

DRUG EDUCATION FOR RURAL MIDDLE
SCHOOL STUDENTS IN A RESILIENCE FORMAT

by

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Jamie Sue Granger

April 2006

This project is dedicated to my family, for their unfailing support:
My husband, Ron, and my children,
Ryan, Hailey, Bethany, and Cammeron

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ABSTRACT

Montana has the nation's youngest average age for first use of alcohol and marijuana. Montana also ranks among the top five states in the highest rates of alcohol use among youth. In one Montana county, 31% of eighth grade students report having had five or more drinks in a 30-day period, 14% were current cigarette smokers, and 12% smoked marijuana.

The principal of a rural Montana middle school, in this same county, requested a drug education program for his sixth, seventh, and eighth grade students. The goal of the program was resilience education. Resilience education allows for the development of decision-making abilities in adolescents. This gives them the skills and knowledge necessary to make informed decisions. Education was provided about alcohol, tobacco, marijuana, and methamphetamine through written materials, interactive classes, and an audio-visual presentation. Information was also given about peer use statistics, influences that promote drug use, and the harms associated with drug use. Drug resistance skills were introduced through the use of role-play scenarios and small group interaction in the classroom setting.

A pretest and posttest, created by the project writer, were given to twenty-eight students. The pretest mean score was 57.39% and the posttest mean score was 80.64%. This is statistically significant at the .01 level. Eight student's posttest answers were more responsive on the short answer essay question than were their pretest answers, 16 students gave comparable pretest and posttest answers, and four gave more responsive pretest answers.

Resilience drug education, combining factual drug information, consequences of drug use, and social skills training, has been found to be the most effective educational method in reducing drug use behavior. Further research of methods providing effective resilience education should be continued.

CHAPTER 1

INTRODUCTION

Purpose of the Project

The purpose of this project was to develop a drug education program in a “resilience education” format. This type of drug education allows for the development of decision-making abilities in adolescents to give them the skills and knowledge necessary to make informed decisions to avoid drug use behaviors. This education was directed specifically to sixth, seventh and eighth grade students at a rural middle school in Montana.

Background and Significance of the Project

According to the Adolescent Substance Abuse Knowledge Base (2005, Alcohol use section), Montana rates first in the United States for the youngest age of initial alcohol use, at age 14.8 years old. Montana also ranked among the top five in the highest prevalence of use among youth. According to a Montana county survey, during 2002, 31% of eighth graders reported having five or more drinks in a 30-day period. Further, the county reported that of eighth grade students in 2004, 14% were current cigarette smokers, and 7% were users of chewing tobacco. During the same time period, 12% of local urban eighth graders smoked marijuana (Oliver, 2004, Marijuana, pg. 1). The local county survey results from 2004 for public schools showed 24.2% of eighth graders had

used alcohol during the 30 days prior to the survey, 18.1% used tobacco, and 8% used marijuana during this same time period. This survey also showed that 16.2% of eighth graders in the state participated in binge drinking (Oliver, 2004, Missoula binge drinking, pg. 1). The Montana Meth Project Use and Attitudes Survey indicated that 8% of teens and adults in Montana have tried methamphetamine (Estes & McConnell, 2005, p.1).

The rural school chosen for the project has 95 students in grades kindergarten through eighth. It is in a community 25 miles northeast of a larger community of approximately 72,000 people, located in the same county. Through the Montana Office of Public Instruction, Montana schools and teachers have access to instruction and curriculum ideas to provide drug education to their students. Use of the available resources is variable, because each school and teacher may choose whether or not to incorporate the material into their curriculum (Montana Office of Public Instruction [MOPI], 2000, Instruction guidelines, p. 5). There is information available through the local Montana county on drug abuse; however the focus is on treatment, not on education. There is little formal information available at the school on illegal substances and their abuse. The school hosts the national Red Ribbon Week program every year, but that is the extent of its drug education curriculum. The school administration has not chosen to implement materials from the Montana Office of Public Instruction.

There are few nationally recognized drug education programs available in the United States directed toward adolescents. Many school districts, community and state programs have addressed drug education directed toward adolescents. However, these informational resources tend not to be interrelated and require significant editing by the school or teacher to offer drug education that includes drug facts and legal consequences,

peer use attitudes, and social skills training that will promote resistance to drug use pressures. In Australia and the United Kingdom, there are many nationally recognized drug education programs (Midford, Munro, McBride, Snow, & Ladzinski, 2002, p. 3; NSW Health Department, 2000). These programs strive to provide resilience education to children during early adolescence, before the usual age at which drug use becomes prevalent, in contrast to Montana programs, which focus on treatment, not on education.

The middle school years are a time of crisis for adolescents, involving pressure from their peers and the coming transition to high school. To compound the usual problems for these rural middle school students, the schools' students will attend high school in the neighboring community of 72,000 people. The high school has an enrollment of approximately 1240 students in grades nine through twelve, compared to 95 in the middle school.

The developmental level of middle school students can be a detriment to their ability to comprehend information. Many children this age are concrete thinkers, and abstract concepts, such as morals and values, are difficult for them to understand (Greene, 2005, para. 3). Information can be presented to both those students who are concrete thinkers and to those who have progressed to more formal operational thinking. The concrete thinkers will do well with information presented in an educational format that does not require abstract thought, such as printed handouts and PowerPoint presentations. The adolescents with more advanced cognitive development will learn effectively with activities that require thought, such as role-playing to explore cause and effect relationships (Manning, 2002, p. 2). Adolescents learn most effectively with educational information presented to them in short increments of time over a period of several days

(Bremer & Smith, 2004, para. 4). These methods will allow information to be taught at an appropriate development level so that it is understandable and comprehensible.

The reported incidence of drug use in the county demonstrates that drug use, even among eighth grade students, is not uncommon, emphasizing the importance of drug education. This becomes especially significant as these children move into their high school years at a larger, urban school.

Objectives of the Project

A developmentally appropriate drug education program was created with the following intent:

1. To increase the ability of adolescents to resist drugs and alcohol at an age level lower than that at which most drug use behavior increases.
2. To begin the process of developing the drug resistance and social skills in these students that is required for them to make responsible choices, while allowing them to maintain their social relationships.

Definitions

For the purpose of this project, the following definitions were used:

1. Resilience—"A dynamic process encompassing positive adaptation within the context of significant adversity" (Luthar, Cicchetti, & Becker, 2000, p. 543).
2. Risk-taking behaviors—"Include activities that threaten the health and well-being of the child or adolescent" (Dunn, 2004, p. 200).

3. Resilience education—"The development of decision-making and affective skills within each person and connectedness between people in the context of a health/democratic learning community" (Brown, 2001, p. 103).
4. Illicit drug use—Use of illegal drugs, including marijuana, lysergic acid diethylamide (LSD), other hallucinogens, cocaine, heroin, other narcotics, amphetamines, barbiturates, or tranquilizers not prescribed for that person (Brown, 2001, pg 88).

Theoretical Framework

The years of adolescence are a time when many social and developmental changes are occurring. Adolescents are in transition from the concrete thinking of children to the abstract thinking processes of the adult. Many important social and behavioral changes occur during these years, as the adolescent prepares for the successful transition into adulthood (Greene, 2005, para. 3). Developmental theories were used as the theoretical framework for this project. Erikson's (1963) psychosocial development theory, Piaget's (1977) cognitive development theory, and Bandura's (2004) social learning theory were used as the basis for the format of the drug information presented in this project.

CHAPTER 2

REVIEW OF LITERATURE

Current Trends in Adolescent Drug Use and Education

Adolescent substance abuse is a growing problem. The National Institute on Drug Abuse (NIDA) estimated the cost of substance abuse to the United States in 2000 at \$484 billion. These costs included health care costs, as well as the cost of crime and welfare administration costs (NIDA, 2005, Magnitude: Drug abuse is costly section, pg. 1). Additionally, it is estimated that 11% of youth aged 12-17 years were using illicit drugs in 2003 (Office of National Drug Control Policy [ONDCP], 2005, Extent of use, Overview section, para. 3). Among the most commonly abused drugs in the United States are alcohol, tobacco, marijuana, and methamphetamine. Two of the most frequently abused substances, alcohol and tobacco, can be purchased in grocery stores, gas stations, and supermarkets. However, adolescents cannot legally purchase these substances. The other two, marijuana and methamphetamine, are illicit substances and because of this, there are legal consequences associated with their use. All are readily accessible to adolescents.

Alcohol intake in adolescence is a behavior that can continue to excess into young adulthood (Pitkanen, Lyyra, & Pulkkinen, 2005, p. 653). Montana may have a more significant problem with adolescent alcohol consumption than the national average. Mothers Against Drunk Driving (MADD) estimated that in Montana in 2003, 43% of

drivers aged 15-20, who died in motor vehicle accidents had levels of blood alcohol that qualified them as impaired drivers. For the same period of time, the national average for alcohol related motor vehicle fatalities among drivers aged 15-20 was 36% (MADD, 2004, Fatalities and alcohol-related, pg. 3). In the United States, the average age of first use of alcohol ranges from a low of age 14.8 in Montana to a high of 16.5 years in the District of Columbia. The level of adult alcohol use is highest if first use was under age 16. Excessive adolescent alcohol intake can contribute to problem drinking in adults. For youth aged 12-13 in 2004, the prevalence of heavy alcohol use in the past month was 0.2%. This rate increases each year, to 1.6% of 14-15 year olds and 6.3% of 16-17 year olds, peaking at 13.6% at ages 18-20. Heavy alcohol use is defined as five or more drinks on the same occasion (Substance Abuse and Mental Health Services Administration [SAMHSA], 2004, Tobacco Product and Alcohol Use Tables, pg. 1).

According to the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), 80% of adult tobacco smokers began smoking before the age of 18. Every day, almost 4,000 children under the age of 18 smoke their first cigarette (NCCDPHP, 1994, Preventing tobacco use, p. 3). Cigarette smoking is responsible for 440,000 deaths each year, \$75 billion per year in medical expenses, and \$80 billion per year from lost productivity. Tobacco use is the nation's leading cause of death each year. In 2002, rates of cigarette smoking at age 12 were 1.7%, increasing every year to 28.1% at age 17. The average rate of use among 12-17 year olds was 13.0% (NCCDPHP, 2005, Cigarette Smoking, pg. 1).

Marijuana is the most commonly used illicit drug in the United States (ONDCP, Marijuana, 2006, para. 4). The national average age for first use of marijuana in 1996-

1997 was age 16.2 years. Again, Montana had the lowest age for first use at 15.1 years (ONDCP, Marijuana, 2006, para. 7). According to the Substance Abuse and Mental Health Services Administration office, the percentage of youth aged 12-17 who had ever used marijuana was 19.6% in 2003 (SAMHSA, 2004, Marijuana Use Prevalence, pg. 1). In 1982, the Surgeon General posted a warning on the dangers of marijuana use, especially long-term developmental effects in children and adolescents, as they are particularly vulnerable to the behavioral and psychological effects of the drug (NCCDPHP, 1982, The surgeon general's warning, para. 4).

Methamphetamine use among eighth graders is estimated to be 3.9%, with this percentage increasing to 6.2% among high school seniors nationwide (NIDA, 2005, InfoFacts: Methamphetamine, para. 9). Over 400 methamphetamine-manufacturing laboratories required cleanup and removal of hazardous substances in the state of Montana from 2001-2004 (Montana Department of Justice, 2005, Meth in Montana, p. 1). The manufacture and use of methamphetamine is a growing problem, especially in rural areas, where laboratories are easily hidden. Methamphetamine abuse is considered as one reason substance abuse is higher among rural youth than among urban youth. Rural eighth graders are 64% more likely to use methamphetamine than are urban eighth graders (Kraman, 2004, p. 7).

The prevalence of illicit drug use among adolescents increases as they transition from junior high to high school. This is of particular significance in Montana because the rates of drug and alcohol use in the state are frequently above the national average. In many rural areas, such as states like Montana, methamphetamine laboratories are a growing danger. The increased rates of drug and alcohol use from the ages of 12 to 20,

the above average levels of drug and alcohol use in Montana, and the prevalence of methamphetamine laboratories in rural areas, point to the growing problem of substance abuse among Montana's adolescents.

Role of Resilience Education and Skills Training

Drug education programs that attempt to deter students from the use of illicit substances, only by providing facts about drugs, have been unsuccessful. However, their use has continued to thrive. A more successful method of drug use deterrence is a program based on "social skills or influence programs" (Brown, 2001, p.90). These programs attempt to discourage drug use by educating youth about how to refuse substances offered by others, or "drug resistance skills" (Brown, 2001, p. 90). The Tobacco Information and Prevention Source (TIPS) has found that prevention programs that provide information about the short and long-term effects of tobacco use, peer attitudes, and effective refusal skills have been the most successful (MOPI, 2000, Tobacco Use Prevention Education section, para. 2).

Rew and Horner (2003, p. 384) have developed the "Youth Resilience Framework". Its goals are to identify adolescents' risk factors, as well as the protective factors that influence their health outcomes. They have found that long-term healthy lifestyle choices begin with knowledge attained during childhood. As adolescents, the knowledge obtained in childhood has a positive influence on healthy life choices, making them less likely to engage in high-risk behaviors.

Midford et al., (2002, p. 379), found that there are 16 essential principles to effective resilience education. Among these are the concepts that drug education should

begin at an age before drug use becomes more prevalent and life patterns become established. The Carnegie Corporation (1995), in a study of adolescent behavior has said,

Many of the problems of adolescence begin to surface in the turning point years of ten through fourteen. Important in its own right as a potentially rewarding time of personal growth and development, early adolescence is the phase when young people begin to adopt behavior patterns in education and health that can have lifelong consequences. At the same time, it is an age when, much like younger children, individuals still need special nurturing and adult guidance. For these reasons, early adolescence offers a unique window of opportunity to shape enduring patterns of healthy behavior (Carnegie Corporation of New York, 1995, chapter 1, para. 6).

