adolescent relates with others and the society around them. The individual brings a set of qualities or characteristics to each relationship, and these act as a filter to sort out which are positive and which are negative.

One way to have organized these factors is by life domains (Hawkins & Catalano, 2003a, 2003b). The five life domains in which relationships occur have been identified and listed in Appendix E. Within each domain, subdomains of risk and protective factors have been identified through decades of research.

A national coalition was formed in 2005, America's Promise – The Alliance for Youth. In its agenda for 2005, they outlined five promises that they believed every young person needed in order to grow up healthy and productive: "caring adults who are actively involved in their lives; safe places in which to learn and grow; a healthy start toward adulthood; effective education that builds marketable skills; and opportunities to help others" ("Toward an Alliance," 2005, p. 10).

In summary, there have been many theories, research, and evidence which have found that the more protective factors a youth has the more likely they are to have healthy development. Likewise, the more risk factors one has the more likely they are to engage
in risky behaviors. In addition, there are many resources that families, schools, and communities have available to assist them with skills to promote healthy youth development. These include risk and protective factors which fall within the domains of individual, peer, family, school, and community (America’s Promise – The Alliance for Youth, 2005; Hawkins & Catalano, 2003a, 2003b; Search Institute, 1997).

Alcohol Abuse at the National Level

According to the Substance Abuse and Mental Health Services Administration (2007),

Substance use disorders are still a major health problem that impacts society on multiple levels. They cost our nation more than $484 billion per year in health care expenditures, lost earnings, and costs associated with crime and accidents. In 2005, 23.2 million people aged 12 or older needed treatment for an illicit drug or alcohol use problem. Of these, only 2.3 million received treatment at a specialty facility, leaving 20.9 million people who needed but did not receive treatment. (p. 1)

In 2005, 18.7 million people were diagnosed with dependence on or abuse of alcohol. Binge drinking rates were highest among people aged 21 to 23. Most heavy alcohol users and binge drinkers were employed. “Among the 52.6 million adult binge drinkers, 42.1 million were employed either full or part time. . . . Among the 16 million heavy drinkers aged 12 or older, 32 percent were also current illicit drug users” (Substance Abuse and Mental Health Services Administration, 2007, p. 2).

Drinking at moderate levels can affect driving, interact with medications, and lead to alcohol-related birth defects. Alcohol consumption can increase the risk of certain cancers, specifically those of the liver, esophagus, throat, and larynx. Heavy drinking can cause liver cirrhosis (scarring), immune system problems, and brain damage. In 2004, it was estimated that there were 363,641 emergency room visits which were related to the
use of alcohol combined with another drug. "Alcoholism is estimated to cost 500 million lost workdays annually" (Substance Abuse and Mental Health Services Administration, 2007, p. 2).

According to Facing Alcohol Concerns through Education (2006),

Alcohol problems cost U.S. employers $27 billion a year in lost productivity – much of that from absenteeism. . . . Alcohol is a key factor in 1 out of 3 divorces. One out of 4 kids live in a home where alcohol is abused. One half of all adults have a family member who is alcoholic. . . . Alcohol is the leading contributor to injury death and the main cause of death for people under age 21. One person every minute is injured in an alcohol-related car crash. One dollar of every four that Medicare spends on inpatient hospital care is associated with substance abuse. More than 100,000 deaths each year are attributed to alcohol. . . . One person every minute is involved in an alcohol-related car crash. Nationwide, 40% of all traffic fatalities are alcohol-related. In 2004, there were 14,409 traffic fatalities in which the driver had a blood alcohol level above .08. (p. 1)

The 2005 National Survey on Drug Use and Health estimated that there are 11 million underage drinkers in the United States. Nearly 7.2 million are considered binge drinkers, which is typically defined as drinking more than five drinks on one occasion, and more than 2 million are classified as heavy drinkers (The Associated Press, 2007).

According to the National Institute on Alcohol Abuse and Alcoholism (2003), billions of dollars have been spent by the federal government to control substance abuse, with some results that have shown promise. As an example, rates of current illicit alcohol and drug use were down from the previous peak levels in the late 1970s and early 1980s, respectively, and current tobacco use declined since the mid-1960s. Public awareness surrounding the dangers of substance abuse is up, and prevention/intervention strategies were increasingly effective when applied to reducing substance abuse and its effects. As a new century began, however, many problems related to substance abuse
continue to need solutions. Illicit drugs were still widely available, and tobacco and alcohol continue to be easily accessible to underage youth. Rates of use and experimentation by youth were on the rise for some substances; and, while there were effective prevention and treatment programs, they were underused and not broadly available.

According to research conducted by The Center on Alcohol Marketing and Youth (n.d.), alcohol was the most commonly used drug among young people, and this has created serious implications from this early use.

- Every day in the United States, over 5,200 kids under age 16 have their first full drink of alcohol.
- More youth in the United States drink alcohol than smoke tobacco or marijuana, making it the drug most used by American young people.
- The average age at which young people, ages 12 to 17, begin to drink is 13 years old.
- In a national study, 17.2% of eighth-graders reported having at least one drink in the past 30 days, and 13.9% had been drunk at least once in the past year.
- Between 1993 and 2001, 18- to 20-year-old drinkers showed the largest increase (56%) in binge-drinking episodes (five or more drinks consumed on at least one occasion in the past 30 days) among American adults. This group of underage drinkers also had the second highest rate of binge drinking, outstripped only by young adults ages 21 to 25.
- Twelve- to fourteen-year-old binge drinkers consume 91% of the alcohol drunk by their age group. Approximately 10.8 million persons aged 12 to 20 reported drinking alcohol in the past month. Nearly 7.2 million were binge drinkers, and 2.3 million were heavy drinkers.
- Ninety-four percent of the alcohol drunk by all 15- to 17-year-olds and ninety-six percent of the alcohol drunk by all 18- to 20-year-olds is consumed when the drinker is having five or more drinks at a time.
- Almost half (48%) of all alcohol use reported by college students is attributable to those who are underage.
- Underage drinking is estimated to account for between 12% and 20% of the U.S. alcohol market. Even the lower estimate, 12%, represents 3.6 billion drinks each year. (paras. 1-9)

As a result of these findings, there was an emerging need for research to focus on strategies which could reduce/eliminate underage alcohol use. Some of the most critical
strategies included limitations on access and availability of alcohol to minors, expressions of community norms which were against underage alcohol use, elimination of impaired driving, and school-based prevention programs which include comprehensive approaches.

Other public policies have focused on control policies related to marketing (e.g., restrictions on alcohol sponsorship at community events), policies that control distribution (e.g., regulations regarding parents/guardians distributing to minors and keg registration), regulation of outlets that served alcohol, and additional policies regarding sellers (Community Anti-Drug Coalitions of America, 2005; Facing Alcohol Concerns through Education, 2006).

An example of the influence of marketing involves brain imaging. Research revealed that when adolescents were shown alcoholic beverage advertisements, there was greater activity in areas of the brains of teens with alcohol use disorders than previously linked to reward desire, positive effect, and episodic recall (The Center on Alcohol Marketing and Youth, 2007). The degree of brain response was higher in youth who consumed more drinks per month and reported greater desires to drink. While many factors have influenced an underage person’s drinking decisions, including among other things parents, peers, and the media, there was reason to believe that advertising definitely played a significant role.

Young people who start drinking before the age of 15 are five times more likely to have had alcohol-related problems in their lives (The Associated Press, 2007). Current research indicates that alcohol may harm the developing adolescent brain. The availability of this research provides even more compelling reasons than ever for parents
and other adults to protect the health and well-being of children/youth. Although there has been a significant decline in tobacco and illicit drug use among teens, underage drinking has remained at consistently high levels.

Many young people began to experiment with alcohol, tobacco, and illicit drugs at very early ages.

By the time they reach the eighth grade, nearly 50 percent of adolescents have had at least one drink, and over 20 percent having been "drunk." Approximately 20 percent of 8th graders and almost 50 percent of 12th graders have consumed alcohol within the past 30 days. Among 12th graders, almost 30 percent report drinking on 3 or more occasions per month. Approximately 30 percent of 12th graders engage in heavy episodic drinking, now popularly termed "binge" drinking — that is, having at least five or more drinks on one occasion within the past 2 weeks — and it is estimated that 20 percent do so on more than one occasion. (National Institute on Alcohol Abuse and Alcoholism, 2007, para. 1)

The statistics are alarming for those ages 12 to 20: Of the 10.4 million current drinkers, 5.1 million were binge drinkers and 2.3 million were heavy drinkers. Binge drinking among youth ages 12 to 17 appeared to occur most frequently in the North Central region of the country and in metropolitan areas (National Clearinghouse for Alcohol and Drug Information, n.d.).

Research clearly indicates that, in addition to parents and peers, alcohol advertising and marketing have a significant impact on youth decisions to drink.

"While many factors may influence an underage person's drinking decisions, including among other things parents, peers and the media, there is reason to believe that advertising also plays a role" (Federal Trade Commission, Self-Regulation in the Alcohol Industry, 1999).

Parents and peers have a large impact on youth decisions to drink. However, research clearly indicates that alcohol advertising and marketing also have a significant effect by influencing youth and adult expectations and attitudes, and helping to create an environment that promotes underage drinking. (The Center on Alcohol Marketing and Youth, 2007, paras. 1-3)
Alcohol has been the drug most likely to be associated with adolescent injury or death. It has also been associated with risky sexual behaviors and alcohol poisoning when consumed rapidly and in excessive quantities. Given these alarming data, what could have been done to prevent binge drinking by adolescents and young adults? Some prevention specialists have recommended that the key to prevention was to initiate efforts before adolescents began to use alcohol. The family environment has been identified as one of the most critical factors in the prevention of alcohol abuse. Parent education programs and efforts to change drinking attitudes and behaviors through high school policies, programs and protocols constitute primary prevention efforts.

The cost has also been great for schools. Left unchecked, alcohol, tobacco, and other drug use and abuse cost schools throughout the nation an extra $41 billion per year and have a devastating impact on the educational performance of students nationwide (Leadership to Keep Children Alcohol Free, 2001).

Alcohol is the number one drug of choice among United States youth. Research indicates that adolescents who abuse alcohol may remember 10% less of what they have learned than those who do not drink. “More than 40 percent of individuals who begin drinking before age 13 are classified with alcohol dependence at some time in their lives” (Grant, 2004, para. 7).

Adolescents in the United States grow up in a world filled with messages about alcohol. Most of the messages present drinking in a positive light, and most of them show alcohol as a normal part of adult and teen social life. Warnings against underage drinking from parents or in health class may well be drowned out by the barrage of daily messages about alcohol in daily life. (The Center on Alcohol Marketing and Youth, n.d., para. 3)
Underage alcohol use is a significant threat to the health and safety of our children. It is time for us to come to grips with this widespread public health problem (U.S. Department of Health & Human Services, 2007b).

In 2005, approximately 10.8 million 12 to 20 year olds reported having had a drink in the past month. Of that number, nearly 7.2 million reported binge drinking and 2.3 million were heavy drinkers. These numbers were essentially unchanged from 2002 (The Century Council, n.d.).

Youths who received grades of D or below . . . were more likely than those with higher grades to have used cigarettes, alcohol, or illicit drugs during the past month . . . . According to the 2000 NHSDA, over 16 percent of youths aged 12-17 reported drinking alcohol during the past month . . . . These percentages translate to almost 4 million . . . alcohol users. (“Academic Performance,” 2002, p. 1)

In a report by Dr. Richard G. Landry (2006) on the Grand Forks Public Schools biannual Youth Risk and Protective Factor Survey (YRPFS) of students in grades 4-12, he reported that “enrollment at the time [the survey was given] was 1,062 in grades 4 and 5, 1,719 students in grades 6 through 8 and 2,359 students in grades 9 through 12” (p. 1). Landry further reported,

In the 2006 results that follow, every percentage point for the 7 through 12 grades represents approximately 30 students. For comparative purposes, percentage data from the GFPS 2001 and 2003 “Risk and Protective Factor Surveys” are provided (parenthetically) when the survey items were similar or identical, and when comparisons between 2001, 2003, and 2006 results seemed noteworthy. (p. 1)

Under the heading, “Substance Use, Availability, and Risk,” was the following report:

In 2006 the most frequently used substance among 7-12th grade students was alcohol with 36% (36% in 2003; 38% in 2001) reporting use in the last 30 days. In these grades 7% (6% in 2003; 3% in 2001) reported drinking alcohol at school; and 8% (8% in 2003; 6% in 2001) said they had been drunk in school.

Of the total sample, 8% (14% in 2003; 14% in 2001) reported driving after drinking; 2% (3% in 2003) had driven after drinking six or more times in the last
30 days. Of this sample of 7-12th grade students, 21% (27% in 2003; 26% in 2001) indicated that they had ridden in the past 30 days with someone who had been drinking.

Considering these levels of substance usage, two related issues were access to controlled substances and age of onset of use. . . . Regarding alcohol users, 86% (92% in 2003; 91% in 2001) reported that it was “easy” or “very easy” to acquire. (Landry, 2006, p. 2)

Relative to levels of risk, 56% (41% in 2003; 52% in 2001) of the students reported that regularly drinking one or two alcoholic drinks posed “no risk” or “a slight risk.”