Further, Midford et al. (2002, p. 380) states that effective drug education should provide information on the social and health consequences of drug use and be of practical relevance to adolescents in their decision making processes. This education should also include social skills training to allow them to identify the pressure to use drugs and to learn the skills needed to make responsible choices. Essentially, drug resistance education should include values, attitudes, and behaviors of society, where society demonstrates responsible attitudes and practices (Midford et al., p. 378).

The Carnegie report (Carnegie Corporation of New York, 1995, chapter 1, para. 8), states that younger adolescents are initially tentative in their risk-taking behaviors. Therefore, it is important to intervene early, before damaging patterns are established to ensure successful outcomes.

In effective resilience drug education, educational materials should incorporate objective and honest information about illicit substances. The focus should be on more than the detrimental effects of drugs on the body. When information about drug history, cultural issues, drug types, usage and effects is included, adolescents can make more responsible decisions about drug usage (Brown, 2001, p. 106).

Social resistance skills training, which has been proposed as an effective deterrent to drug use, has a basis in the theories of social learning and social inoculation (Midford et al., 2002, p. 369). These theories claim that youth begin using illicit substances because of social pressure to do so. This pressure can come from the media, their peers, and their own self-images. To successfully resist drug use, young people need to be “inoculated” by previous experience with arguments against such behavior, and have the opportunity to practice the desired behavior (Midford et al., 2002, p. 370).

Carvajal, Evans, Nash & Getz (2002, p. 425), apply the social influence model to adolescent substance abuse. This model states that influences promoting adolescent substance use are mediated by their intentions to avoid using the substances. This demonstrates that planned behavior can support the adolescent’s intentions not to use illicit drugs. Further, adolescents with a positive self-image usually have stronger bonds with peers who are disapproving of substance use. Adolescents with poorer self-images are more likely to use illicit substances. This may be because their negative self-esteem causes them to minimize the adverse health consequences of drug use. They may also feel drug use has positive consequences for them as the drug’s effects temporarily increase their sense of well-being.

Current research indicates that the most effective method of drug education includes a combination of factors, including factual information about specific substances and their effects, social and health consequences of drug use, and direction in how to resist the offers of these substances. Programs incorporating these factors have been found to be effective in reducing drug use behaviors.

Developing Resilience

Resiliency has found its way into the psychology of coping due to its focus on positive outcomes. Children who are resilient are able to successfully overcome difficult life situations. These children are able to work through, and solve problems, in their daily lives (Sullivan, 2001, p. 35). Teaching resilience skills assists young people in developing the capabilities to overcome difficult situations (Macready, 2001, p.26). Resiliency has been found to be a factor in decreasing the use of illicit substances in adolescent children (Brown, 2001, p. 103). Adolescents who have developed the skill of resistance have acquired problem-solving skills that give them control over their own decision-making (Sullivan, p.35).

Four factors have been found to increase the quality of resilience in children. The factors are: the ability to assess life situations honestly, to gain independence, to build positive relationships, and to develop a sense morality. The ability of people to look honestly at life and the situations in which they find themselves provide the incentives required to do what is necessary to make needed changes (Macready, 2001, p. 26).

The second important characteristic is that of independence. This allows adolescents to realize that they are a separate entity from those with whom they are in contact. Successful development of independence allows young people the freedom to seek physical and emotional safety (Wolin, 2003, p. 18).

Fostering relationships with people who have made positive life choices is a third factor that may assist in developing resistance skills. This influence may offer the companionship and support adolescents need to feel confident in their own choices (Wolin, 2003, p. 18).

A fourth factor to assist in increasing resiliency is developing a sense of morality. This allows adolescents to consider the effects their actions have on themselves, those around them, and society in general. This approach also assists in the recognition of the harmful impact of their actions. When they are successful in this process, they are developing a conscience that can guide their actions in the future (Wolin, p. 18).

Role-play situations can assist the process of developing these resiliency skills in young people. Role-playing allows adolescents to practice techniques to refuse participation in drug use activities in a supportive and safe environment (Tyler, 2005, pg. 1). The adolescent can use the skills gained through role-playing later if faced with pressure to participate in drug use activities. Midford et al. (2002), identified teaching methods such as structured and unstructured role-playing and small group interactions that involve all members of a class to be helpful in a successful drug education program. The ability to offer an excuse for choosing not to participate in drug use activities has been identified by young people as a successful method of refusal. However, peers must recognize this excuse as a legitimate excuse. If not, the peer group will not accept it. Role-playing situations can help adolescents develop acceptable and legitimate reasons for refusal of drug use behaviors (McIntosh, MacDonald, & McKeganey, 2003, p. 979).

Resiliency can be further fostered by the development of strong interests, such as participation in sports, involvement in extracurricular activities, or outside employment. Succeeding in an activity can build and develop self-esteem, and lead to the growth of resilience (Sullivan, 2001, p. 35). The ability to find areas of interest, and to grow in the mastery of them, can be assisted by the process of planning and setting goals to guide decisions (Macready, 2001, p. 26). Children who have interests and goals directing their

life are more resilient, and resilient children are better prepared to make wise decisions (Sullivan, p. 35).

Adolescent drug use is becoming a growing problem. Young people in Montana are especially at risk due to the early age of first alcohol and marijuana use, and the prevalence of methamphetamine laboratories in rural areas, such as Montana. Resiliency has been found to be an important factor in the development of drug use resistance in adolescents. Techniques that have been found to increase the development of resiliency include developing independence and morality, choosing positive role models, and pursuing interests in life. These factors can be fostered by the use of role-play scenarios to practice appropriate responses to drug use pressure and goal setting to encourage the child to pursue interests effectively.

Theoretical Framework

Developmental theory was used as the framework for this project because it follows the progression of people through each stage of development in the life span. Successful progression requires that specific changes in socialization, learning and behavior be completed before moving into the next stage. In Erikson's (1963) theory of psychosocial development, he theorizes that the adolescent is struggling with the conflict between identity and role confusion. Piaget's (1977) theory of cognitive development describes the adolescent as being in a transition period between concrete thinking and logical thinking. Bandura's social learning theory states that people learn through observing others and are influenced by those around them (Isom, 1998, para.1).

One of the tasks of the adolescent years is to integrate moral development within this developing logical thinking pattern. Young people learn moral development during these years by watching and listening to those around them as well as through their own experiences. This moral development is the process of developing a conscience, or an internal sense of right and wrong (Mayes, 1984, p. 126). Adolescents must learn to look at themselves as others see them and come to realize that they are ultimately responsible for their own decisions (Healy, 1987, p. 197).

By the middle school years influences on decision making come from a variety of sources including peers, media, and family. Brown (2001, p. 111) states that if adolescents are given appropriate information they are able to make informed decisions regarding drug use activities. Adolescents are faced with decisions and demands that are much more serious than those they faced only a few years ago. This is a time when young people should be progressing in growth and development. Much of this development is in setting behavior patterns that can have lifelong consequences. This time of early adolescence is a key age in which to form patterns of healthy behavior (Carnegie Corporation of New York, 1995, chapter 1, para. 6).

Erikson's Theory of Psychosocial Development

Erikson's (1963) theory of the adolescent is termed "Identity vs. Role Confusion". This stage of development requires the adolescent to question old values without a sense of dread or loss of identity and move slowly towards a mature sense of identity and purpose. Adolescents who successfully complete this stage of development will have a strong sense of independence, competence, and feel in control of their life. The two most

important tasks of this stage are to establish autonomy and develop a sense of identity.

An adolescent cannot move on to this stage of development until they have met the goals of the preceding stage. If they are unable to move on, this causes them to be unable to effectively develop autonomy and identity (Erikson, 1963, pg. 261).

Establishing autonomy requires the adolescent to develop the ability to make responsible and independent decisions. Autonomy refers to the ability to distinguish between the needs of one's self and the needs of others, as well as the ability to make decisions and follow through with them (Spear & Kulbok, 2004, p. 144). This gives the adolescent the ability to understand the consequences of decisions and actions, and to take appropriate action (Erikson, 1963, p. 84).

Erikson (1963, p. 261) further states that during this period of time, the adolescent needs to develop a sense of identity. The development of identity in the adolescent is described by Erikson's stage of industry versus inferiority. Here the young adolescent must learn to relate socially with peers and begin to develop the self-discipline needed to complete tasks, such as homework assignments. This will assist in the development of self-esteem and a sense of what life may bring in the future.

The adolescent is in a transitional period of time between adulthood and childhood. They must balance what they perceive in themselves with what others expect them to be. Through this process, the adolescent learns autonomy by attempting to integrate their concepts and values with those of society (Erikson, 1963, p. 286).

Piaget's Theory of Cognitive Development

The young adolescent is in the process of moving from Piaget's concrete operational stage to his formal operational stage. During the concrete operational stage (seven to eleven years old), children begin to reason logically and organize their thoughts coherently. However, many are unable to reason abstractly. The formal operational stage (12-15 years old) is characterized by the child's ability to formulate hypotheses and test them to arrive at an answer. Most adolescents in this stage are able to think abstractly so they can begin to reason hypothetically. The ability to set goals and imagine future consequences of actions are skills that require hypothetical thought (Piaget, 1977, p. 461).

With the increase in hypothetical thought, decision-making skills also increase. The adolescent at this stage may be egocentric. This is seen in the adolescent belief that the world should change to be what the youth imagines it could be, and not what it is in reality. This gives rise to the adolescent belief that they are immune to adverse outcomes of behavior. Over time, this effect is moderated and the adolescent is able to move into realistic hypothetical thoughts, where they begin to understand that introspection can help them to predict and interpret experience. Adolescents develop the ability to hypothetically consider risks and benefits of possible behavior, as well as potential consequences of such behaviors. This allows them to make better independent decisions (Piaget, 1977, p. 434).

Bandura's Theory of Social Learning

Bandura's Social Cognitive Theory speculates that health promotion and disease prevention can be accomplished through several factors. These factors include knowledge of healthy and unhealthy behavior, "self-efficacy", or the control people have over their own health habits, the expected outcome based on the chosen behaviors, the health promoting goals they set, as well as the plans for accomplishing those goals (Bandura, 2004, p. 144).

The primary focus of Bandura's theory is that a person's belief in their own ability to change their behavior gives them incentive to make changes and persevere when change is difficult. While other factors may influence individual behavior, these factors are guided by the belief that the individual can produce the desired changes (Bandura, 2004, p. 144).

The expected outcome also affects behavior. Outcomes can take the form of both social approval and disapproval. Secondly, outcome expectation can have physical effects, such as pleasant or adverse feelings, or the loss of material possessions. The third outcome expectation Bandura discusses is the sense of self-worth and satisfaction gained from the behavior. People are motivated by actions that cause them to feel increased self-worth, provide pleasant feelings, and minimize the loss of material possessions (Bandura, 2004, p. 144).

Bandura proposes that an effective preventative program to promote healthy habits, including resistance to substance abuse, has several components. These include: information on the health risks and benefits of a drug, social skills and decision-making abilities to change information into healthy choices, and formation of the resilience

needed to exercise self-control when faced with outside pressures (Bandura, 2004, p. 158).

Bandura's theory has been used to explain the aberrant behavior of some children. Through social learning, adolescents begin use of illicit drugs due to social pressure from the media, their friends, and their own self-image. To avoid this, behavior modification through learned resistance and independent decision-making need to occur during the period of early adolescence, prior to the effects of outside pressures (Brown, 2001, p. 100).

The Social Cognition Theory put forth by Bandura focuses on the individual's sense of control that they have over their own life choices, and the positive or negative outcomes of those choices. The control of decision-making provides the motivation required to make healthy life choices, including the decision to avoid use of illicit substances.

Correlation of Developmental Theories

The theories of Erikson, Piaget and Bandura have common themes that have application in resilience drug education for adolescents. In Erikson's stage of identity versus role confusion, he theorized that adolescents are developing a more mature and autonomous sense of self (Erikson, 1963). This increasing maturity complements Piaget's theory that adolescents are in the process of moving from concrete operations to formal operations. In this stage, adolescents are becoming more aware of the consequences of their actions and beginning to make better decisions. They are

displaying an increased level of abstract thought and improved decision-making skills (Piaget, 1977).

Albert Bandura's theory of social learning brings the theories of Erikson and Piaget together to explain how adolescents can make positive choices regarding drug use behaviors. Bandura states that adolescents begin to use illicit drugs because of pressures from the media, their friends, and their own self-image (Bandura, 2004). Adolescents increased sense of autonomy and maturity make it more likely that they can be influenced to avoid drug use behaviors through information on the health risks of a drug, social skills and decision-making training, and resistance to drug use pressures.

Adolescents who are becoming more mature and are beginning to understand the consequences of their actions, as described by Erikson and Piaget, are able to control their own health behavior choices. Bandura states that positive choices can be influenced through social skills and decision-making training during the years of early adolescence. Bandura believes that if adolescents believe they can make positive choices, this will give them the incentive they need to make these choices, even when they are faced with outside pressures.

CHAPTER 3

METHODOLOGY

Project Design

This project was designed to provide drug education to sixth, seventh, and eighth grade students at a rural middle school. Material was presented verbally, accompanied by a PowerPoint presentation, with written handouts provided for each student. A test created by the author was used for both the pretest and the posttest to assess whether or not learning took place.

Literature Review

The review of literature used the PubMed and CINAHL databases. An extensive review of the issues involved in adolescent drug use, with particular attention devoted to the concept of resilience education and its efficacy in discouraging drug use among adolescents was conducted. Articles were reviewed from health care, nursing, education and psychological journals. Numerous articles were found on the subject of drug education, adolescent drug use, and resilience.