Regarding peer reactions to substance use, 39% (44% in 2003; 46% in 2001) of the students in grades 7-12 reported that their “friends think it’s cool to get drunk.” (Landry, 2006, p. 3)

The community of Grand Forks had been ranked as number two in the nation for binge drinking, according to Collins (2004). Following this finding, there had been several letters to the editor with comments concerning that poll. Some of them were as follows: “Don’t let Spring Fest become Binge Fest” (Socoski, 2005). “According to the story, UND students rank 14 percentage points higher than the national average for binge drinking. The increase helped ‘hurl’ Grand Forks into second place last year for binge drinking in the nation” (para. 2). “It is time for our city government, UND and citizens to take a stand and discourage such activity, rather than sanction it” (para. 7). The only City Council comments were from Council member Dorette Kerian, who noted that, “despite her support for 2 a.m. closing, she still recognizes that binge drinking and drinking among minors is a problem in both communities [Grand Forks and East Grand Forks]” (Tran, 2005, para. 5). The two communities are divided by a river. “She asked the mayor to from [sic] some sort of liaison group with East Grand Forks to work together to curb the problems” (Tran, 2005, para. 5).
A study by Princeton Survey Research Associates (2002) reported that "Grand Forks residents generally feel safe from crime. . . . Although residents feel safe from crime, 74 percent report that crime, drug and violence is a problem" (p. 3). Grand Forks residents were divided on the best ways to curb teenage drinking, a major problem across North Dakota. Residents were asked whether they agreed or disagreed with the following three statements concerning alcohol and teens. Sixty-two percent agreed with the statement "alcohol policies should be more concerned with people who give or sell alcohol to teenagers and less with teenagers who drink" (p. 3). But 62% also agreed that "stiffer punishments for teenagers who are caught drinking will discourage them from trying to get alcohol" (p. 3). Opinion was split on the statement "kids make mistakes – punishments for teenage drinking shouldn’t be too severe: 47 percent agree and 51 percent disagree" (p. 3). Residents were concerned regarding the welfare of Grand Forks’ youth outside of school. Two thirds (66%) reported that too many unsupervised children and teenagers was a problem within their community, including 21% who considered it a major problem. “In recent years, North Dakota has had one of the highest rates of teenage drinking in the nation, particularly binge drinking” (p. 15). The Grand Forks community was no exception to this statewide problem. While a majority of Grand Forks residents (57%) said they did not personally know a teenager or child who had a problem with alcohol abuse, a substantial minority (42%) said they did know a young person with a problem. Forty-five percent of those under age 65 reported they personally knew a young person who had a problem with alcohol, compared with 21% of those 65 or older. Women were more likely to favor punishing teenagers caught drinking. Nearly 7 in 10 women (69%) agreed that more stringent punishment would
discourage further attempts to get alcohol, compared with 55% of men. In addition, women were less likely than men to say “kids make mistakes and punishment shouldn’t be too severe (42 percent vs. 52 percent)” (p. 16).

Parents of children under age 18 were less likely than non-parents to be more lenient on teenage alcohol abuse. By a 38% to 62% margin, parents rejected the idea that kids made mistakes and punishments should not be too severe. “In contrast, those without children under 18 living at home divide in the opposite direction: 51 percent agree with the statement and 46 percent disagree” (Princeton Survey Research Associates, 2002, p. 16).

Knowing a teenager with an alcohol problem made adults less likely to indicate that more severe penalties would work. “Fifty-seven percent of adults who know a teenager with a drinking problem agree that stiffer penalties will work, but 67 percent of those who do not know a teenager who has a drinking problem agree to the statement” (Princeton Survey Research Associates, 2002, p. 16).

Parents and the community can address underage drinking norms in a number of ways:

1. Support school policies that state zero tolerance for underage drinking
2. Establish rules and consequences for breaking rules. Consequences must be followed.
3. Communicate with youth by understanding their perspective of drinking norms. Challenge the biased viewpoints promoted by alcohol advertising.
4. Understand your own cultural norms regarding the use of alcohol. How is this communicated to your son or daughter by your words or actions?
5. Educate yourself and your child about the health and legal consequences of alcohol use.
6. Be firm and unwavering with the “no use” rule.
7. Do not allow your child to attend activities where alcohol use will occur. (DeWald, 2002, p. 8)
The most important thing you can do with your child is to talk about alcohol and its implications. “Be open-minded and create the opportunities for your child to discuss their feelings through a trusting relationship with you” (DeWald, 2002, p. 8).

Several explanations as to why some individuals became involved with alcohol and other drugs and then escalated to the abuse of them has been a topic of concern. One cause may be related to the genetics, such as having a family history of drug or alcohol abuse. Another explanation was that abusing drugs led to the association of drug-abusing peers, which, in turn, exposed the individual to other drugs. Researchers found that youth who rapidly increased their substance abuse had higher levels of risk factors and lower levels of protective factors. Race, geographic location, and gender could perhaps also play a role in how and when children began abusing drugs. Preventive interventions could have provided skills and support to high-risk youth in order to enhance their levels of protective factors and decrease their potential for drug abuse. Parents could have used information on risk and protective factors to help them develop positive preventive actions (e.g., talking about family rules) before problems occur. Educators could have strengthened learning and bonding to the school by addressing aggressive behaviors and poor concentration. These are some of the risks associated with later onset of drug abuse and related problems. Community leaders could have assessed community risk and protective factors that were associated with drug problems to best target prevention services (Robertson et al., 2003).

Understanding alcohol and other drug abuse also has helped us understand how to prevent drug use in the first place. Prevention research funded by the National Institute on Drug Abuse has shown that comprehensive prevention programs involving families,
schools, communities, and the media are effective in reducing drug abuse. This organization’s work was intended to change the public’s negative view of drug abuse and addiction. The enormous amount of scientific data the organization has amassed clearly document the fact that addiction was a treatable brain disease (Robertson et al., 2003).

On December 14, the National Institute on Drug Abuse and the University of Michigan’s Institute for Social Research released results of the most recent Monitoring the Future Study. According to the 2000 survey, alcohol continues to be the most widely abused drug among adolescents in the United States. Donna Shalala, Secretary of the U.S. Department of Health and Human Services, stated that binge drinking among adolescents remained at “unacceptably high” levels. General Barry McCaffrey, Director of the Office of National Drug Control Policy, noted that “the biggest problem we’ve got among adolescents is binge drinking beer and wine coolers.” (Center for Science in the Public Interest, 2000, para. 1)

In its first Call to Action against underage drinking, the U.S. Surgeon General’s Office appealed today to Americans to do more to stop the nation’s 11 million current underage drinkers from using alcohol, and to keep other young people from initiating its use. Many Americans have considered underage drinking a rite of passage to adulthood (U.S. Department of Health & Human Services, 2007a).
CHAPTER III
THE STUDY SAMPLE

The students involved in this study were from Grand Forks Public School District One. Respondents were part of the general population which included all 7th-12th graders from three junior high schools (grades 7 through 9) and three high schools (grades 10 through 12), one high school being an alternative school. Approximately one third of the general population responded to Survey A of the Youth Risk and Protective Factor Survey (YRPFS). The data from Survey A were used for analysis. The total number of selected respondents to Survey A of the YRPFS was 666. For a more detailed account of the population, see Tables 1 through 3 in Chapter IV.

The selected students were those who had identified themselves as non-users or users of alcohol within the past 30 days. The question used to create this variable was “During the past 30 days, how often did you use alcohol (beer, wine, hard liquor)?” The possible responses were A. “I don’t use alcohol,” B. “1-5 days,” C. “6-9 days,” D. “10-19 days,” and E. “20-30 days.” The grades 7-12 students who responded to A. “I don’t use alcohol” created the non-user independent variable. The grades 7-12 students who responded to C., D., or E., which asked how many times they had used alcohol from 6 to 30 times within the past 30 days, created the user independent variable. These three possible responses were combined to create this variable. The survey was administered in the spring of 2003.
Instrument

The YRPFS was administered as a requirement of the Safe and Drug-Free Schools, which mandates a survey under Title IV federal funding to remain in compliance to receive Title IV federal funding. The state administered the Centers for Disease Control (CDC) Youth Risk Behavior Survey (YRBS) every other year and contacted the GFPS administration and the Safe and Drug-Free Schools Coordinator, the investigator of this study. The Department of Public Instruction (DPI) had requested that the GFPS participate on the CDC YRBS to maintain weighted data for their instrument within the state of North Dakota. A decision was made by the school district personnel and the survey community representatives to participate in the YRBS the opposite year of the local YRPFS. The YRBS had been reviewed with other like survey instruments to help guide the survey committee in determining what type of questions should be included in the YRPFS. A decision was made by the school district and local representatives from other agencies and organizations to continue with the locally developed YRPFS in alternating years with the YRBS. It was believed that this would allow the committee the ability to review the YRPFS instrument annually to make any changes, which were deemed appropriate. The CDC instrument, the YRBS, was scripted and did not allow for any changes to the instrument.

The survey question items from the YRPFS focused on knowledge, behavior, attitudes, and beliefs related to specific risk and protective factors, specifically those related to the use of alcohol, tobacco, and other drugs. The University of North Dakota Bureau of Educational Statistics and Applied Research (BESAR) analyzed the survey data. The knowledge portion of the survey was eliminated in 1995, based on a
recommendation from BESAR and the survey review committee. There is no information on the survey that identified individual students.

The core questions 2 through 6 on all of the YRPFS instruments contained demographic information on school, age, grade, gender, and race. For purposes of the study, the categories of grade and gender were the only demographics used. Items 7 through 65 were the core questions for the study and were on all three instruments that contained both risk and protective factor questions. These questions have remained unchanged since the first administration of the instrument in 1993.

The surveys were reviewed by a group of high school, middle school, and elementary school students to ensure an appropriate readability level. The readability level for the 7th-12th grade instrument was determined to be at approximately the sixth grade reading level through the process of sixth grade teachers having their students read the survey and ask for assistance if they had difficulty with any directions or words.

In 1993, the GFPS began conducting a 7th-12th grade risk behavior survey. The survey contained several questions specific to alcohol, tobacco, and other drug use (ATOD) and other risk behaviors. The intention was that the survey be administered biannually and has continued to be administered through 2003 with all 4th-12th graders. It was administered in 1993, 1995, 1999, 2001, and 2003. However, the survey was not administered in the spring of 1997 due to a catastrophic flood that forced the evacuation of the entire community in April.

There had been some changes to the 7th-12th grade survey instruments since their development in 1993. Initially, only one instrument was provided for grades 7-12. In 1999, the survey committee reviewed the instrument and determined that there was a
need for additional questions to be added to the instrument. Hence, a second instrument was added to increase the number of survey questions, specifically questions that could address protective factors within the domains of individual, peer, family, school, and community. In addition, there were new drugs which were being used by adolescents that needed to be included on the instruments (e.g., ecstasy and rohypnol). Survey B was created as the additional survey instrument. In addition, a decision was made to add a survey instrument for 4th-6th graders in 1999 to assess the knowledge, attitude, behavior, and beliefs of this age group. In 2001, an additional instrument was added, Survey C, which was created to serve the same purpose as in 1999.

The survey developers and review team, a committee consisting of people who were active in “The Answer,” consisted of representatives from the Grand Forks Public Schools, the University of North Dakota, Grand Forks City Health Department, Juvenile Court, Community Violence Intervention Center, the Grand Forks Police Department, and the United Way. While individual committee members sometimes changed, they continued to be representative of the organizations named. The committee also participated in the revision of the instrument. The survey was approved by the community survey committee, the Safe and Drug-Free Schools Advisory Board, the Grand Forks Public Schools administration, and the School Board. The committee had the intention of having only one youth survey within the community, which could be shared among community agencies and with other researchers. The survey committee had previously sorted the survey questions into the categories of demographics, individual, peer, family, school, community, and general. For the purpose of the study, no items were selected from the general category. An independent variable was created
from question 4, which identified the student’s grade. A second independent variable was taken from question 5, which identified the students as female or male. A third independent variable was taken from question 75, which asked the students “During the past 30 days, how often did you use alcohol (beer, wine, hard liquor)?” This created the variable of non-use and use of alcohol. The dependent variables were taken from several survey questions pertaining to risk and protective factors. These factors were taken from the domains of individual, peer, family, school, and community. The individual domain had three factors, which included other drug use, school support, and personal support. Other drug use had eight survey item questions. School support had three survey item questions, and personal support had six survey item questions. The peer domain had three factors, which included personal perception, friend’s influence, and action to avoid. Personal perception had three survey item questions. Friend’s influence had two survey item questions, and action to avoid had two survey item questions. The family domain had four factors, which included parent perception, parent/school involvement, parental relationships, and home violence. Parent perception had nine survey item questions. Parent/school involvement had seven survey item questions. Parental relationships had six survey item questions, and home violence had four survey item questions. Examined from a different organizational frame, the dependent variables had 17 survey question items within the individual domain, 7 within the peer domain, 24 within the family domain, 18 within the school domain, and 3 within the community domain.