Community Assessment

An assessment of the needs of the community and the school were completed early in the process of creating the drug education program. An interview was conducted with the principal of the school to assess the perceived needs of the students. The

principal identified resilience drug education for sixth, seventh, and eighth grade students prior to their entry into high school as a major concern. He requested the development of a program directed at these students.

A second interview was done with the drug education counselor at the high school that the majority of these students will attend. He identified specific substances of concern, including alcohol, tobacco, marijuana, and methamphetamine. The drug education presentation was designed addressing these four substances, as well as illicit drug use in general.

A third interview was completed with the eighth grade teacher at the elementary school. As a recovering alcoholic, he verified the need for drug education for his students. He reinforced the previously identified need for use/abuse education for adolescents. He noted that alcohol, tobacco, marijuana, and methamphetamine were of particular concern among adolescents.

The three interviews revealed a need for resilience drug education for the middle school students at this rural school. Alcohol, tobacco, marijuana, and methamphetamine were chosen as the substances to be presented to the students. The materials presented were chosen based on the concerns and risks identified by the principal of the elementary school, the eighth grade teacher, and the drug education counselor at the high school. It was specific for this area, and for the schools that the students currently, or will, attend.

Drug Education Materials

The materials presented were divided into six sections: an overview of drugs and their use, sections for alcohol, tobacco, marijuana, and methamphetamine, and a final

section directed towards developing positive decision-making skills. There was a PowerPoint presentation with instructor narration and explanation, as well as student handouts including essential points from the PowerPoint presentations. A test was created by the author that was used for both the pretest and posttest. The test dealt with drug facts that were presented to the students to assess their level of knowledge prior to the drug education program, and to assess their knowledge level of the information presented. The materials were presented in a series of three classes. These materials were presented to these young adolescents at a time prior to the age at which most drug use occurs. By presenting information at this time it was hoped that they would be better equipped to resist drug use pressures in the future.

Most young adolescents are in Piaget's concrete operational thinking stage; therefore, information presented needs to be in a simple, concrete format. Children at this stage are beginning to think logically, and can mentally process received information (Piaget, 1977, p. 354). The materials were divided into a series of presentations to allow the adolescent to focus on one area at a time, and not to be overwhelmed by too much information at one time. Effort was made to provide materials that were relevant to youth of this age, with definitions and explanations of unfamiliar terminology.

A variety of fonts, colors, and simple graphics were used throughout the program in both the PowerPoint presentations and the student handouts to add interest and variety. An effort was made to keep the words simple and brief. A compact disc and copies of written materials were provided to the school for their future use.

Initial. A drug is anything taken into the body that changes the way the mind or body functions. This includes caffeine, tobacco, alcohol, marijuana, methamphetamine, inhalants, cocaine, heroin, and prescription medications. Drugs are grouped according to their effects on the central nervous system: depressants, stimulants, and hallucinogens (New South Wales Health Department [NSW Health Dept.], 2000, para. 4).

Drug use can cause damage to relationships with friends and family. Drug use may make it difficult to succeed in academics and athletics. Their use may also lead to legal consequences and involvement in risk taking behaviors.

Alcohol. Alcohol is an example of a depressant. Depressants slow down the central nervous system so the brain and body function more slowly. Teenagers are more sensitive to the effects of alcohol than are adults, both in terms of binge drinking and the risk of dependency, due to their immature nervous systems (Ariniello, 2002, para. 9).

The effects of alcohol on the body are numerous, and include the organ systems of the brain, heart, liver, and stomach. The damage done by alcohol intake is not based on the amount that adolescents think they can handle. It is dependent on other issues, such as genetics, chemical makeup, body size, and the amount of alcohol consumed (Cambridgeshire Alcohol Advisory Service, 2004, p. 1).

Statistics on motor vehicle accidents in Montana related to driving while intoxicated show that Montana has the highest per capita rate of fatal crashes due to drunk drivers in the United States (MADD, 2005, State-By-State Traffic Fatalities – 2004, pg. 1).

Tobacco. Nicotine is the addictive ingredient in tobacco, both in chewing tobacco and tobacco that is smoked. When nicotine is taken into the body, it enters the bloodstream. From the bloodstream, it travels to all parts of the body and brain (NCCDPHP, 2005, Surgeon General's 2004). Nicotine is a stimulant, so it speeds up your body, heart rate and breathing (NSW Health Dept., 2000, para.16).

Tobacco contains over 3,000 chemicals (Leung, 2006, para. 2). One of these is carbon monoxide. Carbon monoxide binds to hemoglobin easier than oxygen (Neligan, 2002, para, 1). Usually, oxygen binds with hemoglobin and is carried to the tissues of the body through the bloodstream. When carbon monoxide binds with hemoglobin, instead of oxygen, it is harder for the cells of the body to get the oxygen they need to function effectively (Better Health Channel, 2005, para. 4). This makes it harder to participate in sports activities.

Nicotine affects nearly all the organs of the body, including the brain, mouth, lungs, heart, stomach, kidneys, bladder, and pancreas. The effects of nicotine on these organs systems can be at least partially reversed if the smoker quits smoking (NCCDPHP, 2005, The health consequences, pg. 1).

Marijuana. Marijuana is classified as a central nervous system depressant. It slows down the body's mental and physical abilities (ONDCP, 2004, Marijuana and teens, para. 10). The active ingredient in marijuana is tetrahydrocannabinol (THC), which is fat soluble and absorbed by the fat in the body. Because of this, it is not quickly eliminated from the body. The THC content of marijuana today is much higher than the THC content of marijuana in the 1970s (NIDA, 2004, Marijuana: Facts for teens, p. 1).

Marijuana has detrimental effects on short-term memory, thinking and problem solving. It is also harmful to the lungs, and contains more toxins than that of tobacco smoke (NIDA, 2004, Marijuana: Facts for teens, p. 1).

Marijuana is the most commonly used illegal drug today. It is estimated that 40% of people age 12 and older have tried marijuana (ONDCP, 2005, Extent of use, para. 1). Adolescents who use marijuana before the age of 17 or later are 2-5 times more likely to use other drugs or develop alcohol or drug abuse problems later in life (Lynskey et al., 2003, P. 432).

Unlike alcohol and tobacco, which are legal drugs after reaching a certain age, marijuana does not become legal at any age. The exception to this is medical marijuana use when prescribed by a doctor. The legal penalties if caught with marijuana could include a fine of \$100-500, confinement in the county jail for up to six months, and lawyer fees (Montana Legislative Services, 2005, Criminal possession of dangerous drugs section).

Methamphetamine. Methamphetamine is a stimulant; it speeds up the body and its functions. It is addictive after just one use. Methamphetamine has a huge impact on the brain chemistry. It interferes with the neurotransmitter, dopamine. Neurotransmitters carry message to and from the brain. Dopamine allows us to feel pleasure. Initially, methamphetamine causes the release of large amounts of dopamine, but over time it damages the brain cells that transport dopamine back into the brain cells. This causes an artificial feeling of pleasure because the drug bypasses the dopamine route and stimulates the reward center on its own. This makes the body think it does not need food, water,

family, or friends (NIDA, 2006, Mind over matter: Methamphetamine, p. 2). This damage is long-lasting and may be permanent. This affects the ability to experience pleasure, mood, and movement.

As the brain adjusts to the methamphetamine, it begins to make less dopamine. The methamphetamine user has to use more and more of the drug to get the same pleasurable feelings he had with his first use. Heavy users of methamphetamine find that the things in life that had brought pleasure (food, friends, family) have become less important. This will happen to the extent that they will starve themselves to death because they no longer feel food brings pleasure or is important to them (KCI, 2005, p. 1).

Methamphetamine use can cause the loss of relationships with family and friends, severe weight loss, a certain type of tooth decay and tooth loss, anger, paranoia, hallucinations, and permanent brain damage (NIDA, 2005, How does methamphetamine cause its effects?, p.1).

The chemicals used to make methamphetamine are also very hazardous. Being exposed to these chemicals during drug production or in a building previously used to make meth is also bad for your health. In the last few years, Montana has had an increase in methamphetamine labs. Methamphetamine labs are found mostly in rural areas, such as Montana (Montana Department of Justice, 2005, Meth in Montana, p. 1).

It's Your Life. There are many myths regarding drug use in adolescents. Among these are:

-It's cool

- Everybody does it
- Drugs won't hurt me
- Drugs make me feel good
- I won't get caught

The adolescent needs to understand that these are myths, not facts, and that there are very serious consequences to drug use and abuse. There are also effective ways of saying “no” to drug use pressure. Several role-playing scenarios, both structured and unstructured, were presented to the students to allow time to practice and become more comfortable with drug use refusal. Other behaviors that may help adolescents are choosing friends who do not use drugs, and leaving uncomfortable or dangerous situations.

Children who have goals and interests in their lives are better able to resist drug use pressure (Gorman, 2005, para. 10). A goal must be important, must be possible to attain, and it must be incorporated into a plan to accomplish it (How to set goals, 2005). There are many areas in which goals can be set, including physical goals, emotional goals, social goals, and mental goals. There are many other areas as well; individuals must set goals in areas that are of personal importance (Gorman, para. 10).

Pretest and Posttest. A pretest and posttest, developed by the author, were given to all participants. She acknowledges that this test was not tested for reliability and validity. A unique number identified each child on both tests. The classroom teachers retained the key identifying each child by name and number. Testing covered all topics presented, including a role-play scenario.

Rights of Human Subjects

The project was approved by the Institutional Review Board for the Protection of Human Subjects at Montana State University. Copies of the consent forms can be found in Appendices B, C, and D.

Parents or guardians of students signed an informed consent, and students signed an assent form. All were given copies of their form. The principal and individual teachers reviewed the presentation and gave permission for the project to occur. Students taking the pretests and posttests were only identified by number to the investigator. This number was unique to each student, and was assigned by their classroom teacher. The teacher retained the key to the assigned numbers.

Population and Sample

The sample consisted of 34 of the 35 students in the sixth, seventh, and eighth grades. A total of 28 students, ten in sixth grade, four in seventh grade, and fourteen in eighth grade, completed both the pretest and the posttest. Three seventh grade students and one eighth grade student took the pretest, but not the posttest, and two seventh grade students took the posttest, but not the pretest. These six students were excluded from the results, as they did not complete both the pretest and the posttest, leaving 28 students in the sample. One sixth grade student did not have parental consent to take part in the program. This student participated in the alternative library activity provided by the school.

The parents and guardians were invited to the classroom sessions. In addition, an evening class for the parents and guardians of the participating students was provided.

The school newsletter detailed the time and date of the parent presentation, reminder notes were sent home in advance with students, and verbal reminders were given the day of the presentation. During the time set aside for the parent presentation, no parents or guardians attended.

Data Collection

Thirty-four students had signed consent forms. After a brief introduction, the pretest was given to each student. Each classroom teacher had previously assigned numbers to the students to use to identify them on both their pretest and posttest. The key to the numbers was kept by the classroom teachers, and not observed by the researcher. When all students had completed the pretest, the PowerPoint presentations were begun. Two PowerPoint presentations were given on three separate days to each class. The sixth grade class was taught separately, and the seventh and eighth grade classes were taught together.

Many opportunities were given for the students to ask questions and give responses to questions asked by the researcher. During the discussion of the effect of drugs on the brain, Play-Doh was provided, as well as instructions on making models of human brains from the Play-Doh. Visual aids were used where appropriate, including diagrams of the human body with multiple transparent layers depicting organs and three-dimensional models of organs. The students were active participants in the discussions, volunteering comments, and asking appropriate questions. Following all presentations, the posttest was given to the students.

Data Analysis

The pretest and posttest consisted of eight multiple-choice questions, and one role-play scenario asking for student response. The multiple-choice questions were scored as a percentage of correct responses. Data was analyzed with a Student t Test using the Statistical Package for the Social Sciences (SPSS). This test compares the means of two variables, and tests to see if the difference is statistically significant. The results are shown in Table 3-1:

Table 3-1. Pretest and Posttest Mean Scores

	Mean	N
Pretest Percentage Correct	57.39	28
Posttest Percentage Correct	80.64	28

Students had a statistically significant improvement in their scores on the posttest as compared to the pretest. This improvement in average scores is further defined in

Table 3-2:

Table 3-2. Student t Test

	Student t Test Differences				
	Mean	Standard Deviation	95% Confidence Interval		Sig. (2-tailed)
			Lower	Upper	
Pretest Percentage Correct – Posttest Percentage Correct	–23.25	19.419	–30.78	–15.72	.000

The difference in pretest percentage correct and posttest percentage correct shows a mean of -23.50 , with a lower confidence limit of -30.780 , and an upper limit of -15.720 . This is significant at the .01 level. The standard deviation is large at 19.419. This large deviation can be accounted for by the fact considering that 13 of 28 students scored less than 50% on the pretest. A score of less than 50% is an excessively low score.

The short answer essay question was evaluated for differences in pretest and posttest response. Responses were divided into three categories. The first category of responses were students who gave a more detailed response on the pretest than on the posttest, the second category were students whose pretest and posttest responses were found to be very similar, and the final category were students whose posttest responses were more detailed, or offered more defined excuses for avoiding drug use behavior.

Of the 28 students taking the tests, four students responded with more detailed reasons why they would choose not to use drugs on their pretests than on their posttests. One student's response on the pretest was, "I would say no and call my mom and ask her to pick me up", while the posttest response for this student was, "No". The posttest response was judged to be less responsive than the pretest. One student had a lengthy pretest response, but left the posttest answer blank.