Procedures

The instrument was administered in 1993, 1995, 1999, 2001, and 2003. The data used for this study were taken from the 2003 YRPFS, Survey A. For the purpose of this
study, 666 students fit the criteria selected for the variable of the non-use or use of alcohol within the past 30 days. Approximately 10% (65) were eliminated because of missing data or the provision of invalid responses; 330 students were eliminated when they did not fit the criteria of the independent variable. The independent variable was taken from question 75 on Survey A. It asked the question “During the past 30 days, how often did you use alcohol (beer, wine, hard liquor)?” Their classroom teacher gave the students the instrument during their English classes, because all students at all levels are required to take English. The teacher and students were given specific instructions, which were included in the packet that was distributed to the teacher prior to the day the survey was administered. The time allocation was one class period, even though most students finished before the established time limit. The teacher was instructed to remain in the back of the classroom and not to wander throughout the classroom to protect the privacy of the students. Teachers were instructed to ask students if there were any questions after they had had time to review the survey instrument. Students were instructed to place their completed surveys in an envelope at the front of the room. The last student who took the survey was asked to seal the envelope and take it to the school office. The data were sent to the administration offices and collected by the Safe and Drug-Free Schools Coordinator who delivered them to BESAR at the University of North Dakota.

Analysis of the Data

The data analysis included the use of the Delphi Technique, which is described as follows:
Delphi is a process for generating ideas, reactions, or judgments, which could be helpful to the decision-maker. It essentially involves the following major steps:

1. Defining the problem, decision, or question to which the reactions of others is desired.
2. Identifying . . . individuals . . . [representing youth serving agencies (organizations)] whose opinions, judgments, or expert knowledge it would be valuable to obtain in the process of making a decision.
3. Asking for responses, usually through the completion of a questionnaire.
4. Summarizing the results of the questionnaire, distributing the results, and reviewing the results to indicate target areas/problem identification through written responses. This last step is repeated until there is a reasonable consensus on the problem or decision. ("Delphi Technique," n.d., paras. 1-5)

There is an advantage in the use of the Delphi Technique when there are a large number of people involved in identifying the problem or the decision. The process in writing answers causes respondents to think more clearly about the problem and then provide specific, high quality responses. It also gives them anonymity, and it isolates them so that they are not influenced by the other respondents ("Delphi Technique," n.d.).

The Delphi Technique was used to bring consensus of the committee on the additional survey items. The multi-agency/organization survey committee determined it was necessary as recommended in 1999 to increase the number of items. This was done to ensure that the survey was as up to date as possible in accessing current student attitude, behaviors, and beliefs. The same pattern of preserving a core of 65 questions on all three surveys (A, B, and C) was maintained. Each of the three surveys had a set of questions unique to that survey beginning at number 66.

The data collected for this study were analyzed using the multivariate analysis of variance (MANOVA) and the Wilks Lamda test. The independent variable was alcohol non-use or use by female and male 7th-12th graders. The dependent variables were constructed using the five domains.
The dependent variables were aligned with the domain categories identified from the *Communities That Care* model. This model was grounded in the 30-year research conducted by J. David Hawkins and Richard F. Catalano from the University of Washington.
CHAPTER IV
FINDINGS OF THE STUDY

The purpose of this study was to investigate the risk and protective factors that were related to the non-use or use of alcohol during the past 30 days in female/male 7th-12th graders. The investigator analyzed data provided by the Grand Forks Public School District from the local Youth Risk and Protective Factor Survey (YRPFS) to identify student-reported risk and protective factors and the relationship of these factors to the non-use and use of alcohol by female/male 7th-12th graders in the past 30 days.

This chapter contains the following sections: a description of the sample, creation of the dependent factors, and the results of the multivariate analysis of variance (MANOVA) to investigate the differences in the identified risk and protective factors by female/male 7th-9th and 10th-12th grade non-users and users of alcohol. For the purpose of this study, the statistical significance was set at the .01 level. Numerous comparisons were undertaken that were not necessarily independent of each other. Therefore, a lower level of significance (alpha) was justified.

Description of the Sample

The study used data collected from the 2003 Grand Forks Public School District One YRPFS, Survey A only. Survey A was the only survey of the three (A, B, and C) that contained question 75 that asked “During the past 30 days, how often did you use alcohol (beer, wine, hard liquor)?” The possible responses were A. “I don’t use alcohol,”
B. “1-5 days,” C. “6-9 days,” D. “10-19 days,” and E. “20-30 days.” For the purpose of the study, this variable was categorized into non-users and users. The non-users were those who answered response A. The users were combined to create one variable from the responses in C, D, and E. Prior to any data analysis, 65 questions from Survey A were eliminated because they contained invalid responses, a significant number of missing responses, or answering “No” to question 102, which asked “Did you answer all the questions on this survey honestly?” The district had 4,100 students enrolled in 7th-12th grade at the time of the survey. Six hundred sixty-six respondents were categorized into non-users or users of alcohol from Survey A in the spring of 2003. Student demographic information for this sample is presented in Tables 1 through 3. Percentages in these tables may not total 100%. If so, this is caused by a rounding error.

The data in Table 1 show the number of students by grade level and the combined number of students in grades 7-9 and 10-12. It also shows the percentage of each grade that participated in the study.

There were 666 participants in the study. Of that number, 375 (56%) were in grades 7-9. The other 291 (44%) were in grades 10-12.

The data in Table 2 show the number of female and male students by grade group comparisons for 7th-9th and 10th-12th graders who participated in the study. It also shows the percentage of females and males who participated in the study.
Table 1. Frequency by Grade.

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th</td>
<td>122</td>
<td>33</td>
</tr>
<tr>
<td>8th</td>
<td>118</td>
<td>31</td>
</tr>
<tr>
<td>9th</td>
<td>135</td>
<td>36</td>
</tr>
<tr>
<td>Total</td>
<td>375</td>
<td>56</td>
</tr>
<tr>
<td>10th</td>
<td>117</td>
<td>40</td>
</tr>
<tr>
<td>11th</td>
<td>101</td>
<td>35</td>
</tr>
<tr>
<td>12th</td>
<td>73</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>291</td>
<td>44</td>
</tr>
<tr>
<td>Overall Total of 7th-12th graders</td>
<td>666</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2. Frequency by Grade and Gender.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Females</th>
<th></th>
<th>Males</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>7th</td>
<td>56</td>
<td>32</td>
<td>66</td>
<td>33</td>
</tr>
<tr>
<td>8th</td>
<td>53</td>
<td>31</td>
<td>65</td>
<td>32</td>
</tr>
<tr>
<td>9th</td>
<td>64</td>
<td>37</td>
<td>71</td>
<td>35</td>
</tr>
<tr>
<td>Total N=173</td>
<td>51</td>
<td>100</td>
<td>62</td>
<td>100</td>
</tr>
<tr>
<td>10th</td>
<td>58</td>
<td>35</td>
<td>59</td>
<td>48</td>
</tr>
<tr>
<td>11th</td>
<td>65</td>
<td>39</td>
<td>36</td>
<td>29</td>
</tr>
<tr>
<td>12th</td>
<td>44</td>
<td>26</td>
<td>29</td>
<td>23</td>
</tr>
<tr>
<td>Total N=167</td>
<td>49</td>
<td>124</td>
<td>38</td>
<td>100</td>
</tr>
<tr>
<td>Overall Total</td>
<td>340</td>
<td>100</td>
<td>326</td>
<td>100</td>
</tr>
</tbody>
</table>

Of the 666 survey respondents, 340 (51%) were females. Of the females, 173 (51%) were in grades 7-9 and 167 (49%) were in grades 10-12. The percentages represented by the numbers are listed in Table 2. Of the 666, 326 (49%) were males. Of
the males, 202 (62%) were in grades 7-9 and 124 (38%) were in grades 10-12. The percentages represented by the numbers are listed in Table 2. Female students in 7th-9th grade totaled 173 (46%) and male students totaled 202 (54%). Female students in 10th-12th grade totaled 167 (57%) and male students totaled 124 (43%).

The data in Table 3 show the number of female and male non-users and users of alcohol by grade group comparisons (7th-9th and 10th-12th graders) who participated in the study. It also shows the percentage of female and male non-users and users who participated in the study.

There were 240 female non-users in grades 7-12 who participated in the study. Of that number, 147 (61%) were in grades 7-9. The other 93 (39%) were in grades 10-12. There were 100 female users in grades 7-12 who participated in the study. Of that number, 26 (26%) were in grades 7-9. The other 74 (74%) were in grades 10-12. The percentages represented by the numbers are listed in Table 3.

There were 271 male non-users in grades 7-12 who participated in the study. Of that number, 187 (69%) were in grades 7-9. The other 84 (31%) were in grades 10-12. There were 55 male users in grades 7-12 who participated in the study. Of that number, 15 (27%) were in grades 7-9. The other 40 (73%) were in grades 10-12. The percentages represented by the numbers are listed in Table 3.

Results of Factor Analysis for the Five Domains

Principal component factor analyses were used to reduce the multiplicity of items in the YPRFS to fewer factors. The process of factor analysis helped to determine the relationships among items in the data set and reduced the set of items to a smaller set of
Table 3. Frequency by Grade, Gender, and Non-users/Users.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Non-users</th>
<th></th>
<th>Users</th>
<th></th>
<th>Grade</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7\textsuperscript{th} grade</td>
<td>49</td>
<td>33</td>
<td>7</td>
<td>27</td>
<td>56</td>
<td>32</td>
</tr>
<tr>
<td>8\textsuperscript{th} grade</td>
<td>48</td>
<td>33</td>
<td>5</td>
<td>19</td>
<td>53</td>
<td>31</td>
</tr>
<tr>
<td>9\textsuperscript{th} grade</td>
<td>50</td>
<td>34</td>
<td>14</td>
<td>54</td>
<td>64</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>147</td>
<td>61</td>
<td>26</td>
<td>26</td>
<td>173</td>
<td>51</td>
</tr>
<tr>
<td>10\textsuperscript{th} grade</td>
<td>39</td>
<td>42</td>
<td>19</td>
<td>26</td>
<td>58</td>
<td>35</td>
</tr>
<tr>
<td>11\textsuperscript{th} grade</td>
<td>32</td>
<td>34</td>
<td>33</td>
<td>45</td>
<td>65</td>
<td>39</td>
</tr>
<tr>
<td>12\textsuperscript{th} grade</td>
<td>22</td>
<td>24</td>
<td>22</td>
<td>30</td>
<td>44</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>39</td>
<td>74</td>
<td>74</td>
<td>167</td>
<td>49</td>
</tr>
<tr>
<td>Total of grades 7-12</td>
<td>240</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>340</td>
<td>100</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7\textsuperscript{th} grade</td>
<td>64</td>
<td>34</td>
<td>2</td>
<td>13</td>
<td>66</td>
<td>33</td>
</tr>
<tr>
<td>8\textsuperscript{th} grade</td>
<td>58</td>
<td>31</td>
<td>7</td>
<td>47</td>
<td>65</td>
<td>32</td>
</tr>
<tr>
<td>9\textsuperscript{th} grade</td>
<td>65</td>
<td>35</td>
<td>6</td>
<td>40</td>
<td>71</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td>69</td>
<td>15</td>
<td>27</td>
<td>202</td>
<td>62</td>
</tr>
<tr>
<td>10\textsuperscript{th} grade</td>
<td>39</td>
<td>46</td>
<td>20</td>
<td>50</td>
<td>59</td>
<td>48</td>
</tr>
<tr>
<td>11\textsuperscript{th} grade</td>
<td>25</td>
<td>30</td>
<td>11</td>
<td>28</td>
<td>36</td>
<td>29</td>
</tr>
<tr>
<td>12\textsuperscript{th} grade</td>
<td>20</td>
<td>24</td>
<td>9</td>
<td>22</td>
<td>29</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>84</td>
<td>31</td>
<td>40</td>
<td>73</td>
<td>124</td>
<td>38</td>
</tr>
<tr>
<td>Total of grades 7-12</td>
<td>271</td>
<td>100</td>
<td>55</td>
<td>100</td>
<td>326</td>
<td>100</td>
</tr>
</tbody>
</table>

Factors so that the larger set could be better understood conceptually. Varimax rotation
was used to maximize factor loadings and independence of factors. Following the
analysis, the separate factors formed from each of the five domains were subjected to an
internal consistency reliability analysis using Coefficient alpha, as a measure of internal consistency, which provided an estimate of the extent to which items were measuring the same construct. The possible values for Coefficient alpha range from 0 to +1.0 or −1.0. Because a value of zero indicates no relationship between items and a value of +1.0 or −1.0 indicates a perfect reliability, the closer the computed value is to +1.0 or −1.0 for a set of items, the more those items are said to be measuring the same construct.

After a content analysis of the items in the survey was completed, items were sorted into five factor Domains: Individual, Peer, Family, School, and Community. The Individual Domain had 17 items, was factor analyzed, and produced three Varimax rotated Factors (Table 4). These three Factors were labeled Other Drug Use, School Support, and Personal Support. Factor I, Other Drug Use, had a reliability of .872. Factor II, School Support, had a reliability of .603 and Factor III, Personal Support, had a reliability of .390.

The Peer Domain had eight items, was factor analyzed, and produced three Varimax rotated Factors (Table 5). These three Factors were labeled Personal Perception of Harm, Friend’s Influence, and Positive Beliefs. Factor I, Personal Perception of Harm, had a reliability of .788. Factor II, Friend’s Influence, had a reliability of .807. Factor III, Positive Beliefs, had a reliability of .585.