Sixteen students pretest responses were judged to be comparable to their posttest responses. These students had very little differences in their responses on either test. One student wrote on the pretest, "No thanks, that stuff kills", and on the posttest, "No

thanks, that can kill you". Another student's pretest response was, "No, and if you smoke I cannot be your friend. Goodbye. Oh, and did you know they will kill you?" This same student's posttest response was, "No, you're stupid and from this day on you're not my friend. Go smoke your cigarette. I won't be visiting you at your grave". These are representative of the responses for this group of students.

Eight students recorded responses that were more verbal, mentioned physical harms associated with drug use, or gave other valid reasons for avoiding drug use activities on their posttest. One student's pretest response was, "No", while their posttest response was, "I would say no or leave and go home". Another student had no response to this question on the pretest, but gave a posttest response of, "No, I have heard bad things about it".

Though the student's average scores on the posttest multiple-choice questions were significantly greater than on the pretest, the short answer essay responses are harder to evaluate. It is difficult to know if the students' responses should be judged as less positive because they were brief in their written responses. They may have simply chosen not to write as lengthy a response on the day of the posttest as they did on their pretest day. The students did show some knowledge of adverse health and social effects of drug use in many of their responses. This was seen as a positive response.

CHAPTER 4

PROJECT OUTCOME

Introduction

There is limited formal information available at this school on illegal substances and their abuse. Although there is access to instruction and curriculum ideas through the county, each schools and teachers decides whether or not to incorporate these materials into their curricula. The national Red Ribbon Week program every year is the extent of the school's drug education curriculum. Drug education was a primary concern for the principal of this school. He was concerned with the lack of information available to the students and teachers at the school. He was also concerned about the drug related problems that occur during the transition of the students to a larger, more urban high school.

The purpose of this project was to provide effective drug education on common drugs of abuse among eleven to fifteen year old junior high children in a developmentally appropriate manner. Drug education to the students was provided in a resilience education format. This type of drug education allows for the development of decision-making abilities in adolescents and to introduce them to the skills and knowledge necessary to make informed decisions. This education was directed specifically to sixth, seventh, and eighth grade students at a rural middle school in Montana. The theoretical framework for this project was based on the developmental theories of Eric Erikson, Jean

Piaget, and Albert Bandura. These theorists agree that most adolescents from ages eleven to fifteen are beginning to make more autonomous, independent decisions. Providing drug education during the years of early adolescence, before the ages of most drug use behavior, can further influence positive life choices (Erikson, 1963; Piaget, 1977; Bandura, 2004).

Limitations of the Project

One limitation of the project was that the educational material presented to the school on a compact disc might become outdated quickly. If this material is to be used in the future, updated information will be required. No provision was made for future updates.

A second limitation was that the time allotted for the presentations were limited by other demands on classroom time. This was especially true in regards to the social skills training segment of the program. Social skills training is an essential part of resilience training for drug avoidance. A larger allotment of time would have allowed for more practice time.

A third limitation of the project was that no parents attended the planned parent presentation or the scheduled class times. The reasons for this lack of attendance are not known. A program directed towards students, and attempting to positively influence their behavior would be much more effective with increased parental interest and support.

A fourth limitation was limited generalizability. Though the students showed an improvement in their posttest scores, this project involved a small number of students, so the results cannot be generalized to a different group of students. Because of the small

number of students, there is a limited ability to detect differences in pretest and posttest scores.

The fifth limitation of this project was that the author created the pretest and posttest tool. There was no test-retest before use for reliability and validity. In addition, there was no peer pretest for clarity. This test was designed for a small, non-random sample of middle school students at a rural Montana school.

The sixth limitation of this project was that the long-term effects of the education will not be seen for many years. The most accurate evaluation of this program will be seen in the behavior patterns of these young people as they move out into the world around them as independent adults. However, no provisions were made to follow the students through time to evaluate any positive or negative effects.

Implications and Recommendations

One implication for nursing practice is that drug use frequently occurs at a very early age (NIDA, 2005, Magnitude: Drug abuse is costly, pg. 1). It is essential that nurse practitioners be aware of this potential for early drug use. During appointments with adolescent patients, nurse practitioners should assess for signs and symptoms of drug use, such as falling grades, behavior changes, weight loss, or reddened eyes. Questioning for drug use behaviors should be done at each visit with adolescent patients. This questioning can be done in a generalized manner such as, "Some kids your age are using drugs. Do know of people at your school who are using them?" Asking the question in a nonaccusatory manner may encourage the adolescent to answer more honestly.

A second implication for nursing practice is that the nurse practitioner should introduce self-esteem building comments at each visit with adolescent patients. Providing positive comments about dress, behavior, or school performance may help to increase self-esteem. Children with positive self-esteem are less likely to become involved in drug use activities (Carvajal, et al., 2002, p. 425).

A third implication for the nurse practitioner is that it is important that adolescents be informed of the effects of drug use on their health (Brown, 2001, p. 106). Well child visits and sports physicals are times that could be used to educate adolescent patients about common drugs of abuse and their effects. This information need not be overwhelming; small amounts could be given at each visit.

A fourth implication for the nurse practitioner is to recognize the developmental levels of adolescents and that their thinking patterns may differ from that of adults. Consideration of the different stages of development during the adolescent years will assist in creating effective plans of care. As adolescents' thought processes become better able to understand abstract thought, adolescents will be better able to appreciate their contribution to their own healthcare (Bandura, 2004; Piaget, 1977).

This project provided valuable education on harms associated with drug use as well introducing techniques to assist in resisting drug use pressure. To continue this education, it is recommended that the school use other local resources it has available. Two of these resources include a local high school senior who is planning to make and present a booklet on methamphetamine for the seventh and eighth grade students, and a narcotics officer from the local urban city who is planning to give the student body a presentation on his drug enforcement work in the county.

It is recommended that the principal or school board find a way to use available drug education resources in the county. Educating the teachers about the available resources might increase their comfort level with teaching the subject of drug education. There are many instructional materials and curriculum available through the local Office of Public Instruction. It is further suggested that the school attempt to involve the parents and guardians of the children in future education programs.

It is strongly recommended that research into effective methods of drug resistance education be continued. Resilience drug education has been shown to have a positive effect on future risk-behavior and life choices. When considering the costs associated with drug use behaviors, research into ways to decrease the incidence is highly recommended.

Summary

Montana has the nation's youngest average age for first use of alcohol and marijuana. Montana also ranked among the top five states in the highest rates of alcohol use among youth. In one Montana county, 31% of eighth grade students report having five or more drinks in a 30-day period, 14% were current cigarette smokers, 7% used chewing tobacco and 12% smoked marijuana. Statewide, 8% of teens and adults have tried methamphetamine.

The principal of a rural middle school in this same county requested a drug education program for his students prior to their entry into a larger, urban high school. The purpose of this project was to develop and present a drug education program in a "resilience education" format for sixth, seventh, and eighth grade students at a rural

Montana middle school. Resilience education assists adolescents in developing the decision-making abilities, social skills, and knowledge necessary to make informed decisions. Information was presented in a format incorporating the health consequences of common drugs of abuse, as well as the initial stages of social skills training to help these students to identify and resist drug use pressure. Other factors that have been found to be important in effective drug education are: introduction to drug resistance skills at an age prior to first use, explanation of the social consequences of drug use, and direction in how to resist the offers of these substances.

Developmental theory was used as the framework for this project. Adolescents are undergoing many social and developmental changes as they transition into adulthood. Throughout this transition, adolescents are becoming more mature and autonomous. They begin to understand the consequences of their decisions. During these years adolescents are hesitant in their risk-taking activities, therefore, attempts at this time to establish patterns of healthy behavior can be effective.

Educational materials were provided to these students in the form of PowerPoint presentations and handouts on alcohol, tobacco, marijuana, and methamphetamine. Resilience education introduced drug use myths, methods of refusing drug use, role-play situations, and developing life interests through the goal setting process.

Effectiveness of the program was measured by a pretest and a posttest. These tests were identical and consisted of 8 multiple-choice questions and one short answer essay question. Twenty-eight of thirty-five students completed the pretest and posttest. Pretest percentage correct was 57.39% while the posttest percentage correct was 80.64% on the multiple-choice section. Data was analyzed using a Student t Test by the SPSS

statistical program, and was found to be statistically significant at the .01 level. The short answer essay question was evaluated for differences in detail of response on the pretest and posttest. Four students had more detailed responses on their pretests, 16 students had comparable pretest and posttest responses, and 8 students had more detailed posttest responses.

Limitations of the project include that no provisions were made for updating of materials provided to the school, time limitations due to classroom scheduling, absence of parents at scheduled parent presentation, limited generalizability, a statistically small sample, an untested tool, and lack of follow through to assess long-term effects of the program.

Recommendations for the nurse practitioner include the following: be aware of the early age at which drug use behaviors begin, give positive feedback to adolescents to boost self-esteem, educate adolescents on the adverse effects of drug use during health care visits, and be aware of the significance of the developmental level of adolescents.

Recommendations for the school are the addition of other available resources on drug education, including local drug enforcement personnel, educational materials available through the Office of Public Instruction, high school student presentations, and other local resources. It is recommended that attempts should be made by the school to involve parents in future education efforts.

Research should be continued to study effective methods of drug education and drug use prevention. Resilience drug education has been shown to have a positive effect on future risk-behavior and life choices. This education should include not only health consequences on common drugs of abuse, but also the initial stages of resistance training

to help these students to identify and resist drug use pressure. The incidence of drug use among eighth grade students in this Montana county demonstrates the importance of early drug education. The costs of drug use are high for both individuals and society, therefore, efforts should be made to provide effective drug resistance education to adolescents to decrease their future drug use.

APPENDICES

APPENDIX A

NIH COMPLETION SHEET



National Cancer Institute

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NCI Home

Cancer Topics

Clinical Trials

Cancer Statistics

Research & Funding

News



Human Participant Protections Education for Research Teams

Completion Certificate

This is to certify that

Granger Jamie

has completed the **Human Participants Protection Education for Research Teams** online course, sponsored by the National Institutes of Health (NIH), on 01/18/2005.

This course included the following:

- key historical events and current issues that impact guidelines and legislation on human participant protection in research.
- ethical principles and guidelines that should assist in resolving the ethical issues inherent in the conduct of research with human participants.
- the use of key ethical principles and federal regulations to protect human participants at various stages in the research process.
- a description of guidelines for the protection of special populations in research.
- a definition of informed consent and components necessary for a valid consent.
- a description of the role of the IRB in the research process.
- the roles, responsibilities, and interactions of federal agencies, institutions, and researchers in conducting research with human participants.

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FIRST

APPENDIX B

PERMISSION TO USE HUMAN SUBJECTS



INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects

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 Montana State University
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MEMORANDUM

TO: Jamie Granger

FROM: Mark Quinn, Ph.D. *Mark Quinn CJ*
 Chair, Institutional Review Board for the Protection of Human Subjects

DATE: December 26, 2005

SUBJECT: *Resilience Drug Education for Rural Middle School Students* [JG122605]

Thank you for submitting the revisions and clarifications requested by the Institutional Review Board. This proposal is now approved for a period of one-year.

Please keep track of the number of subjects who participate in the study and of any unexpected or adverse consequences of the research. If there are any adverse consequences, please report them to the committee as soon as possible. If there are serious adverse consequences, please suspend the research until the situation has been reviewed by the Institutional Review Board.

Any changes in the human subjects aspects of the research should be approved by the committee before they are implemented.

It is the investigator's responsibility to inform subjects about the risks and benefits of the research. Although the subject's signing of the consent form, documents this process, you, as the investigator should be sure that the subject understands it. Please remember that subjects should receive a copy of the consent form and that you should keep a signed copy for your records.

In one year, you will be sent a questionnaire asking for information about the progress of the research. The information that you provide will be used to determine whether the committee will give continuing approval for another year. If the research is still in progress in 5 years, a complete new application will be required.

APPENDIX C

PRINCIPAL REQUEST LETTER

December 2005

Elementary School requests that Jamie Granger, RN, BSN, present a drug education program in a resilience education format to the sixth, seventh, and eighth grade students during the 2005-2006 school year. We request that this program provide advice on common drugs of abuse as well as assist in the development of skills in adolescents to assist with positive decision-making regarding drug resistance.

Time will be provided during the regular school day for the presentation of this information. It is anticipated that 3 hours will be needed for each grade level to accomplish the requested teaching. It is further requested that an evening class be presented to the parents of students in the sixth, seventh, and eighth grades for those wishing to attend. The school will send consent forms home with students and collect them. The school will provide an alternative activity for children whose parents do not wish them to attend. These activities will consist of reading, library time, and work on the computers.

Pre and posttests, furnished by Jamie Granger, will be presented to students by their teachers, and data collected will be passed on to the instructor after all identifying information has been removed.

Sincerely,



Principal

APPENDIX D

SCHOOL PRINCIPAL CONSENT FORM

January 17, 2006

Dear Mr. _____,

I am requesting permission for the sixth, seventh, and eighth grade students at Elementary School to participate in a drug resistance/resilience education program. This project is part of my Family Nurse Practitioner program at Montana State University-Bozeman. This project may help your students be better prepared to leave Elementary and enter high school in a larger, more urban community in either

The purpose of this program is to provide for the development of skills in adolescents to assist with positive decision-making regarding drug resistance. Your students will participate in a series of three, one-hour classes during the course of three separate school days. The specific topics presented will be alcohol, tobacco, marijuana, methamphetamine, as well as goal setting and personal choice. Materials will be presented using verbal presentation, PowerPoint slides, role-playing and written handouts. There will also be time provided for questions and answers. Your students will also be asked to complete a written pre and posttest to measure what they have learned. Parents/guardians are invited and encouraged to attend any of the educational sessions. In addition, an hour-long evening presentation will be given to parents who cannot attend a daytime session to highlight the material presented to their children.