The Family Domain had 24 items, was factor analyzed, and produced four Varimax rotated Factors (Table 6). These four Factors were labeled Parent Perception, Parent/School Involvement, Parental Relationships, and Home Violence. Factor I, Parent Perception, had a reliability of .773. Factor II, Parent/School Involvement, had a
The School Domain had 19 items, was factor analyzed, and produced three Varimax rotated Factors (Table 7). These three Factors were labeled School Drug Use, ATOD (Alcohol, Tobacco, and Other Drug) School Availability, and School Safety. Factor I, School Drug Use, had a reliability of .770. Factor II, ATOD School Availability, had a reliability of .619 and Factor III, School Safety, had a reliability of .458.

The Community Domain had five items, was factor analyzed, and produced one Factor (Table 8). This Factor was labeled ATOD Community Availability and had a reliability of .787.

After a completion of the factor analyses, factor scores were created for each factor and recalculated to have a mean of 50 and a standard deviation of 10. These transformed scores had a possible range of 20 to 80. In the Varimax Rotated Tables 4, 6, 7, and 8, the reader will periodically note an (r) immediately following the number of an item. This indicates the item was worded in such a way that the correlation reported was reversed (e.g., a negative correlation would actually be positive). The reader may also note that there are fewer items reported than were identified within the domains of School and Community. This was because the items were factored out of the domain and thus deleted.

The data in Table 4 show the Varimax Rotated Factor Analysis for the Individual Domain items. They show the Item, Item Description, the Factor Analyses, and the Coefficient alpha.
Table 4. Results of the Varimax Rotated Factor Analyses for the Individual Domain Items (17).

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>.906</td>
<td>-.066</td>
<td>-.063</td>
</tr>
<tr>
<td>82.</td>
<td>During the past 30 days, how often did you use ecstasy?</td>
<td>.903</td>
<td>-.072</td>
<td>-.060</td>
</tr>
<tr>
<td>84.</td>
<td>During the past 30 days, how often did you use acid?</td>
<td>.842</td>
<td>-.072</td>
<td>-.060</td>
</tr>
<tr>
<td>80.</td>
<td>During the past 30 days, how often did you use cocaine?</td>
<td>.831</td>
<td>-.071</td>
<td>-.092</td>
</tr>
<tr>
<td>83.</td>
<td>During the past 30 days, how often did you use cocaine?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81.</td>
<td>During the past 30 days, how often did you use meth?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Number of times in past year you’ve been in trouble with the law?</td>
<td>.482</td>
<td>-.234</td>
<td>-.234</td>
</tr>
<tr>
<td>14.</td>
<td>If you use other drugs, where do you most often get them?</td>
<td>.452</td>
<td>-.038</td>
<td>-.195</td>
</tr>
<tr>
<td>92.(r)</td>
<td>Do you believe everybody’s ideas and feelings are important even if they are different than your own?</td>
<td>-.424</td>
<td>.310</td>
<td>-.020</td>
</tr>
</tbody>
</table>

Coefficient alpha = .872

School Support

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>94.</td>
<td>Do students in your school feel a sense of “belonging”?</td>
<td>.070</td>
<td>.755</td>
<td>.135</td>
</tr>
<tr>
<td>93.</td>
<td>Do you feel students are trustworthy at your school?</td>
<td>.002</td>
<td>.720</td>
<td>.051</td>
</tr>
<tr>
<td>99.</td>
<td>Do you believe teachers care about students at your school?</td>
<td>-183</td>
<td>.615</td>
<td>-037</td>
</tr>
</tbody>
</table>

Coefficient alpha = .603

Personal Support

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Average hours per week involved in extracurricular activities?</td>
<td>.004</td>
<td>.060</td>
<td>.743</td>
</tr>
<tr>
<td>88.</td>
<td>In the past week, how many times did you exercise a minimum of 20 minutes per day?</td>
<td>-051</td>
<td>.023</td>
<td>.737</td>
</tr>
<tr>
<td>7.</td>
<td>Which best describes the people with whom you live?</td>
<td>-061</td>
<td>-.016</td>
<td>-.359</td>
</tr>
<tr>
<td>87.</td>
<td>How many hours of sleep do you usually get each school night?</td>
<td>-200</td>
<td>.228</td>
<td>.303</td>
</tr>
<tr>
<td>21.</td>
<td>Average hours per week spent helping friends or neighbors?</td>
<td>-163</td>
<td>.144</td>
<td>.254</td>
</tr>
<tr>
<td>11.</td>
<td>Average hours per day watching tv, playing video games, or using the computer?</td>
<td>.128</td>
<td>.070</td>
<td>-.201</td>
</tr>
</tbody>
</table>

Coefficient alpha = .390

r = reversed scored item

51
Of the Varimax Rotated Factor Analyses for the Individual Domain, there were 17 items. From this rotation, there were three Factors. The three Factors were labeled Other Drug Use, School Support, and Personal Support. Within the Factor Other Drug Use, there were eight items, one that was reversed. Within the Factor School Support, there were three items. Within the Factor Personal Support, there were six items. Factor I, Other Drug Use, had a reliability of .872. Factor II, School Support, had a reliability of .603 and Factor III, Personal Support, had a reliability of .390. The Coefficient alphas ranged from .390 to .872.

Within the Individual Domain for 7th-9th graders under Factor I, Other Drug Use, a significant difference was found at .005 between male non-users and users of alcohol and at .001 between male and female users. Within the Individual Domain for 10th-12th graders, significant differences were found at .001 between female non-users and users of alcohol and at .001 between male and female users. No significant differences were found for Factor II, School Support, or Factor III, Personal Support, in any of the comparisons (Tables 9 and 10).

The data in Table 5 show the Varimax Rotated Factor Analysis for the Peer Domain items. They show the Item, Item Description, the Factor Analyses, and the Coefficient alpha.

Of the Varimax Rotated Factor Analyses for the Peer Domain, there were eight items. From this rotation there were three Factors. The three Factors were labeled Personal Perception of Harm, Friend's Influence, and Positive Beliefs. Within the Factor Personal Perception of Harm, there were three items. Within the Factor Friend's
Table 5. Results of the Varimax Rotated Factor Analyses for the Peer Domain Items (8).

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal Perception of Harm</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58.</td>
<td>How much harm do people your age risk smoking marijuana regularly?</td>
<td>.849</td>
<td>-.214</td>
<td>-.022</td>
</tr>
<tr>
<td>59.</td>
<td>How much harm do people your age risk smoking 1+ packs of cigarettes per week?</td>
<td>.826</td>
<td>-.067</td>
<td>.101</td>
</tr>
<tr>
<td>57.</td>
<td>How much harm do people your age risk drinking one or two alcoholic beverages regularly?</td>
<td>.805</td>
<td>-.124</td>
<td>.032</td>
</tr>
</tbody>
</table>

Coefficient alpha = .788

**Friend’s Influence**

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64.</td>
<td>Do your friends think it’s cool to get high?</td>
<td>-.178</td>
<td>.873</td>
<td>.002</td>
</tr>
<tr>
<td>63.</td>
<td>Do your friends think it’s cool to get drunk?</td>
<td>-.204</td>
<td>.860</td>
<td>-.039</td>
</tr>
</tbody>
</table>

Coefficient alpha = .807

**Positive Beliefs**

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101.</td>
<td>Do you feel students take appropriate action when resolving conflicts with other students?</td>
<td>.077</td>
<td>-.088</td>
<td>.834</td>
</tr>
<tr>
<td>96.</td>
<td>Do students act respectfully towards each other?</td>
<td>.081</td>
<td>-.108</td>
<td>.822</td>
</tr>
</tbody>
</table>

Coefficient alpha = .585

Influence, there were two items. Within the Factor Positive Beliefs, there were two items. Factor I, Personal Perception of Harm, had a reliability of .788. Factor II, Friend’s Influence, had a reliability of .807. Factor III, Positive Beliefs, had a reliability of .585. The Coefficient alphas ranged from .585 to .807.

Within the Peer Domain for 7th-9th and 10th-12th graders, Factor I, Personal Perception of Harm, a significant difference was found at .002 between male non-users and users of alcohol. There was a significant difference at .008 for 7th-9th and .003 for 10th-12th grade female non-users and users. A significant difference was found for
Factor II, Friend’s Influence, for 7th-9th grade male non-users and users at .001 and .003 for 10th-12th graders. A significant difference was found for 7th-9th and 10th-12th grade female non-users and users at .001. Within Factor III, Positive Beliefs, a significant difference was found for 7th-9th graders at .004 between female non-users and users of alcohol. All of the other comparisons were not significant (Tables 9 and 10).

The data in Table 6 show the Varimax Rotated Factor Analysis for the Family Domain items. They show the Item, Item Description, the Factor Analyses, and the Coefficient alpha.

Of the Varimax Rotated Factor Analyses for the Family Domain, there were 24 items. From this rotation, there were four Factors. The four Factors were labeled Parent Perception, Parent/School Involvement, Parental Relationships, and Home Violence. Within the Factor Parent Perception, there were nine items, one that was reversed. Within the Factor Parent/School Involvement, there were seven items. Within the Factor Parental Relationships, there were six items. Within the Factor, Home Violence, there were two items. Factor I, Parent Perception, had a reliability of .773. Factor II, Parent/School Involvement, had a reliability of .667. Factor III, Parental Relationships, had a reliability of .553 and Factor IV, Home Violence, had a reliability of .513. The Coefficient alphas ranged from .513 to .773.

Within the Family Domain for 7th-9th and 10th-12th graders under Factor I, Parent Perception, a significant difference was found at .001 between male non-users and users of alcohol and female non-users and users. Within Factor II, Parent/School Involvement,
Table 6. Results of the Varimax Rotated Factor Analyses for the Family Domain Items (24).

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
<th>Factor IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>61.</td>
<td>How wrong do your parents feel it would be for you to drink alcohol?</td>
<td>.816</td>
<td>-.060</td>
<td>-.013</td>
<td>.064</td>
</tr>
<tr>
<td>42.</td>
<td>How do your parents/guardians feel about you drinking alcohol?</td>
<td>.814</td>
<td>-.092</td>
<td>-.065</td>
<td>.033</td>
</tr>
<tr>
<td>62.</td>
<td>How wrong do your parents feel it would be for you to smoke marijuana?</td>
<td>.686</td>
<td>-.187</td>
<td>-.039</td>
<td>.147</td>
</tr>
<tr>
<td>60.</td>
<td>How wrong do your parent feel it would be for you to smoke cigarettes?</td>
<td>.607</td>
<td>-.191</td>
<td>-.059</td>
<td>.230</td>
</tr>
<tr>
<td>43.</td>
<td>Which consequences from your parents/guardians would most likely keep you from drinking?</td>
<td>.555</td>
<td>.021</td>
<td>-.179</td>
<td>.094</td>
</tr>
<tr>
<td>56.</td>
<td>How often do your parents know where you are going or with whom you will be?</td>
<td>-.488</td>
<td>.144</td>
<td>.419</td>
<td>-.036</td>
</tr>
<tr>
<td>45.</td>
<td>Do your parents think it’s OK for you to have premarital sex?</td>
<td>.477</td>
<td>-.150</td>
<td>-.112</td>
<td>.110</td>
</tr>
<tr>
<td>41.</td>
<td>Average hours per day you spend without adult supervision?</td>
<td>.382</td>
<td>.061</td>
<td>-.330</td>
<td>-.132</td>
</tr>
<tr>
<td>53.</td>
<td>Do you have access to guns in your home?</td>
<td>.219</td>
<td>.036</td>
<td>-.119</td>
<td>-.204</td>
</tr>
</tbody>
</table>

Coefficient alpha = .773

Parent/School Involvement

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
<th>Factor IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.</td>
<td>(Since start of school year, discussed with parents/guardians…) Your participation in school activities?</td>
<td>-.192</td>
<td>.671</td>
<td>.004</td>
<td>-.079</td>
</tr>
<tr>
<td>40.</td>
<td>(Since start of school year, have parents/guardians…) Attended a school event?</td>
<td>-.136</td>
<td>.637</td>
<td>-.069</td>
<td>-.167</td>
</tr>
<tr>
<td>34.</td>
<td>(Since start of school year, discussed with parents/guardians…) Selecting course or programs at school?</td>
<td>-.075</td>
<td>.631</td>
<td>.131</td>
<td>-.051</td>
</tr>
<tr>
<td>36.</td>
<td>(Since start of school year, discussed with parents/guardians…) Current class work or projects?</td>
<td>-.215</td>
<td>.591</td>
<td>.197</td>
<td>.066</td>
</tr>
<tr>
<td>37.</td>
<td>(Since start of school year, have parents/guardians…) Attended a school meeting?</td>
<td>-.048</td>
<td>.586</td>
<td>.167</td>
<td>.064</td>
</tr>
<tr>
<td>38.</td>
<td>(Since start of school year, have parents/guardians…) Phoned/spoken to teacher, counselor, or principal?</td>
<td>.125</td>
<td>.440</td>
<td>.114</td>
<td>.212</td>
</tr>
</tbody>
</table>
Table 6 cont.