There are no anticipated risks in participating in this project. The benefit to your students is to provide them with current and accurate information on common drugs of abuse and ways to resist peer pressure. Parents are free to excuse their children's participation in this project. If they choose to decline having their child participate, I will ask the classroom teacher to provide an alternative school-based activity. This project is not funded by any outside source, and there will be no cost to you or any student if you participate.

The researcher will treat the identity of your child with professional standards of confidentiality. So that the researcher doesn't know the identity of the students taking the pre and post tests, I will be ask the classroom teacher to assign each student a number. Their classroom teacher will keep the master list of student names and assigned numbers. Data from this study will be available to my committee and me. Pooled data will be reported.

Should you have questions not answered by this consent form, please call (406) _____ or write to the researcher below at:

Jamie Granger, RN, BSN

This project has been approved by the Montana State University—Bozeman Review Board for Protection of Human Subjects.

Any questions about the rights of human subjects can be answered by the Chairman of the Institutional Review Board, Mark Quinn, (406)-994-5721, or by the committee chair Barbara Derwinski-robinson, MSN, RNC at (406) 657-1736.

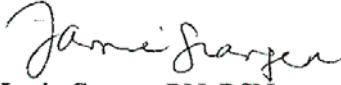
AUTHORIZATION: I have read the above and understand the discomforts, inconveniences and risks of this study. I, _____, Principal, agree to the participation of sixth, seventh, and eighth grade students at _____ Elementary School in this research and that each student, through his/her own action or mine, may withdraw from the research at any time. I have received a copy of this consent form for my own records.

Signed, _____

Investigator: _____

Date: _____

Sincerely,


Jamie Granger RN RSN

APPENDIX E

CLASSROOM TEACHER CONSENT FORM

SUBJECT CONSENT FORM
FOR
PARTICIPATION IN HUMAN RESEARCH AT
MONTANA STATE UNIVERSITY

Dear Mr. _____,

Mr. _____ has given permission for me to approach your sixth, seventh, or eighth grade students are being asked to participate in this project designed to provide resistance/resilience drug education. This project is being conducted by Jamie Granger, RN, BSN, a student in the Family Nurse Practitioner program at Montana State University-Bozeman. This project may help your students be better prepared to leave Elementary and enter high school in a larger, more urban community in either

The purpose of this program is to provide for the development of skills in adolescents to assist with positive decision-making regarding drug resistance. Your students will participate in a series of three, one-hour classes during the course of three separate school days. The specific topics presented will be alcohol, tobacco, marijuana, methamphetamine, as well as goal setting and personal choice. Materials will be presented using verbal presentation, PowerPoint slides, role-playing and written handouts. There will also be time provided for questions and answers. Your students will also be asked to complete a written pre and posttest to measure what they have learned. Parents/guardians are invited and encouraged to attend any of the educational sessions. In addition, an hour-long evening presentation will be given to parents who cannot attend a daytime session to highlight the material presented to their children.

There are no anticipated risks in participating in this project. The benefit to your students is to provide them with current and accurate information on common drugs of abuse and ways to resist peer pressure. Parents are free to excuse their children's participation in this project. If they choose to decline having their child participate, I will ask you to provide an alternative school-based activity. This project is not funded by any outside source, and there will be no cost to you or any student if you participate.

The researcher will treat the identity of your child with professional standards of confidentiality. So that the researcher doesn't know the identity of the students taking the pre and post tests, I will be ask you to assign each student a number. You will keep the master list of student names and assigned numbers. Data from this study will be available to my committee and me. Pooled data will be reported.

Should you have questions not answered by this consent form, please call (406) _____ or write to the researcher below at:

Jamie Granger, RN, BSN

This project has been approved by the Montana State University—Bozeman Review Board for Protection of Human Subjects and by _____ Elementary School Principal and your child's classroom teacher.

Any questions about the rights of human subjects can be answered by the Chairman of the Institutional Review Board, Mark Quinn, (406)-994-5721, or by the committee chair, Barbara Derwinski-robinson, MSN, RNC at (406) 657-1736.

AUTHORIZATION: I have read the above and understand the discomforts, inconveniences and risks of this study. I, _____, (*name of classroom teacher*), agree to the participation of _____ Elementary School _____ (*grade level of students*), in this research and that each student, through his/her own action or mine, may withdraw from the research at any time. I have received a copy of this consent form for my own records.

Signed: _____

Investigator: _____

Date: _____

APPENDIX F

PARENT/STUDENT CONSENT FORM

SUBJECT CONSENT FORM
FOR
PARTICIPATION IN HUMAN RESEARCH AT
MONTANA STATE UNIVERSITY

Project Title: Resilience drug education for rural middle school students

Dear Parents or Guardians:

Your sixth, seventh, or eighth grade child is being asked to participate in this project designed to provide resistance/resilience drug education. This project is being conducted by Jamie Granger, RN, BSN, a student in the Family Nurse Practitioner program at Montana State University-Bozeman. This project may help your student be better prepared to leave elementary and enter high school in a larger, more urban community in either . . . The purpose of this program is to provide for the development of skills in adolescents to assist with positive decision-making regarding drug resistance.

If you agree to the participation of your child, your child will participate in a series of three, one-hour classes during the course of three separate school days. The specific topics presented will be alcohol, tobacco, marijuana, methamphetamine, as well as goal setting and personal choice. Materials will be presented using verbal presentation, PowerPoint slides, role-playing and written handouts. There will also be time provided for questions and answers. Your child will also be asked to complete a written pre and posttest to measure what they have learned. Parents/guardians are invited and encouraged to attend any of the educational sessions. In addition, an hour-long evening presentation will be given to parents who cannot attend a daytime session to highlight the material presented to their children.

There are no risks anticipated in participating in this project. The benefit to your child is to provide them with current and accurate information on common drugs of abuse and ways to resist peer pressure. You are free to excuse your child's participation in this project. If you choose to decline having your student participate, the school will provide an alternative school-based activity. This project is not funded by any outside source, and there will be no cost to you or your child if you participate.

The researcher will treat the identity of your child with professional standards of confidentiality. Students taking the pre and post tests will be identified by a number assigned by their classroom teacher. Their classroom teacher will keep this number. Data from this study will be available to my committee and me. Pooled data will be reported.

Should you have questions not answered by this consent form, or choose to exclude your student at a later date, please call (406) , or write to the researcher below at:

Jamie Granger, RN, BSN

This project has been approved by the Montana State University—Bozeman Review Board for Protection of Human Subjects and by _____, Elementary School Principal and your child's classroom teacher.

Any questions about the rights of human subjects can be answered by the Chairman of the Institutional Review Board, Mark Quinn, (406)-994-5721, or by the committee chair, Barbara Derwinski-robinson, MSN, RNC at (406) 657-1736.

AUTHORIZATION: I have read the above and understand the discomforts, inconveniences and risks of this study. I, _____ (*name of parent or guardian*), related to the subject as _____ (*relationship*), agree to the participation of _____ (*name of subject*) in this research and that your child, through his/her own action or mine, may withdraw from the research at any time. I have received a copy of this consent form for my own records.

Signed: _____ (*parent or guardian*)

Investigator: _____

Date: _____

STUDENT ASSENT: I request that I, _____ (*name of student*) be able to participate in the drug education program in a resilience format being presented at _____ Elementary School. I understand that I may withdraw from the research at any time.

Signed: _____ (*student*)

Date: _____

APPENDIX G

POWERPOINT SLIDES

Resiliency Drug Education

Jamie Granger, RN, BSN
Graduate Nursing Student
Montana State University--Bozeman

What Is a Drug?

Anything taken into the body
that changes the way the mind
or body functions.



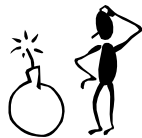
What Is a Drug?

- Prescription or over the counter medicines, caffeine, tobacco, alcohol, marijuana, methamphetamine, and inhalants are all drugs—just to name a few

What Is a Drug?

- Drugs are grouped according to their effects on the central nervous system
 - Depressants
 - Stimulants
 - Hallucinogens

So? What Does This Mean to Me?



Your Central Nervous System

- Brain
 - 100 billion nerve cells
 - Trillions of support cells



Your Central Nervous System

- Spinal cord
 - 17 inches long when an adult
 - Enclosed in your spinal column (vertebrae)



Your Brain and Spinal Cord

- Send messages to each other
- Working together they affect your mental ability and the movements of your body
- Drug use can make it so you can't use your brain or your body like you normally do.

This Is Not Fun!



Depressants

- They don't mean you will feel sad or depressed.
- Depressants slow down your central nervous system and the messages being sent to and from the brain.
- Your heart rate and breathing slow down—they may stop completely

Depressants Include:

- Alcohol
- Inhalants
- Marijuana
- Heroin



Stimulants

- Stimulants speed up the central nervous system and the messages going to and from the brain.
- They increase your heart rate, body temperature, and blood pressure—sometimes they speed up too much.

Stimulants Include:

- Cigarettes
- Caffeine
- Methamphetamine
- Cocaine



Hallucinogens

- Hallucinogens affect perception.
- People who have taken them may see or hear things in a distorted way.
- The senses become confused, especially time, sound and color.
- The effects of hallucinogens vary greatly and are not easy to predict.

Hallucinogens Include:

- LSD
- Ecstasy
- Marijuana in strong doses



What Can Happen?

- Damage to your relationships with family and friends
- Poor grades
- Breaking the law
- Impaired judgment and risky behavior
- Damage to your body
- Damage to your mind

Alcohol

Jamie Granger, RN, BSN
Graduate Nursing Student
Montana State University--Bozeman

Alcohol

- Depressant
 - Alcohol is a depressant
 - This means that it slows down your central nervous system so your brain and body work more slowly

Alcohol

- Teenagers are more sensitive to the effects of alcohol than adults
 - Become binge drinkers easier
 - Become dependent easier



Effects of alcohol

- Alcohol enters the body
- Is then absorbed by the stomach
- Enters the bloodstream
- Is then carried to all body tissues



Your Brain



- Brain cells die making the amount of brain tissue smaller
- Heavy drinkers don't eat well
 - Lack of vitamins
 - Lack of protein
- Causes memory problems in adolescents
 - This may or may not be reversible

Your Brain



- Impairs judgment, memory and concentration
 - Make poor decisions
- Causes extreme mood swings and emotional outbursts
- Decreases fine motor skills and reaction time



Your Brain



- Large doses of alcohol cause
 - Sleep
 - Coma
 - Death



Your Heart

- Becomes weaker
- Pumps less effectively
- Heart failure occurs
- Increased blood pressure
- Heart attack
- Strokes



Your Liver

- The liver takes the toxins (poisons) out of the bloodstream
- Alcohol is a toxin
- Liver cells die and the liver doesn't work well anymore
- Liver failure, coma and death



Your Stomach

- Irritates the stomach
- Stomach bleeding and pain
- Stomach cancer



Will These Things Happen To Me?

- Alcohol will:
 - Decrease your memory
 - Slow down your thinking
 - Cause you to make bad choices
 - Slow down your reaction time

Will These Things Happen To Me?

- Alcohol can:
 - Cause permanent damage to your brain, heart, liver and stomach
- Damage is not based on the amount you think you can handle
 - Genetics
 - Chemical makeup
 - Body size
 - Amount of alcohol consumed

Montana Statistics

- 45% of people killed in car accidents in Montana were due to a drunk driver
- 51% of youth ages 15-20 who died in Montana in car accidents were due to a drunk driver
- Montana has the highest rate of fatal crashes due to drunk drivers

Legal Issues

- First Offense
 - Fine of \$100-\$300
 - 20 hours of community service
 - Pay for and attend substance abuse course
 - Lose driver's license for 30 days

Legal Issues

- **Second Offense**
 - Fine of \$200-\$600
 - 40 hours of community service
 - Pay for and attend substance abuse course
 - Lose driver's license for 6 months
 - Attend chemical dependency treatment program

Legal Issues

- **Third Offense**
 - Fine of \$300 to \$900
 - 60 hours of community service
 - Substance abuse and chemical dependency programs
 - Lose driver's license up to 1 year

High School

- **First Offense—**
 - Police contact and 3-5 days suspension
- **Second Offense—**
 - Police contact and 5-10 days suspension
- **Third Offense—**
 - 10 days suspension, possible expulsion and referral to Project Success

Only You Can Decide!



Tobacco

Jamie Granger, RN, BSN
Graduate Nursing Student
Montana State University--Bozeman

Smoked or "Chewed"

- ✂ Nicotine enters the body through the lungs or the mouth
- ✂ From the lungs or mouth it enters the bloodstream
- ✂ Travels to reach all parts of the body and the brain
- ✂ Over 3,000 other chemicals



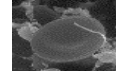
Effects on Your Body

- ✧ Nicotine is a stimulant
- ✧ It speeds up your body—heart rate and breathing



Carbon Monoxide

- ✧ Hemoglobin—binds to oxygen in your red blood cells
- ✧ Hemoglobin would rather bind to carbon monoxide
- ✧ Not enough oxygen to your organs and tissues



Tobacco and Your Body

- ✧ Are any parts of you not affected by nicotine and tobacco use?