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
<th>Factor IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>Are your parents involved in community activities?</td>
<td>-.092</td>
<td>.420</td>
<td>.062</td>
<td>-.270</td>
</tr>
<tr>
<td></td>
<td>Coefficient alpha = .667</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Parental Relationships**

| 50.  | Do your parents often tell you they love you? | -.02 | .057 | .697 | -.073 |
| 51.  | Does your family make you feel useful and important? | -.058 | .049 | .637 | -.313 |
| 52.  | Does your family have clear rules? | -.205 | .043 | .558 | -.212 |
| 55.  | Do your parents talk to you about alcohol and other drugs? | -.034 | .204 | .485 | .077 |
| 44.  | How would you describe the rules your parents set for you? | -.204 | .230 | .394 | -.166 |
| 54.  | How often does your family eat meals together each week? | -.211 | .162 | .385 | -.115 |
|      | Coefficient alpha = .553 |

**Home Violence**

| 48.  | Have you witnessed violence in your home? | -.045 | -.016 | -.170 | .678 |
| 47.  | Have you been harmed at home by someone in your family or someone living with your family? | .084 | -.067 | -.095 | .641 |
|      | Coefficient alpha = .513 |

Factor III, Parental Relationships, and Factor IV, Home Violence, there were no significant differences found between any of the comparisons (Tables 9 and 10).

The data in Table 7 show the Varimax Rotated Factor Analysis for the School Domain items. They show the Item, Item Description, the Factor Analyses, and the Coefficient alpha.
Table 7. Results of the Varimax Rotated Factor Analyses for the School Domain Items (19).

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>79.</td>
<td>During the past 30 days, how many times were you stoned on pot in school?</td>
<td>.862</td>
<td>.161</td>
<td>.038</td>
</tr>
<tr>
<td>78.</td>
<td>During the past 30 days, how often did you use marijuana?</td>
<td>.812</td>
<td>.100</td>
<td>.155</td>
</tr>
<tr>
<td>77.</td>
<td>During the past 30 days, how many times were you drunk in school?</td>
<td>.634</td>
<td>.244</td>
<td>-.308</td>
</tr>
<tr>
<td>76.</td>
<td>During the past 30 days, how often did you drink at school?</td>
<td>.558</td>
<td>.235</td>
<td>-.339</td>
</tr>
<tr>
<td>26.</td>
<td>In the past 30 days, have you cut classes at school?</td>
<td>.465</td>
<td>.094</td>
<td>-.153</td>
</tr>
</tbody>
</table>

Coefficient alpha = .770

**ATOD School Availability**

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.</td>
<td>Are other drugs available on your school grounds?</td>
<td>.143</td>
<td>.697</td>
<td>.085</td>
</tr>
<tr>
<td>28.</td>
<td>Is alcohol available on your school grounds?</td>
<td>.071</td>
<td>.683</td>
<td>-.003</td>
</tr>
<tr>
<td>97.(r)</td>
<td>Are the adults in your school respectful to all students?</td>
<td>-.124</td>
<td>-.515</td>
<td>.065</td>
</tr>
<tr>
<td>95.</td>
<td>Do you feel cheating is common at your school?</td>
<td>.033</td>
<td>.508</td>
<td>.225</td>
</tr>
<tr>
<td>33.(r)</td>
<td>In your school are the rules clear?</td>
<td>-.065</td>
<td>-.486</td>
<td>.212</td>
</tr>
<tr>
<td>100.(r)</td>
<td>Do you believe there is a culture of positive character within your school?</td>
<td>-.054</td>
<td>-.432</td>
<td>.300</td>
</tr>
</tbody>
</table>

Coefficient alpha = .619

**School Safety**

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.(r)</td>
<td>Do you think there are school/community services available to students with alcohol/drug problems?</td>
<td>.070</td>
<td>-.172</td>
<td>.557</td>
</tr>
<tr>
<td>24.(r)</td>
<td>Do you expect to graduate from high school?</td>
<td>-.135</td>
<td>-.071</td>
<td>.555</td>
</tr>
<tr>
<td>32.(r)</td>
<td>Do you feel safe at school?</td>
<td>-.030</td>
<td>-.368</td>
<td>.551</td>
</tr>
<tr>
<td>23.</td>
<td>What grades did you earn most often this year?</td>
<td>.350</td>
<td>-.037</td>
<td>-.517</td>
</tr>
<tr>
<td>25.(r)</td>
<td>What do you expect to do after leaving high school?</td>
<td>-.243</td>
<td>.059</td>
<td>.422</td>
</tr>
<tr>
<td>8.</td>
<td>Number of times you have changed schools not due to grade promotion?</td>
<td>.041</td>
<td>-.071</td>
<td>-.295</td>
</tr>
</tbody>
</table>

Coefficient alpha = .458

r = reversed scored item
Of the Varimax Rotated Factor Analyses for the School Domain, there were 19 items. From this rotation there were three Factors. The three Factors were labeled School Drug Use, ATOD School Availability, and School Safety. Within the Factor School Drug Use, there were five items. Within the Factor ATOD School Availability, there were six items. Three of the items were reversed. Within the Factor School Safety, there were six items. Four of the items were reversed. Factor I, School Drug Use, had a reliability of .770. Factor II, ATOD School Availability, had a reliability of .619 and Factor III, School Safety, had a reliability of .458. The Coefficient alphas ranged from .458 to 770.

Within the School Domain for 7th-9th and 10th-12th graders under Factor I, School Drug Use, a significant difference was found at .001 between male non-users and users of alcohol and between female non-users and users. Within Factor II, ATOD School Availability, a significant difference was found at .002 for 7th-9th grade female non-users and users of alcohol. No significant differences were found for Factor III, School Safety, between any of the comparisons (Tables 9 and 10).

The data in Table 8 show the Varimax Rotated Factor Analysis for the Community Domain items. They show the Item, Item Description, the Factor Analyses, and the Coefficient alpha.

Of the Varimax Rotated Factor Analyses for the Community Domain, there were five Items. Two of the items were deleted. From this analysis, there was one Factor. The one Factor was labeled ATOD Community Availability. Within the Factor ATOD Community Availability, there were three items. The Coefficient alpha was .787.
Table 8. Results of the Varimax Rotated Factor Analyses for the Community Domain Items (5).

<table>
<thead>
<tr>
<th>Item</th>
<th>Item Description</th>
<th>Factor I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>ATOD Community Availability</strong></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>How easy is it for you to get alcohol in your community?</td>
<td>0.849</td>
</tr>
<tr>
<td>17.</td>
<td>How easy is it for you to get cigarettes or tobacco in your community?</td>
<td>0.848</td>
</tr>
<tr>
<td>18.</td>
<td>How easy is it for you to get marijuana in your community?</td>
<td>0.766</td>
</tr>
</tbody>
</table>

Coefficient alpha = 0.787

Within the Community Domain for 7th-9th and 10th-12th graders under Factor I, ATOD Community Availability, a significant difference was found at .001 between male non-users and users of alcohol and female non-users and users of alcohol. There was a significant difference found between 7th-9th grade male and female users at .001 (Tables 9 and 10).

Results of Multivariate Analysis

MANOVA results among the four levels indicated overall significant differences for the 14 factor scores (Wilks Lambda = 0.221, df = 45, 1061, p. <.001). ANOVA for the 14 factors are presented in Tables 9 and 10. The data in Table 9 show the ANOVA results for Comparison 1, 7th-9th Grade Male Non-users and Users of Alcohol, Comparison 2, 7th-9th Grade Female Non-users and Users of Alcohol, and Comparison 3, 7th-9th Grade Male and Female Users. It lists the 14 Varimax rotated Factors, their Means, their F Ratios, and their probability (p). The data in Table 10 show the ANOVA results for Comparison 1, 10th-12th Grade Male Non-users and Users of Alcohol, Comparison 2, 10th-12th Grade Female Non-users and Users of Alcohol, and Comparison
3, 10th-12th Grade Male and Female Users. It lists the 14 Varimax Rotated Factors, their Means, their F Ratios, and their probability (p).

Research Question 1: What were the differences between 7th-9th grade male non-users and users of alcohol? This question was answered using MANOVA to test for differences between 7th-9th grade male non-users and users of alcohol. The results are presented in Table 9.

Individual results indicated significant differences between 7th-9th grade male non-users and users for the following factors: Users were higher on Other Drug Use, Friend’s Influence, School Drug Use and ATOD Community Availability.

Research Question 2: What were the differences between 10th-12th grade male non-users and users of alcohol? This question was answered using MANOVA to test for differences between 10th-12th grade male non-users and users of alcohol. The results are presented in Table 10.

Users were higher on Friend’s Influence, School Drug Use, and ATOD Community Availability. Non-users were higher on Personal Perception and Parent Perception.

Research Question #3: What were the differences between 7th-9th grade female non-users and users of alcohol? This question was answered using MANOVA to test for differences between 7th-9th grade female non-users and users of alcohol. The results are presented in Table 9.

Users were higher on Friend’s Influence, School Drug Use, ATOD School Availability, and ATOD Community Availability. Non-users were higher on Personal Perception, Positive Beliefs, and Parent Perception.
Table 9. Analysis of Variance Results for 7th-9th Grade Male/Female Non-users and Users of Alcohol.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Drug Use</td>
<td>50.3</td>
<td>53.2</td>
<td>49.4</td>
<td>49.2</td>
<td>5.64</td>
<td>.001</td>
<td>.005</td>
<td>.868</td>
<td>.001</td>
</tr>
<tr>
<td>School Support</td>
<td>50.9</td>
<td>52.1</td>
<td>51.3</td>
<td>49.0</td>
<td>.50</td>
<td>.686</td>
<td>.645</td>
<td>.260</td>
<td>.322</td>
</tr>
<tr>
<td>Personal Support</td>
<td>50.6</td>
<td>49.2</td>
<td>50.8</td>
<td>51.9</td>
<td>.29</td>
<td>.836</td>
<td>.566</td>
<td>.597</td>
<td>.372</td>
</tr>
<tr>
<td>Personal Perception</td>
<td>52.2</td>
<td>44.8</td>
<td>55.0</td>
<td>50.0</td>
<td>8.41</td>
<td>.001</td>
<td>.002</td>
<td>.008</td>
<td>.073</td>
</tr>
<tr>
<td>Friend’s Influence</td>
<td>46.0</td>
<td>57.7</td>
<td>46.7</td>
<td>57.4</td>
<td>20.34</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.937</td>
</tr>
<tr>
<td>Positive Beliefs</td>
<td>52.4</td>
<td>49.3</td>
<td>50.3</td>
<td>44.5</td>
<td>5.90</td>
<td>.001</td>
<td>.231</td>
<td>.004</td>
<td>.114</td>
</tr>
<tr>
<td>School Domain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Drug Use</td>
<td>46.3</td>
<td>55.2</td>
<td>45.9</td>
<td>54.0</td>
<td>47.38</td>
<td>.001</td>
<td>.001</td>
<td>.001</td>
<td>.378</td>
</tr>
<tr>
<td>ATOD School Availability</td>
<td>49.0</td>
<td>51.8</td>
<td>47.4</td>
<td>54.1</td>
<td>3.96</td>
<td>.008</td>
<td>.293</td>
<td>.002</td>
<td>.462</td>
</tr>
<tr>
<td>School Safety</td>
<td>48.9</td>
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Comparisons 1 and 2: Male non-users to male users. Comparisons 3 and 4: Female non-users to female users. Comparisons 2 and 4: Male users to female users.
Table 10. Analysis of Variance Results for 10th-12th Grade Male/Female Non-users and Users of Alcohol.

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<td>School Drug Use</td>
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<td>.001</td>
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<td>.474</td>
</tr>
</tbody>
</table>

Comparisons 1 and 2: Male non-users to male users. Comparisons 3 and 4: Female non-users to female users. Comparisons 2 and 4: Male users to female users.
Research Question 4: What were the differences between 10th-12th grade female non-users and users of alcohol? This question was answered using MANOVA to test for differences between 10th-12th grade female non-users and users of alcohol. The results are presented in Table 10. Users were higher on Other Drug Use, Friend’s Influence, School Drug Use, and ATOD Community Availability. Non-users were higher on Personal Perception and Parent Perception.

Research Question 5: What were the differences between 7th-9th grade male and female users of alcohol? This question was answered using MANOVA to test for differences between 7th-9th-grade male and female users of alcohol. The results are presented in Table 9. Males were higher than females on Other Drug Use and ATOD Community Availability.

Research Question 6: What were the differences between 10th-12th grade male and female users of alcohol? This question was answered using MANOVA to test for differences between 10th-12th-grade male and female users of alcohol. The results are presented in Table 10. Male users were higher than female users on Other Drug Use.
CHAPTER V
SUMMARY OF FINDINGS, CONCLUSIONS AND DISCUSSION, LIMITATIONS, RECOMMENDATIONS, AND IMPLICATIONS

Introduction

Chapter V presents a summary of the findings; conclusions drawn from the findings; discussion of the findings and related literature; recommendations for action, policy development, and further research based on the findings; and implications. These sections are presented below in the order of the listing.

Summary of Findings

The data in Table 11 summarize the results of the multiple comparisons in Chapter IV. Overall, the findings of this study indicated that there were factors that influenced the non-use and the use of alcohol by 7th-12th grade females and males. There were differences on factors considered to be risky, which negatively influenced the use of alcohol for both grade comparisons and for both males and females. There were also factors, considered to be protective, which positively influenced the non-use of alcohol from the same groups.

It is important to note that the factors School Support, Personal Support, Parent/School Involvement, Parental Relationships, Home Violence, and School Safety did not indicate significant differences for male non-users to male users and female non-users to female users for 7th-9th and 10th-12th graders. These were unexpected
Table 11. Summary of Results of Multiple Comparisons.