Your Brain



- ✧ Arteries from the heart and lungs oxygen to the brain
- ✧ Nicotine reaches the brain in 10 seconds
- ✧ Nicotine causes arteries to become smaller
 - Blood doesn't flow through them very well
 - Smoking causes blood clots that get stuck in small arteries

Stroke

- ✧ Blood clots cause strokes (bleeding in the brain)
- ✧ Strokes are the third major cause of death in the United States
- ✧ Quitting smoking decreases the chances of a stroke

Mouth

- ✧ Mouth Diseases
 - Periodontitis
 - Gum Disease
- ✧ Mouth Cancer
 - Tongue
 - Tonsils
 - Throat
- ✧ Cigarettes and Chewing Tobacco



Lungs

✂ Smoking damages your lungs

- Bronchi
- Alveoli

✂ Emphysema

- Fourth major cause of death in the United States



Your Lungs

✂ Pneumonia and Bronchitis

- Infections of the lungs
- Infections of the bronchial tubes

✂ Asthma

- Increased in children and adolescents exposed to smoke

Lung Cancer

✂ Most common cause of cancer deaths

✂ 87% of lung cancer is caused by smoking

✂ Low tar cigarettes do not reduce lung cancer cases very much

✂ Lungs begin to work better within two weeks of quitting smoking

Your Heart

✂ Coronary Heart Disease

- The major cause of death in the U.S.
- 1 death every 33 seconds in the United States
- High blood pressure
- Heart failure
- Strokes



Your Stomach

✂ Peptic ulcers

✂ Stomach cancer

✂ Cigarettes and chewing tobacco

Your Kidneys

✂ Filter and remove waste products from the blood (make urine)

- Including tobacco by products
- 4000 chemicals

✂ Kidney Cancer

- Nicotine and the cancer causing substances in tobacco reach all the cells of your body

Your Bladder

- ✧ Holds your urine after your kidneys produce it
- ✧ Smoking causes bladder cancer

Your Pancreas

- ✧ Produces digestive enzymes
- ✧ Regulates your blood sugar by releasing insulin
- ✧ Smoking causes pancreatic cancer

Your Whole Body Is Affected!



Your Whole Body Is Affected!

- ✧ Most teens, adults, and athletes DON'T use tobacco.
- ✧ Don't get trapped. Nicotine in cigarettes and chewing tobacco is addictive.
- ✧ Smokers run slower and can't run as far, affecting overall athletic performance.
- ✧ Yuck! Tobacco smoke can make hair and clothes stink.

Legal Issues

- ✧ High School
- ✧ First offense--Police contact, citation, and one day suspension
- ✧ Second offense—Police contact, citation, and 2-5 days suspension

It's up to You!



Marijuana

Jamie Granger, RN, BSN
Graduate Nursing Student
Montana State University--Bozeman

Marijuana

- Is a depressant
 - Slows down your central nervous system
- Usually is smoked
 - Joint
 - Bong
 - Pipe

Also Known As:

- Pot
- Weed
- Grass
- Mary Jane
- Reefer
- And many others

Marijuana

- Marijuana is made from the dried leaves and flowers of the hemp plant (cannabis)
- THC—the active ingredient
- THC is fat soluble (it is absorbed by your body fat)
- Marijuana today has much more THC content than marijuana in the 1970's

Marijuana

- Is the most commonly used illegal drug
 - 40% of people age 12 and over have tried marijuana
- "Gateway Drug"
 - Teens who use marijuana before the age of 17 are 2-5 times more likely to use other drugs or alcohol

Short-term Effects

- Decreased memory and ability to learn
- Difficulty thinking and problem solving
- Decreased coordination
- Increased heart rate
- Hallucinations (sights, sounds, touch)

Short-term Effects

- "The munchies"
 - Marijuana makes users feel very thirsty and hungry
- May feel nervous and paranoid



Effects on The Lungs

- Coughing and wheezing
- Colds and pneumonia
- Lung cancer
 - *5 joints=20 cigarettes
 - *Marijuana smoke has 50-70% more cancer causing substances than cigarette smoke



Legal Issues

- Marijuana is always an illegal drug (unless prescribed by a doctor)
- \$100-500 fine
- County jail for up to 6 months
- Legal fees



Methamphetamine

Jamie Granger, RN, BSN
Graduate Nursing Student
Montana State University--
Bozeman

Methamphetamine

- ▲ Methamphetamine is a stimulant
- ▲ Speeds up your body and its functions
- ▲ Also known as
 - ▲ speed
 - ▲ meth
 - ▲ crystal

Methamphetamine

- ▲ Can be taken orally, through the nose, smoked, or injected.
- ▲ Users become addicted very quickly
- ▲ Addiction is difficult to treat – many have relapses



Central Nervous System

- ▲ Insomnia
- ▲ Decreased appetite
- ▲ Increased physical activity
- ▲ Euphoria
- ▲ Confusion
- ▲ Convulsions
- ▲ Death

Brain Chemistry

- ▲ Meth causes the release of lots of dopamine
 - ▲ Carries messages to, from, and through your brain
 - ▲ Damages the cells that contain dopamine and other brain chemicals

Brain's Reward System

- ▲ You need food, water, family and friends
- ▲ When these are available, a signal is sent from the brain that makes you feel good



Your Brain on Meth

- ▲ Amphetamines make a fake feeling of pleasure
- ▲ Meth bypasses the usual course and stimulates the reward center by itself
- ▲ Your body thinks it doesn't need food, water, or family to feel good

Your Brain on Meth

- ▲ Pleasurable feelings stop
- ▲ "Crash"
- ▲ Use more and more to get same feeling
 - ▲ Eventually no pleasure from anything



Effects on the Body

- ▲ Loss of relationships
- ▲ Severe weight loss (and starvation)
- ▲ Tooth decay and tooth loss
- ▲ Anger, paranoia, hallucinations
- ▲ Permanent brain damage (dopamine neurons)

Meth Labs

- ▲ Hazardous chemicals
- ▲ Montana has many meth labs



Legal Issues

- ▲ First conviction for possession – judge's discretion
- ▲ Second conviction for possession – up to 5 years in prison and up to \$50,000 fine



Legal Issues

- ▲ Conviction with intent to distribute – up to 20 years in prison and a fine of \$50,000



Meth in Montana

- ▲ Methamphetamine is a scary drug
- ▲ It takes over your life
- ▲ It is becoming more common in Montana

It's Your Life. . .

Jamie Granger, RN, BSN
Graduate Nursing Student
Montana State University--Bozeman

It's Your Life. . .

*What are you going to do with it?



Myths About Drug Use

- *It's cool
- *Everybody does it
- *Drugs won't hurt me
- *Drugs make me feel good
- *I won't get caught

Drugs Make Me Look "Cool"

- *Many kids who use drugs do so because they feel bad about themselves and think drugs will make them feel better
- *Having a poor self-esteem does not feel cool

Drugs Make Me Look "Cool"

- *If your friends think it's cool, maybe they aren't really friends
- *Real friends don't want you to do anything to harm yourself



Everybody Does It

- *Most teenagers do not use illegal drugs
- *Most adult do not use illegal drugs
- *Most athletes do not use illegal drugs





Tobacco

- *20 % of Montana high school students are smokers
- *15% of Montana high school students have used chewing tobacco
- *This means that over 80% of students do not use tobacco



Alcohol

- *34% of Montana high school students have had 5 or more drinks in a row in past 30 days
- *This means that over 65% of students have not participated in binge drinking in past month



Marijuana

- *22% of Montana high school students have used marijuana in last 30 days
- *This means that almost 8 out of 10 students have not used marijuana in the last 30 days



Methamphetamine

- *8% of Montana high school students have tried methamphetamine
- *This means that less than one of every ten students has tried meth



Drugs Won't Hurt Me

- *Weight loss
- *Memory problems
- *Can't think very well
- *Poor judgment
- *Slowed reaction time



Drugs Won't Hurt Me

- *Poor athletic performance
- *Brain damage
- *Liver failure
- *Heart failure
- *Kidney failure
- *Death

Drugs Make Me Feel Good

- *Some people use drugs because of the "high"
- *But they forget about the lows
- *Feel sick and have scary effects
- *Addiction—need to use more to get the same feeling

Drugs Make Me Feel Good

- *Trouble at home
 - Relationships with family and friends
- *Trouble at school
 - Failing grades
- *Legal problems
 - Money
 - Detention facility



I Won't Get Caught

- *It may be obvious to those around you
 - Red eyes
 - Funny smell
 - Poor grades
 - Behavior problems



I Won't Get Caught

- *They make you do stupid things
 - Poor decision making
 - Slow reaction time
 - Poor judgment
 - Behavior problems



How To Say No

- *Pick your friends
 - Real friends don't want to you harm yourself



How To Say No

- *Know in advance what you will say
 - "No"
 - "My coach says smoking will hurt my game"
 - "No thanks, do you want to go for a walk instead...or to a movie...or play basketball?"

How To Say No

- *Leave
 - Go home
 - Call for a ride
- *Avoid the situation
 - Don't put yourself in situations you know will be a problem



How To Say No

- *Role-playing scenarios

Set Your Life Goals

- *This is your life—Plan it
- *What do you want to do with it?
- *School
- *Career
- *Family



A Goal Must...

- *Be important to you
- *Be possible
- *Have an action plan for accomplishment
- *Be written down



Areas of Goal Setting

- *Physical
- *Emotional
- *Social
- *Mental

It's Your Life ...

Make It Great!



Drug Education in a Resilience Format

Jamie Granger RN, BSN
Graduate Nursing Student
Montana State University

Brief History of Drug Education

- "Scare programs" have not been effective
- Current studies have shown more effectiveness by developing "drug resistance skills", or resiliency
- "Planned behavior" can assist in resistance

What is Resilience Education?

- Resilience: "... a process which refers to the presence of a threat to a person and evidence of positive adaptation of the adolescent despite adversity. "
- Allows for the development of positive decision-making skills in adolescents

Drug Resistance/Resiliency

- Begin at an age before drug use becomes prevalent
- Information on health consequences
- Honest information about illicit substances
- Social skills training to identify drug use pressure and development of the skills required to make responsible choices

What Is A Drug?

- Anything taken into the body that changes the way the mind or body functions
- Central Nervous System
 - Depressants
 - Stimulants
 - Hallucinogens

Substances Presented

- Alcohol
- Tobacco
- Marijuana
- Methamphetamine

Method of Instruction

- Written handouts
- PowerPoint presentation
- Verbal, interactive classes

Method of Instruction

- Will provide information on:
 - Peer use statistics
 - Influences that promote drug use
 - Relevant information on harms associated with drug use
 - Resistance skills

Alcohol

- Teens are more sensitive to effects of alcohol and become dependent easier than adults
- Effects of short and long-term use on organ systems
- Montana statistics—highest rate of fatal crashed due to drunk drivers in the United States
- Legal consequences

Tobacco

- Smoked or chewed—either has nicotine
- Tobacco has 4,000+ chemicals
- One is carbon monoxide—binds to hemoglobin easier than oxygen does
- Effects on organ systems

Marijuana

- THC—fat soluble
- Most commonly use illegal drug
- Gateway drug
- Five joints=20 cigarettes
- Effects on memory, problem solving and organ systems
- Legal consequences

Methamphetamine

- Permanently alters brain chemistry—damages dopamine receptors permanently
- Dopamine is part of our reward system
- Meth makes users feel only pleasure comes from the drug—not family, friends, food, etc.
- Meth is primarily a rural problem

Drug Use Myths

- It's cool
- Everybody does it
- Drugs won't hurt me
- Drugs make me feel good
- I won't get caught

What Can You Do?

- Development of resilience
 - Natural consequences of behavior
 - Requires them to look honestly at their life choices and the situations they find themselves in
 - Encouraging independence
 - Allows for the freedom to find physical and emotional safety

Development of Resilience

- Positive role models
 - Provide companionship and support as they make life decisions
- Develop a sense of morality
 - Right and wrong
 - Effects of actions on themselves, family, friends, society

How Can I Help?

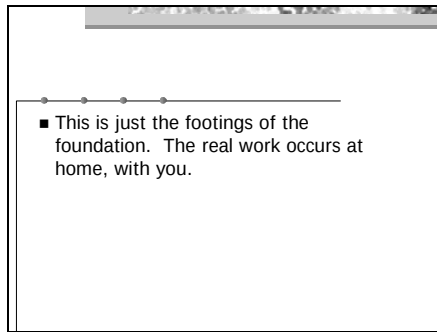
- Role-playing
 - Practice methods of drug refusal in a safe place
 - Studies show that giving an excuse for not using drugs is effective, but friends must see the excuse as a good one—help them do this
 - They will be more confident in their reply if they are approached and offered illicit substances

How Can I Help?

- Role-play scenarios
 - You go to a party at a friend's house and some high school students are there with case of beer.
 - You're on the bus, and your friend offers you some chew.

Interests and Goals

- Development of interests
 - Build and develop self-esteem
 - Growth of resilience
- Planning and setting goals
 - Can help to guide and direct good decisions
 - Growth of resilience



APPENDIX H

POWERPOINT NARRATIONS

Initial PowerPoint Narration

What is a drug?

A drug is anything taken into the body that changes the way the mind or body functions (NSW Health Dept., 2000, para. 2). This means that substances including medications, caffeine, tobacco, alcohol, marijuana, methamphetamine, inhalants, cocaine, heroin, and prescription medications are all drugs.

Drugs are grouped according to their effects on the central nervous system. There are three classes (NSW Health Dept., 2000, para. 4):

- Depressants

- Stimulants

- Hallucinogens

Each of these classes of drugs affects your central nervous system. Your central nervous system consists of your brain and your spinal cord (Neuroscience for Kids, 2006, para. 3). Your brain has over 100 billion nerve cells (neurons) and trillions more support cells (glia). Your skull protects your brain. Your spinal cord will reach 17 inches long when you are fully-grown and it is enclosed in your spinal column (vertebrae) for protection (Neuroscience for Kids, para 3).

These two organs are protected by bone because they are so important for your body to work correctly. Your central nervous system is the main “processing center” for your nervous system (Sheth, 2005, p. 1). Your brain and spinal cord work together to control all your body’s functions, including your mental ability and all the movements of

your body. Your spinal cord carries messages from your body to your brain, here they are received and a response is sent back down your spinal cord to the rest of your body (Johnson, 2005, section 8). Drug use interferes with the function of your central nervous system, which causes it to be unable to carry out its job. This means you will not be able to think clearly or use your body like you usually do.

The first class of drugs is the depressants. Depressant doesn't mean that they make you feel sad or depressed; it means that the drug slows down the function of your central nervous system and the messages being sent to and from the brain. Your heart rate and breathing slow down, sometimes they even stop completely. Drugs with depressant effects include alcohol, inhalants, marijuana, and heroin (NSW Health Dept., 2000, para. 6).

The second class of drugs is the stimulants. Stimulants speed up the central nervous system and the messages going to and from the brain. They increase your heart rate, body temperature, and blood pressure. Sometimes they can speed up these processes too much causing damage to your bodily functions. Drugs with stimulant effects include cigarettes, caffeine, methamphetamine, and cocaine (NSW Health Dept., 2000, para. 15).

The third class, the hallucinogens, affect your perception of things around you. People who take hallucinogens may see or hear things in a distorted way. Their senses become confused, especially regarding time, sound and color. The effect on individual people varies greatly and is difficult to predict. Hallucinogens include LSD, ecstasy and marijuana in large doses (NSW Health Dept., 2000, para. 21).

Drug use can have many effects on your life. Their use can cause damage to your relationships with your friends and family. You may find yourself not as close to them as you were before. You may find yourself telling them lies and stories to cover up for your drug use. Your grades may begin to fall. The importance of your education to your future career and lifestyle may not be important to you. You may find yourself in legal trouble. These substances are called illegal drugs because they are illegal. At your ages, all of them are illegal. Your judgment may not be as good as it should be and you may choose to be involved in risky behaviors. The combination of these risky behaviors and the drugs on your central nervous system may cause damage to your body and your mind. The choice is yours. Nobody can decide for you what you should do. But you can make the best choice for you if you know the facts.

Alcohol PowerPoint Narration

Previously, you learned the three classes of drug effects on the central nervous system: depressants, stimulants, and hallucinogens. Alcohol is an example of a depressant. It slows down your central nervous system so your brain and body work more slowly (NSW Health Dept., 2000, para. 7).

Teenagers are more sensitive to the effects of alcohol than are adults because of your immature nervous systems. You become binge drinkers more easily than adults (Ariniello, 2002, para. 6). A binge drinker is a person who plans to drink to get drunk and then drinks a lot of alcohol in a short period of time (Binge drinking, 2001, para. 1). Teenagers also become dependent easier than adults (Ariniello, 2002, para. 9). These two things make alcohol a particularly dangerous drug for teenagers.

When you drink alcohol, it is first absorbed by your stomach and then it enters your bloodstream. From your bloodstream it is carried to all of your body's tissues (Cambridgeshire Alcohol Advisory Service, 2004, p. 1).

Alcohol affects your brain by causing the death of brain cells. The amount of functioning brain tissue becomes smaller. People who are heavy drinkers don't eat enough nutritious foods. Over time they become malnourished due to a lack of vitamins and protein. This lack of nutrients causes further damage to sensitive brain cells (Cambridgeshire Alcohol Advisory Service, 2004, para.1.) Regular use of alcohol in adolescents causes memory problems. This varies from person to person, but it may not be reversible in some teenagers (Ariniello, 2002, para. 9). People who are regular drinkers of alcohol also experience impaired judgment, decreased memory and concentration. They have extreme mood swings and emotional outbursts. They find their fine motor skills and reaction times decreased. This is why it is dangerous to drink and drive. In large doses, alcohol causes sleepiness, coma and death (Cambridgeshire Alcohol Advisory Service, para. 9).

Over time your heart becomes weaker and pumps less effectively. Heart failure can develop so your heart doesn't pump as well as it should. Your blood pressure may increase to dangerous levels, and you may have a heart attack or stroke (Cambridgeshire Alcohol Advisory Service, 2004, para. 2).

The job of your liver is to take the toxins out of your bloodstream. A toxin is a poison to your body. Alcohol in your body is a toxin that your liver must remove. Frequent or large amounts of alcohol in your body cause the liver cells to die, making it

unable to do its job very well. This can cause liver failure, coma and death (Cambridgeshire Alcohol Advisory Service, 2004, para. 3).

Alcohol is an irritant to your stomach. Large amounts of alcohol can cause pain and bleeding. If continued for a long period of time, stomach cancer may develop (Cambridgeshire Alcohol Advisory Service, 2004, para. 5).

Alcohol can have some serious and scary effects. Will all these things happen to you if you choose to drink? Not necessarily, but we do know that alcohol will decrease your memory, slow down your thinking, allow you to make poor choices and slow down your reaction time. If you drink large amounts, or over a long period of time, alcohol can cause permanent damage to your brain, heart, liver, and stomach. The damage done is not based on the amount you think you can handle. It varies among people due to things like your genetics, your chemical makeup, your body size, and the amount of alcohol consumed (Cambridgeshire Alcohol Advisory Service, 2004, p.1).

In Montana, 45% of the people who died in car accidents in 2003 were victims of a drunk driver. Fifty-one percent of youth ages 15-20 who died in Montana in car accidents were in accidents involving a drunk driver. And finally, Montana has the highest rate of fatal crashes due to drunk drivers in the United States (MADD, 2004, Fatalities and alcohol-related, p. 1).

Only you can decide. You need to make a decision based on facts, and not on what you have heard from people around you. It is your life, and your body, and only you can make the best decisions for you.

Tobacco PowerPoint Narration

Nicotine is the ingredient in tobacco, whether smoked or chewed, that is addictive. When you take nicotine into your body, it enters your bloodstream. This is true regardless of whether it is a cigarette, cigar, pipe, or chewing tobacco. From your bloodstream, it travels to all parts of your body and brain Prevention (NCCDPHP, 2005, Surgeon general's 2004 report, brain section, pg. 1).

As you learned earlier, one of the classifications of drugs are the stimulants. Nicotine is a stimulant. It speeds up your body, your heart rate and breathing (NSW Health Dept., 2000, para. 16).

The arteries from your heart and lungs carry oxygen to your brain. The nicotine is in your bloodstream, so it takes 10 seconds for it to reach your brain after it enters your body (NCCDPHP, 2005, Surgeon general's 2004 report, brain section, pg. 1). Nicotine causes your arteries to become smaller. This makes it so blood can't flow through them very well. Smoking also causes blood clots to form that may get stuck in small arteries. Blood clots cause strokes. Strokes are bleeding in the brain that causes brain damage. In the United States, strokes are the third major cause of death in the United States. If a smoker quits, his chances of a stroke are decreased (NCCDPHP, Surgeon general's 2004 report, brain section, pg. 1).

Smoking and chewing tobacco cause periodontitis. Periodontitis is an infection in your gums that causes gum disease. This may make your gums unhealthy, your breath smell bad, and your teeth fall out. Another effect on your mouth is the possibility of

cancer of your tongue, tonsils, and throat (NCCDPHP, 2005, Surgeon general's 2004 report, mouth section, pg. 1).

Smoking causes damage to your lungs. In your lungs are bronchi, which are the large tubes that carry oxygen from outside your body down into your lungs.

From the bronchi, the oxygen goes to the alveoli. These are little pockets that take the oxygen and exchange the carbon dioxide in your lungs with the fresh oxygen you just brought into your body. Smoking damages your airways (bronchi) and the alveoli making it difficult for you to breath effectively. This is called emphysema.

Emphysema is the fourth major cause of death in the United States (NCCDPHP, 2005, Surgeon general's 2004 report, lungs section, pg. 1).

Smoking can damage your lungs in other ways as well. It can lead to infections in your lungs. These infections are pneumonia and bronchitis. These also make it difficult for you to breath effectively (NCCDPHP, 2005, Surgeon general's 2004 report, lungs section, pg. 1).

Children and adolescents who are exposed to smoke, whether they smoke themselves, or it is second-hand smoke, are more likely to develop asthma than children who are not exposed to cigarette smoke (NCCDPHP, 2005, Surgeon general's 2004 report, lungs section, pg. 1). Asthma is a lung disease that causes inflammation of the airways (bronchi), sometimes even blocking the airway. One of the things that cause the start of an asthma “attack” is cigarette smoke (American Lung Association, 2005, Asthma Attack, pg. 1).

Lung cancer is another problem that smoking can cause. Lung cancer is the most common cause of cancer deaths in the United States. It is estimated that 87% of lung

cancers are caused by exposure to cigarette smoke. Low tar cigarettes do not do much to decrease the number of cases of lung cancer. A smoker who quits smoking will have better lung function within two weeks of quitting smoking (NCCDPHP, 2005, Surgeon general's 2004 report, lungs section, pg. 1).

Smoking causes coronary heart disease. Coronary heart disease is a disease of the arteries that supply your body with oxygenated blood. These arteries become hard and narrow because of the buildup of plaques on their inner walls (National Heart, Lung, and Blood Institute, 2006, para. 1). Smoking is one cause of the buildup of these plaques. One person every 33 seconds dies in the United States from coronary artery disease. These deaths are caused by high blood pressure, heart failure, and strokes (NCCDPHP, 2005, Surgeon general's 2004 report, heart section, pg. 1).

Cigarettes and chewing tobacco can cause peptic ulcers and stomach cancer (NCCDPHP, 2005, Surgeon general's 2004 report, stomach section, pg. 1).

Your kidneys filter your blood and remove impurities and waste products. These unwanted waste products are removed from your body in your urine. Cigarette smoke has over 4000 chemicals in it, and many of these are toxic. These are removed from your body by your kidneys. Over time, exposure to these substances can cause kidney cancer (NCCDPHP, 2005, Surgeon general's 2004 report, kidney section, pg. 1).

Your bladder's job is to hold your urine after your kidney produce it. Because of the toxic substances in cigarette smoke, smoking can cause bladder cancer. The bladder is exposed to the toxins in the urine it holds (NCCDPHP, 2005, Surgeon general's 2004 report, bladder section, pg. 1).

Your pancreas is an abdominal organ that has two functions. First, it helps you digest your food by releasing digestive enzymes into your small intestine. And second, it keeps your blood sugar levels where they should be by releasing insulin into your bloodstream. Smoking causes pancreatic cancer (NCCDPHP, 2005, Surgeon general's 2004 report, pancreas section, pg. 1).

Smoking effects and damages nearly every organ in the human body. You need to know that most teenagers, adults and athletes don't use tobacco. Nicotine in cigarettes and chewing tobacco is addictive. If you smoke, you will not be able to run as fast or as far as if you didn't smoke. Tobacco smoke makes your hair and your clothes smell bad (NCCDPHP, 2005, Surgeon general's 2004 report, latest findings section, pg. 1). The decision to smoke or not is up to you.

Marijuana PowerPoint Narration

Marijuana is classified as a central nervous system depressant. It slows down your mental and physical abilities (ONDCP, 2005, Marijuana and teens, p. 1). The active ingredient in marijuana is tetrahydrocannabinol (THC), which is fat soluble and absorbed by the fat in the body. Because of this, it is not quickly eliminated from your body. The THC content of marijuana today is much higher than the THC content on marijuana in the 1970's (NIDA, 2005, What is marijuana?, p. 1).

Marijuana has detrimental effects on short-term memory, thinking and problem solving. It is also harmful to the lungs, and contains more toxins than that of tobacco smoke (NIDA, 2004, Marijuana: Facts for teens, para. 9).

Marijuana is the most commonly used illegal drug today. It is estimated that 40% of people age 12 and older have tried marijuana (ONDCP, 2005, Extent of use, para. 1). Adolescents who use marijuana before the age of 17 or later are 2-5 times more likely to use other drugs or develop alcohol or drug abuse problems later on (Lynskey et al., 2003, p. 432).

Unlike alcohol and tobacco, which are legal drugs after reaching a certain age, marijuana is almost always illegal. The exception to this is medical marijuana use when prescribed by a doctor. The legal penalties if caught with marijuana could include a fine of \$100-500, sentence to the county jail for up to six months, and lawyer fees (Montana Legislative Services, 2005, Criminal possession of dangerous drugs section).

Methamphetamine PowerPoint Narration

Methamphetamine is a stimulant; it speeds up the body and its functions. Methamphetamine has a huge impact on your brain chemistry. It interferes with the neurotransmitter, dopamine. Dopamine allows us to feel pleasure. Initially, methamphetamine causes the release of large amounts of dopamine, but over time it damages the brain cells that transport dopamine back into the brain cells. This gives you a fake feeling of pleasure by bypassing the dopamine route and stimulating the reward center on its own. This makes the body think it doesn't need food, water, family, or friends (NIDA, 2006, Mind over matter, p. 2). This damage is long lasting and may be permanent. This affects the ability to experience pleasure, mood, and movement (NIDA, 2005, Mind over matter, p. 1). As the brain adjusts to the methamphetamine, it begins to make less dopamine. The methamphetamine user has to use more and more to get the

same pleasurable feelings he had when he first used it. Heavy users of methamphetamine find that the things in life that had brought pleasure (food, friends, family) have become less important. This will happen to the extent that they will starve themselves to death because they no longer feel food brings pleasure or is important to them (KCI, 2005, p. 1).

Methamphetamine use causes the loss of relationships with family and friends, severe weight loss, a certain type of tooth decay and tooth loss, anger, paranoia, hallucinations, and permanent brain damage (NIDA, 2005, Mind over matter, p.1). The chemicals used to make meth are also very hazardous. Being exposed to these chemicals during production or in a building previously used to make meth is also bad for your health. In the last few years, Montana has had more and more methamphetamine labs (Montana Department of Justice, 2005, Meth in Montana, p. 1).