<table>
<thead>
<tr>
<th></th>
<th>Male non-user to male user 7th-9th grade</th>
<th>Male non-user to male user 10th-12th grade</th>
<th>Female non-user to female user 7th-9th grade</th>
<th>Female non-user to female user 10th-12th grade</th>
<th>Male to female user 7th-9th grade</th>
<th>Male to female user 10th-12th grade</th>
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<tr>
<td>Other Drug Use</td>
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<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
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</tr>
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<td>+</td>
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<td>+</td>
<td>+</td>
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<tr>
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<td>Home Violence</td>
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<tr>
<td>School Drug Use</td>
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<td>+</td>
<td>-</td>
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</table>

+ = First group mean minus second group mean indicates positive difference.
- = First group mean minus second group mean indicates negative difference.
findings. Previous research has found that positive support from parents and schools is related to healthy youth development and reduces the risk for youth to engage in negative behaviors, including alcohol use (National Institute on Drug Abuse, 2005).

Personal Perception and Parent Perception indicated significant differences for all grade group comparisons between male non-users to male users and female non-users to female users of alcohol; non-users were higher. There were no significant differences found between these two Factors for 7th-9th and 10th-12th grade male to female users.

The analysis addressing Positive Beliefs had a significant difference for 7th-9th grade female non-users and female users; non-users were higher. There were no significant differences for the other comparison groups.

A significant difference in Other Drug Use was found for 7th-9th grade male non-users to male users and 10th-12th grade female non-users to female users; users were higher. Both 7th-9th and 10th-12th grade male to female users had a significant difference; males were higher.

Friend’s Influence and School Drug Use had significant differences for 7th-9th and 10th-12th grade male non-users to male users and female non-users to female users; users were higher. There were no significant differences for 7th-9th or 10th-12th grade male to female users.

ATOD School Availability had a significant difference for 7th-9th grade female non-users to female users; users were higher. There were no significant differences in the other comparison groups. ATOD Community Availability had significant differences for 7th-9th and 10th-12th grade male non-users to male users and female non-users to female
users (users were higher) and 7th-9th grade male to female users (males were higher).
There were no significant differences between 10th-12th grade male to female users.

Conclusions and Discussion

There are numerous studies available which address specifically the attitudes, beliefs, and behaviors of youth and what can be done to encourage/support healthy youth development (Hawkins & Catalano, 2003a, 2003b; Search Institute, 1997). Drs. J. David Hawkins and Richard F. Catalano have conducted over 30 years of research in the area of adolescent risk and protective factors specifically related to alcohol non-use or use. It is important for parents (guardians), schools, communities, and young people especially to understand what these factors are and how they affect one’s healthy development.

This study has followed the research of Hawkins and Catalano, which used the domains of individual, peer, family, school, and community, to identify risk and protective factors within each of the five domains. Many of the questions used for the YRPFS were developed with these five domains and included possible risk and protective factor questions. In addition, Search Institute in Minneapolis, Minnesota, has conducted research on risk and protective factors and developed an asset building model. The model has 40 key factors (assets) which influence the healthy development of adolescents. This asset building model, in conjunction with the Social Development Strategy (SDS), are relatively easy to understand and readily available as a guide for those interested in determining what the risk and protective factors are for children and youth.

Surveys, such as the one used in this study, are vital tools for communities to use to assess the attitudes, behaviors, and beliefs of their adolescents. The data gathered from
the survey, combined with archival data, can be used to track trends to help determine if alcohol use is declining or rising and what the possible influences may be within the domains of individual, peer, family, school, and community.

It is also important to determine when the age of onset for alcohol use occurs. This would require the risk and protective factor survey be developed for younger children as early as grades 4-5. It would also be important to discover at what age most children/youth have not yet begun to use alcohol. It may also be beneficial to sort out what the differences are for female and male non-users and users of alcohol. If a local survey were created, it would be of great benefit to include at the onset agencies/organizations, parents, and other interested community members to be involved in the development of the survey. Together, this information would create a knowledge base, which could be used in training with parents, schools, and communities.

It is important to note that the findings of this study do not support the influence of School Support, Personal Support, Parent/School Involvement, Parental Relationships, Home Violence, and School Safety. A possible explanation for this unexpected finding may be that the survey failed to measure those differences, either because the questions were not powerful enough to detect the difference or were not the correct questions to ask. However, if the measurement is correct it is helpful, because it narrows the factors that need to be addressed so that more time and other resources can become more focused on factors that will result in changed behavior. The findings of this study suggest that there needs to be attention paid to the impact these factors may have in supporting the non-use of alcohol and how these factors could be strengthened.
Research did support the finding of this study that personal perception (how one feels about and sees oneself) has a positive impact on both males and females at all ages (Search Institute, 1997). When young people feel good about themselves, they are less likely to drink alcohol. It seems that programs, which give youth healthy opportunities, skills, and recognition, improve their self-concept and should be an essential part of any prevention plan to reduce/eliminate alcohol use by minors.

This study found that parents' influence has a significant role in preventing the use of alcohol by their sons/daughters. Research has also concluded that parents do have more influence on their sons/daughters' behavior, specifically alcohol use, than they think that they do (Hawkins & Catalano, 2003a, 2003b). Young people care what their parents think. It is important to youth to have their parents see them positively, and, generally, they do not want to disappoint their parents.

Research has supported the positive influence that parents have if they are clear about what they expect of their children and what the consequences of alcohol use will be for them. When a young person is made aware of how their parents feel about the use of alcohol, there is a much greater probability that the young person will choose not to drink. Young people have also indicated that they need to know what the consequences will be if they use alcohol. The consequences need to be enforced consistently and fairly (National Institute on Drug Abuse, 2005).

It is important that parents create a parent communication network that will provide rules and regulations that support the non-use of alcohol and other drugs. It is also important that parents realize alcoholism is a disease and, if their son or daughter has
the symptoms of this disease, they need to get help as early as possible to ascertain if they are alcoholic and intervene.

This study found that there was a relationship with friend’s influence on alcohol use with their peers. It is important to recognize the influence that friends have on one another, particularly one’s best friend. Research supported that when peers are engaged in risky behavior, specifically alcohol use, an individual is much more likely to behave like their peers (Hawkins & Catalano, 2003a, 2003b). Once again, it is extremely important that parents behave like parents and not become their sons/daughters’ friends. They need guidance and support from their parents, which would include clear messages that it is unacceptable and not OK for them to use alcohol or other drugs. As trite as it may seem sometimes, our children need us to give them reasons or ways out to prevent them from engaging in unhealthy behaviors with their peers. They need to know when they go out to parties or other such events that there will be a follow-up to check their whereabouts and to ensure that there is appropriate adult supervision. A caution to be aware of is that most young people have cell phones and it is not always easy to know where they are at when they call. A certain piece of parenting requires an almost detective-like behavior to protect youth from the dangers that they are faced with much too often (Search Institute, 1997).

Within this study, there was a significant difference found for both male non-users to male users and female non-users to female users for 7th-9th and 10th-12th graders within the factors of Friend’s Influence, School Drug Use, and ATOD Community Availability. As mentioned above, friends do have what seems to be a profound level of influence on each other and the non-use or use of alcohol. School Drug Use had
significant differences for both grade group comparisons of male non-users to male users and female non-users to female users; users were higher. This may be related to the ability that students have in concealing drugs, such as marijuana, methamphetamine, or over the counter (OTC), compared to alcohol. However, it is more difficult for schools to test for these drugs since it requires a more invasive test (i.e., blood or urine) than to test for alcohol with a breathalyzer. In addition, it is generally easier to detect the user of alcohol in schools than it is to detect other drug use. A significant difference was found for Other Drug Use between 7th-9th grade male non-users to male users and 10th-12th grade female non-users to female users; users were higher.

In addition, a significant difference was found between 7th-9th and 10th-12th grade male to female users; males were higher. Research has indicated that tobacco is a gateway drug to alcohol use as alcohol use is a gateway drug to other drug use, particularly marijuana (National Institute on Drug Abuse, 2003). Research has supported that, once a young person drinks alcohol, there is a much greater probability they will use other drugs (National Institute on Drug Abuse, 2003).

This study indicated that, within many of the factors, there were no differences between the male and female users at any of the grade levels. This seems to be related to more current research that has indicated that girls are as likely as boys to engage in alcohol use (Armstrong & McCarroll, 2004). The difference with ATOD Community Availability for non-users and users (users were higher than non-users) appears to be directly related to accessibility. When young people perceive that alcohol is available or it is actually available, use levels tend to go up significantly (Risk and Protective
Factors, n.d.). Alcohol availability for minors has also been an area of research, which has indicated that the easier the access, the greater the use levels.

This study found that ATOD Community Availability was significant for all grades and both genders. It is important that parents, schools, and communities work together to prohibit access for minors. The best way that youth will not perceive that alcohol is available is if it is not available to them. This should not be a difficult concept to understand. City leaders must sincerely support community coalitions to engage the community in eliminating access to alcohol. The justice system also needs to enforce underage drinking laws strictly, consistently, and with fairness to all. Research supports all of these recommendations.

This study has shown there are factors, both risk and protective, which affect the use or non-use of alcohol by those in grades 7-12. One of the key findings of this study indicated that parents are influential in the behavior of their children. It has also been noted that there are no differences for males and females; both are equally influenced.

ATOD School Availability was not significant as a factor for alcohol use for all grades and genders in this study. This may be attributed to less alcohol available on the school grounds, as there are random alcohol and drug screens occurring on a regular basis within the Grand Forks Public Schools. At all school dances for the middle and high schools, all students are given a breathalyzer to test for alcohol before they are admitted to the dance. There are strict policies and protocols in place if someone is caught using alcohol or other drugs in the school system (see Appendix D). Research has indicated that perception of availability is directly related to the increased use of alcohol by adolescents.
Limitations

Some of the limitations of this study include: not all students in grades seven through twelve responded to Survey A, some of the students may not have been honest or forthright in their responses, some of them may have exaggerated their use and others may have minimized it. This study was limited to 7th-12th graders and it might be helpful in understanding the relationship of the non-use or use of alcohol, to study children's alcohol use at an earlier age. The questions may not have been age appropriate for some children. An additional limitation may be that some of the questions on the survey were not written clearly or a student may not have understood the question the way it was intended.

Recommendations

Based on the findings of this study, the following recommendations are offered for consideration. The three categories are recommendations for action, recommendations for policy development, and recommendations for further research.

Recommendations for Action

1. It is recommended that all groups within a community having an interest or obligation to children/youth create a coalition to collaborate and work toward the goal of reducing/eliminating risk factors and enhancing protective factors for its youth.

2. As a part of the process of creating the coalition described above, leaders should conduct a needs assessment, develop a plan of action, build capacity to carry out the plan, implement the plan, and evaluate progress or the lack
thereof. There are many tools available for communities, which will assist them in facilitating this process.

3. It is recommended that parents understand and carry out the critical role they have in preventing the underage use of alcohol. It is important that parents eliminate access to alcohol within their homes and work together with others to eliminate access within their communities. It is imperative that they establish clear expectations of their sons/daughters about the use of alcohol and communicate those expectations in unambiguous terms. Families need to enforce consequences for violating family rules about alcohol use and follow through consistently with these consequences.

4. It is recommended that schools provide forums for youth, their parents, school personnel, and the community to come together to provide information and also to work together to provide healthy alternatives for their youth. Families, schools, and communities must provide ways to eliminate the availability of alcohol to minors and to create a cultural norm of no use for those under 21. Youth must be helped to understand that alcohol use by minors is not only against the law, but it impedes their normal healthy development.

5. It is recommended that communities work vigilantly to eliminate access of alcohol to minors. Communities must focus on healthy youth development and work together to provide healthy opportunities and skills and also to recognize children/youth for their positive attitudes, beliefs, and behaviors.
Recommendations for Policy Development

1. It is recommended that schools have policies and procedures in place (see Appendix D) to ensure that all staff will know what to do if a student appears to be under the influence of alcohol or other drugs.

2. It is recommended that communities enforce underage drinking laws through mandatory server training, stiff penalties for establishments, and individuals who sell alcohol to minors. The laws should also include a provision as a deterrent for future use that penalizes the minor for the obstruction of the law. Additionally, parents (guardians) need to have some level of accountability, whether it is through classes or participation in an alcohol/drug evaluation for their son/daughter. The consequences for all of the identified offenders should increase substantially if there are continued violations.

Recommendations for Further Research

1. Additional research to expand the number of risk and protective factors to determine their relationship to alcohol use would be beneficial.

2. Schools and communities could create and conduct their own surveys, which would contain risk and protective factor questions. If needed, data gathered might be analyzed and interpreted by a nearby university or consulting agency. The University or other institution would have the capability to determine the relationships and significance between the factors.

3. If a community is administering the Centers for Disease Control’s Youth Risk and Behavior Survey (YRBS), the data should be used to determine specific youth risk and protective factors. If possible, these data should be analyzed to
determine if there are relationships between the factors. Whether a community is conducting its own survey or the YRBS is administered, it is important that the information be used together with archival data to develop a plan of action.

4. It would also be advantageous for a community coalition to determine what may influence the use of not only alcohol but also other drugs, since some of them are on the rise, specifically methamphetamine, within the rural areas of the country.

Implications

In conclusion, it is apparent there is much more research that needs to be done to determine what additional risk and protective factors influence the non-use and use of alcohol by minors. A multitude of data exists which could be further analyzed to determine the relationships of the non-use or use of alcohol by minors. It would be helpful to use the five domains of individual, peer, family, school, and community outlined by Hawkins and Catalano to categorize factors. However, we cannot wait for all of this research to be completed, because we have an ongoing problem that must be addressed immediately within our communities. We must find ways to work together to support families, to understand healthy youth development, and to provide the best possible care for children. The community of Grand Forks has applied the principles of GIS (Geographical Information Systems) mapping to assist its community in obtaining a snapshot of youth behaviors and attitudes for all 7th-12th graders. The projected outcome is to recognize the location of the risk and protective factors and then to create a plan of action to address them strategically.
In closing, attention should be paid to the Call to Action on underage and binge drinking announced through the United States Surgeon General’s Office on March 6, 2007. Acting Surgeon General, Dr. Moritsugu, stated, “Alcohol remains the most heavily abused substance by America’s youth. This Call to Action is attempting to change the culture and attitudes toward drinking in America. We can no longer ignore what alcohol is doing to our children” (U.S. Department of Health & Human Services, 2007a, para. 7). This announcement outlines specific goals which can support the efforts of everyone in the United States to positively effect change. “Developed in collaboration with the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the Substance Abuse and Mental Health Services Administration (SAMHSA), the Call to Action identifies six goals” (para. 5):

- Foster changes in society that facilitate healthy adolescent development and that help prevent and reduce underage drinking.
- Engage parents, schools, communities, all levels of government, all social systems that interface with youth, and youth themselves in a coordinated national effort to prevent and reduce underage drinking and its consequences.
- Promote an understanding of underage alcohol consumption in the context of human development and maturation that takes into account individual adolescent characteristics as well as environmental, ethnic, cultural, and gender differences.
- Conduct additional research on adolescent alcohol use and its relationship to development.
- Work to improve public health surveillance on underage drinking and on population-based risk factors for this behavior.
- Work to ensure that policies at all levels are consistent with the national goal of preventing and reducing underage alcohol consumption. (para. 6)

Finally, it is critical for all of us to understand that the cost of underage, and particularly binge, drinking is not about only the monetary impact for all of us, it is most importantly about the human cost which is a cost beyond any measurement.
April 2003

To: Parents of Students in Elementary, Middle and High Schools

Fr: Ron Gruwell
Assistant Superintendent

Re: At-Risk Survey

We are conducting a survey for students in grades 4-12 in the Grand Forks Public Schools. The instrument will assess students' knowledge, attitudes, and behavior related to alcohol and other drug use. There are also specific questions pertaining to sexuality. This survey contains no information which will identify your child. It is being conducted as part of a requirement for Drug Free Schools and Communities Act funding for all students.

The survey can be previewed at the school office by contacting the building principal. The survey will be administered between mid-April and mid-May. You may contact your building principal to find out the specific dates.

If you choose not to have your child participate in this survey, please contact the building principal by April 11, 2003.
April 20, 2005

To: Chris Rood
Fr: Ron Gruwell
Assistant Superintendent
Re: Request

This letter gives you permission to use data that has been collected for the Safe and Drug Free Schools grant, as well as data from local surveys, focus groups, and school district suspensions and expulsions.
1. Please darken circle A on the response form.

2. School attending?
   A. Central
   B. Community
   C. Red River
   D. Schroeder
   E. South
   F. Twining
   G. Valley

3. How old are you?
   A. 12
   B. 13
   C. 14
   D. 15
   E. 16
   F. 17
   G. 18 or older

4. In what grade are you enrolled?
   A. 7th
   B. 8th
   C. 9th
   D. 10th
   E. 11th
   F. 12th

5. What is your sex?
   A. Male
   B. Female

6. How do you describe yourself?
   A. American Indian or Alaskan Native
   B. Hispanic or Latino
   C. Asian
   D. White
   E. Afro-American/Black
   F. Native Hawaiian or Other Pacific Islander
   G. Other
Some of the questions in this survey ask about your parent(s). In this survey, “parent(s)” (and “father” or “mother”) refer to the adults who are most responsible for raising you. They could be foster parents, step-parents, adoptive parents, or relatives/guardians.

7. Which one of the following best describes the people with whom you live with?
   A. Living with both natural parents
   B. Living with one natural parent
   C. Living with one natural parent and one step-parent
   D. Living with one natural parent and their boyfriend/girlfriend
   E. Living with a divorced mother
   F. Living with a divorced father
   G. Living with other relatives, foster parents or guardians
   H. Living with adoptive parents

8. Indicate the number of times you have changed schools that were not due to grade promotion:
   A. Not at all
   B. Once or twice
   C. Three times or more

9. On average, how many hours per week do you spend at a job outside of school?
   A. 0 hours
   B. 1-5 hours
   C. 6-10 hours
   D. 11-20 hours
   E. 21-30 hours
   F. 30 or more

10. On average, how many hours per week are you involved in extracurricular activities?
    A. None
    B. 1-2 hours
    C. 3-5 hours
    D. 6-10 hours
    E. 11 hours or more
11. On average, how many hours per day do you watch television, play video games or use the computer (for recreation)?

A. None  
B. ½ hour  
C. 1-2  
D. 3-5  
E. 6-10  
F. 11 or more  

12. If you drink alcohol (beer, wine, hard liquor), where do you most often get it? (Select only one response.)

A. I don’t use alcohol.  
B. I purchase it myself.  
C. From my home with my parent’s permission.  
D. From my home without my parent’s permission.  
E. From a friend who gives it to me.  
F. From a friend who buys it for me.  
G. I ask a stranger to buy it.  
H. From a brother, sister or other relative.  
I. Other  

13. If you smoke marijuana (pot, weed), where do you most often get it?

A. I don’t use marijuana.  
B. From my home with my parent’s permission.  
C. From my home without my parent’s permission.  
D. From a friend who gives it to me.  
E. From a friend or someone else who buys it for me.  
F. I buy it myself from another source.  
G. From a brother, sister or other relative.  
H. Other  

14. If you use other drugs (meth, cocaine, ecstasy), where do you most often get them?

A. I don’t use drugs.  
B. From my home with my parent’s permission.  
C. From my home without my parent’s permission.  
D. From a friend who gives it to me.  
E. From a friend or someone else who buys it for me.  
F. I buy it myself from another source.  
G. From a brother, sister or other relative.  
H. Other
15. During the **past year**, how many times have you been in trouble with the law (i.e., seen in juvenile court)?

A. Never  
B. Once  
C. Twice  
D. 3-5 times  
E. 6-9 times  
F. 10 or more times  

16. How **easy** is it for you to get alcohol in your community?

A. I don’t drink alcohol.  
B. Very easy  
C. Easy  
D. Difficult  
E. Very difficult  

17. How **easy** is it for you to get cigarettes or tobacco in your community?

A. I don’t smoke or chew.  
B. Very easy  
C. Easy  
D. Difficult  
E. Very difficult  

18. How **easy** is it for you to get marijuana in your community?

A. I don’t use drugs.  
B. Very easy  
C. Easy  
D. Difficult  
E. Very difficult  
F. I don’t know.  

19. Do you have access to guns **outside** your home?

A. Yes  
B. No
20. Adults in this city care about the people your age.
   A. Agree
   B. Not sure
   C. Disagree

21. During an average week, how many hours do you spend helping friends or neighbors?
   A. None
   B. 1 hour
   C. 2 hours
   D. 3-5 hours
   E. 6-10 hours
   F. 11 hours or more

22. Are your parents involved in community activities?
   A. Yes
   B. No
   C. Don’t know

23. What grades did you earn most often this year?
   A. Mostly A’s
   B. Mostly B’s
   C. Mostly C’s
   D. Mostly D’s
   E. Mostly F’s
   F. Incompletes

24. Do you expect to graduate from high school?
   A. Yes
   B. No

25. What do you expect to do after leaving high school?
   A. Attend a four-year college
   B. Attend a vocational/technical school
   C. Military service
   D. Get a full time job
   E. I don’t care.
   F. I’m not sure.
26. In the **past 30 days**, have you cut any classes at school?

   A. Yes
   B. No

27. On average, how many **hours per week** do you spend on homework outside of school?

   A. None  D. 6-10
   B. 1-2  E. 11 or more
   C. 3-5

28. Is alcohol available on your school grounds?

   A. Yes
   B. No
   C. I don’t know.

29. Are other drugs (cocaine, meth, ecstasy) available on your school grounds?

   A. Yes
   B. No
   C. I don’t know.

30. Do you think there are school/community services available to students with alcohol or other drug problems?

   A. Yes
   B. No
   C. I don’t know.

31. If you knew someone brought a weapon to school, or threatened someone with a weapon, would you report it to an adult?

   A. Yes
   B. No
   C. It depends on who it is.
   D. I don’t know.

32. Do you feel safe at school?

   A. Yes
   B. No
   C. Sometimes
33. In your school are the rules clear?
   
   A. Yes  
   B. No

Since the beginning of the school year, how often have you discussed the following with either or both of your parent(s) and/or guardian(s)...

34. Selecting course or programs at school?
   
   A. Not at all  
   B. Once or twice  
   C. Three times or more

35. Your participation in school activities?
   
   A. Not at all  
   B. Once or twice  
   C. Three times or more

36. Current class work or projects?
   
   A. Not at all  
   B. Once or twice  
   C. Three times or more

Since the beginning of the school year, has either your parent(s) or guardian(s) done any of the following...

37. Attend a school meeting?
   
   A. Not at all  
   B. Once or twice  
   C. Three times or more  
   D. I’m not sure.

38. Phoned or spoken to a teacher, counselor, or principal?
   
   A. Not at all  
   B. Once or twice  
   C. Three times or more  
   D. I’m not sure.
39. Visited classes?
   A. Not at all
   B. Once or twice
   C. Three times or more
   D. I'm not sure.

40. Attended a school event?
   A. Not at all
   B. Once or twice
   C. Three times or more
   D. I'm not sure.

41. On the average, how many hours a day are you without adult supervision?
   A. None
   B. 1-2 hours
   C. 3-5 hours
   D. 4-6 hours
   E. 11 hours or more

42. How do you think your parents/guardians would feel about you drinking alcohol?
   A. They would strongly object.
   B. They would not be sure what to think.
   C. They don’t seem to mind.
   D. They think it’s okay.
   E. I don’t know.

43. Which consequence from your parents/guardians would be most likely keep you from drinking?
   A. I don’t drink.
   B. No consequences would prevent me from drinking.
   C. Losing my driving privileges.
   D. Grounding.
   E. Withholding my allowance.
   F. Alcohol or drug testing.
   G. Keeping me from doing extra curricular activities.
44. How would you describe the rules your parents set for you?

A. I have no rules.
B. Fair and reasonable.
C. Strict and fair.
D. Strict but unfair.

45. Do your parents think it's OK for you to have pre-marital sex?

A. Yes
B. No
C. They don’t care.
D. I don’t know.

46. Has repeated use of alcohol or any other drug use (other than tobacco) by any family member repeatedly caused family, health, job, or legal problems?

A. Yes
B. No

47. Have you been harmed at home or by someone in your family or living with your family (i.e., where someone caused you to have a scar, black and blue marks, welts, bleeding or broken bone)?

A. Yes
B. No

48. Have you ever witnessed violence in your home? (not including typical sibling arguing or fighting)

A. Yes
B. No

49. Do you feel safe from abuse in your home?

A. Yes
B. No
C. Sometimes
D. Most of the time

50. Do your parents often tell you they love you?

A. Yes
B. No
51. Does your family make you feel useful and important?
   A. Yes
   B. No

52. Does your family have clear rules?
   A. Yes
   B. No

53. Do you have access to guns in your home?
   A. We do not have any guns.
   B. Yes
   C. No

54. How often does your family eat meals together each week?
   A. 0 times
   B. 1-3 times
   C. 4-6 times
   D. More than 6 times

55. Do your parents talk to you about alcohol and other drugs?
   A. Yes
   B. No

56. How often do your parents know where you are going or with whom you will be?
   A. Never
   B. Seldom
   C. Some of the time
   D. Most of the time
   E. All of the time

57. How much do you think people your age risk harming themselves if they take one or two drinks of an alcoholic beverage regularly?
   A. No risk
   B. Slight risk
   C. Moderate risk
   D. Great risk
58. How much do you think people your age risk harming themselves if they smoke marijuana regularly?
   A. No risk
   B. Slight risk
   C. Moderate risk
   D. Great risk

59. How much do you think people your age risk harming themselves if they smoke one or more packs of cigarettes per week?
   A. No risk
   B. Slight risk
   C. Moderate risk
   D. Great risk

60. How wrong do your parents feel it would be for you to smoke cigarettes?
   A. They would strongly object.
   B. They would not be sure what to think.
   C. They don’t seem to mind.
   D. They think it’s okay.
   E. I don’t know.

61. How wrong do your parents feel it would be for you to drink alcohol?
   A. They would strongly object.
   B. They would not be sure what to think.
   C. They don’t seem to mind.
   D. They think it’s okay.
   E. I don’t know.

62. How wrong do your parents feel it would be for you to smoke marijuana?
   A. They would strongly object.
   B. They would not be sure what to think.
   C. They don’t seem to mind.
   D. They think it’s okay.
   E. I don’t know.