It's Your Life PowerPoint Narration

There are many myths regarding drug use in adolescents. Among these are:

- It's cool
- Everybody does it
- Drugs won't hurt me
- Drugs make me feel good
- I won't get caught

Many people who use drugs do so because they feel bad about themselves and think that drugs will make them feel better about themselves and their life

(NIDA, 2005, Drug abuse, para. 12). These people have a poor self-esteem. A poor self-esteem doesn't feel cool. Some kids may think they need to do drugs because other people think it's cool. Drug use is damaging to you—both your mind and your body. It can affect all areas of your life. Real friends wouldn't want you to do anything that would harm you. So, if your friends think drug use is cool, maybe they aren't really friends.

Another myth is that everybody does drugs. However, most people do not use drugs. This includes teenagers, adults, and athletes (NCCDPHP, 2005, Surgeon general's 2004 report, latest findings, p. 1) . The argument that everybody does drugs just isn't true.

Some people will tell you that drugs won't hurt you. As you have already learned, this is another myth. Drugs can cause many problems for you, including weight loss, memory problems, difficulty thinking clearly, poor judgment, slow reaction time, poor athletic performance, brain damage, liver failure, heart failure, kidney failure, and death just to name a few. These definitely aren't good for you.

Some kids may say they use drugs because drugs make them feel good. Drugs do have an effect that people find they like. If the drug only made them sick, they would never take it. But there is always a low with drug use as well. They forget about the lows sometimes. Many drugs make you feel sick and have scary effects. Most drugs are addictive. This means you need to use more to get the same effect you got at first. Drug use will cause problems for you at home, at school, and with the law. These things definitely don't make you feel good.

Some kids who use drugs say they won't get caught. They may think that nobody knows, but that is not always the case. Drug use can cause you to have red eyes, make you and your clothes smell funny, your grades may fall, and you may have behavior problems that are noticed by those around you. Drugs also make you do stupid things like having poor judgment, making poor decisions, slowing your reaction time, and again, these cause behavior problems.

Once you've decided that you don't want to use drugs, how do you say "no"? There are several things you can do. First of all, pick your friends well. You know what the kids around you are like. If someone you know uses drugs, then don't choose that person to be your friend. Once again, real friends don't want you to do anything to hurt yourself (CastleWorks, 2005, para. 19).

Another thing that might help is to know in advance what you will say if you are approached. If you know what you will say, you don't even have to think about any other options. You can just say it. So, just say, "no," or "my coach says smoking will hurt my game," or "no thanks, do you want to go for a walk instead...or to a movie...or play basketball?" It doesn't really matter what you say, just know in advance what it will be (Parent Teacher Association of Connecticut, Inc., 2006, p. 1).

Another option is to get yourself out of the situation you are in. Go home. If you can't get there yourself, call your parents. They would be very happy to give you a ride home. You could also avoid the situation altogether. You know that some situations will be a problem, so don't put yourself in them. Keep yourself out of dangerous situations.

One way of keeping yourself out of situations that are undesirable is to set some goals for your life. It is your life. You need to decide what you want to do with it. You

need to think about school, a career, and a family. A goal must have several things to make it a goal. First, it must be important to you. If it weren't, it wouldn't be your goal; it would be someone else's. Second, it must be possible to attain. Always set your goals high, but make sure it is possible to do them with some effort. Third, you must be able to make an action plan to accomplish your goals, and forth, you must write your goals down. This way you can look at them and always know what you are trying to do (How to set goals, 2005, p. 1).

There are many areas in which you can choose to set goals. I will give you a few examples of goals setting areas that have worked for me. Maybe they will help you as well. The four areas I use are:

- Physical
- Emotional
- Social
- Mental

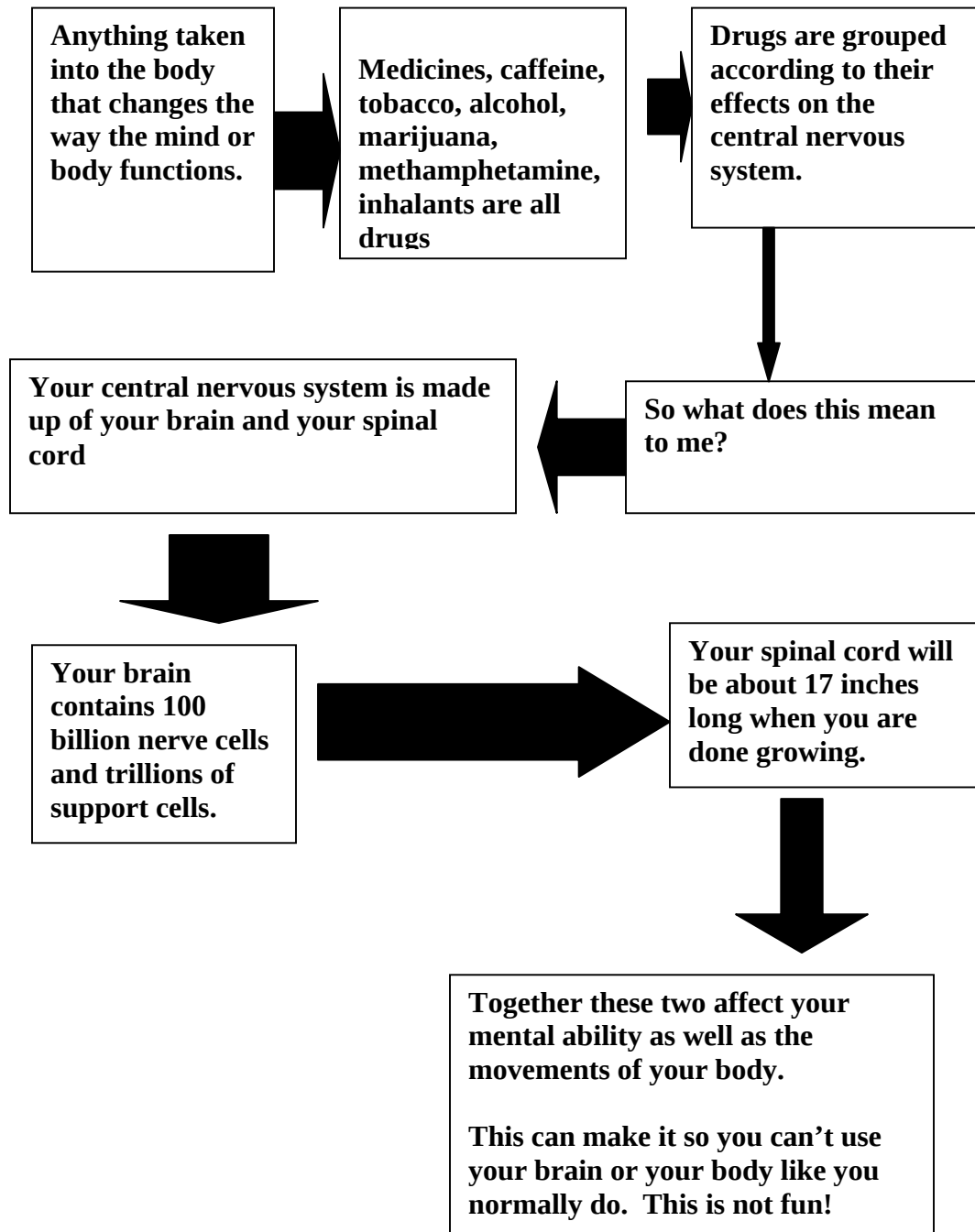
A physical goal is one that allows you to stretch and use your body physically. It may be a bike ride, being on the basketball team, or joining a dance class. An emotional goal is to keep yourself happy. This may mean working hard on the relationships with your family, or your friends. A social goal could be to have some kind of social activity planned regularly. Maybe you could plan a movie with a group of friends once a month, or attend the school book club meeting. A mental goal would be setting a goal to be on the 4.0 honor roll, or finishing the science fair project on time. These are goals that will help you get what you want out of life. If you plan your

activities, you can stay busy enough that you avoid situations that may not be good for you.

APPENDIX I

STUDENT HANDOUTS

What is a Drug?



Alcohol

- ☼ Is a depressant—Slows down your central nervous system
- ☼ Your brain and body work more slowly
- ☼ Teenagers are sensitive to alcohol
- ☼ Your Brain
- ☼ Alcohol causes memory problems in adolescents
- ☼ Poor judgment and slow reaction time



- ☼ Kills brain cells
- ☼ Your Heart
- ☼ Becomes weaker
- ☼ Heart failure
- ☼ Heart attacks and strokes
- ☼ Your Liver
- ☼ Is unable to remove toxins from your blood



- ☼ Liver failure
- ☼ Your Stomach
- ☼ Irritates and makes your stomach bleed

☼ Alcohol Will:

- ✗ Decrease your memory
- ✗ Slow down your thinking
- ✗ Cause you to make bad choices
- ✗ Slow down your reaction time

☼ Alcohol Might:

- ✗ Cause permanent damage to your brain, heart, liver and stomach

☼ IT'S YOUR
CHOICE!



Tobacco

**Contains nicotine
and 4000+
chemicals**

Tobacco use causes heart
disease

**Nicotine reaches
your brain 10
seconds after
inhaling cigarette
smoke**

Your arteries get
smaller causing
blood clots and
strokes

Tobacco smoke makes your hair
and clothes stink

Chewing and smoking causes
gum disease and mouth
cancers

Your whole body is
affected!

Smoking causes lungs diseases
and lung cancer

Most teens, adults, and
athletes don't use tobacco

Tobacco causes kidney, bladder
and pancreatic cancer

Carbon monoxide steals the
oxygen from your organs and
cells

Marijuana

- ❖ Is a depressant
- ❖ Made from the hemp plant
- ❖ THC is the active ingredient
- ❖ Most commonly used illegal drug in the U.S.
- ❖ “Gateway” drug

- ❖ **Short-term effects—**
- ❖ Decreased memory
- ❖ Decreased ability to learn
- ❖ Decreased coordination
- ❖ Increased heart rate
- ❖ Hallucinations

- ❖ **Long-term effects—**
- ❖ Lung cancer
- ❖ 5 joints=20 cigarettes
- ❖ 50-70% more cancer causing stuff than cigarette smoke

- ❖ **Legal issues**
- ❖ \$100-500 fine
- ❖ Possible detention
- ❖ Legal fees

Methamphetamine

- ✓ Very quickly addictive
- ✓ People who are treated frequently relapse
- ✓ Central nervous system
 - Insomnia
 - Decreased appetite
 - Increased physical activity
 - Confusion
 - Convulsions
 - Death
- ✓ Causes the release of dopamine
- ✓ Dopamine is a chemical that carries messages between your brain and spinal cord
- ✓ Dopamine is usually released when you feel good because of food, happiness, etc.
- ✓ Meth bypasses this route and makes your body feel like it doesn't need food, water, family
- ✓ Meth damages your brain cells so you may not feel pleasure again
- ✓ Effects on your body
 - Loss of relationships
 - Severe weight loss
 - Tooth decay and tooth loss
 - Permanent brain damage
- ✓ Methamphetamine Labs
 - Contain hazardous chemicals
 - Being around them or cleaning up the labs is dangerous
 - Chemicals may explode

Meth in Montana website: www.notevenonce.com

APPENDIX J

STRUCTURED ROLE PLAY SCENARIOS

Role Play #1

You go to a party at a friend's house and some high school students are there with case of beer.

High school student: Hey man, do you want to try some of this?

Middle school student: What is it?

HSS: It's just a beer. It'll make you relax a little.

MSS: My parents will kill me.

HSS: I don't see them here. How will they know?

MSS: They know everything, they'll find out.

HSS: Ok, man, whatever.

Role Play #2

You're on the bus, and your friend offers you some chew.

Friend: Hey, do you want some?

You: No, that's gross.

Friend: No way. What's so gross?

You: You'll think it's gross when your mouth rots off.

Friend: That wasn't nice.

You: It's true. I don't want to get sick.

Role Play #3

You're watching TV at a friend's house and an anti-drug ad comes on for marijuana.

Your friend says, "I've got some weed up in my room, want to try some?"

You: No, way man that's stupid.

Friend: Why is it stupid?

You: Because you do stupid things.

Friend: Yeah, but it's fun.

You: It just makes you stupid.

Friend: You said that before.

You: But it does, it just makes you stupid.

APPENDIX K

PRETEST AND POSTTEST

Pre/Post Test

Student Number: _____ Grade Level: _____

Pre and Post Test

Circle one: Pretest Posttest

1. Which of the following is not a drug?
 - a. Alcohol
 - b. Herbal tea
 - c. Caffeine
 - d. Cough syrup
2. Nicotine reaches your brain in how many seconds after inhaling cigarette smoke?
 - a. 2 seconds
 - b. 5 seconds
 - c. 10 seconds
 - d. 15 seconds
3. Which drug bypasses your dopamine pleasure system?
 - a. Marijuana
 - b. Alcohol
 - c. Tobacco
 - d. Methamphetamine
4. Marijuana made from which plant?
 - a. Flax plant
 - b. Hemp plant
 - c. Fern plant
 - d. Ivy plant
5. Alcohol is a depressant.
True False
6. Teenagers are more sensitive to alcohol than adults are.
True False

7. Which of the following is true?
 - a. Marijuana and cigarette smoking have an equal effect on the lungs.
 - b. Smoking five cigarettes does as much damage as smoking 10 marijuana joints.
 - c. Smoking five marijuana joints does as much damage as smoking 20 cigarettes.
 - d. Marijuana smoking doesn't harm your lungs.
8. Which drug is the most commonly used illegal substance in the United States?
 - a. Methamphetamine
 - b. Cocaine
 - c. Marijuana
 - d. Heroin
9. You are staying at a friend's house for the night, and your friend says, "My mom has some cigarettes in her purse. Let's get them and go outside for a smoke." What is your response?

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