63. Do your friends think it’s cool to get drunk (wasted)?
   A. Yes
   B. No
64. Do your friends think it’s cool to get high (stoned)?

A. Yes
B. No

65. How old were you when you first began smoking cigarettes?

A. I don’t smoke cigarettes.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

66. How old were you when you first began using chew or spit tobacco?

A. I don’t use chew or spit tobacco.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

67. How old were you when you first began to drink alcohol (beer, wine coolers, hard liquor)?

A. I don’t use alcohol.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

68. How old were you when you first began to use marijuana (pot, weed)?

A. I don’t use marijuana.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over
69. How old were you when you first began to sniff glue, breathe the contents of aerosol spray cans, or huff any paints or sprays to get high?

A. I don’t do any of the above.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

70. How old were you when you first began to use cocaine?

A. I don’t use cocaine.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

71. How old were you when you first began to use meth (speed)?

A. I don’t use meth.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

72. How old were you when you first began to use ecstasy?

A. I don’t use ecstasy.
B. 10 or under
C. 11-12
D. 13-14
E. 15-16
F. 17 and over

73. If you drink alcohol (beer, wine, hard liquor), how much do you usually drink at one time?

A. I don’t drink alcohol.
B. One can, glass, drink
C. Two cans, glasses, or drinks
D. Three cans, glasses, or drinks
E. Four cans, glasses, or drinks
F. Five cans, glasses, or drinks  
G. Six or more cans, glasses, drinks

74. During the past 30 days, how often did you smoke cigarettes?
   A. I don’t smoke cigarettes.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 days

75. During the past 30 days, how often did you use alcohol (beer, wine, hard liquor)?
   A. I don’t use alcohol.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 days

76. During the past 30 days, how often did you drink at school?
   A. Never  
   B. Once  
   C. Twice  
   D. 3-5 times  
   E. 6-9 times  
   F. 10 or more times

77. During the past 30 days, how many times were you drunk (buzzed) in school?
   A. Never  
   B. Once  
   C. Twice  
   D. 3-5 times  
   E. 6-9 times  
   F. 10 or more times

78. During the past 30 days, how often did you use marijuana?
   A. I don’t use marijuana.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 days
79. During the **past 30 days**, how many times were you stoned (on pot) in school?

   A. Never  
   B. Once  
   C. Twice  
   D. 3-5 times  
   E. 6-9 times  
   F. 10 or more times  

80. During the **past 30 days**, how often did you use cocaine?

   A. I don’t use cocaine.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 days  

81. During the **past 30 days**, how often did you use meth (speed)?

   A. I don’t use meth.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 day  

82. During the **past 30 days**, how often did you use ecstasy?

   A. I don’t use ecstasy.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 day  

83. During the **past 30 days**, how often did you sniff glue, breathe the contents of aerosol spray cans, or huff any paints or sprays to get high?

   A. I don’t do the above.  
   B. 1-5 days  
   C. 6-9 days  
   D. 10-19 days  
   E. 20-30 days  

95
84. During the **past 30 days**, how often did you use acid?

A. I don’t use acid.
B. 1-5 days
C. 6-9 days
D. 10-19 days
E. 20-30 days

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

A. Never
B. Once
C. Twice
D. 3-5 times
E. 6-9 times
F. 10 or more times

86. During the **past 30 days**, how many times have you driven a vehicle when you had been drinking alcohol?

A. I don’t drive.
B. Never
C. Once
D. Twice
E. 3-5 times
F. 6-9 times
G. 10 or more times

87. How many hours of sleep do you usually get each school night?

A. 0
B. 1-4
C. 5-6
D. 7-8
E. 9-10
F. 10 or more

88. In the **past week**, how many times did you exercise a minimum of 20 minutes per day?

A. 0 days  E. 4 days
B. 1 day     F. 5 days
C. 2 days    G. 6 days
D. 3 days    H. Every day
89. Have you ever shoplifted?
   A. I have not shoplifted.
   B. Yes
   C. No

90. Did you ever shoplift as a result of peer pressure?
   A. I did not shoplift.
   B. Yes
   C. No

91. Is it against your values to have pre-marital sex?
   A. Yes
   B. No

92. Do you believe everybody’s ideas and feelings are important even if they are different than your ideas or feelings?
   A. Yes
   B. No

93. Do you feel students are trustworthy at your school?
   A. Yes
   B. No

94. Do students in your school feel a sense of “belonging”?
   A. Yes
   B. No

95. Do you feel cheating is common at your school?
   A. Yes
   B. No

96. Do students act respectfully towards each other?
   A. Yes
   B. No
97. Are the adults in your school respectful to all students?
   
   A. Yes
   B. No

98. Do you feel students act in a responsible manner?
   
   A. Yes
   B. No

99. Do you believe teachers care about students at your school?
   
   A. Yes
   B. No

100. Do you believe there is a culture of positive character within your school?
   
   A. Yes
   B. No

101. Do you feel students take appropriate action when resolving conflicts with other students?
   
   A. Yes
   B. No

102. Did you answer all the questions on this survey honestly?
   
   A. Yes
   B. No
Appendix D
Grand Forks Public Schools Policy on Alcohol, Tobacco, Drugs, and Prohibited Substances

Grand Forks Public Schools recognize that the use, possession, and distribution of alcohol, tobacco, and other drugs by our students is unlawful, harmful, and wrong. North Dakota state law forbids the use of alcoholic beverages to anyone under 21. Grand Forks Public Schools are guided by Board Policy 5370 which states:

It shall be against school policy for any student:

1. To sell, deliver, give, or attempt to sell, deliver, or give to any person any of the substances listed in this policy or what the student represents or believes to be any of the substances listed in this policy.
2. To possess, procure, purchase, or receive, or to attempt to possess, procure, purchase or receive, the substances listed in this policy or what is represented by or to the student to be any of the substances listed in this policy or what the student believes is any of the substances in this policy. A student will be determined to be “in possession” when the substance is on the student’s person or in the student’s locker, car, or personal property/personal effects, or when he/she owns it completely or partially.
3. To be under the influence of (legal intoxication not required), or to use or consume or attempt to use or consume, the substances listed in this policy or what is represented by or to the student to be any of the substances listed in this policy or what the student believes is any of the substances in this policy.

This policy applies to any student who is on school property, who is in attendance at school or at a school-sponsored activity, or whose conduct at any time or in any place interferes with or obstructs the missions or operations of the School District or the safety or welfare of students or employees.

Prohibited Substances:

1. Alcohol or any alcoholic beverage.
2. Any controlled substance or dangerous drug as defined by NDCC Sections 19-03.1-05 through 19-03.1-13 and 19-02.1-26 (paraphernalia) or as defined by Section 812, Schedules I-V, of Title 21, United States Code, Section 801, et seq., including but not limited to marijuana, any narcotic drug, any hallucinogen, any stimulant, or any depressant, any form of tobacco, and all other illicit drugs.
3. Any abusable glue or aerosol paint or any other chemical substance, for inhalation, including but not limited to, lighter fluid, white out, and reproduction fluid.
4. Any prescription or non-prescription drug, medicine, vitamin, or other chemical including, but not limited to, aspirin, other pain relievers, stimulants, diet pills, multiple or other type vitamins, pep pills, “no-doze” pills, cough
medicines and syrups, cold medicines, laxatives, stomach or digestive remedies, depressants, and sleeping pills not taken in accordance with the authorized use policy.

**VIOLATION**

Any student who is observed to be under the influence of a prohibited substance will be taken immediately to the principal's office. The student's parent(s)/guardian(s) will be notified and asked to pick up the student. If there appears to be imminent danger to other students, school personnel, and/or the student involved, the principal may have the student removed from the school by medical, school, or law enforcement personnel.

Disciplinary sanctions will be imposed on any student violating this policy. These sanctions may include:

1. Notification of proper authorities for prosecution. Prohibited substances will be confiscated and illegal substances will be turned over to law enforcement authorities.
2. Suspension or expulsion.
3. Student may be referred for chemical evaluation.
4. Any student who presents reasonable suspicion of having used alcohol may be given a breath test on the school premises.
5. Notification of proper authorities for prosecution.
6. Attendance of a chemical awareness class.
7. Sanctions pursuant to the rules of the North Dakota High School Activities Association Handbook.

**CHEMICAL ABUSE ASSESSMENT TEAM**

Under Century Code 15.1-24-03, any school may appoint a chemical abuse preassessment team consisting of a school counselor, a social worker, and other appropriately trained individuals or a school may use a building support team to carry out chemical abuse prevention services under this chapter.

Procedures:

1. The team shall review and act upon law enforcement reports of chemical abuse violations by students.
2. Within fourteen (14) days of receiving a report, the team shall determine whether to provide the student, or if the student is a minor to the student’s parent or guardian, information regarding chemical abuse and school and community services available to assist individuals who engage in chemical abuse.
Appendix E
List of Domains and Risk and Protective Factors

- **Individual** (biological and psychological dispositions, attitudes, values, knowledge, skills, problem behaviors)
- **Peer** (norms, activities)
- **Family** (function, management, bonding)
- **School** (bonding, climate, policy, performance)
- **Community/Society** (bonding, norms, resources, awareness/mobilization, policy/sanctions). (The Massachusetts Department of Public Health, 2002, para. 4)

Within each of the domains and subdomains there are specific risk and protective factors which help one understand the influences. The domains are listed followed by the specific risk and protective factors. They are listed below:

**Individual Domain Risk Factors**

- Thinks most friends use
- Association with drug-using peers
- Certain physical, emotional or personality traits
  - Inherited genetic vulnerability
  - Low self esteem
  - Psychological disturbances
  - Inappropriate coping responses
  - Violence/aggression
  - Risk taking propensity/impulsivity
  - Alienation and rebelliousness
  - Rejection of pro-social values/religion
  - Lack of peer refusal skills
- Early and persistent problem behaviors
  - Early sexual activity/teen pregnancy
  - Begins using at a young age
  - Early anti-social behavior
  - Peer rejection in elementary grades
- Academic failure
- Less involved in recreational, social and cultural activities
- Lack of information on positive health behaviors
- Lack of information on drug-related topics

**Individual Domain Protective Factors**

- Knowledge regarding risks associated with substance abuse/use
- Negative attitudes toward substances and substance use
- Bonding to pro-social culture
- Positive relationships with adults
  - Views parents, teachers, doctors, law enforcement officers and other adults as allies
- Social competence
- Youth involvement in alternative activities
- Sense of well-being/self confidence
- Has positive future plans

Peer Domain Risk Factors

- Reinforcement of negative norms and expectations within peer group
- Thinks alcohol and drug use is “cool”
- Inappropriate sexual activity among peers
- Ties to deviant peers/gang involvement

Peer Domain Protective Factors

- Involved in substance-free activities
- Friends disapprove of alcohol and other drug use

Family Domain Risk Factors

- Family members with a history of alcohol or other drug abuse
- Family members don’t spend much time together
- Parents have trouble keeping track of teens, who they’re with and where they go
- Lack of clear rules and consequences regarding alcohol and other drug use
- Parents use drugs, involve youth in their use (“Get me a beer, would you?”) or tolerate use by youth
- Parents have trouble setting consistent expectations and limits
- Family conflict/abuse
- Loss of employment [by a parent/guardian]

Family Domain Protective Factors

- Close family relationships
- Consistency of parenting
- Education is valued and encouraged, and parents are actively involved
- Copes with stress in a positive way
- Clear expectations and limits regarding alcohol and other drug use
- Encourages supportive relationships with caring adults beyond the immediate family
- Share family responsibilities, including chores and decision making
- Family members are nurturing and support each other

School Domain Risk Factors

- Lack of clear expectations, both academic and behavioral
- Students lack commitment or sense of belonging at school
- High numbers of students who fail academically at school
- Parents and community members not actively involved

School Domain Protective Factors

- Positive attitudes toward school
  - School bonding
  - Regular school attendance
- Communicates high academic and behavioral expectations
- Encourages goal-setting, academic achievement and positive social development
  - Tutoring available
  - Positive instructional climate
  - Provides leadership and decision making opportunities for students
- Fosters active involvement of students, parents and community members
- Sponsors substance-free events
- School responsive to students’ needs

Community/Society Domain Risk Factors

- Alcohol and other drugs readily available
  - Irresponsible servers and sellers
  - Affordability
- Laws and ordinances are unclear or inconsistently enforced
- Norms are unclear or encourage use
- Residents feel little sense of “connection” to community
- Neighborhood disorganization
- Rapid changes in neighborhood populations
- High unemployment
- Residents at or below the poverty level
- Extreme economic deprivation
- Lack of strong social institutions
- Lack of monitoring youths’ activities
- Inadequate media portrayals
  - Misleading advertising
- Pro-use messages
Community/Society Domain Protective Factors

- Opportunities exist for community involvement
- Community religious composition
- Laws and ordinances are consistently enforced
- Informal social control
- Policies and norms encourage non-use
- Community service opportunities available for youth
- Resources (housing, healthcare, childcare, jobs, recreation, etc.) are available
- Comprehensive risk focused programs available
  - Programs for parents of children and adolescents
  - Early childhood and family support programs
  - Widely supported community prevention efforts exist. (The Massachusetts Department of Public Health, 2002, paras. 5-9)
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(Available from Grand Forks Public Schools, PO Box 6000, Grand Forks ND 58206-6000)


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